

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1	2	0	0	0	0	This chapter is not written in idiomatic English and needs to be reviewed by a professional copy-editor (Simiu, Emil, National Institute of Standards and Technology)	The chapter has been shortened, sharpened and checked for English.
2	2	0	0	0	0	Overall comment. This chapter has been set a difficult task as the title suggests there will be an assessment of the relative determinants of risk which is a significant challenge. Further, the title already introduces confusion by highlighting exposure and vulnerability where the standard IPCC definition (which the government readers will be familiar with), has exposure as one key component of vulnerability. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	The chapter has been shortened and sharpened. The differences with standard IPCC definitions are not unique to this chapter, but based on conscious choices for the entire SREX. The need for full consistency in terminology and approach, both within the chapter and with the rest of the report, has been addressed.
3	2	0	0	0	0	In the end the chapter fails to live up to expectations. The main problems are: (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	see previous and later responses (comment 2, 4-7)
4	2	0	0	0	0	1 Too much of the early part of the chapter is spent repeating material that is in Chapter 1 and elsewhere. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	The chapter has been shortened and sharpened, repetitions with chapter 1 removed. The role of the chapter -- further in-depth treatment of concepts already introduced in chapter 1, should be clearer now.
5	2	0	0	0	0	2 The assessment parts of the chapter (2.4 and 2.5) are primarily a discussion of the framing and conceptualisation and the methods in the different literatures that are being assessed. There is little summary of the major empirical findings of that literature and hence the reader is not widely informed as to the relative importance of the determinants of risk. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	The full empirical overview would go beyond the scope of this chapter, which is indeed somewhat conceptual in nature. In addition a full empirical overview of relative importance of different determinants would be highly context-specific and require assessment of a vast amount of specific regional and even local knowledge. However, some of this information, specifically the empirical evidence regarding trends in determinants of risk, is covered in chapter 4. This has been clarified in 2.1.
6	2	0	0	0	0	3 As a result of the assessment of concepts used within the literature rather than the substantive empirical results, the choice of Tables and Figures is skewed. Results from individual papers and frameworks from individual studies are presented. These are not as helpful or informative and synthesis tables compiled by looking across the literature at the key questions around the determinants of risk. Some of the Tables are also directly reported from publications outside the peer reviewed literature which is not good practice. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	Table and Figures have been drastically reduced and reviewed. Some examples from beyond the peer-reviewed literature do merit a place in this chapter given that they come from respected sources with strong internal checks (e.g. development bank publications) and illustrate practical applications.
7	2	0	0	0	0	4 The Executive Summary, perhaps as a result of the issues mentioned above and the style of the assessment, is wholly inadequate both in its content and in the manner in which it is written. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	The executive summary has been revised substantially. However, some of the concerns about contents may partly relate to the earlier questions (comments 2-7) about what the scope of the chapter should be -- the executive summary reflects the rest of the chapter (including its limitations in scope and its specific role within SREX, as highlighted in previous responses).
8	2	0	0	0	0	The authors therefore need serious pruning of the chapter to enhance comprehension of the chapter; to develop and include some synthesis tables that summarise the relative importance of the determinants of risk; and to rewrite the Executive Summary to make it meaningful for readers, particularly policy readers. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	(1) Chapter has been shortened and sharpened (2) tables have been reviewed and others removed (3) ES has been rewritten.
9	2	0	0	0	0	Although the present chapter draws many of views and dimensions on vulnerability from bunch of reviewed literatures, views on age issue and gender issue seemed to be rather scattered in general; views on age issue are less touched on in particular. It is highly appreciated if the present chapter provides a Box for scientific information on vulnerability, age and aging trend in suitable section such as 2.5, 2.6 or 2.7. (JAPAN)	trends in age were originally in the demography section but were removed because of space restrictions. there is however a passing reference to age as an important demographic characteristic in the opening demography paragraph: "A rapidly aging population at the community to country scale bears implications for health, social isolation, economic growth, family composition and mobility, all of which are social determinants of vulnerability "

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10	2	0	0	0	0	Chapter 2 concentrates on such determinants of risk as exposure and vulnerability. We think that it would be appropriate to mention here a phenomenon of "risk nihilism" (disregard for risk). It should be however emphasized that this phenomenon does not depend on the level of development of a country or an individual. The phenomenon can be demonstrated even by the most developed countries as well as by the most intellectual individuals. It seems reasonable to mention the specific character of impacts on social systems in high latitudes when describing impacts on social systems. There are also some technical remarks, e.g., Fig. 2.4 of this chapter requires further refinement and explanations (axes, units). (RUSSIAN FEDERATION)	The point of not acknowledging risk or risk nihilism. We addressed this issue more indirect and diplomatically in the area of risk communication and the bias that some media debate implies. This also hopefully considers the point the reviewer is making here.
11	2	0	0	0	0	The title of chapter 2 is "determinants of risks: exposure and vulnerability". The title and corresponding statements (e.g. page 2, line 38) in this chapter look quite misleading because the word 'hazard' is not put here. It is, however, written by the authors in the texts that risk is together determined by hazard event, exposure and vulnerability (e.g. page 5, line 42). It is true that people have emphasized too much on hazards while exposure and vulnerability have not been given enough attention. It is fine that in this report we stress E (exposure) and V (vulnerability), but it is doubted that the current statement is too strong and thus misleading and incorrect. From the title and corresponding statements people may get the impression that only exposure and vulnerability determine risk, which is obviously not correct. Hazard, exposure and vulnerability are equally important in determining risks. So it is strongly suggested that the authors change their way of communicating the message. There are three elements in determining the risks. But in this chapter only two elements (E and V) are stressed and elaborated, while the hazard is less elaborated by the authors. (CHINA)	A rapidly aging population at the community to country scale bears implications for health, social isolation, economic growth, family composition and mobility, all of which are social determinants of vulnerability
12	2	0	0	0	0	CHAPTER LENGTH: It is disappointing to see that Chapter 2 has been unable to achieve a desired reduction in length, as clearly expressed to all chapters after the FOD review. In fact, Chapter 2 has become even longer, and many passages of text read as text-book like background material. The authors must consider what material is REALLY crucial to inform the targeted readers of SREX (and distinguish this from material that is interesting from an academic perspective only), and make appropriate cuts to reduce the overall length. (Stocker, Thomas, IPCC WGI TSU)	The chapter has been shortened and sharpened.
13	2	0	0	0	0	BOXES: Boxes should not be used as an opportunity to simply highlight results and provide further details from a single study, publication or report. Box 2-2, 2-4, and 2-5 fall into this category and are not effective. Boxes need to have a clear and meaningful purpose to be included. (Stocker, Thomas, IPCC WGI TSU)	The number of boxes has been reduced, and illustrative purpose clarified for those that have remained.
14	2	0	0	0	0	UNCERTAINTY LANGUAGE: The use of 'confidence' and 'likelihood' terminology needs to be clearly marked (italicized) in the text. Informal use of such terminology needs to be removed. (Stocker, Thomas, IPCC WGI TSU)	Checked throughout.
15	2	0	0	0	0	REFERENCES are not complete. (Stocker, Thomas, IPCC WGI TSU)	References have been checked.
16	2	0	0	0	0	TABLES AND FIGURES: More thought needs to be given as to what are crucial tables and figures to be included. Tables take up a lot of page space, and should be used selectively. Finally, the titles/captions accompanying tables and figures should be instructive and provide all the information required to understand figures/tables -- this is clearly not the case here and more thought needs to be given to useful captions. (Stocker, Thomas, IPCC WGI TSU)	Tables and Figures have been reconsidered, several have been cut, captions have been improved.
17	2	0	0	0	0	RESEARCH GAPS: highlighting research gaps could be seen as advocating certain research priorities which clearly is inappropriate for IPCC. Suggest to delete section 2.10. on Research Gaps. Gaps in knowledge/understanding should be highlighted as limiting the assessment in the relevant sections where the assessment is provided and will thus contribute to the assessment of associated uncertainty. (Stocker, Thomas, IPCC WGI TSU)	Section removed
18	2	0	0	0	0	CITATIONS: page numbers are not part of the standard in text citation. (Stocker, Thomas, IPCC WGI TSU)	Removed
19	2	0	0	0	0	Important substance and relevant executive summary, but the presentation can be substantially improved and shortened, and the conceptual descriptions (2.2-2.4) could be reduced. (International Federation of Red Cross and Red Crescent Societies (IFRC))	The chapter has been shortened and sharpened, and efforts have been made to make it less conceptual and clearer for a general readership.
20	2	0	0	0	0	Notes for Chapter 2 are same as above for SPM (Liotta, Peter, Independent Scholar)	see above

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21	2	0	0	0	0	L'exposition et la vulnérabilité sont des déterminants importants mais la division en deux chapitres (2 et 4) séparés par le chapitre 3 nuit à la compréhension. L'ordre de même du chapitre comporte plusieurs inversions, par exemple le comportement des autorités publiques venant après les actions des individus ; souvent l'essentiel est dit à la fin de chaque partie. Il n'a pratiquement aucune trace des travaux et concepts français ou méditerranéens, voire européens. Pourtant ces travaux ont été abondants et de qualité. La question de la représentation mentale des aléas extrêmes très rares n'est pas abordée : on parle de façon simpliste des zones à danger élevé comme si c'était une notion simple. Quelle logique de management des risques faut-il adopter lorsque ces extrêmes sont très intenses, donc probablement dangereux pour ceux qui sont exposés ? La « capacity » à réduire l'exposition et la vulnérabilité est présentée de façon compliquée, alors qu'elle est intuitive. D'autre part les auteurs font la distinction entre les actions de réduction par anticipation (capacity de prévention) et celles qui sont post accident (coping) : oui, mais le plus décisif est souvent l'entre deux : l'évacuation qui est à cheval, plutôt ante, la lutte contre les feux qui est plutôt post mais avec un pré-positionnement.... Parmi les actions post accident il y a lieu de bien analyser et améliorer l'enchaînement entre celles qui sont immédiates (secours), celles de retour à la vie (résilience), humanitaires, enfin celles de reconstruction. Il faut insister sur la continuité. Le maillon des secours immédiats par les voisins, les services officiels) a beaucoup progressé, et progressera encore. Il faut aussi indiquer que beaucoup de pays, notamment les plus démunis, attribuent le management de la chaîne officielle de DRRD à la sécurité civile. Le rôle des valeurs collectives dans la réduction de la vulnérabilité pourrait être mis en premier rang, avec les ressorts de la responsabilité et la solidarité qui ne sont qu'à peine évoqués. Parmi les obstacles aux actions d'anticipation, obstacles qui bloquent la « capacity », il faudrait mentionner les conflits d'intérêt des dirigeants locaux : dire que c'est au niveau le plus local qu'on peut évaluer les risques n'est pas forcément vrai alors que le recul est souvent nécessaire pour apprécier. La comparaison entre les effets d'un aléa extrême et d'une succession d'aléas courants ne peut se faire sans analyser les répercussions sur l'exposition et la vulnérabilité, le premier étant aggravé par l'effet de surprise, la seconde séquence pouvant bénéficier d'un effet d'apprentissage. La présentation faite dans le chapitre reste trop superficielle. (BOURRELIER, PAUL-HENRI, AFPCN)	We have sharpened the presentation of the issues, which addresses part of these concerns. However, some of the comments raised actually belong to the management chapters. Section 2.4 has been revised to clarify the coping and adapting distinction (which is consistent with treatment in other chapters).
22	2	0	0	0	0	Bibliography Add : Ministère de l'environnement et du Développement durable 2005 (sous l'autorité des services du) numéro spécial de Responsabilité et Environnement sur la catastrophe d'AZF à Toulouse. (BOURRELIER, PAUL-HENRI, AFPCN)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
23	2	0	0	0	0	Two Remarks: 1) The whole chapter suffers from the fact, that there is no structure depending on the type of disaster or the region affected (Chapter 4 is much better). Because the vulnerability against different types of disasters may be quite different for different settlement patterns or different types of countries (developed or not developed, the regional population density and the prevalent types of buildings and the existence or non existence of different types of infrastructures). 2) Most of all, the rapid growth of population which forces people to built at sites which are not suitable for dwelling and to cultivate soils or to exploit nature which should better be protected, should be emphasized a bit more. Therefore rapid and unplanned urbanization and the vulnerability it may cause is only an outcome of population growth. (GERMANY)	1) This chapter is more conceptual in nature, and highlights the fact that exposure and particularly vulnerability are highly context-specific and dynamic, which makes it difficult to follow a hazard-by-hazard and region-by-region approach. To the extent feasible, the requested quantitative treatment of trends in drivers is included in chapter 4. 2) demographic change, including population growth, is emphasized (even) more.
24	2	0	0	0	0	Chapter needs streamlining and shortening , duplications with ch1 should be avoided, ALL definitions should be moved to ch1 (e.g. section 2.2.), shorten und avoid duplications among sec, only discuss topics that are subject of the chapter/section, avoid contemplative statements. (GERMANY)	The chapter has been shortened and sharpened, repetitions with chapter 1 removed. The role of the chapter -- further in-depth treatment of concepts already introduced in chapter 1, should be clearer now.
25	2	0	0	0	0	overall points for improvement of the chapter: 1) there are many repetitions within the chapter, thus there is a need for better coordination between the authors; 2) the chapter is too long, too theoretical, and too complex, so the main important messages get lost (e.g., I personally found section 2.4 unnecessary long), make it more concise; 3) give more examples to illustrate the sometimes rather complex aspects (maybe in boxes); 4) the chapter needs a clearer and easier language; 5) sometimes evidence is missing - the text states something without mentioning a reference or explaining it further (GERMANY)	The chapter has been shortened and sharpened; repetitions removed;
26	2	0	0	0	0	This chapter is extremely academic and jumps between concepts in a way which doesn't help to clarify their meanings. It would be of more use to policymakers and practitioners to have short, clear explanations of the concepts of vulnerability, exposure, capacity, risk etc and how they interact with each other. More importantly - what do these mean in practice? What are the methods for measuring vulnerability? What are the drawbacks and benefits of different methods? If these could be laid out more clearly, this chapter could be of great value to policymakers. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	The chapter has been shortened and sharpened; academic sections have been reduced. However, the introduction of basic terms should be done by chapter 1 and the glossary. The revised text should be more practitioner-oriented.

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27	2	0	0	0	0	This chapter is long, dense and in places quite theoretical. Whilst often quite well-written, it would benefit massively from one paragraph at the end of each subsection which summarises the main points, or the key direction of that subsection. This would aid the reader in building up an understanding of the chapter. And/or, the chapter should be seriously reduced in length. This particularly stands out in section 2.7 on trends in vulnerability - each subsection contains a vast amount of information, but at the end, it is not clear which way the trend is going. (Hillier, Debbie, Oxfam)	Summaries at the end of subsections would take too much space, but the chapter has been shortened and sharpened to create a clearer flow and make it more accessible to a wider readership. In particular, section 2.7 has been integrated with 2.5.
28	2	0	0	0	0	Suggest the chapter undergo significant revision and further review. While there is an impressive range of material in this chapter, it requires a thorough edit and, unfortunately, is not up to the standard expected of a second order draft. Its strength is that it is the one chapter that puts the disaster risk reduction perspective to the forefront. However, there is duplication between sections in the chapter as well as with Chapter 1. Certain sections read as a literature review rather than a science assessment. There are greatly varying styles of writing, and some significant errors as a result of incomplete editing (noted below). Table 2-2 is not referred to in the text, while Table 2-3 does not appear anywhere in the body of the chapter. Box 2-10 is blank. Many references, including key references such as Setiada et al (2010), are not included in the list references making it difficult to track source material. Some statements are prescriptive (e.g. "must be", "have to be"). (CANADA)	The chapter has been shortened and sharpened, repetitions with chapter 1 and within the chapter removed, language and style improved. The role of the chapter -- further in-depth treatment of concepts already introduced in chapter 1, should be clearer now. Tables and boxes have been reviewed and/or deleted, references updated, prescriptive statements removed.
29	2	0	0	0	0	The chapter has a difficult, and arguably unnecessary, role in that it expands on content of Chapter 1 while introducing concepts that are expanded upon in Chapters 5-7. Some content, particularly that related to urbanization, human health and communication is very strong. However, the impact and effectiveness of the chapter would be greatly enhanced if it were reduced in length by 30 - 50%. Sections 2.2 to 2.5 in particular duplicate material presented more clearly in Chapter 1 and are very difficult to read. While the subtle nuances in terminology may be important, they need to be explained clearly and concisely. There may be benefits in combining sections 2.5 and 2.7 (the trends section is much more relevant and readable), and deleting section 2.6. A common style is needed throughout. (CANADA)	The chapter has been shortened and sharpened, repetitions with chapter 1 and within the chapter removed, language and style improved. The role of the chapter -- further in-depth treatment of concepts already introduced in chapter 1, should be clearer now, and sections 2.2 to 2.4 have been made more accessible. As suggested, 2.6 has been deleted, 2.5 and 2.7 have been integrated.
30	2	0	0	0	0	Developments on risk transfer and insurance are not reflected in the summary of this § to the extent they are introduced. (NUSSBAUM, Roland, Mission Risques Naturels)	Risk transfer is covered in the risk management chapters.
31	2	0	0	0	0	The chapter appears to separate disaster risk from climate change in a manner that is not necessary reflective of the way many approach these subjects in the context of identifying, understanding and acting on vulnerabilities. Many practitioners are approaching vulnerability in the context of existing vulnerabilities to climate, climate variability (including extremes) and climate change, and in terms of addressing the existing adaptation deficit. Separating out today's adaptation deficit from the short or longer term changes is difficult and not seen as necessary. (Street, Roger B, UK Climate Impacts Programme)	Agree. The concept of the adaptation deficit is not covered in this chapter but would belong to the management chapters (5-7, 8). The notion that vulnerability (and vulnerability reduction as a way to close the adaptation deficit) is a key common ground between efforts towards adaptation and efforts towards disaster risk reduction has been highlighted explicitly now.
32	2	0	0	0	0	I was expecting there to be some discussion about the implications of the identified approaches to vulnerability in terms of how it affects the assessment and the following decisions. The climate change community defines vulnerability based on exposure, sensitivity and adaptive capacity, whereas the risk reduction community appear to separate exposure and vulnerability. What is the implications for the decisions that result. (Street, Roger B, UK Climate Impacts Programme)	Interesting points. However, we note that in terms of vulnerability reduction, there is a large overlap in approaches, even if the definitions are slightly different. In light of space and clarity, we have chose in this chapter to mainly follow the chapter 1 definition of vulnerability. While other perspectives are mentioned, the resulting implication for decisions could not be explored explicitly (might also overlap with chapter 5-7)
33	2	0	0	0	0	I would note that it is quite obvious in some sections of the chapter that it has been written by someone who is from the climate change community and in others from someone from the risk reduction community. I would expect that there would be a more integrated presentation of the material. In some cases the material appears to present a particular perspective and then add a separate statement that the other community approaches it differently with no explanation of the implications (Street, Roger B, UK Climate Impacts Programme)	The chapter has been shortened and sharpened, also removing differences in style and approach, now following ch1 definitions consistently (except where otherwise noted).
34	2	0	0	0	0	Consider acknowledgment of the Department of Homeland Security's (USA) target capabilities list or a citation of the US National Preparedness Guidelines or National Response Framework. We believe this should be included in the document where appropriate. (UNITED STATES OF AMERICA)	primarily relevant to the risk management chapters 5-7

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35	2	0	0	0	0	The authors appear to not be familiar with DHHS's (USA) definition of at risk (or vulnerable) individuals. HHS defines vulnerable (at risk) populations in terms of functionality: "communication, medical care, maintaining independence, supervision, and transportation. In addition to those individuals specifically recognized as at-risk in the Pandemic and All-Hazards Preparedness Act (i.e., children, senior citizens, and pregnant women), individuals who may need additional response assistance include those who have disabilities, live in institutionalized settings, are from diverse cultures, have limited English proficiency or are non-English speaking, are transportation disadvantaged, have chronic medical disorders, and have pharmacological dependency." We believe the authors do have discussion of most, but not all of these functional groups, in this chapter. See http://ophpr.cdc.gov/sphp/documents/vpo/10vpo.DEFINITION.HHS.AT-RISK.pdf (UNITED STATES OF AMERICA)	this has been included in the opening paragraph of the health and well being section
36	2	0	0	0	0	The National Biodefense Science Board (USA), Disaster Mental Health Subcommittee has recently written a report that includes very thoughtful discussion of behavioral and mental health concerns in emergencies, as well as integration of mental and behavioral health in emergencies. We recommend that they contact Dr. Dori Reissman, NIOSH, CDC for further information and inclusion of appropriate aspects of their work to be referenced in this chapter. (UNITED STATES OF AMERICA)	this has been dealt with at the same time as comment 56
37	2	0	0	0	0	The use of the symbol "/" is equivocal and should be changed to either "and" or "or." (UNITED STATES OF AMERICA)	DONE
38	2	0	0	0	0	The authors do not include important considerations on the effect of climate change on human health through changes in reservoirs and hosts of human disease. There is one mention in Table 2-5 of vector-borne diseases, but zoonotic diseases may be even more important. We recommend that they read a recent review article by James Mills, et al. (Potential Influence of Climate Change on Vector-Borne and Zoonotic Diseases: A Review and Proposed Research Plan. 2010. Environmental Health Perspectives.118(11): 1507-1514. (UNITED STATES OF AMERICA)	THIS IS DEALT WITH IN CHAPTER 4
39	2	0	0	0	0	Using ISDR terminology published in 2009 will aid in communicating with disaster risk reduction and humanitarian assistance community. It would be helpful to link the terminology with CCA rather than creating new definitions which will lead the confusion and misconceptions among the disciplines. For example, hazards have been used instead of disasters and risks through the chapter. In addition, UNISDR's work on vulnerability and risk can also be used to simplify some of lengthy discussions on the text. (UNITED STATES OF AMERICA)	The revised chapter now follows the glossary used by all chapters of the SREX. This glossary draws heavily from UNISDR terminology (but in light of the role of the report in an adaptation context, purely following UNISDR terminology would not have provided perfect clarity to all readers either).
40	2	0	0	0	0	The chapter has wealth of knowledge in defining various concepts. However, it is extremely long and redundant, which loses the focus of the chapter and interest of reader. Most of the discussion and literature on the origin of the terminology and definitions can be reduced significantly to emphasize vulnerability and exposure to extreme events within climate change framework. More focus on DRR and CCA can improve the chapter. We suggest a thorough edit and considerable shortening. (UNITED STATES OF AMERICA)	The chapter has been shortened and sharpened.
41	2	0	0	0	0	My comments only emphasize major issues. These are: - It would make sense that all definitions of concepts be similar with those provided in chapter 1. - The chapter should further emphasize access to means of protection – why some people can protect themselves in facing natural hazards and why cannot. - The interactions between 'vulnerability' and 'resilience' (2.4.1) are still unclear. The chapter should make clear that people may simultaneously be very vulnerable and armed with strong capacities, and that increasing or reducing either of the two attributes does not necessarily impact the other. - The chapter should provide more insights on the importance and role of knowledge in DRR (which and whose knowledge, interactions between the different forms of knowledge, gaps and ways forward). - It would be insightful to have a sort of comparison with other forms of changes (social, economic, cultural, political) through which societies have been over the last centuries. It would show how people coped with and adapted to changes in their environment. - The association between "Work and livelihoods" (2.5.3.1.) is odd as most of the subsequent sections and subsections also deal with strong components of people livelihoods. The concept actually emerged as a broader alternative to the previous assumption that people make a living from formal work and incomes so why going back to such a narrow view? - The scope of the section on culture should be expanded (see point for chapter 1) and differentiate culture per se and the so-called "culture of safety". - The section on settlements (2.6.7.) should include rural settlements as these may be further marginalized, and therefore vulnerable, in the future. - The section on vulnerability and risk assessment (2.8.2) should further emphasize participatory and community-based activities. A single short box does not seem to be enough given the crucial role communities should play in assessing risk. This section should also encompass assessment of capacities. (Gaillard, JC, The University of Auckland)	comments have been taken into account in revision of chapter, to the extent space allowed. The dual vulnerability/capacity issue is referred to in Social Groups section. Work and livelihoods subsection was originally included for compatibility of subheadings with other chapters but was also included here to meet the expectations of some readers. the inclusion of livelihood approaches elsewhere does not rule out its inclusion here also for different purposes
42	2	0	0	0	0	There is a need to work on the explanations of all the figures in the chapter. Abbreviations have to be explained. (NORWAY)	Done
43	2	0	0	0	0	A complex discussion of complex issues. The ES is already well developed and could be integrated even more to bring out key messages. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	ES has been revised and strengthened.

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44	2	0	0	0	0	Overlap with Chapter 1. The definitional discussion of vulnerability in Chapter 1 (primarily Section 1.1.2) overlaps with discussion in Chapter 2. Redundancies should be considered and reduced where appropriate. Additionally, overlap between 2.8 and 1.3.1-1.3.3 should also be considered and reduced. (IPCC WGII TSU)	The chapter has been shortened and sharpened, repetitions with chapter 1 removed. The role of the chapter -- further in-depth treatment of concepts already introduced in chapter 1, should be clearer now.
45	2	0	0	0	0	Comprehensiveness of assessment: In some sections of this chapter, select examples are reviewed without a clear indication of where these examples fall in context of all scientific understanding on the topic. For example, it is sometimes difficult to tell if a given example is only one of many or if it is the sole example for a topic. When examples for vulnerabilities to certain types of extreme events are described, it is unclear if conclusions can be drawn more broadly for vulnerabilities to other extreme events. It would be preferable for the author team to clearly delineate the extent of the knowledge base, key remaining uncertainties, and conclusions that can be drawn at this time. Some sections where a more comprehensive, "assessment"-oriented approach would be desirable are flagged below. (IPCC WGII TSU)	reviewed chapter accordingly
46	2	0	0	0	0	Chapter subsections: The distinctions among approaches taken in, and information assessed in, Sections 2.5 through 2.7 should be carefully considered to reduce overlap across these sections for the dimensions and sectors considered. Currently, similar information appears across multiple subsections (e.g., for the subsection treating health in each of 2.5 through 2.7), and the chapter would be strengthened by a more concise, streamlined presentation. (IPCC WGII TSU)	Sections 2.5 and 2.7 have been fully integrated.
47	2	0	0	0	0	Clarity of writing. Throughout the chapter, clarity of writing needs to be improved so that the main points being made can be easily understood. In many cases, unclear writing is hampering effective presentation of material and of key findings of the chapter's assessment. It is important that clarity of writing be carefully considered at multiple levels: sentence, paragraph, and section. Additionally, some sections appear to have been written by non-native English speakers and could be greatly strengthened by a careful read by a native speaker. (IPCC WGII TSU)	The chapter has been shortened, sharpened and checked for English.
48	2	0	0	0	0	Treatment of uncertainties in Chapter 2. Throughout the chapter, key findings and conclusions would very much benefit from use of calibrated uncertainty language to characterize their degree of certainty, following the approach described in the AR5 Guidance Note on Treatment of Uncertainties. The use of such calibrated language would help readers understand the relative degree of certainty in the chapter's findings and be able to compare more systematically the state of knowledge across statements. Where uncertainty language is added and also where it is currently used, the findings need to clearly follow from the discussion in the chapter text. That is, findings need to be directly and clearly supported by traceable accounts in the chapter text, where the authors' evaluations of the literature (evidence and agreement) are presented. (IPCC WGII TSU)	reviewed ES and chapter accordingly
49	2	0	0	0	0	Use of "threshold" and related terms. In this and other chapters, a number of related terms are used, sometimes synonymously and sometimes differently: climate threshold (which also appears in the glossary), absolute (possibly impact-related) threshold, statistical/probability-based threshold, vulnerability/social (impact-related) threshold, tipping point, critical threshold, critical transition, regime shift. These terms are used to define extreme events or impacts or to characterize non-linear, abrupt, and/or possibly irreversible changes. Where these terms are used, the author team should ensure that the usage is not ambiguous and that it is consistent across chapters. (IPCC WGII TSU)	checked
50	2	0	0	0	0	Cross-chapter Consistency: Disaster Risk Management v. Disaster Risk Reduction. It should be ensured that usage of the terms disaster risk management and disaster risk reduction, throughout this chapter, is consistent with the definitions provided in the glossary and described in chapter 1 and with the usage in other chapters of the SREX. (IPCC WGII TSU)	checked
51	2	0	0	0	0	The chapter reads like a patchwork of contributions, with limited coherence across the sections. The chapter is 50% too long, much of which could be resolved by eliminating repeated information and overlaps. The reference list is far from complete. The chapter does not achieve integration of climate change adaptation and disaster risk management; several sections focus only on disaster risk management and ignore a rich body of relevant adaptation experience. (IPCC WGII TSU)	The chapter has been shortened and sharpened. References have been completed. The integrated adaptation/disaster risk management approach of the SREX (as per glossary terminology) has been fully adopted; adaptation references have been added.
52	2	0	0	0	0	Usage of calibrated uncertainty language: Whenever calibrated uncertainty language from the AR5 Guidance Note on Treatment of Uncertainties is used, the terms should be italicized (e.g. italicizing "high confidence," "likely," etc.). (IPCC WGII TSU)	Addressed
53	2	2	3	2	4	How can it be said that large financial costs do not have human impacts? (Wright, Richard, American Society of Civil Engineers)	sentence removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
54	2	2	4	0	0	I would expect an Executive Summary to have perhaps five main substantive findings, clearly outlining what the major determinants of risk are - e.g. the changing frequency and unpredictability of extreme weather events; increasing levels of development in hazardous places; social inequality and differential access to information, power and resources etc. But I expected the Exec Summary to come to a balanced view on these phenomenon and their relative importance and how certain or well established such an assessment might be and whether this assessment applied in different geographical contexts. I would suggest a complete rewrite of the Exec Summary to make that assessment central to the outcome of the chapter. Five definitive statements (with confidence statements) should be backed by a paragraph each with supporting evidence and examples from the chapter. I would imagine this instruction or guidance is already given by TSU to this effect. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	ES has been revised and strengthened. A more limited number of key statements has been selected. However, the scope of the chapter does not allow for a complete quantitative assessment of relative importance of determinants of risk (and dimensions therein). This is partly covered (in regional and global terms) in the quantitative assessment of chapter 4. Given the highly context-specific nature of exposure but particularly vulnerability (as understood in SREX following ch1 definitions) the current chapter mainly aims to highlight dimensions that are important in some places and merit analysis in actual adaptation or disaster risk management planning or practice.
55	2	2	4	0	0	At present, the Executive Summary does not make that assessment. Instead it has 15 bolded statements, only a proportion of which are backed by supporting sentences or evidence. Some statements, such as line 35 on page 3, are summaries of outputs of other chapters. Some statements are not likely to be meaningful to readers and do not really add value - e.g. page 2 line 42 statement. Other statements cannot be tested - e.g. page 3 line 41 - risk assessment is important for reducing vulnerability - is there actually evidence for that statement? I would suggest a radical rethink of the Exec Summary with help from the TSU. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	See previous response. Specifically, all statements that are covered by other chapters have been removed.
56	2	2	24	26	14	This section on health and well being is largely underwritten by a western diagnostic of individual disease: such a diagnostic has been strongly critiqued especially around the issues of PTSD and subsequent external interventions. (O'Keefe, Phil, Northumbria University)	The issue of PTSD and the psychological effects of climate change and disasters have now been addressed with appropriate references in the health and well being section
57	2	2	36	0	0	Executive Summary: Usage of calibrated uncertainty language. Some bold statements in this ES that do not currently have a confidence assignment appear to be statements of fact that are based on some level of evidence and degree of agreement. We are therefore wondering if it would be more informative for the reader to characterize your degree of certainty in more of these bold sentences using either evidence and agreement summary terms or levels of confidence. For example, could uncertainty language be used to characterize the statements on page 3, line 49-50? (IPCC WGII TSU)	reviewed ES accordingly
58	2	2	38	2	40	The executive summary should also recognise that vulnerability as defined by exposure, sensitivity and adaptive capacity are key determinants of climate risks. (Street, Roger B, UK Climate Impacts Programme)	This is the IPCC AR4 decomposition of vulnerability -- the chapter primarily follows SREX definition as laid out in chapter 1.
59	2	2	38	2	40	The reference to the "adaptation policy" is not clear. If these chapters are supposed to stand alone then a clarification of what is meant by this should be provided. (UNITED STATES OF AMERICA)	rephrased as part of ES revision
60	2	2	45	2	46	Lack of resilience is not necessarily the same as lack of adaptive capacity which this seems to be suggesting (Street, Roger B, UK Climate Impacts Programme)	suggestion removed in EW revision
61	2	2	46	0	0	Disagree with two broad categories: another critical category that made poor women as well as men vulnerable is the socio-economic and political structures and systems that made them trapped on the vicious cycle of poverty. (Hillier, Debbie, Oxfam)	changed (also in chapter itself)
62	2	2	48	2	48	Why do you write "probable physical event"? Delete "probable". (Stocker, Thomas, IPCC WGI TSU)	removed
63	2	2	48	2	48	Using a word such as "potential" or "possible" would be preferable to "probable." "Probable" suggests that this statement only applies to high likelihood events. This same concern applied to p. 5, lines 28-29. (IPCC WGII TSU)	removed
64	2	2	49	2	49	The terms (physical, biological, and social processes) used in this sentence should be harmonized with the phrases used in the glossary entries for "vulnerability" and "exposure" and in Chapter 1, page 6, 34-54. For example, Chapter 1's phrase "environmental services and resources" could be used in place of "physical and biological processes." (IPCC WGII TSU)	harmonization taken onboard as part of ES revision.
65	2	2	49	2	50	Hazards in the statement somewhat elude to risk or disaster in this context. Please reword or use risk or disasters in the paragraph (see definition of Hazard in ISDR 2009) (UNITED STATES OF AMERICA)	The word "hazard" is not introduced in context of climate and weather events, in line with glossary definitions.
66	2	2	60	3	2	Does a 'hottest day' equal an 'annual extreme' here? If so, why not use the same language for both? If not, this needs more explanation. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	unclear which statement this comment refers to (not in chapter 2)
67	2	3	1	0	0	Financial cost is also a human impact. Please clarify what human impact refers to (lives?) (UNITED STATES OF AMERICA)	sentence has been removed
68	2	3	1	3	2	The wording of this sentence should be improved to clarify its intended meaning. (IPCC WGII TSU)	statement removed in ES revision

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
69	2	3	1	3	3	inconsistent use of bold to highlight key statements -- (1) don't change from bold/no-bold within a sentence; (2) paragraph should start with bolded key statement, followed by further non-bolded details -- no going back and forth within a para. (Stocker, Thomas, IPCC WGI TSU)	address in ES revision
70	2	3	1	3	3	I would suggest including the spatial and temporal scales of the risk assessment and that in addition to financial costs, social and environmental costs should also be considered (consistent with the chapter) (Street, Roger B, UK Climate Impacts Programme)	Noted.
71	2	3	2	3	3	It is unclear what is meant by "limited human impact" here. The same ambiguity applies for page 5, line 23. (IPCC WGII TSU)	statement removed
72	2	3	5	0	0	Affirmation often true but may be false in case of a non normal (Pareto) statistical distribution of extremes. (BOURRELIER, PAUL-HENRI, AFPCN)	Statement removed, emphasis shifted to the second half of this paragraph (which was retained)
73	2	3	5	3	7	The many small disasters usually have a specific temporal and/or spatial nature (coincident or sequential) (Street, Roger B, UK Climate Impacts Programme)	True, but too detailed for ES.
74	2	3	5	3	7	The authors should consider and acknowledge that there may be disasters or events that are temporally extended or lengthy, thereby adding other challenges to those that are vulnerable. (UNITED STATES OF AMERICA)	Yes we think this point is addressed in the area of risk accumulation.
75	2	3	6	3	7	Explain what chronic impacts are. Was it referred to undermining efforts of sustainable development or increasing vulnerability? (UNITED STATES OF AMERICA)	rephrased to clarify ("chronic" removed)
76	2	3	7	0	0	most fragile groups - Need to clarify the most fragile socio-economic groups ie. especially poor women from socially excluded groups. (Hillier, Debbie, Oxfam)	Noted.
77	2	3	9	3	11	Add political as another dimension? (UNITED STATES OF AMERICA)	It seems that political is sufficiently incorporated in governance (e.g. in the World Bank definition of governance "the exercise of political authority and the use of institutional resources to manage society's problems and affairs")
78	2	3	9	3	11	Context here seems to apply to very different spatial and governance levels: economic would be national or global, institutional and governance could be local. Accordingly, I wonder how useful these statements, which appear in many spots in the SREX. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	True but this chapter is the one that needs to establish the point -- (particularly the need to pay attention to E&V in assessing risk, and in doing so ensuring that the dynamic nature of E and particularly V are being addressed appropriately). Rephrased to clarify
79	2	3	13	3	15	I would note that these characteristics are among those that determine adaptive capacity, similarly for those drivers identified under lines 28-32. (Street, Roger B, UK Climate Impacts Programme)	adaptive capacity is discussed in more detail later in the chapter.
80	2	3	13	3	15	To state that race, ethnicity, religion, or class/caste in and of itself makes people more vulnerable or at risk is incorrect. While those parameters may be predictors of vulnerability, it is the lack of functionality of the specific groups in an emergency setting that makes them vulnerable. For example, an American Indian male working in Washington DC for a Fortune 500 company will not have the same level of vulnerability as an American Indian male living on an Indian reservation that is confined to a wheel chair. Also, we suggest softening from "people are" to "people may" be differently exposed ..." (UNITED STATES OF AMERICA)	rephrased
81	2	3	13	3	15	The statement is very general. Why are policy and practice ineffective when addressing different vulnerabilities? (UNITED STATES OF AMERICA)	moved and modified statement on policy and practice
82	2	3	14	3	15	What have been the consequences of the fact that these characteristics have been ineffectively addressed? Have the policies and practices used thus resulted in vulnerability and exposure not being as effectively reduced? (IPCC WGII TSU)	statement has been changed/removed
83	2	3	17	3	18	The use of the term "shock" is equivocal and may be misinterpreted. Perhaps employ the term "emotional or physical trauma"? (UNITED STATES OF AMERICA)	statement removed.
84	2	3	17	3	18	These are descriptors of vulnerability, not causal factors. (IPCC WGII TSU)	rephrased
85	2	3	20	3	22	This is a really important point that I don't think is adequately emphasised in the summary doc (Ch 1) (Rickards, Lauren Amy, University of Melbourne)	point has been retained and highlighted for use in SPM
86	2	3	20	3	22	Hazards in the statement somewhat elude to risk in this context. Please reword or use risk or disasters in the paragraph (see definition of Hazard in ISDR 2009) (UNITED STATES OF AMERICA)	rephrased
87	2	3	22	0	0	Technical fix is only one of the solutions to foster resilience and sustainable development. Equally important is to reform institutional and governance structure and the elimination of women's discrimination in the socio-economic and political spheres. (Hillier, Debbie, Oxfam)	rephrased.
88	2	3	24	3	24	uncertainty qualifiers need to be given in italics (here "high confidence") (Stocker, Thomas, IPCC WGI TSU)	done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
89	2	3	24	3	26	The use of the term "changes" is vague. Can the authors be more specific, or give a brief example? (UNITED STATES OF AMERICA)	The reason we did not use "trends" is that the changes may not be linear or even uniformly in one direction. Unfortunately, an example does not fit in the ES, but we hope that chapter at large provides enough substance to elucidate the context-specific and dynamic nature of vulnerability and exposure (and thus the difficulty of speaking of trends, which would quickly be interpreted as global and uniform).
90	2	3	28	3	28	What changes? (IPCC WGII TSU)	all changes -- deliberately kept somewhat unspecific (see answer to previous comment)
91	2	3	28	3	30	Please put this sentence as follows: "Key drivers of these changes include population growth, economic growth, changing settlement patterns including rapid urbanization, urban sprawl and the habitation of sites which are not suitable for housing, lack of planning and urban government, environmental degradation, changing demographics and health status, science and.... (GERMANY)	statement has been removed
92	2	3	28	3	30	First, it seems confusing to use "drivers" here to describe elements affecting changes in vulnerability and exposure, which themselves have just been called drivers in the previous paragraph. Second, not all of the elements listed correspond to changes. e.g.. "science and technology." (IPCC WGII TSU)	rephrased
93	2	3	28	3	32	A long list and many are interrelated (such as growth, health, degradation), but which are the key ones? (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	rephrased (but order is highly context-specific)
94	2	3	29	0	0	Urbanization by itself is not a factor but rapid and unplanned urbanization is. Please reword. (UNITED STATES OF AMERICA)	done
95	2	3	30	0	0	this should be indirect impacts of gradual shifts in climate and its variability (International Petroleum Industry Environmental Conservation Association (IPIECA))	MODIFIED ACCORDINGLY
96	2	3	32	0	0	Recognition of women's rights enshrined in CEDAW is one of the key drivers for transformation (Hillier, Debbie, Oxfam)	too detailed to include in ES
97	2	3	34	3	37	This sentence is overlapping with some Chapter 1 statements (e.g., Chapter 1, p. 3, lines 35-37), yet different uncertainty language is assigned. These statements should be reconciled. (IPCC WGII TSU)	statement removed from chapter 2 (and discussion removed from 2.7 -- based on comments that there is too much overlap with AR4)
98	2	3	34	3	39	The Executive Summary of Chapter 2 can not prejudge the assessment to be provided in Chapters 3 and 4 of the SREX. The statement starting with "There is high confidence that climate change will affect disaster risk not only..." is clearly not the result of the assessment of Chapter 2 and thus must be removed. This should be picked up in the SPM if the information is indeed available from Chapter 3 and 4 etc. (Stocker, Thomas, IPCC WGI TSU)	removed
99	2	3	35	0	0	Could look contradictory with line 5 ; suggestion : suppress extreme. (BOURRELIER, PAUL-HENRI, AFPCN)	statement has been removed
100	2	3	36	0	0	replace 'people' with 'men and women' (Hillier, Debbie, Oxfam)	statement has been removed
101	2	3	41	3	41	This sentence seems to be mixing two assertions: 1) that risk assessment is important for reducing vulnerability, and 2) that this risk assessment should be comprehensive to be most effective. It is unclear therefore what "important" really means here: will risk management that is not comprehensive not reduce vulnerability? Further clarification of what is meant by "comprehensive" would also be helpful. (IPCC WGII TSU)	rephrased
102	2	3	41	3	42	A comprehensive risk assessment is an important step towards reducing vulnerability as it has the potential of enhancing adaptive capacity. The assessment by itself cannot reduce exposure or sensitivity unless it is acted upon. (Street, Roger B, UK Climate Impacts Programme)	rephrased
103	2	3	41	3	43	Does this second bold sentence mean that comprehensive risk assessment is not currently possible? Subsequent sentences in the paragraph seem to imply that comprehensive risk assessment is not currently fully possible. (IPCC WGII TSU)	rephrased
104	2	3	47	0	0	An integration of Gender Analysis in the vulnerability profile is needed to identify gender relations, roles and coping mechanisms. (Hillier, Debbie, Oxfam)	ADDRESSED IN NEW SECTION 2.5
105	2	3	49	3	53	Information flow and communication at horizontal level is also important in effective DRR. (UNITED STATES OF AMERICA)	removed the suggestion that it is limited to vertical
106	2	3	49	3	53	In the first bold sentence, it's not clear what "appropriate" means. Therefore, the overall meaning of the sentence is obscured. Does this mean, as is said in the first non-bold sentence, that appropriate risk communication deals with uncertainty and complexity? If so, this further detail could be added to the first sentence. (IPCC WGII TSU)	rephrased sentence after the bold one to clarify the aspects of "appropriate" (such as being tailored to a specific audience).
107	2	3	53	0	0	Whether women are consulted and women's access to information -- is it in a form and of relevance to their needs? (Hillier, Debbie, Oxfam)	ADDRESSED IN NEW SECTION 2.5

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
108	2	4	0	17	0	There is a sense of disconnect with this first part of the chapter (2.1-2.5) and the rest of the chapter. Would expect that this first part would set the stage, larger framing, for the more detailed discussions followed in 2.5 and onwards. Instead these sections come across a bit unstructured and with some missing points (find much of the human dimensions research on climate change vulnerability and exposure is missing here), and maybe more seriously these sections presents some direct contradictions to the assessment later on in the chapter. Also some more referencing to the climate change literature would be good in these parts to have a more balance. (Sygna, Linda, Department of Sociology and Human Geography)	Chapter has been sharpened and shortened to improve the flow and consistency (including integration of 2.5 and 2.7 and removal of 2.6). Paid additional attention to climate change literature.
109	2	4	1	4	1	"...the lack of good information...." This is extremely vague for a key statement appearing in the ES. Please provide more detail on what you mean by 'good information' (Stocker, Thomas, IPCC WGII TSU)	statement has been removed
110	2	4	1	4	2	The word "its" in this sentence could be read to refer to "lack of good information," which produces the opposite of the intended meaning. (IPCC WGII TSU)	statement has been removed
111	2	4	1	4	4	In our opinion, it is not appropriate for an IPCC report to identify and specifically highlight key research gaps, in particular not at the level of the Executive Summary. This could be seen as advocating certain research priorities which clearly is inappropriate for IPCC. Suggest to delete section this paragraph. Gaps in knowledge/understanding should be highlighted as limiting the assessment in the relevant sections where the assessment is provided and will thus contribute to the assessment of associated uncertainty. (Stocker, Thomas, IPCC WGII TSU)	statement has been removed
112	2	4	2	4	4	Research gaps on vulnerability in the context of extreme events also include our lack of understanding of the role of perceived vulnerability, or indeed lack thereof. Limited evidence suggests perceived vulnerability is important in shaping adaptation outcomes in the health sector. See further comment on this below. (Wolf, Johanna, Memorial University of Newfoundland)	statement in ES has been removed
113	2	4	4	0	0	Need more gender analysis as well as disaggregated data. (Hillier, Debbie, Oxfam)	DONE IN SECTION 2.5
114	2	4	4	0	0	This appears to contradict the statements made in lines 24 and 34 earlier in this section (Hillier, Debbie, Oxfam)	statement has been removed
115	2	4	7	0	0	In Introduction and scope, there is very limited reference to gender based vulnerability and risk. In the introduction itself it manifests the technical focus of the topic lacking the gender dimension. (Hillier, Debbie, Oxfam)	GENDER IS DEALT WITH IN THE NEW SECTION 2.5 but two gender references are also included in section 2.2.2 to make <u>gender more explicit</u>
116	2	4	9	4	11	While we appreciate the intent of this opening sentence, the terminology used in the sentence may be a source of confusion. Would it be better to say "changes in the frequency, intensity, and duration of weather and climate events that will influence the potential for extreme impacts on human society"? This would avoid possible interpretation of "extreme events," as used here, in a way that is inconsistent with its definition in this report. Using "extreme impacts" instead would be consistent with the terms' characterizations in Chapter 1. (IPCC WGII TSU)	changed to ensure consistency with ch1
117	2	4	10	0	0	On the definition of extreme event see OG2. (BOURRELIER, PAUL-HENRI, AFPCN)	changed to ensure consistency with ch1
118	2	4	10	4	11	Is this definition of extremes consistent with those in other chapters? (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	changed to ensure consistency with ch1
119	2	4	10	4	11	Extreme, at least from a climatological or meteorological perspective, is also defined by the characteristics of the event relative to what is considered normal and rare. As extremes are usually rare, they have an impact. (Street, Roger B, UK Climate Impacts Programme)	changed to ensure consistency with ch1
120	2	4	15	4	17	Changes in vulnerability have been larger and faster than changes in weather. This sentence quotes Bouwer, Pielke and others. This is the crux of this chapter, but it is not clear whether this sentence is the major conclusion of the chapter. If it is, it should be in the Executive Summary, should be examined in much greater detail, and should form a central set of Tables and Figures as well as an explanation of the methodological and contested data on just this issue. Bouwer's more recent work, and that of Neumayer (Global Env Change 2011) and Pielk on normalising disaster losses should be dealt with in great detail in this chapter. I would not suggest it is elaborated on in this introductory section but given its own space later under 2.5. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	Although originally intended to be covered partly in chapter 2 (2.7, later merged into 2.5), the quantitative analysis of these issues was eventually left fully to chapter 4. In that light, we have removed the references from the introductory statement here.
121	2	4	16	4	17	The citation of the references should follow the Pielke and Landsen, 1998; Bouwer et. al., 2007 and UNISDR, 2009. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	references have been removed
122	2	4	16	4	17	It is unclear what source UNISDR (2009) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	references have been removed
123	2	4	17	4	18	The description of climate change over the coming century should be refined, and appropriate citations should be provided. (IPCC WGII TSU)	sentence removed
124	2	4	21	4	23	This sentence is essential for defining the scope of the chapter, yet it is not totally clear what is meant by "that underpinning." It could be helpful to be extra explicit that this phrase refers to "a solid understanding of the dimensions of exposure and vulnerability to climate-related hazards, as well as a proper assessment of changes in those dimensions." (IPCC WGII TSU)	Rephrased

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
125	2	4	25	4	28	It is not clear what is meant by the "constituency that supports improved risk management." (IPCC WGII TSU)	rephrased
126	2	4	25	4	41	While these two paragraphs make interesting points, they are not related to the content of this chapter. The section would flow better if these two paragraphs were deleted. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	sections removed
127	2	4	26	4	27	These recommendations has probably also come from practitioners. Also instead of talking about "modifying social and development pressures" maybe it would be more appropriate to talk about trajectories, addressing vulnerability would be important also where there are no "pressures". (Sygna, Linda, Department of Sociology and Human Geography)	sentence removed
128	2	4	30	0	0	Unclear what questions are referred to here (Sygna, Linda, Department of Sociology and Human Geography)	rephrased as "challenges"
129	2	4	45	4	45	"the subsequent descriptive sections describe" -- delete "descriptive" (Stocker, Thomas, IPCC WGI TSU)	done
130	2	5	0	7	0	Even though the text states that disaster risk is shaped by changing conditions both in terms of climate change and socio-economic conditions, one could explicitly stress that the context in which the hazard occurs is constantly changing (Cutter and Finch, 2008. Temporal and spatial changes in social vulnerability to natural hazards. PNAS 105, 2301-2306, 2008), and also point out that large -scale processes such as for example globalization shape social and economic entitlements that in turn influence vulnerability (Adger and Kelly, 1999. Social vulnerability to climate change and the architecture of entitlements. Mitigation and Adaptation Strategies for Global Change, 4, 253-266). (Sygna, Linda, Department of Sociology and Human Geography)	Specific reference to dynamics and complexity has made. It has been also included in the ES
131	2	5	0	7	0	The section would be strengthened if there was a brief discussion of the medical or epidemiologic scientific understanding of climate change on infectious diseases included. (UNITED STATES OF AMERICA)	Reference to health has been made
132	2	5	1	7	14	This section 2.2 seems superfluous to the chapter. It reiterates and repeats the definitions of terms from Chapter 1, while adding some detail which seems to confuse rather than clarify. All this section, apart from the final paragraph could be deleted to give greater space for empirical assessment in later sections. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	Rephrased. Any way extensions have been made of the concepts defined in Chapter1. The Chapter intentionally is stand-alone regarding determinant of risk
133	2	5	2	0	0	In 'Defining determinants...' section, Exposure and Vulnerability lack the gender dimension by exploring that poor men and women react to differently hazards through their gender based exposure and vulnerability. (Hillier, Debbie, Oxfam)	It is mentioned, but it is included in 2.5
134	2	5	2	0	0	Sections 2.2 and 2.3. It is still a little bit unclear how the risk approach defines vulnerability differently from the climate change vulnerability literature. Some parts of the text allude to that the social vulnerability approach sees vulnerability as a condition independent of climate change, whereas the risk approach sees vulnerability as always being in relation to a particular hazard. This may be the clearest distinction? It would be important to comment on the implications of this distinction - what does the risk approach not consider, in comparison to the social vulnerability approach? The disaster risk approach addresses only the risk component whereas the social vulnerability approach would address the social and environmental processes creating social vulnerability? (Eriksen, Siri, Norwegian University of Life Sciences)	Two approaches to vulnerability from DRM and CCA have been mentioned but the emphasis has been made to the DRM approach. This certainly is new and different than the vulnerability definition used in the AR4. Notwithstanding this is just a special report to address DRM.
135	2	5	2	0	0	Section 2.2. Overlap with chapter 1 (especially 1.1.2 and 1.2) should be considered and reduced, with citations provided for relevant chapter 1 sections. This section currently is too long. (IPCC WGII TSU)	It has been reduced and extension of the concepts has been made
136	2	5	4	5	5	Here, use of "transformation" could be confusing given the usage of the term elsewhere in the report (e.g., in Chapter 8 and as discussed in Box SPM.2). (IPCC WGII TSU)	Rephrased and removed
137	2	5	4	5	10	Risk is an extremely important concept, but also one that can be explained in a more clear and concise manner than in this paragraph. A similar style of writing dominates several sections of this chapter, but is not helpful if the chapter is to be relevant beyond a small body of academics. (CANADA)	Rephrased
138	2	5	8	5	10	First, risk, defined as the product of probability and consequence, is not accurately described as "measurable in probabilistic terms." Then, it is somewhat unclear how the last sentence of the paragraph contrasts with the measurement of risk described in the previous sentence. When considering social values and preferences, would risk not be measured as the product of probability and consequence? Further, it would be helpful to expand slightly on "interventions," indicating for example that they are interventions to reduce risk. (IPCC WGII TSU)	Deleted
139	2	5	9	0	0	"in probabilistic terms, what is useful..." should be "in probabilistic terms. This is useful..." (Simiu, Emil, National Institute of Standards and Technology)	Deleted
140	2	5	9	5	9	Not clear I understand what the latter part of this sentence is trying to say (Street, Roger B, UK Climate Impacts Programme)	Deleted
141	2	5	10	5	10	Emphaise: Basing decisions on values rather than probabilities is especially appropriate when (a) the potential consequences are catastrophic, as is the case with many disasters and (b) there is significant uncertainty about the probability of any particular risks eventuating, as in the case of climate change. Therefore, in the context of disaster risk reduction under climate change, it is vital that we shift from our conventional preoccupation with probabilities to more concern about potential consequences. (Rickards, Lauren Amy, University of Melbourne)	Rephrased

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
142	2	5	14	0	0	Tumor et. al., 2003; Cardonn, 2004; Birkmenn, 2006; Fussel and Klen, 2006 (Incecik, Salahattin/Selahattin, Istanbul Technical University)	Deleted
143	2	5	14	5	14	Other references can be added e.g. "Chicken and Posner, 1998; Crichton, 1999; DETR, 1999; NRC, 2000; ISO/EC, 2002; DEFRA, 2002; Green, 2004; ITC, 2004; ISDR, 2004; FLOODsite, 2005" (GREECE)	Indeed, there are several (really many) and only some have been selected from both DRM and CCA
144	2	5	14	5	14	It is unclear what source Birkmann (2006) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
145	2	5	14	5	14	It is unclear what source Turner et al. (2003) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
146	2	5	16	0	0	"impede the decision-making effectiveness; i.e., successful..." should be "impede the decision-making effectiveness; e.g., with respect to successful..." (Simiu, Emil, National Institute of Standards and Technology)	It was relocated and rephrased
147	2	5	20	5	21	Disaster risk here is defined as a "probability." However, if it is considered to be the product of probability and consequence, it is not accurate to describe it simply as a probability. The term "potential" used in the glossary and in Chapter 1 would be preferable. (IPCC WGII TSU)	Rephrased
148	2	5	20	5	21	The term "hazard events" seemingly conflates two terms "hazards" and "extreme (climate or weather) events" and should be avoided. Also, this term is not discussed in chapter 1. (IPCC WGII TSU)	In DRM hazard event is a very important concept. An extrem event not always is hazard event. It has been included both Chap 1 and Chap 2
149	2	5	22	5	22	The distinction between the terms "catastrophe" and "small disaster" needs to be described more fully if these terms are to be mentioned. (IPCC WGII TSU)	This discussion was important to explain that extremes and non-extremes are important depending on exposure and vulnerability
150	2	5	23	5	23	I would suggest that the chapter also refers to large economic, social and environmental costs. (Street, Roger B, UK Climate Impacts Programme)	Done
151	2	5	23	5	24	It might be good to have one or two examples for each case in order to illustrate the differences (GERMANY)	Rephrased
152	2	5	26	0	0	The term "loss" is maybe to narrow to capture the many direct and indirect consequences of disasters, maybe impacts would work better (Sygna, Linda, Department of Sociology and Human Geography)	In DRM loss is related mainly to economic impacts
153	2	5	27	5	27	Typo in citation: For UNISDRa (2004), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Done
154	2	5	27	5	28	References should follow the publication year (Incecik, Salahattin/Selahattin, Istanbul Technical University)	One author had two publications into two different years
155	2	5	28	5	29	This description is not consistent with the definition of disaster risk, where risk is a function of who/what is exposed, their associated vulnerability, and the hazard to which they are / will be exposed. (IPCC WGII TSU)	Rephrased
156	2	5	29	5	29	replace "social systems" with "social and environmental systems"; the exposure and vulnerability of environmental systems has a strong impact on overall disaster risk (GERMANY)	Chapter 1 has addressed this issue. Environment is mentioned due to the services that provide. Any way it was rephrased
157	2	5	29	5	29	I would suggest that exposed environmental systems are also involved. (Street, Roger B, UK Climate Impacts Programme)	idem
158	2	5	30	0	0	Again the term "loss and damage" is too narrow (Sygna, Linda, Department of Sociology and Human Geography)	Rephrased
159	2	5	32	5	32	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
160	2	5	33	5	33	Typo in citation: For Westgate et al. (1976), only two authors are listed in the chapter's reference list. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Deleted
161	2	5	36	5	41	Adaptation to a changing climate could also be mentioned here as being a social process. In this context adaptation searches to understand, affect and minimise climate risk drivers. (Street, Roger B, UK Climate Impacts Programme)	The paragraph was deleted
162	2	5	41	5	41	For Cardona et al. (2003a), there is no reference in the chapter's reference list from these authors and year that carries the letter 'a'. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
163	2	5	41	5	41	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
164	2	5	43	5	43	"Exposure: how persons, demographics, property...." (GREECE)	The paragraph was deleted
165	2	5	45	5	46	Vulnerability also requires a much broader understanding of adaptive capacity than suggested here, as well as an understanding of sensitivities. (Street, Roger B, UK Climate Impacts Programme)	The paragraph was deleted

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
166	2	5	45	5	46	It may be helpful to add "physical" to "social and economic resources" to be capture the full range of resources mentioned in the glossary entry for vulnerability. Then, "in favour of" seems a non-ideal phrase. It may be clearer to say something like "resources that support or do not support the achievement. . ." (IPCC WGII TSU)	The paragraph was deleted
167	2	5	48	5	51	Other references can be added e.g. "DEFRA, 2002; ITC, 2004; ISDR, 2004" (GREECE)	Indeed, there are several (really many) and only some have been selected from both DRM and CCA
168	2	5	48	6	5	It should be noted that a hazard does not necessarily lead to harm. (GREECE)	In rigor, an extreme is a hazard if there is exposure and vulnerability; i.e something that can be affected
169	2	5	48	6	5	Discussion of hazards here is broader than in the glossary. It would be preferable to be more explicit about how this discussion of hazards extends beyond the concept as defined in the glossary (e.g., some anthropogenic hazards described here wouldn't fit completely within the scope of the term in the glossary). For reference, the glossary entry for "hazard" is "the potential occurrence of a natural or human-induced physical event that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, and environmental resources." (IPCC WGII TSU)	Rephrased and deleted
170	2	5	51	0	0	Suppress extreme (see OG 2). (BOURRELIER, PAUL-HENRI, AFPCN)	Deleted
171	2	5	52	5	52	How is 'severe' effects defined in this case? (Street, Roger B, UK Climate Impacts Programme)	Adverse effects was used and rephrased
172	2	6	3	0	0	NaTech description or Reference needed (International Petroleum Industry Environmental Conservation Association (IPIECA))	It was deleted
173	2	6	3	6	3	What is a NaTech event? (IPCC WGII TSU)	Natural and Technical hazard event (cascated or conjoint) is used in DRM, such as the earthquake, tsunami and nuclear disaster in Japan. Any way it was deleted
174	2	6	4	0	0	Better to say earth, engineering, life and physical sciences - presently too narrow. (Wright, Richard, American Society of Civil Engineers)	It was deleted
175	2	6	7	6	8	Other references can be added e.g. "McInnes et al., 2005; Frei et al., 2006; Beniston et al., 2007; Fowler et al., 2007" (GREECE)	It was deleted
176	2	6	7	6	12	Please replace with a summary from Chapter 3, including the section(s) where the information can be found. (IPCC WGII TSU)	It was deleted
177	2	6	8	6	8	The concept that hazards are related to the probability of extreme weather phenomena is quite different than that considered in some approaches to vulnerability. Introducing likelihood or probability is more akin to identifying risk. (Street, Roger B, UK Climate Impacts Programme)	It was defined as a possible, future, or potential occurrence...
178	2	6	8	6	8	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the prev literature list
179	2	6	14	0	0	In paragraph on exposure, Social issues are discussed here but not reflected in the summary esp the strong message around excluded groups eg. gender, age etc (Hillier, Debbie, Oxfam)	Rephrased and done
180	2	6	14	6	27	I think this paragraph is too negative. People make livelihood decisions that involve an assessment of environmental opportunity as well as risk. Flood retreat agriculture, the mostpractised form of farming, is successful if rainfall is not too grat and the waters retreat: in the Pacific Ring of Fire, coastal sites offer deep water silt-free harbours but there is an earthquake and tsunami risk. Trying to understand the opportunity, as well as the risk, is a starting point for vulnerability analysis. (O'Keefe, Phil, Northumbria University)	Rephrased in a short paragraph but with the meaning of inventory, elements at risk, or the presence in prone areas.
181	2	6	17	6	18	This statement needs to be modified. Stating that one needs to live in a potential dangerous location to be impacted by an disaster can potentially lead the reader to believe that one needs to live on a slope, or close to a river fore example to be adversely affected, which of course is wrong. As it stands now it looks like we first need to find the potential dangerous places and then within these understand who are vulnerable (to what), instead of looking at vulnerability as an important cause of why disaster risk turns into disasters. Yes one needs to be exposed, but one needs not to live in a potentially dangerous location. (Sygna, Linda, Department of Sociology and Human Geography)	Rephrased
182	2	6	17	6	19	This condition is not possible. Everywhere in earth there is some risk to climate-induced extremes. Prevention and control of extreme hazards are physically not possible. (UNITED STATES OF AMERICA)	Indeed, the sentence is referring to specific extremes. If one is not in the coast is not possible to be exposed to storm-surge. There many other examples.
183	2	6	21	6	22	replace "many times" with "often" (GERMANY)	Deleted
184	2	6	22	6	22	change "In fact"; the sentence in line 18 already started with "In fact" (GERMANY)	Done
185	2	6	22	6	24	change "the same places are many times both endowed with natural resources"; nearly all places on earth are equipped with certain resources, it would be worth emphasize that particularly exposed areas are also often endowed with a large amount of these resources (such as coastal areas) (GERMANY)	Rephrased

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
186	2	6	23	6	27	I would note that what is being identified can also be identified as adaptation to address climate extremes and variability in the context of a changing climate. (Street, Roger B, UK Climate Impacts Programme)	Yes, certainly DRM would be the same than CCA. In many cases they are different perspectives of the same problem.
187	2	6	24	9	28	There is a very simplistic use of the notion of poverty implied by the text as if it were \$/GDP/pp. A more nuanced approach, like the OECD/DAC Poverty Guidelines would be appropriate. (O'Keefe, Phil, Northumbria University)	The sentences are not related to poverty
188	2	6	25	6	27	Prevention and control are not possible for extreme events, especially using structural measures. These measure only avert the impact of small events and increase vulnerability to the extreme events when design values are exceeded. (UNITED STATES OF AMERICA)	Certainly structural measures are partially effective, but they can mitigate the effects of more frequent and small events and in some cases they can prevent depending on the feasibility of the extremes (designs for long-term return
189	2	6	29	7	14	This section on vulnerability leaves me a bit puzzled, it is too complicated, and the reader (if he/she is not an expert) still does not know what vulnerability actually is; maybe give a one-sentence summary or a summarizing list with most important aspects of vulnerability (hazard-specific, multidimensional etc.) (GERMANY)	Rephrased
190	2	6	36	6	39	The end of this sentence is difficult to parse and therefore difficult to understand. Please revise to improve clarity. (IPCC WGII TSU)	Rephrased
191	2	6	38	6	39	replace "the lack of capacities to cope and adaptation of the exposed system" with "the lack of capacities of the exposed system to cope and to adapt" (GERMANY)	Done
192	2	6	38	6	39	Will need to deal with the fact that under vulnerabilities associated with a changing climate (including variability and extremes), vulnerability is consider a function of exposure, sensitivity (that together identify potential impacts) and adaptive capacity. (Street, Roger B, UK Climate Impacts Programme)	This approach has been considered but not only this, due to the need to consider different approaches of vulnerability
193	2	6	38	6	39	This is inconsistent with the definition of vulnerability used in the SREX. (IPCC WGII TSU)	It is not incoherent and is an extension of the basic concept of predisposition to be adversely affected. This predisposition or propensity is due to those factors
194	2	6	39	6	41	Sentence convoluted and unclear (Eriksen, Siri, Norwegian University of Life Sciences)	Rephrase
195	2	6	40	6	40	is it "behavior" or "behaviour"? Make it consistent throughout the whole report (GERMANY)	Style edition will be made in the next weeks
196	2	6	42	6	42	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
197	2	6	50	6	53	do the references refer to the studies focusing on environmental fragility (first part of the sentence) or the studies in social sciences (second part) or both? Make it clearer. (GERMANY)	Both. Rephrased
198	2	6	50	6	56	The HHS at risk definition of functional groups should be referenced as well. (UNITED STATES OF AMERICA)	Included in other place
199	2	6	54	6	54	For Bankoff (2004b), the publication year does not carry a letter in the chapter's reference list. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
200	2	6	55	7	4	Wonder how this discussion "vulnerable to what" relates to the generic factors that drives vulnerability, and that there are probably factors that play out "regardless" of what the stress would be (this is partly stated on page 9, line 24-28). I really see section 2.2 as an important framing section of the chapter and having the discussion on "vulnerable to what" here seems not to fit well, at least one needs then to go into the discussion on "who are vulnerable and why?" (Sygna, Linda, Department of Sociology and Human Geography)	Rephrased
201	2	7	1	7	1	In the context of dealing with climate risks (including variability and extremes) it is feasible to identify vulnerabilities as the known climate may not consider the real climate (variability and extremes). This is even more important when one also considers the implications of projected changes in climate that may introduce variabilities and extremes that enhance vulnerabilities. (Street, Roger B, UK Climate Impacts Programme)	Some comment are made in other place of the chapter (2.5)
202	2	7	2	7	2	For Cutter et al. (2008b), the publication year does not carry a letter in the chapter's reference list. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
203	2	7	2	7	4	This sentence is highly theoretical or even philosophic, but does not contain any helpful information, so I would rather delete it; additionally, I disagree, there might still be a hazard, but it might not turn into a disaster (GERMANY)	In DRM an extreme is a hazard if there is any element exposed and vulnerable. Any way it was deleted and the paragraph rephrased
204	2	7	3	7	4	This begins to raise the question as to whether the term vulnerable is useful if there is no exposure. In the context of a changing climate there is both existing vulnerability and projected vulnerability that are defined by existing and projected exposure, sensitivity and adaptive capacity. (Street, Roger B, UK Climate Impacts Programme)	This has been considered. But in DRM to speak about risk it is necessary to have the convolution of the hazard, exposure and vulnerability (just the determinants)
205	2	7	7	7	7	For Cardona et al. (2003a), there is no reference in the chapter's reference list from these authors and year that carries the letter 'a'. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
206	2	7	10	7	13	This is a very important point that future vulnerabilities might differ from vulnerabilities at present (particularly when hazardous events become more severe), so this should be mentioned more prominent. However, I do not agree with the second sentence (which is too complicated anyway), as future vulnerabilities are not embedded in present conditions, because vulnerability is dynamic and can differ in the future from today's vulnerability (GERMANY)	The drivers of the vulnerability can exist at present but only when the elements will be exposed as result of new hazard conditions the vulnerability will be revealed
207	2	7	12	7	13	This statement could potentially leave the reader to believe that the only thing that will change in the future is the climate stress and that vulnerability is quite static, it is stated that "future vulnerability features are embedded in present conditions" (Svгна, Linda, Department of Sociology and Human Geography)	idem
208	2	7	21	7	22	It is unclear how this sentence follows from the previous one in the sense implied by "this means." (IPCC WGII TSU)	Rephrased
209	2	7	21	7	24	This statement again looks like a conclusion of the chapter, but is somewhat buried in the middle of the summary paragraph of the definitions section. 'This trend (of increasing disasters) may be exacerbated and enhanced in the future as a result of future climate change'. Please specify in much greater detail how certain this statement is and refer to a much greater set of evidence than three publications of one author and a cross reference to Chapter 3. Do not make this elaboration here, but return to this in Section 2.5. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	Rephrased. This issue is addressed further with more details (2.5)
210	2	7	22	7	25	By mentioning only the effects of "projected climate change," it seems the importance of exposure and vulnerability in determining future trends in disaster risk and disasters is being left out here. Also, it would be preferable to put references to Chapter 3 (to specific chapter sections, not the chapter as a whole) immediately following the phrase "projected climate change" since their findings apply only there. Finally, it seems "are enacted" is intended instead of "are not enacted." (IPCC WGII TSU)	Rephrased
211	2	7	24	7	24	This may be a good place to flag the notion of transformation. We argue in Chapter 8 that we need not only corrective and prospective interventions, but transformative responses to meet the challenges of disaster risk in a changing climate. (OBrien, Karen, Department of Sociology and Human Geography)	Rephrased and deleted
212	2	7	25	7	27	Some references can be added e.g. "(Navarro et al., 1994; Smith, 1996; NRC, 2000; Tremley-Boyer and Anderson, 2007)" (GREECE)	Sentences were deleted
213	2	7	28	7	28	The social sciences and humanities provide not only the rationale for interventions, but also insights on how individuals and groups respond and on the potential social consequences of different types of interventions. (OBrien, Karen, Department of Sociology and Human Geography)	Sentences were deleted
214	2	7	31	0	0	This section 2.3 is mostly textbook style material and could be shortened. (Stocker, Thomas, IPCC WGI TSU)	Done
215	2	7	31	0	0	Section 2.3 and 2.4. A discussion of the distinction between contextual and outcome vulnerability, and a proper discussion of multiple stressors, would make these sections clearer. (O'Brien et al. 2007. Why different interpretations of vulnerability matter in climate change discourses. Climate Policy 7, 73-88.; Leichenko and O'Brien. 2008. Environmental Change and Globalisation: Double Exposures. OUP; Reid and Vogel. 2006. Living and responding to multiple stressors in South Africa. GEC 16(2), 195-206; Eakin, H. 2006. Weathering Risk in Rural Mexico. Climatic, Institutional and Economic Changes, U of Arizona Press). (Eriksen, Siri, Norwegian University of Life Sciences)	Some references have been included
216	2	7	31	0	0	We recommend mentioning the findings from the 2009 Global Assessment Report on Disaster Risk Reduction which suggests that poverty and bad governance are general determinants of vulnerability and are highly correlated with disaster risk. Source: ISDR (2009) Global Assessment Report on Disaster Risk Reduction: Invest today for a safer tomorrow. Geneva: ISDR. (World Food Programme (WFP))	Done
217	2	7	31	0	0	Section 2.3. There are redundancies between this section and the definition and discussion provided for vulnerability in Section 2.2. It would be beneficial to reduce these redundancies by moving some of the non-definitional discussion of vulnerability in Section 2.2 to Section 2.3 and harmonizing the overlapping text. Specific redundancies are also flagged in the comments on sections that follow. (IPCC WGII TSU)	Rephrased and reduced
218	2	7	35	7	35	Who is "many"?; either describe this group or rephrase the sentence (GERMANY)	Deleted
219	2	7	37	7	37	What is the difference between "increase" and "build up"? (GERMANY)	It was deleted, but build up was used to refer to creation or construction
220	2	7	37	7	37	The citation for Maskrey (1984) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Deleted
221	2	7	38	0	0	Cardona, 1996 a/b; 2004 should be before Lavell, 1996; 1999a (Incecik, Salahattin/Selahattin, Istanbul Technical University)	Done
222	2	7	42	0	0	Unclear sentence (Sygna, Linda, Department of Sociology and Human Geography)	It was revised and considered appropriate
223	2	7	42	0	0	Environmental factors could also be an important driver of vulnerability from a social viewpoint, for example deforestation, land degradation etc influence livelihoods. This is also mentioned at page 8 line 1. (Sygna, Linda, Department of Sociology and Human Geography)	Done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
224	2	7	42	7	42	replace "Vulnerability" (beginning of sentence) with "Social vulnerability" (GERMANY)	Other factors than social have been mentioned
225	2	7	42	7	42	In the context of vulnerability to changes in climate, vulnerability describes a set of conditions of people, systems, etc, that derives from the cultural, political, social, environmental and economic context. (Street, Roger B, UK Climate Impacts Programme)	We are referring here to vulnerability to hazards in general not only to changes in climate
226	2	7	44	7	44	Can also be vulnerable due to economic interactions and dependencies on natural and human infrastructure. (Street, Roger B, UK Climate Impacts Programme)	Rephrased
227	2	7	47	7	48	Important sentence that could be expanded on. This is related to the distinction noted in comment no. 1. , see also comment no. 4 (Eriksen, Siri, Norwegian University of Life Sciences)	Rephrased
228	2	7	48	7	49	would be interesting to learn more about these guidelines; also, "the sources of environmental, social, and economic marginality" is too broad, either give more information or drop it completely (GERMANY)	This is included in 2.5
229	2	7	49	7	49	The following can be added:"Morrow (1999) claims that disaster vulnerability is socially constructed, it arises out of social and economic circumstances of everyday living. According to Zakour and Harrell (2003) populations vulnerable to disasters are often vulnerable to anxiety, depression, crime, poor housing and other adverse events. Blaikie et al. (1994) point to various social factors that can lead to vulnerability. Chiefly among these factors are economic imbalances, disparity in power among social groups, knowledge dissemination and discrimination in welfare and social protection. Cyr and Joseph (2005) demonstrate how social groups with little economic or political power are the most at risk during times of disaster." (GREECE)	The suggested topics have been already included in 2.2 and in this 2.3. Then They would be a repetition
230	2	7	51	7	51	The citation for Cannon (2000) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	It will be included or deleted
231	2	7	51	7	52	"active managers of vulnerability" - active managers of something that is perceived as something negative does not sound very good, please rephrase (GERMANY)	This is the sentence described and explained by Pelling.
232	2	7	52	7	52	this sentence starts more or less a new topic (which scale for targeting vulnerability), so start a new paragraph (GERMANY)	Rephrased
233	2	8	1	8	1	please explain what is meant with "geographic inequity" (GERMANY)	Rephrased
234	2	8	1	8	2	replace "is other relevant issue related to causes, because considers" with "is another relevant issue related to causes, because it considers" (GERMANY)	Rephrased
235	2	8	1	8	3	this issue (linkages between environment/services and vulnerability of communities) is so important, it should be dealt with more extensively than just in one sentence; if this issue comes up in another section, there should be a reference to this section here (GERMANY)	Indeed, it comes up in 2.5 and other sections
236	2	8	1	8	3	Needs to be clearer. (Sygna, Linda, Department of Sociology and Human Geography)	Rephrased
237	2	8	2	8	2	add "it" before "considers" (Stocker, Thomas, IPCC WGI TSU)	Rephrased
238	2	8	3	8	3	For O'Brien et al. (2004b), the publication year does not carry a letter in the chapter's reference list. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
239	2	8	3	8	5	Rather than focusing only on technical measures that address direct climate consequences, O'Brien et al. (2004b) draw attention to the need for responses that address the underlying causes of vulnerability (Sygna, Linda, Department of Sociology and Human Geography)	Rephrased
240	2	8	7	8	7	It is unclear what source Birkmann (2006) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	It is 2005
241	2	8	7	8	20	These lines are an example of unnecessary detail. Here it reads like a literature review, ie, XXX did this, YYYY review this....., XXX examine this..... - Surely this text is unnecessary and it is possible to go straight to the actual assessment given in the Summary beginning on line 22. (Stocker. Thomas. IPCC WGI TSU)	Rephrased
242	2	8	9	8	9	It is unclear what references Cutter et al. (2008a,b) correspond to in the chapter's reference list, given there is only one source from this author and year in the reference list. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
243	2	8	16	8	20	This text seems not to add much to the understanding of vulnerability, either move or extract findings that are directly relevant to the vulnerability discussion. Maybe good to limit this part to the review and assessments of the vulnerability field. (Sygna, Linda, Department of Sociology and Human Geography)	Rephrased
244	2	8	18	0	0	"...of the threat; if.....exists..." should be "...of the threat; while.....exist" (Simiu, Emil, National Institute of Standards and Technology)	Rephrased
245	2	8	22	8	50	This categorisation of approaches is unclear. Approach d encompasses many very different approaches for example (e.g. both context and outcome vulnerability). Multiple stressor understandings should emerge also in such a categorisation on vulnerability approaches. (Eriksen, Siri, Norwegian University of Life Sciences)	They are considered the main approaches and include many others
246	2	8	23	0	0	"between" should be ""among" (Simiu, Emil, National Institute of Standards and Technology)	Rephrased

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247	2	8	23	8	23	What is "social-ecology"? Is it "socio-ecology" or "social ecology"? (GERMANY)	Done
248	2	8	25	8	50	Are the four approaches mutually complementary? It would seem obvious that they should be. But an explanation of how they can fit together to form a comprehensive program of investigation would be needed. And the real differences between c) and d) are also not clear. (CHINA)	They are different perspectives and they are not necessarily complementary. Certainly there are some similarities but indeed they are considered different approaches.
249	2	8	26	8	26	rephrase "makes emphasis on the social conditions" with "emphasizes the social conditions; the whole chapter needs serious rewriting in terms of grammar, and language, and it would be good to do a first check before it is opened for comments! (GERMANY)	Done
250	2	8	27	8	29	rephrase; the term "vulnerability" shows up three times in this sentence! (GERMANY)	Done
251	2	8	31	8	31	It is unclear what source Turner et al. (2003) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
252	2	8	36	8	37	there is no chance to understand this sentence ("These approaches...") (GERMANY)	Rephrased
253	2	8	37	8	38	It is unclear what source Cardona (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done, it is 2011
254	2	8	38	8	38	For Cardona and Hurtado (2000a), there is no reference in the chapter's reference list from these authors and year that carries the letter 'a'. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
255	2	8	42	8	49	I disagree with this framing of vulnerability. The AR4 definition of vulnerability comes from a natural hazards perspective where vulnerability is viewed as the future residual damage after all factors and possible actions are taken into account. A simple example is future hurricane hazard for a particular location, where what is considered to be vulnerable (from this perspective) is the damage that could occur after considering the magnitude/extent of the hurricane, the sensitivity of communities/ecosystems, and the actions that could be taken in advance to reduce hurricane damage. This is not the perspective of most sectors, where vulnerability is a description of the current state, independent of the magnitude/extent of climate change. From this perspective, climate interacts with vulnerability to create impacts. Vulnerability studies in health, agriculture, ecosystems, etc. focus on the factors that increase/decrease the response of people/ecosystems to a particular hazard. For example, populations with greater proportions of adults over the age of 65 are more vulnerable to heatwaves, independent of whether or not there is a heatwave. Adaptive capacity is an estimate of the potential of people/communities/ecosystems/etc. to avoid, prepare for, and respond to climate change risks. That potential depends on current vulnerability. A simple example is that Bangladesh has a current high burden of diarrheal diseases, in large part because of limited access to safe water and improved sanitation. That lack of water/sanitation security decreases the adaptive capacity of Bangladesh to effectively manage additional cases of diarrheal diseases due to climate change. You can think of examples in ecosystems, where current vulnerability because of denuded landscapes, decreased biodiversity, etc. decrease the adaptive capacity to deal with further threats. For impacts researchers, vulnerability is often a more important driver of impacts than the hazards of climate change. Some AR4 key conclusions have been criticized because they did not take into account multiple stressors (e.g. that there are drivers of impacts other than climate change). How can we investigate the fraction of impacts due to climate change and the fraction due to vulnerability when vulnerability includes climate change-related exposures? (IPCC WGII TSU)	The statement is correct, therefore the authors of this SREX report have broadened the perspective of vulnerability compared to former IPCC reports. As the reviewer indicates the vulnerability understanding in the IPCC, e.g. In AR4, was heavily linked to an impact oriented perspective. The authors of chapter 2 in the IPCC SREX report enhance this perspective in terms of defining vulnerability as a dynamic process that involves key factors of vulnerability (susceptibility and societal response capacities or capacities) and is linked to different dimensions, such as social, environmental, economic, institutional. The former understanding of vulnerability in the IPCC AR4 did not provide a sufficient and coherent differentiation between impacts and vulnerability. This report also underlines that issues such as governance are key for understanding vulnerability. This would not be possible if the focus of vulnerability is mainly driven by an impact oriented understanding. Current phrasing of 2.2/2.3 should clarify this further.
256	2	8	42	8	50	I would suggest that there should be some consideration within this chapter of understanding the implications (in terms of resulting decisions and policies) of this alternative view. What is discussed here is also used to look at existing vulnerability and risks (identifying the existing adaptation deficit) (Street, Roger B, UK Climate Impacts Programme)	This was described but the dominant approach used has been taking into account that in the SREX vulnerability has been defined as the propensity or predisposition to be adversely affected

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
257	2	8	42	8	50	Vulnerability, in the context of climate change adaptation, has different interpretations in the climate change literature. Some see it as direct outcome of an external shock or stress (i.e., the residual of impacts minus adaptation), while others see it as shaped by the social, economic, political, institutional etc. context - and use approaches that are more consistent with the earlier three. The "exposure, sensitivity and adaptive capacities" definition emerges from the IPCC reports as a way of summarizing the approaches, but it does not capture the different interpretations. (OBrien, Karen, Department of Sociology and Human Geography)	It is nearly impossible to provide one definition which is a summary of all approaches. In the climate change adaptation discourse most approaches used to describe vulnerability were nearly closely related of what the disaster risk reduction community would define as risk. Therefore the authors of this chapter think that the major similarity and agreement between both schools is on the fact that vulnerability encompasses at least two major factors: susceptibility or sensitivity and capacities to respond. The whole question of exposure and the magnitude and frequency of the event - which is part of the vulnerability definition in the IPCC AR4 is controversial. In some concepts that are linked to social-ecology, such as the Turner et al. 2003 framework, exposure is an integral part of vulnerability. In this report particularly chapter 1 and 4 highlighted the need to differentiate between exposure and vulnerability. The idea that vulnerability is a direct outcome of an external shock or stress is also a complete issue, in AR4 some of the first order impacts, such as glacier melting or ice sheet disappearance are captured under the heading vulnerability. In this report we conclude that a large body of literature on disasters, extreme and climate change adaptation views vulnerability much more as a feature of humans and their predisposition to be harmed or their ability to cope and adapt to changing environmental and social conditions. In summary, chapter 2 tries to improve the differentiation of impacts and vulnerability as well as the differentiation between risk and vulnerability. This can not sufficiently achieved, when the magnitude and frequency of climate change would be part of the vulnerability equation.
258	2	8	44	8	44	The (O'Brien et al. 2008a, b) references should be O'Brien K. et al. 2004, O'Brien, G. et al. 2008 (the latter is wrong in the reference list -- it should be G. O'Brien). (OBrien, Karen, Department of Sociology and Human Geography)	Done
259	2	8	44	8	44	It is unclear what references O'Brien et al. (2008a,b) correspond to in the chapter's reference list, given the two sources by these authors and year are not distinguished by letters. Please specify the reference with the corresponding letter both in the reference list and in the citation. (IPCC WGII TSU)	Done
260	2	8	52	8	55	It is unclear what MOVE is, what approach it represents, and why it is useful to include it here. Possibly clearer if this is omitted. (Eriksen, Siri, Norwegian University of Life Sciences)	Deleted
261	2	8	53	8	53	I do not think that it is a proper way for an IPCC report to mention one specific project (MOVE) as being THE one and only solution (although it can certainly be mentioned as an example in a box) (GERMANY)	Deleted
262	2	9	4	0	0	Figure 2-1 is not really readable. This is also not clear how vulnerability is differentiated from exposure (International Petroleum Industry Environmental Conservation Association (IPIECA))	Deleted
263	2	9	4	0	0	Figure 2-1: This figure should be replaced or removed: it's not appropriate in an IPCC report to promote any research project by simply copying/pasting its "project framework" figure. In addition, the figure is not of much use as it stands now: it's too complex, appears to not have been designed for publication on paper with its apparent multiple layering, etc. (but this is hard to say, given the poor quality of the reproduction). And it lacks the link to IPCC and climate change. (Stocker, Thomas, IPCC WGI TSU)	Deleted
264	2	9	4	9	5	I would also suggest including the figure related to combining the concepts of vulnerability with those of climate risks from Preston, B.L. and M. Stafford-Smith, 2009, Framing vulnerability and adaptive capacity assessment: Discussion paper. Commonwealth Scientific and Industrial Research Organisation, Aspendale, Victoria, Australia. (Street, Roger B, UK Climate Impacts Programme)	SPM will include a new figure SPM.1 but it will be not included in the Chapter
265	2	9	5	0	0	Figure 2-1. This figure needs a much more complete caption that ties it into the main concepts of the chapter. As this is not a discussion of the MOVE project, the value of the figure needs to be clear. (CANADA)	Deleted

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
266	2	9	5	9	5	It seems inappropriate and supefluous to include Figure 2.1. Why is this framewrk most appropriate to include compared to other framewrks in the peer reviewed literature? But it seems to have been included for illustrative purposes rather than to sytnesise some important points in this section. Hence it does not ad any great value at this point. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	Deleted
267	2	9	7	9	9	We had this message already several times within the text. (GERMANY)	Rephrased
268	2	9	7	9	9	The argument here is avoiding how men and women from exclusion background differs on their vulnerability. Although it mentioned social and institutional but it failed to recognise how men and women have varying degree of vulnerability which is one of the key drivers of risks. (Hillier, Debbie, Oxfam)	Included in 2.5
269	2	9	7	9	9	could add ..."and the socio-environmebntal processes shaping this vulnerability context". (Eriksen, Siri, Norwegian University of Life Sciences)	Rephrased
270	2	9	7	9	11	It is very difficult to interpret what is meant in this paragraph, particularly in the second sentence. (IPCC WGII TSU)	Rephrased
271	2	9	8	9	8	Characteristics and structure of human beings and their livelihoods that predispose them to damage would also include their dependence or lack of access to vulnerable systems (human and natural). (Street, Roger B, UK Climate Impacts Programme)	Rephrased
272	2	9	9	9	11	no chance to understand this sentence (GERMANY)	Rephrased
273	2	9	13	9	14	We had this message already several times within the chapter. (GERMANY)	Deleted
274	2	9	13	9	22	Much of this is already said in 2.2 (Sygna, Linda, Department of Sociology and Human Geography)	Deleted
275	2	9	13	9	22	This paragraph is highly redundant with the paragraph in Section 2.2 from page 6, line 50, to page 7, line 14. Redundancies must be reduced. (IPCC WGII TSU)	Deleted
276	2	9	16	9	18	We had this message already several times within the chapter. (GERMANY)	Deleted
277	2	9	22	9	22	The following sentence can be added:"Using a hazard-specific approach would be especially useful when considering the vulnerability of a specific region (Kumpulainen 2006)" (GREECE)	Deleted
278	2	9	24	9	25	"it is also clear that certain factors...will aggravate or affect vulnerability"; Why is that so? Explain this connection more in detail (GERMANY)	Deleted
279	2	9	24	9	26	Sensitivity and adaptive capacity are also among these factors (Street, Roger B, UK Climate Impacts Programme)	Deleted
280	2	9	24	9	28	This statement needs to be coordinated with statement made on page 7 (line 1): if there is no hazard it is not feasible to be vulnerable. (Sygna, Linda, Department of Sociology and Human Geography)	Deleted
281	2	9	28	9	28	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
282	2	9	31	9	31	It is unclear what references Cutter et al. (2008a,b) correspond to in the chapter's reference list, given there is only one source from this author and year in the reference list. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Rephrased
283	2	9	31	9	32	Likelihood to be affected can be interpreted as probability which means to some that this is considering risks. Is sensitivity as used in the context of vulnerability under changing climate a more appropriate term (Street, Roger B, UK Climate Impacts Programme)	Rephrased
284	2	9	33	9	33	add "to" before "environmental degradation" (Stocker, Thomas, IPCC WGI TSU)	Rephrased
285	2	9	36	9	41	It would be preferable to also mention factors that decrease vulnerability. (IPCC WGII TSU)	Rephrased
286	2	9	37	9	37	what is "inappropriate urban development" -- this probably is subject to interpretation, thus please be specific. (Stocker, Thomas, IPCC WGI TSU)	Rephrased
287	2	9	38	9	38	Please use climate change and not global warming. (IPCC WGII TSU)	Rephrased
288	2	9	43	9	43	Please delete "At least". (Stocker, Thomas, IPCC WGI TSU)	Rephrased
289	2	9	43	9	46	The use of the term 'causal factors' here is confusing. Would the word ' dimensions' or 'elements' be better? Causal factors implies an observed change or condition causing vulnerability. (Eriksen, Siri, Norwegian University of Life Sciences)	This is the intention. Dimension and elements are used to other issues
290	2	9	45	9	45	For Cardona and Hurtado (2000a), there is no reference in the chapter's reference list from these authors and year that carries the letter 'a'. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
291	2	9	46	9	46	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
292	2	9	47	9	49	The following sentence can be added: " In general, susceptibility is the propensity of a particular receptor to experience harm (FLOODsite 2005)" (GREECE)	Rephrased
293	2	9	47	9	49	here, susceptibility and exposure are mixed up (GERMANY)	Rephrased

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
294	2	9	47	9	49	I would note that sensitivity is not just determined by lack of resilience and location and is different than exposure. In the context of vulnerability to changing climate there can be sensitivity without exposure. (Street, Roger B, UK Climate Impacts Programme)	Rephrased
295	2	9	47	9	55	The chapter here intriduces a further typology - of causal factors o vulnerability. Is there benefot to having this ontroduced here? The categories seem sensible, but they are not used to structure the subsequent section and hence are just rported. I would suggest disussing them in a more contes=xtual manner or drop. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	Rephrased
296	2	9	50	9	52	The following sentence can be added: " In general, fragility is the propensity of a particular system under given load conditions (FLOODsite 2005)" (GREECE)	Rephrased
297	2	9	50	9	52	fragility cannot result from the levels of fragility, this does not make any sense; and what about cultural issues? (GERMANY)	Rephrased
298	2	9	50	9	52	Need to clarify the difference between fragility and sensitivity. (Street, Roger B, UK Climate Impacts Programme)	Rephrased
299	2	9	50	9	52	Defining "fragility" by using the phrase "level of fragility" is problematic. (IPCC WGII TSU)	Rephrased
300	2	9	53	9	55	The lack of resilience is also to do with poor women's rights not being upheld (Hillier, Debbie, Oxfam)	Rephrased
301	2	9	53	9	55	Is this adaptive ability or adaptive capacity? If adaptive capacity, it should also include adjusting, not only anticipating, coping and recovering. (Street, Roger B, UK Climate Impacts Programme)	Rephrased
302	2	10	0	11	0	Box 2-1.: Why is this put in a box? It does not seem so important? (GERMANY)	We do feel it is relevant information to be presented, given that the report will be used by different communities that may benefit from this background about the various different perspectives on this topic.
303	2	10	0	17	0	This section involves muxh discussion of conceptual framing, but less of the empirical results of the papers that are reviewed. These could be synthesised much more effectively - e.g. do the capacities vary by the type of hazard, by geogta[hical region or other dimension. Is there more coing or adapting going on in Africa to drought? Is this the same type of reaction to drouhgtt in Europe or north America? Is coping more prevelant than adation to short duration extremes such as heatwave, than it is to long duratioon events such as drouhgt? These types of questions and summary of the empirical findigs could usefully be addressed inthis Section. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	Good point but could not be addressed due to lack of space (we would need to provide region-by-region assessments -- this would originally have been done in the context of chapter 4).
304	2	10	1	10	6	This paragraph has redundancies with the rest of the section above. It's not clear whether this paragraph is included here because the author team is adopting these statements as conclusions or because it is a review of what has been published (which ideally would be placed earlier in the section). (IPCC WGII TSU)	Deleted
305	2	10	5	0	0	and sentence chapter 2, page 17 line 29 are the same. (Vasseur, Liette, Brock University)	Deleted
306	2	10	5	10	6	We had this message already several times within the chapter. (GERMANY)	Deleted
307	2	10	6	10	6	The citation for Cutter et al. (2003) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Deleted
308	2	10	12	0	0	The meaning of these lines is not clear. Sensitivity resilience is not clear. (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Deleted
309	2	10	14	10	17	Generally there is litle reference to the resilience literature, coordinate better with chapter 8 on this issue. (Sygna, Linda, Department of Sociology and Human Geography)	Deleted. Resilience is included in 2.4
310	2	10	14	10	17	This is an important point which might come earlier or be expanded. Here it appears a bit as an add-on. But there is significant resilience literature as well as emerging literature linking adaptation and sustainability (Eriksen et al. 2011 When not every response to climate change is a good one: Identifying principles for sustainable adaptation. Climate and Development 3(1). 7-20) that focuses on this issue - and the need for societal transformation. (Eriksen, Siri, Norwegian University of Life Sciences)	Deleted. Resilience is included in 2.4
311	2	10	16	10	16	It seems that the paradigm shift would have to include reference to actions: the promotion of resilient societies requires more than just responding directly to the extreme weather events, but also taking actions to assess and reduce vulnerability. (OBrien, Karen, Department of Sociology and Human Geography)	Deleted. Resilience is included in 2.4
312	2	10	20	0	0	The argument in this section is focus on the physical, environmental, political capacity of people not recognising and identifying that men and women especially coming from socially excluded background have different levels of vulnerability. When disaster and even small shocks it is changing gender roles, needs and relations that coping strategy of men and women are different. Poor women with their low status and their multiple roles they tend to respond innovatively and their capacity to recover and change needs to be supported. (Hillier, Debbie, Oxfam)	This comment seems to suggest something, but it is not clear what. A differential lens will be applied, not just to distinguish how men and women differ in terms of capacity
313	2	10	20	0	0	Section 2.4. the distinction between coping as ex post and adaptation as ex ante seems artificial. Coping is not only reactive, it can be part of managing variability which over time forms part of adapting to changes in climatic variability (Eriksen, Siri, Norwegian University of Life Sciences)	This has been toned down as this point is made later in the section

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
314	2	10	22	0	0	A distinction between social and physical capacities should be made. Or else the definition should avoid the use of "people" and instead use "system" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Yes, agreed and amended as suggested
315	2	10	23	0	0	Should it only be referred to people or too institutions also (with reference to page 11, line 16, ISDR definition). (Sygna, Linda, Department of Sociology and Human Geography)	Amended as suggested by previous comment
316	2	10	25	10	25	delete this sentence; climate change is already implicitly included in "certain hazards", a few lines above (GERMANY)	Reviewer's comment suggests that the impact is not the same as risk.
317	2	10	30	10	30	now, is it "adaptive capacity" or "adaptive ability", as mentioned on page 9, line 53? (GERMANY)	Section deleted
318	2	10	35	10	37	The sentence can be continued: ", as well as the ability to plan, prepare for, facilitate and implement adaptation options" (GREECE)	Yes, agreed and amended as suggested
319	2	10	37	10	38	Presence of capacity is necessary but insufficient to reduce vulnerability. Presence of capacity has the potential to reduce impacts and/or recovery time as it is only effective if deployed. I would also note that presence of capacity has the potential of reducing exposure or sensitivity (the determinants of impacts). (Street, Roger B, UK Climate Impacts Programme)	Yes, agreed and amended as suggested
320	2	10	49	10	49	This is not true; see papers by Brooks, Adger, and Jones -- there is a lively discussion of the differences between adaptive and coping capacity. (IPCC WGII TSU)	I disagree with this comment, because very often coping and adapting are used interchangeably. However, this box may get cut anyway
321	2	11	4	0	0	This demonstrates that adaptive capacity was being discussed in DRR circles (e.g by Lavell 1999 b:8) i.e as central to achieving DRR. (Hillier, Debbie, Oxfam)	yes
322	2	11	4	11	4	"many believe" -- who is many? Please be specific about who you are referring to here. (Stocker, Thomas, IPCC WGI TSU)	changed
323	2	11	4	11	4	change "believe" to "think", or rephrase the sentence (GERMANY)	changed
324	2	11	5	11	6	The Dayton-Johnson (2004) definition of adaptive capacity does not align with most other works, including those of the IPCC, and does not recognize adaptive capacity and vulnerability as different concepts. We therefore recommend this text be deleted. It would be more helpful to include the definition of adaptive capacity used in the AR4 Synthesis Report ("The whole of capabilities, resources and institutions of a country or region to implement effective adaptation measures"). (CANADA)	OK, this definition has been removed
325	2	11	26	11	26	Characteristics that could be drawn upon to offset vulnerability (Street, Roger B, UK Climate Impacts Programme)	Yes, agreed and amended as suggested
326	2	11	42	0	0	References does not need to give page number (Incecik, Salahattin/Selahattin, Istanbul Technical University)	References have been checked.
327	2	11	49	11	50	We had this message already several times within the chapter. (GERMANY)	Correct. There is now a new intro to this section, also as part of overall sharpening
328	2	11	49	11	50	Using the phrase "side of the equation" is confusing here because there are equations for risk (although an actual equation doesn't seem to be implied here) and because it implies that hazards and vulnerability are the only determinant of disaster risk. without mention of exposure. (IPCC WGII TSU)	Yes, agreed and amended as suggested
329	2	11	50	11	51	rephrase "Emphasizing that risk can be reduced through vulnerability"; if somebody is vulnerable, his/her risk increases (GERMANY)	Yes, agreed and amended as suggested
330	2	11	50	11	51	Emphasising that risk can be reduced through ADDRESSING vulnerability is an acknowledgement fo the IMPORTANCE of socia..... (Sygna, Linda, Department of Sociology and Human Geography)	Yes, agreed and amended as suggested
331	2	12	1	12	3	Adaptive capacity, at least in the context of addressing vulnerabilities to a changing and variable climate (including extremes) is not limited to action ex ante (Street, Roger B, UK Climate Impacts Programme)	In some cases the term adaptive capacities is also used to describe ex-post strategies, however, reading through both bodies of literature we see a certain agreement or at least a tendency that adaptation involves different sets of actions compared to the concept of coping. Therefore, we link adaptation more to changing conditions and ex-ante processes, however, the chapter also clearly outlines the various approaches that exist.
332	2	12	5	12	52	This reflects to some degree the need to define engaged/deployed adaptive capacity. The existence of adaptive capacity is necessary but insufficient unless it is engaged/deployed in adaptation (potential adaptive capacity is not the same as engaged/deployed adaptive capacity) (Street, Roger B, UK Climate Impacts Programme)	Yes the need to implement the capacities that might exist is outlined also in the sub-chapter on risk management. Thus we think that these differences are addressed.
333	2	12	8	0	0	References does not need to give page number (Incecik, Salahattin/Selahattin, Istanbul Technical University)	OK
334	2	12	11	12	12	Citation of the references should follow the publication year. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	OK

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
335	2	12	12	12	12	Typo in citation: For IPCC TAR (2001), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	OK
336	2	12	14	12	15	I would note that high vulnerability does not necessarily mean low capacity as exposure and sensitivity may be high. The key point is that capacity to be effective in reducing vulnerability needs to be deployed (Street, Roger B, UK Climate Impacts Programme)	Yes, agreed and amended as suggested
337	2	12	17	12	19	Who says that? Difficult to understand, some examples would be good (GERMANY)	Text removed
338	2	12	17	12	19	Is it so straight forward? Even though coping and adaptation looks quite different, is it not so that in many cases lack of capacity on both steams from some of the same driving forces. At least this point needs to be elaborated on. Maybe look at Adger et al., 2003. Adaptation to climate change in the developing world. Progress in Development Studies 3, 179-195. (Sygna, Linda, Department of Sociology and Human Geography)	Text removed
339	2	12	17	12	19	Considering that vulnerability is a function of exposure, sensitivity and adaptive capacity, reducing vulnerability without a reduction in adaptive capacity would mean that exposure and/or sensitivity would be increased. (Street, Roger B, UK Climate Impacts Programme)	Text removed
340	2	12	17	12	52	There needs to be some recognition in this discussion of capacity, and by implication resilience, that local communities are usually the first responders to disaster. (O'Keefe, Phil, Northumbria University)	Valid point considered. There has been added an additional section on resilience.
341	2	12	17	12	52	Good and important points - you can have high capacity yet be vulnerable. And addressing local capacity alone is unlikely to effectively reduce vulnerability as many of the socio-environmental causes of vulnerability (institutional, political, economic, environmental) are generated outside the local community. (Eriksen, Siri, Norwegian University of Life Sciences)	Very good point, that should also come across the newly formulated sections on institutional vulnerability. Additionally, we make this point in terms of outlining the importance of governance that means that not solely the community level has to address crises and disasters but also the national level - and if countries are classified as failed states or highly corrupt it is unlikely that they have a good performance in terms of helping people at risk in times of crises and disasters. Best case study at the moment: Somalia.
342	2	12	23	12	24	The following reference can be added: "Cannon et al., 2003" (GREECE)	Text removed
343	2	12	23	12	24	Citation of the references should follow the publication year. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	done
344	2	12	27	12	28	Here it is said that vulnerability has been considered in disaster work since the 1980s, while the introduction to this section stated that studies prior to the 1990s focused on hazards. (IPCC WGII TSU)	Yes, agreed and amended as suggested
345	2	12	28	12	28	spell-check "overemphasis" (Stocker, Thomas, IPCC WGI TSU)	removed overt
346	2	12	31	0	0	No need for page number (Incecik, Salahattin/Selahattin, Istanbul Technical University)	not sure what this means, words in text are overt emphasis, not overemphasis
347	2	12	35	0	0	Citation of the references should follow the publication year. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	done
348	2	12	35	12	35	The citation for Kates et al. (1985) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
349	2	12	39	0	0	where as vulnerability " also" depends on exogenous structural constraints. It is no appropriate to exclude endogenous resources from vulnerability. Heijmans, A. (2004). From Vulnerability to Empowerment. In G. Bankoff, G. Frerks, & D. Hilhorst, Mapping vulnerability. Disasters, Development and People (pp. Ch-8). London: Earthscan. Also Duneier (2004) cited in this chapter (Page 19, Line 32-25) also reflects the same. (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Text removed
350	2	12	40	12	41	how useful is it to introduce wording like "endogenous resources" and "exogenous structural constraints" if it's not further explained what that means? (Stocker, Thomas, IPCC WGI TSU)	Text removed
351	2	13	1	0	0	Section 2.4.2. It seems that this section could be tightened and shortened and still convey the same information. (IPCC WGII TSU)	yes
352	2	13	3	13	10	How are these needs different, give examples. (Sygna, Linda, Department of Sociology and Human Geography)	Described in sections below
353	2	13	8	13	8	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
354	2	13	20	13	21	Citation of the references should follow the publication year. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	done
355	2	13	20	13	21	The citation for Brenkert and Malone (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
356	2	13	21	13	21	The citation for Haddad (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
357	2	13	28	0	0	The section 2421 should mention the importance of "retours d'expérience" and Early Warning. (BOURRELIER, PAUL-HENRI, AFPCN)	This comes at the end of the chapter
358	2	13	28	16	12	Different capacity needs in this section is not well divided into groups. The section title of 2.4.2.1, "capacity to anticipate and reduce risk" is too broad to be in parallel with 2.4.2.2 and 2.4.2.3. What do the authors mean by "reduce risk" here? If risk is defined as in Chapter 1, or page 5, line 20 in Chapter 2, then "prepare", "respond", "recover and change", are all sort of activities for risk reduction, either by lowering the probability of a hazardous event, or reducing the potential loss from a given event. Capacity to reduce risk is the "overall" capacity. The capacities to anticipate, respond, recover and change are just parts of the capacity to reduce risk. It is suggested that this section be restructured by re-grouping different capacity needs. The current version mixes up with different capacity needs. There are some places to cite from the manuscript. For instance, on page 13, line 36-37, "... which involve making choices after one event that reduce the impact of future events", which sounds to me like a change or adaptation process. On page 14, line 42, it is written that "capacity to respond is not sufficient to reduce risk". Apparently, the authors also agree that capacity to respond is only a part of capacity to reduce risk. (CHINA)	Very good points, sections amended as suggested
359	2	13	30	13	37	Important to note that the greatest risk reduction action we can ultimately take is to mitigate climate change. It is very odd to talk about reducing the risks of climate change without mentioning this. The last sentence also seems to be referring to the idea that disasters create opportunities for learning and improvement, which is what adaptation is about - and challenges the distinction made earlier that adaptation is merely ex ante, as it often occurs as an ex post action. (Rickards, Lauren Amy, University of Melbourne)	This is a point for the overall report, not this particular section
360	2	13	33	13	34	How does this relate to autonomous and unplanned adaptation (Street, Roger B, UK Climate Impacts Programme)	comment noted and text amended
361	2	13	42	13	42	For Cardona et al. (2003a), there is no reference in the chapter's reference list from these authors and year that carries the letter 'a'. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	References have been checked.
362	2	13	49	13	50	According to my view, this aspect "Successful..." is very important and should be dealt with more prominent (GERMANY)	In our view, both a negative definition of what vulnerability is and also a positive definition of capacities or elements that help to buffer crises and disasters are important.
363	2	13	49	13	51	Coordinate with chapter 8 on resilience and transformation (Sygna, Linda, Department of Sociology and Human Geography)	OK -this is a link - more in-depth discussions on resilience and transformation are in chapter 8
364	2	13	49	13	51	Important point. But the same goes for successful coping strategies. (Eriksen, Siri, Norwegian University of Life Sciences)	Correct, a ultimate line between vulnerability and capacities can not be drawn, that means we are aware of the problem that some issues can be linked to both the deficiencies or if you put it as a source - also to capacities.
365	2	13	50	13	51	Aiming for transformation often includes a transitional strategy with transitional adaptation measures. (Street, Roger B, UK Climate Impacts Programme)	The transformation part was rather deleted, since chapter 8 will discuss this issue in depth.
366	2	13	53	14	1	Are there hazards that are expected to occur on a daily basis for which we are not prepared? In the way suggested, one could argue that these more frequent events are managed in a similar fashion and the the cumulative costs (including lives lost) are high. (Street, Roger B, UK Climate Impacts Programme)	Text removed
367	2	14	14	0	0	More references needed (Sygna, Linda, Department of Sociology and Human Geography)	Yes, agreed and amended as suggested
368	2	14	14	14	16	From the first literatures on mal-adaptation, there is now an emerging literature on the consequences of adaptation, and a realization that not all adaptation is a good one. Relevant literature: Barnett, J. and O'Neill, S., 2010. Maladaptation. Global Environmental Change, 20. 211-213; and several articles in the special issue of Climate and Development, 2011, on Sustainable Adaptation to Climate Change, Prioritising Social Equity and Environmental Integrity (edited By Siri Eriksen and Katrina Brown) elaborates on the concept of sustainable adaptation, building on Eriksen, S. and O'Brien, K. L., 2007. Vulnerability, poverty and the need for sustainable adaptation measures. Climate Policy, 7(4). 337-352. (Sygna, Linda, Department of Sociology and Human Geography)	Good refs, noted and included
369	2	14	15	0	0	Important point. And there may be conflicting interests and negotiations within and between groups and communities. Capacity is never uniform within a community or in a place (Eriksen et al 2011). (Eriksen, Siri, Norwegian University of Life Sciences)	Yes, agreed and amended as suggested
370	2	14	15	14	16	This last sentence in the paragraph appears to be an orphan statement that begs for more information. (Street, Roger B, UK Climate Impacts Programme)	Yes, agreed and amended as suggested
371	2	14	19	15	2	There should be an acknowledgement of the USG approach to use target capabilities and the National Response Framework. (UNITED STATES OF AMERICA)	Noted.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
372	2	14	22	14	23	Does not response capacity also include that which supports actions during an natural hazard? (Street, Roger B, UK Climate Impacts Programme)	Yes, agreed and amended as suggested
373	2	14	26	14	28	Especially where sensitivities and thresholds are exceeded and where/when there are changes in variabilities and extremes. (Street, Roger B, UK Climate Impacts Programme)	Text removed
374	2	14	29	14	31	There is a need to be much clearer when the text is referring to natural hazard perspectives and those associated with climate variability (including extremes) and change. Sections, such as this one, appear to present a hazard perspective as the norm and present others as alternatives. I would expect a much more balanced presentation and that there would be consideration of the implications for decision making of the different perspectives. (Street, Roger B, UK Climate Impacts Programme)	I don't know what the difference in perspectives is referred to here; hazard perspective vs what other perspectives?
375	2	14	39	14	40	This is also the same in the context of dealing with climate variability (including extremes) and change. (Street, Roger B, UK Climate Impacts Programme)	Yes, agreed and amended as suggested
376	2	14	43	14	44	The citation for Anderson and Woodrow (1998) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Citation removed.
377	2	14	45	14	48	It would be good to have more illustrative examples like this (GERMANY)	OK
378	2	14	49	0	0	Differential response capacity can be explained with an example. It appears like a hanging line in the paragraph with little context (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Yes, agreed and amended as suggested with a gender example
379	2	14	52	15	2	As mentioned above, the language of optimisation is not really appropriate any more. We need to move people away from the idea of fixating on one possibility and optimising a response around that. Robust responses are needed instead. In the case of risk, farmers can take steps to optimise their risk reduction with respect to drought for example, and then find themselves more vulnerable to unexpected disasters such as flood - which has just happened in Victoria, Australia. (Rickards, Lauren Amy, University of Melbourne)	Good point, but I think that is exactly what is meant by the text
380	2	14	52	15	2	The concept that optimal risk reduction will generally not eliminate risk completely is extremely important, but has not been made previously (Chapter 1 or SPM). It likely warrants elevation to the Executive Summary and perhaps the SPM. (CANADA)	OK
381	2	14	52	15	2	This is also true for risk reduction in the context of a variable and changing climate (includes long-term climate change and changing in variability and extremes) (Street, Roger B, UK Climate Impacts Programme)	ok
382	2	15	5	0	0	Explications on the distinction between Capacity to recover et Resilience should be welcome. Capacity to adapt seems more appropriate than capacity to change too extensive. (BOURRELIER, PAUL-HENRI, AFPCN)	But capacity to change is a link to chapter 8, so I think it is appropriate here
383	2	15	9	15	10	The statement that the opportunity for changing is greatest during the recovery phase needs to more references. Would think that this change would imply back to normalcy, and not changes towards more sustainable development (where the conditions directly or indirectly contribution to risk and vulnerability are addressed). Also, this part talks about changes in physical infrastructure and individual behaviour/habits, what about other social changes, changes in responsibilities, social contracts, human rights issues, changes in development paths. Link these "narrow windows" of change discussion with that of transformation. (Svena, Linda, Department of Sociology and Human Geography)	added a few references that deal with ability to change in aftermath of disasters, but could not add text due to space limitations -- transformative change is discussed in chapter 8.
384	2	15	9	15	10	The opportunity for changing can be greatest during the recovery phase, but can also be high during other periods in the lifetime of the physical infrastructure) (Street, Roger B, UK Climate Impacts Programme)	need evidence to support this comment
385	2	15	13	15	14	Unclear sentence (Sygna, Linda, Department of Sociology and Human Geography)	amended
386	2	15	16	15	16	Capacity to recover is also dependent on a number of other factors normally associated with adaptive capacity to resume or change livelihood activities. (Street, Roger B, UK Climate Impacts Programme)	yes, as the text says
387	2	15	19	15	21	These are ill-informed reconstruction activities and undertaken where adaptive capacity does not exist or is not accessed (therefore the potential for such is high). (Street, Roger B, UK Climate Impacts Programme)	Yes, agreed and amended as suggested
388	2	15	19	15	21	Livelihoods are a major concern to humanitarian assistance community even during the disaster response. The statement does not reflect the approach of humanitarian assistance. However, it is the approach of mainly national governments in least developed countries. There are many other factors contributing to this condition include the land tenure and cultural issues of relocation. (UNITED STATES OF AMERICA)	Yes, agreed and amended as suggested, although humanitarian communities typically prioritise immediate safety over long-term goals
389	2	15	25	15	25	Adding citation "Pitcher and Cochrane, 2002". They develop the Ecosim model for multiple interacting marine species, which includes a weighted linear aggregation of net present value (or its log), an employment goal, a population-rebuilding target, and a measure of ecological stability (SPAIN)	Not sure how this relates to human settlements since the comment relates to ecosystems.
390	2	15	27	0	0	Citation of the references should follow the publication year. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	done
391	2	15	29	15	37	Capacity for transformation may be politically and socially limited by people's psychological need to regain a sense of self and security (Rickards, Lauren Amy, University of Melbourne)	Yes, agreed and amended as suggested
392	2	15	30	15	30	delete "are" -- two times "are" (Stocker, Thomas, IPCC WGI TSU)	Yes, agreed and amended as suggested
393	2	15	31	15	31	The citation for Mitchell (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	EDITED OUT

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
394	2	15	36	15	36	The citation for Chambers (1983) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
395	2	15	40	0	0	Citation of the references should follow the publication year. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	done
396	2	15	41	15	44	Is there not more that can be drawn from this study? (Street, Roger B, UK Climate Impacts Programme)	Probably, this text will be moved from this section anyway
397	2	15	47	0	0	Maybe change this to past tense, "...and thus the capacity to change has not been an ..." (Sygna, Linda, Department of Sociology and Human Geography)	Text removed
398	2	15	47	15	49	Also need to consider the existing adaptation deficit. (Street, Roger B, UK Climate Impacts Programme)	not sure what this means here
399	2	15	48	0	0	Maybe replace "gaps in the development process" with "unresolved development problems". (Sygna, Linda, Department of Sociology and Human Geography)	yes, agreed and amended
400	2	15	49	15	49	The citation for UNDP (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
401	2	15	50	15	50	The citation for Thomalla et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
402	2	15	51	16	12	This listing is a mixture of scientific problems (poor vulnerability assessments, mismatch between vulnerability and resilience) and concrete policy recommendations (need for better coordination between actors; emphasize win-win outcomes) (GERMANY)	Reviewer has misunderstood point - people tend to focus on designing adaptation projects without thinking about vulnerability
403	2	15	54	16	4	Vulnerability assessment and resilience building represent separate stages of addressing adaptation issues. Resilience building generally follows vulnerability assessment and builds on the finding of the assessment. Hence it may be fair to say that there is an increasing focus on resilience building, but it is not at the expense of vulnerability assessment. (CANADA)	Reviewer has misunderstood point - people tend to focus on designing adaptation projects without thinking about vulnerability
404	2	16	1	16	4	Other questions relate to the benefits and challenges of this change in focus. I would question whether resilience should be built without understanding vulnerability? (Street, Roger B, UK Climate Impacts Programme)	Text removed
405	2	16	5	16	8	For risk reduction, need to define and agree roles, responsibilities and coordination of all key actors, not just Government and NGOs (International Petroleum Industry Environmental Conservation Association (IPIECA))	yes, that is what the text says
406	2	16	6	16	8	Without such mechanisms there is also little opportunity for synergies and a higher potential for conflicts (Street, Roger B, UK Climate Impacts Programme)	Yes, this has been included in the text
407	2	16	15	0	0	Other Drivers for this section include: Recognition and upholding of women's rights (Hillier, Debbie, Oxfam)	Yes, this is implicit, among the many other drivers
408	2	16	18	16	18	Increasing vulnerability to hazards and changes in climate (including variability and extremes) (Street, Roger B, UK Climate Impacts Programme)	yes, agreed and amended
409	2	16	24	16	25	The existence of adaptive capacity, but also the need to understand the accessible or deployed adaptive capacity (Street, Roger B, UK Climate Impacts Programme)	Text removed
410	2	16	26	16	26	Would these not also include the degree of social connectivity or isolation as suggested elsewhere (page 19 line 33-34)? (Street, Roger B, UK Climate Impacts Programme)	Text removed
411	2	16	27	16	27	It is unclear how much is added by this final sentence; perhaps expand or remove it. Additionally, it's not clear what is meant by "determinants." (IPCC WGII TSU)	Text removed
412	2	16	29	16	29	Not clear what this first sentence is saying. (Street, Roger B, UK Climate Impacts Programme)	Text removed
413	2	16	29	16	32	Please describe some of the indicators. (IPCC WGII TSU)	Text removed
414	2	16	34	16	41	Eriksen and Kelly also point out that a problematic aspect of indicator studies is that the assumptions behind vulnerability indicators (conceptual understanding, key dimensions of vulnerability) are seldom made explicit, making it difficult to evaluate or compare such studies. (Eriksen, Siri, Norwegian University of Life Sciences)	Text removed
415	2	16	35	16	41	Should this discussion be more nuanced and refereeing to more literature. Even though vulnerability and poverty is not the same, we need to stress that widespread poverty makes many individuals and communities vulnerable to even small shocks and stressors. One solution would be to write "which underscores that vulnerability is related, but not identical to poverty". Additional references include Eriksen, S. and O'Brien, K. L., 2007. Vulnerability, poverty and the need for sustainable adaptation measures. Climate Policy, 7(4). 337-352; Eriksen, S., Klein, R.J.T., Ulstrup, K., Naess, L. O. and O'Brien, K., 2007. Climate Change Adaptation and Poverty Reduction: Key Interactions and Critical Measures. Report prepared for the Norwegian Agency for Development Cooperation. GECHS Report 2007:1, University of Oslo. 42 p. (Sygna, Linda, Department of Sociology and Human Geography)	Text removed
416	2	16	39	0	0	no needs to give page number (Incecik, Salahattin/Selahattin, Istanbul Technical University)	Text removed
417	2	16	39	16	39	Typo in citation: For Ahmed and Ahmad (2000), the author's names are reversed compared to how they appear in the chapter's reference list. Please ensure correct citing of the source and harmonize the spelling both in the chapter text and in the reference list. (IPCC WGII TSU)	Text removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
418	2	16	43	16	46	This focus on "drivers of capacity" emphasizes the measurable, objective factors that motivate increases in capacity. It would be useful here to also mention the subjective factors, such as the cognitive barriers discussed in chapter 1.3.2.2.1, or the influence of culture and ideology discussed in 1.3.2.2.3. (OBrien, Karen, Department of Sociology and Human Geography)	Text removed
419	2	16	44	0	0	Citation of the references should follow the publication year. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	Text removed
420	2	16	51	16	52	Why a focus here on 'Anthropogenic' climate change? Is there a difference between adaptation to climate change (natural, or natural + anthropogenic) compared to anthropogenic climate change? (Stocker, Thomas, IPCC WGI TSU)	Text removed
421	2	16	54	0	0	no needs to give page number (Incecik, Salahattin/Selahattin, Istanbul Technical University)	Text removed
422	2	17	0	0	0	Section 2.5.: again: shorten und avoid duplications, only discuss topics that are subject of the chapter/section. Avoid contemplative statements. (GERMANY)	2.5 has been integrated with 2.7, text sharpened.
423	2	17	4	17	9	The frequent reference to "old" literature - sometimes 20-30 years old - here and elsewhere in the chapter is unusual in an assessment of the current state of the science. It is more typical of a literature review. If these represent benchmark papers then that is reasonable, otherwise it simply suggests that there has not been very much published on these topics. (CANADA)	Some are indeed benchmark papers. In addition, SRE unlike regional Assessment Reports (TAR, AR4, AR5) SREX is a special report that draws from literature not previously assessed by IPCC.
424	2	17	5	17	9	Deploying an existing adaptive capacity can limit adaptive capacity to deal with future events. This suggest that adaptive capacity is volatile and limited. (Street, Roger B, UK Climate Impacts Programme)	Noted.
425	2	17	8	17	8	The citation for Corbett (1988) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
426	2	17	8	17	8	The citation for Frankenberger and Golstein (1990) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
427	2	17	8	17	8	The citation for Davies (1996) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
428	2	17	12	18	20	As an introduction to Section 2.5, this passage of text is much too long. And it covers quite a bit of overlap with previous sections. Again - focus on the crucial information that the reader needs. Please shorten. (Stocker, Thomas, IPCC WGI TSU)	Text shortened.
429	2	17	14	0	0	"variously, hazards" should be "various hazards" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	done
430	2	17	17	17	18	Why is this the case? Is this distinction necessary? For example within the community examining vulnerability to a changing climate (including variability and extremes) vulnerability includes exposure, sensity and adaptive capacity. (Street, Roger B, UK Climate Impacts Programme)	MODIFIED
431	2	17	20	17	20	It is unclear what source O'Brien et al. (2008) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	References have been checked.
432	2	17	23	17	23	It is unclear what source O'Brien et al. (2008) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	References have been checked.
433	2	17	24	17	26	See earlier cited reference Preston and Stafford Smith 2009 (Street, Roger B, UK Climate Impacts Programme)	EDITED OUT
434	2	17	30	17	31	This may be true in the haards community, but in others there are biophysical and social vulnerabilities (Street, Roger B, UK Climate Impacts Programme)	ACKNOWLEDGED
435	2	17	32	17	36	Please assess this material, not provide just a review. (IPCC WGII TSU)	DONE
436	2	18	1	0	0	The comment that this section attempts to be 'reasonably comprehensive without being exhaustive' should be deleted. This deviates from the guidance as to what an IPCC chapter should do, I would imagine. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	agreed, done
437	2	18	11	0	0	Keep reminding the reader that what we are talking about here is aspects of exposure and vulnerability (Sygna, Linda, Department of Sociology and Human Geography)	THIS COMMENT IS REDUNDANT GIVEN MERGER OF 2.5 ANND 2.7
438	2	18	13	18	15	I would expect some discussion of the implications of these different approaches for the resulting decisions and policies (Street, Roger B, UK Climate Impacts Programme)	THIS COMMENT IS REDUNDANT GIVEN MERGER OF 2.5 ANND 2.7
439	2	18	26	18	28	The word 'exposure' at the end of the sentence is best omitted as it is confusing - the Eriksen et al quote talks about vulnerability and not exposure. (Eriksen, Siri, Norwegian University of Life Sciences)	DONE
440	2	18	31	18	33	This is an important point, and it stands in contrast to what is stated on page 6, line 18 (Sygna, Linda, Department of Sociology and Human Geography)	This has been picked up elsewhere in the section
441	2	18	32	18	33	I would suggest that these are capacities to resist the known/perceived impacts of extremes. (Street, Roger B, UK Climate Impacts Programme)	THIS IS DEBATABLE POINT AND HAS BEEN REMOVED
442	2	18	44	18	44	There are also very different vulnerabilities within the different world regions (vulnerability is not uniform as mentioned earlier). Is it LDC or developing countries that are recognised as being more vulnerable? (Street, Roger B, UK Climate Impacts Programme)	DILLEY'S STUDY ON HOTSPOTS HAS BEEN EXPANDED ON IN THE NEW SECTION 2.5

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
443	2	18	47	0	0	This complacency, that the north, the developed, is not vulnerable is also discussed in O'Brien, Karen L.; Eriksen, Siri E H; Sygna, Linda & Næss, Lars Otto (2006). Questioning complacency: Climate change impacts, vulnerability, and adaptation in Norway. <i>Ambio</i> . ISSN 0044-7447. 35, s 50- 56 (Sygna, Linda, Department of Sociology and Human Geography)	THIS IS NOW INCLUDED
444	2	18	50	0	0	The text reports that Dilley et al have identified hotspots - this would seem to be an important result and information. Please expand and at least tell the reader where these hotspots are and assess the robustness of the results rather than simply reporting that the study has been done. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	There is a lot of detail in the dilley hotspots report and to paraphrase this here would require considerable space. I have therefore limited the response to the comment to what i think are the most important country specific findings in order to support th comment that geography matters which is then followed by a section which shows that geography is just one variable of interest
445	2	19	12	0	0	Would it work to say something about the vulnerability of SIDS in this part, refere to Barnett, J. and J. Campbell, 2010. Climate Change and Small Island States; Power, Knowledge and the South Pacific. Earthscan. (Sygna, Linda, Department of Sociology and Human Geography)	RELATED MATERIAL HAS BEEN REMOVED BUT REFERENCE IS MADE TO SIDS AND TO DIFFERENT BARNETT REFERENCES
446	2	19	12	19	12	The following references can be added:"Nurse et al., 2001; Dawson et al., 2009" (GREECE)	done
447	2	19	18	0	0	See OG6. 2512 : Settlement Patterns and Development Trajectories addresses mainly urban vulnerabilities and not exposures, when land planning is the most efficient way to minimise risks. Risks in méga-cities should be stressed. Industrial plants (including nuclear) and their risks should be mentioned, particularly when they are located in dense residential areas (example AZF catastrophe in France) (référence Responsabilité et Environnement). (BOURRELIER, PAUL-HENRI, AFPCN)	yes, important point and made below
448	2	19	20	19	48	Reference to UN/Habitat,s report (28 March, 2011) needed. (O'Keefe, Phil, Northumbria University)	done
449	2	19	21	19	21	The citation for Scoones (1998) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
450	2	19	23	19	23	Please start this sentence as follows: "Regional growth of population an rapid urbanization process.....", because growth of population is the most important reason of rapid urbanization (GERMANY)	this section has changed since the comment was made
451	2	19	27	19	28	Please assess this material, not provide just a review. (IPCC WGII TSU)	DONE
452	2	19	31	19	31	The following references for (SoVI) can be added:"Rygel et al., 2006; Fekete, 2009; Flanagan et al., 2011" (GREECE)	important sources but we cannot add more references
453	2	19	42	19	42	Is it not the creation of a social geograph of harm and vulnerability? (Street, Roger B, UK Climate Impacts Programme)	MODIFIED
454	2	19	46	19	47	Can these ensure the continuance of health response when disasters occur or just provide a basis for continuance? Evidence would suggest the latter. (Street, Roger B, UK Climate Impacts Programme)	THIS HAS BEEN REMOVED
455	2	19	50	19	50	How heat waves have/might change is part of Chapter 3's assessment. Chapter 2 should not provide it's own assessment, prejudging Chapter 3's assessment, but instead refer to Chapter 3. (Stocker, Thomas, IPCC WGI TSU)	ACKNOWLEDGED AND MODIFIED
456	2	19	50	19	51	Citation of the references should follow the publication year. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	THESE REFS HAVE BEEN DELETED IN THE NEW VERSION
457	2	19	50	19	51	The citation for Haines et al. (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
458	2	19	51	0	0	Dont think that the Lisø et al., 2003, talk about heat waves, more a good reference on exposure and vulnerability of the build environment, the need for adressing adaptation in this sector. (Sygna, Linda, Department of Sociology and Human Geography)	DELETED
459	2	19	54	0	0	The sentence beginning with; "In a 1996 paper, Lavell identified...." should be replaced with "Lavell (1996) identified..." (Incecik, Salahattin/Selahattin, Istanbul Technical University)	done
460	2	20	8	20	9	The citation for Scoones (1998) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
461	2	20	8	20	24	what's the conclusion to be drawn from this review of a number of available studies on this particular topic. It seems that the synthesis of the assessment is lacking here. (Stocker, Thomas, IPCC WGI TSU)	clarified
462	2	20	13	20	13	Climate variability and extremes including changes in these associated with climate change. (Street, Roger B, UK Climate Impacts Programme)	done
463	2	20	19	20	19	The citation for Jakobsen (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
464	2	20	23	20	24	this last sentence is unclear: (1) what is meant here by "longer-term strategies", (2) what is meant by "eluded the majority"? (Stocker, Thomas, IPCC WGI TSU)	clarified
465	2	20	23	20	24	Were there longer-term adaptation strategies that were conceived for this intended purpose, but were not successful? Why were they not successful? (Street, Roger B, UK Climate Impacts Programme)	clarified
466	2	20	26	20	28	How are positive and negative adaptation processes defined? Is it the process that is positive or negative or the results of the process that is positive or negative? (Street, Roger B, UK Climate Impacts Programme)	both clarified

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
467	2	20	39	20	40	Non adaptive or maladaptive socio-ecological relations can expose people to hazards and increase their vulnerability. I would note that as there is increasing urbanisation, does not this also lead to the need to consider urban environments as a factor in the environmental dimension of vulnerability. As is mentioned, these urban environments can provide ecosystem services. (Street, Roger B. UK Climate Impacts Programme)	This has been picked up elsewhere in the section
468	2	21	1	21	8	Given the definitions of the fifth page, those lines are mainly about changes of "hazards" (leading to an increase of the exposure) rather than a change of the "exposure" itself. But if those cases are considered as relevant (according to the title of the topic, "Dimensions of Exposure and Vulnerability"), the example of the increase in flood frequency and/or magnitude due to urbanization and increase in runoff could be added. (FRANCE)	NOT INCLUDED AS THIS HAS BEEN EDITED OUT IN THE NEW SECTION 2.5
469	2	21	4	21	4	Please start this sentence as follows: "Similarly, increasing urban sprawl and location of housing in fire-prone areas" (GERMANY)	EDITED OUT
470	2	21	8	21	8	The citation for Wisner (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
471	2	21	25	21	27	There is also the transfer of risk from low consequence to high consequence events (Street, Roger B, UK Climate Impacts Programme)	ACKNOWLEDGED
472	2	21	29	0	0	Figure 2-2: this figure with its feedback loop contains very little information and we wonder whether it wouldn't be better to just explain the levee effect a bit more in the text. (Stocker, Thomas, IPCC WGI TSU)	This has been picked up elsewhere in the section
473	2	21	32	21	36	this para is simply copy/paste from an ICSU-LAC report. This is not appropriate. What does this add to the assessment of Chapter 2, why is this relevant and used here? Need to link this with the Chapter text. In particular as the para includes "research must....". (Stocker, Thomas, IPCC WGI TSU)	REMOVED IN NEW SECTION 2.5
474	2	21	32	21	36	The quote presented here must be introduced and cannot stand in isolation. (IPCC WGII TSU)	REMOVED IN NEW SECTION 2.5
475	2	21	36	21	36	";see also Lavell (1999a)" (GREECE)	DONE
476	2	21	36	21	36	The citation for ICSU-LAC (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
477	2	21	39	23	25	Definitions of insurability and market based insurance should be useful, to ascertain the prominent form of insurance in the world, which seems to be PPP insurance solutions with respect to the number of insureds and the quality of the coverage, and this trend may continue in the future. The report does not clarify the different meanings of PPP in this respect. (NUSSBAUM, Roland. <i>Mission Risques Naturels</i>)	Unfortunately we do not have space to include this
478	2	21	39	27	24	The vulnerability of indigenous / aboriginal communities should be highlighted in these sections. Climate change and extreme events bring different kinds of risks and opportunities, threaten cultural survival and traditional livelihoods and negatively impact Indigenous human rights. Many aboriginal communities have lower adaptive capacity, lower ability to implement adaptation than non-aboriginal communities in the same region and have sustained considerable property damage to climate extremes such as floods, storms and droughts. Several case studies of several aboriginal communities in the Canadian Prairies have been highlighted in 2 recently published books: Marchildon, Gregory P. (ed.), 2010. A Dry Oasis: Institutional Adaptation to Climate on the Canadian Plains. Canadian Plains Research Center (CPRC) Press, University of Regina, 318 pp. (Chapters 12 and 13), and Sauchyn, D., H. Diaz and S. Kulshreshtha (eds.) 2010. The New Normal: The Canadian Prairies in a Changing Climate, Canadian Plains Research Center (CPRC) Press, University of Regina, 380 pp. (Chapters 15 and 21). (CANADA)	I found these to be relevant: Nancy J. Turner, Helen Clifton, 2009, "It's so different today": Climate change and indigenous lifeways in British Columbia, Canada, Global Environmental Change 19 (2009) 180–190.; Nurse, L. and Sem, G.: 2001, 'Small Island States', in McCarthy, J., Canziani, O., Leary, N., Dokken, D., and White, K. (eds.), Climate Change 2001: Impacts, Adaptation & Vulnerability, Cambridge University Press, pp. 842–875.; D Campbell, M Stafford Smith, J Davies, P Kuipers, J Wakeman, MJ McGregor 2008, Responding to health impacts of climate change in the Australian desert, Rural and Remote Health 8: 1008. (Online), 2008 pp 1-9.; Mimura, N.L., L. Nurse, R.F. McLean, J. Agard, L. Briguglio, P. Lefale, R. Payet, and G. Sem (2007) 'Small islands', in M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson (eds.), Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge: Cambridge University Press, 687-716.; Campbell, J. R. 2006. Traditional disaster reduction in Pacific Island communities, GNS Science Report 2006/38 [ISBN 0-478-09961-4].
479	2	21	41	21	46	The glossary defines hazard in terms of physical events only, even though other definitions exist. The use of "hazard" here reflects a broader definition without reference to the glossary definition, and this may be confusing. Then, as opposed to being an "outcome" of an extreme event, "economy" seems more nearly to be affected or impacted by an extreme event in this context. Finally, "condition" does not seem an ideal term either; "economy" is more nearly an aspect of or factor contributing to vulnerability. (IPCC WGII TSU)	edited out

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
480	2	21	45	21	45	some "additional" challenges? (Stocker, Thomas, IPCC WGI TSU)	EDITED OUT
481	2	21	48	0	0	Table 2-1. While this information is important, it could be captured in a single sentence rather than a table, and its not clear that 2.5.3 is the most appropriate place for this to appear. If the table is retained it should be expanded to include direct economic impacts, and a greater range of indirect economic impacts. Low and High human development countries need to be defined. (CANADA)	TABLE HAS BEEN REMOVED
482	2	21	49	0	0	Table 2-1: this table consists of a total of 4 numbers. This can easily be worked into the text and does not require a separate table. (Stocker, Thomas, IPCC WGI TSU)	done
483	2	21	51	21	51	The citation for Peduzzi (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	DONE
484	2	22	0	0	0	Section 2.5.3.1. A dimension that is important to mention in more detail is the way that climate change related risk, such as drought, in combination with developments such as land use change and sedentarisation of pastoralists can threaten entire livelihood and cultural/social systems (such as pastoralism in many dryland areas in Africa where drought water and grazing areas are taken over by commercial agriculture). (Eriksen, Siri, Norwegian University of Life Sciences)	SUCH ISSUES ARE DISCUSSED IN CHAPTER 4 NOW
485	2	22	2	22	2	the indirect follow-on effects (add hyphen) (Stocker, Thomas, IPCC WGI TSU)	done – moved to environmental/location
486	2	22	6	0	0	Refere to W. Nordhause, 2006. The economics of hurricans in the United States. Working Paper, Department of Economics, Yale University. (Sygna, Linda, Department of Sociology and Human Geography)	unfortunately we do not have space to include this
487	2	22	7	22	7	The citation for Mechler (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done. corrected to Mechler et al 2010 which is in the list
488	2	22	7	22	9	Consideration of the broader context when looking at global economies. When suppliers are affected and impacts are felt globally. In this situation, how are the identified drivers implicated? (Street, Roger B, UK Climate Impacts Programme)	an interesting point, unfortunately we do not have space to include this
489	2	22	8	22	9	The citation for OAS (1991) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
490	2	22	9	22	9	The following reference can be added: "Benson and Clay, 2000" (GREECE)	THIS is included above
491	2	22	9	22	9	The citation for Benson and Clay (2000) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	THIS is included above
492	2	22	9	22	9	The citation for Mechler (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done. corrected to Mechler et al 2010 which is in the list
493	2	22	15	22	15	The citation for Arrow and Lind (1970) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
494	2	22	20	22	21	The citation for Linnerooth-Bayer and Mechler (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
495	2	22	26	22	26	The citation for Mechler et al. (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
496	2	22	26	22	26	The citation for Cummins and Mahul (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
497	2	22	30	22	31	The citation for Linnerooth-Bayer, Mechler and Pflug (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
498	2	22	33	22	41	The relationship between economic growth and vulnerability reduction should be elaborated here with more references. In some cases, economic growth increases vulnerability to climate extremes (with the benefits and losses not equally distributed (e.g., when mangroves are destroyed for shrimp farming, when irrigated export crops reduce the water table, etc.) (OBrien, Karen, Department of Sociology and Human Geography)	this is a good point but lack of space precludes more coverage beyond the mention in the work and livelihoods subsection that refers to the variable - positive and negative - role of economic growth
499	2	22	33	22	41	The discussion in this paragraph, particularly the somewhat simplified consideration of the relationship between economic growth and emissions, should be revised to fully reflect associated complexities. (IPCC WGII TSU)	STATEMENT REMOVED
500	2	22	36	22	39	Use of reserved likelihood language: Reserved "likelihood" terms, as described in the AR5 Guidance Note on Treatment of Uncertainties, should not be used here in a more casual manner. (IPCC WGII TSU)	THIS HAS BEEN ATTENDED TO IN THE NEW SECTION 2.5
501	2	22	36	22	41	this section is confusing and requires clarifications: (1) the formulation with "indeed likelihood" is unclear -- is this based on formal uncertainty assessment? If so give the assessed degree of uncertainty rather than indicating "likelihood" in a general way; (2) a lonely right-bracket is left in after "greenhouse gas emissions"; (3) why is a reduction in greenhouse gas emissions likely concomitant with a reduction in economic growth? What is this statement based on? Please provide references; (4) are all these likelihood statements given the results of formal uncertainty assessments? If yes, put them in italics, if not remove them. (Stocker, Thomas, IPCC WGI TSU)	THIS COMMENT IS REDUNDANT GIVEN MERGER OF 2.5 ANND 2.7

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
502	2	22	37	22	37	"...gas emissions. Conversely, ..." (GREECE)	EDITED OUT
503	2	22	40	22	41	I would suggest that his is also true for the dimensions other than just the economic. (Street, Roger B, UK Climate Impacts Programme)	agreed but this section is just referring o the economic
504	2	22	48	22	49	personal communications are not an option in IPCC reports: delete reference to Mihir Bhatt.... (Stocker, Thomas, IPCC WGII TSU)	changed to: Pantuliano, S. and Wekesa, M., 2008, Improving drought response in pastoral areas of Ethiopia: Somali and Afar Regions and Borena Zone of Oromiya Region. Prepared for the CORE group (CARE, FAO, Save the Children UK and Save the Children US). London: Overseas Development Institute, Humanitarian Policy Group
505	2	22	48	22	49	The citation "Mihir Bhatt/All India Disaster Mitigation Institute" is not correct. Please change the format of this citation to "author, year". Also, list this citation in the reference list under the author names. (IPCC WGII TSU)	References have been checked.
506	2	22	53	22	53	An idea to add at the end of this paragraph: the Sustainable Livelihood Approach offers a detailed vulnerability analysis in the context of DRR according to the six different livelihood assets - natural, physical, social, human, financial and political - for identifying effective and measures to enhance resilience at the community level See: Reference: Clot, N. and J. Carter, 2009: Focus no 2/09. Disaster Risk Reduction:A Gender and Livelihood Perspective. InfoResources, Zollikofen. Switzerland. (Clot, Nicole Intercooperation)	While this is a useful contribution, we have to reduce the number of references and I think the point is made with the existings references
507	2	23	3	23	4	It might be good to clarify what is meant by "reduction in donors' contributions to mitigation/adaptation and response." (IPCC WGII TSU)	STATEMENT HAS BEEN QUALITIFIED IN NEW SECTION 2.5
508	2	23	4	23	6	It would be helpful to explain the sensitivity of these sectors. Further, is the citation provided the only one in support of this assertion? (IPCC WGII TSU)	THIS HAS BEEN EDITED OUT IN THE NEW SECTION 2.5
509	2	23	6	0	0	no needs to give page number (Incecik, Salahattin/Selahattin, Istanbul Technical University)	DONE
510	2	23	8	23	17	This is a specific example. How transferrable are these conclusions to other situations? (Street, Roger B, UK Climate Impacts Programme)	it was stated to be indicative and thus more broadly applicable.
511	2	23	17	23	17	reference needs to be completed -- what study is "page 651" referring to? (Stocker, Thomas, IPCC WGII TSU)	done
512	2	23	17	23	17	Please clarify the source for this page citation, making extra clear that is originates from Paavola (2008). (IPCC WGII TSU)	DONE
513	2	23	20	0	0	The Wealth dimension is closely related to Livelihood and hence a separate subsection is not justifiable (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	AGREEDAND MODIFIED
514	2	23	22	23	30	A simple point needs to be made that more people in developing countries get killed by disasters but more property is damaged in developed countries. (O'Keefe, Phil, Northumbria University)	THIS COMMENT IS REDUNDANT GIVEN MERGER OF 2.5 ANND 2.7
515	2	23	22	23	30	Due to choices made and dependencies on infrastructure, vulnerabilities can be quite high (exposure and sensitivity despite high adaptive capacity). It is not just location, but also dependencies on networks and infrastructure. In this case, the may be sensitive to events outside their control. (Street, Roger B, UK Climate Impacts Programme)	ATTENDED TO IN NEW SECTION 2.5
516	2	23	23	23	23	who are the "wealthy"? Which are "the wealthy countries and wealthy individuals" -- what measure is used here as a qualifier? Please be specific. (Stocker, Thomas, IPCC WGII TSU)	STATEMENT HAS BEEN QUALITIFIED IN NEW SECTION 2.5
517	2	23	23	23	24	Wealthy individuals can make "lifestyle choices," but wealthy countries cannot. Please clarify. (IPCC WGII TSU)	STATEMENT HAS BEEN QUALITIFIED IN NEW SECTION 2.5
518	2	23	25	23	25	"Cuttter et al (200)" does not provide the precise year of publication. (JAPAN)	References have been checked.
519	2	23	25	23	25	The last number in the year is missing ."As Cutter et al., (200;)" (GREECE)	References have been checked.
520	2	23	25	23	25	It would be better to specify more clearly that vulnerability of these individuals is low (but exposure is high). (IPCC WGII TSU)	STATEMENT HAS BEEN QUALITIFIED IN NEW SECTION 2.5
521	2	23	25	23	25	For Cutter et al. (200): Please correct the publication year for this reference. (IPCC WGII TSU)	References have been checked.
522	2	23	33	23	33	It is unclear what source Mitchell (1999) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	References have been checked.
523	2	23	33	23	35	Was the most recent stock market crisis (2008) worse than the 1987 crisis? Assuming so, please clarify. (IPCC WGII TSU)	clarified
524	2	23	35	23	35	The citation for Mitchell et al. (1989) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
525	2	23	43	23	43	It is unclear what source O'Brien et al. (2008) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	References have been checked.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
526	2	23	45	0	0	Social Dimensions cannot include governance and institutions. These have already been listed as sperate dimensions on Page 18 (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	the structure has been changed
527	2	23	49	24	19	Socio-economic factors - do these include social and cultural isolation? (Street, Roger B, UK Climate Impacts Programme)	This is picked up in the health section which considers male social isolation as a factor in greater vulnerability to heatwaves
528	2	23	53	23	53	The citation for UNISDR (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
529	2	24	8	24	9	There is no reference to assert that "This has been particularly evident" (FRANCE)	deleted
530	2	24	17	24	19	This is in addition to loss of access potentially leading to dropping out of education. (Street, Roger B, UK Climate Impacts Programme)	good point but cannot include more because of space limitations
531	2	24	17	24	19	Another impediment to education due to extreme events is the use of schools as shelter for displaced population leading interruption of education for long period of time. (UNITED STATES OF AMERICA)	DONE
532	2	24	18	0	0	"especially girl children" should be "especially girls" (Simiu, Emil, National Institute of Standards and Technology)	Girl children is a recognized descriptor without the sexist overtones of 'girls'
533	2	24	18	24	18	"especially girl children" -- why? Explain and support this statement. (Stocker, Thomas, IPCC WGI TSU)	explanation added
534	2	24	18	24	18	The citation for UNICEF (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
535	2	24	22	0	0	Section 2.5.4.2. Comprehensiveness of assessment: Examples given for health-related vulnerabilities focus on heat waves and floods. It would be helpful to indicate whether similar relationships have been found for other types of extreme events or whether they have yet to be studied. Indicating the overall status of the knowledge base in this way would elevate the section from a partial review to a more comprehensive assessment. (IPCC WGII TSU)	a comment has been added win the concluding part of the subsection (across a range of hazard types for which lack of space precludes coverage)
536	2	24	22	24	45	Well-being is very narrow as it only is presented in relation to health. Whereas the way it is used and presented in 8.3.1 on page 14 is much broader in scope. Wellbeing as a concept needs further discussion and agreement. (Abarquez, Imelda, Oxfam Hong Kong)	this section is primarily related to health. the wider aspects of wellbeing are covered in Chapter 8
537	2	24	24	24	35	Please assess this material, not provide just a review. (IPCC WGII TSU)	This is the introductory section to identify what the dimensions are
538	2	24	24	25	2	More cautious wording would be useful here. The 2006 heatwave was different in nature from the 2003 one (less severe in short) which also is an important factor in explaining the decrease in observed mortality. The paper by Fouillet et al. describes a modeling exercise to calculate the expected mortality in 2006 and concludes that the observed mortality was lower than the modeled expected mortality. I suggest you use the revised wording in SOD Chap 9 Urban heat, which describes this paper. (Grynszpan, Delphine, UK Health Protection Agency)	this section has been re-written and this issue is resolved
539	2	24	24	25	11	The whole section on health and wellbeing places too much attention to relatively few studies in the US and UK. There is too much attention to relative rare conditions such as PTSD. It is very surprising that not mention is made of mortality - and the distribution of mortality due to disasters- particularly flood disasters. This is a key issue for inequalities of impact -(high vs. low income countries.). (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	THIS HAS BEEN ATTENDED TO IN THE NEW SECTION 2.5
540	2	24	25	0	0	van lieshout is an incorrect reference here as it does not address extreme events (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	it is here because it addresses malaria transmission under climate change
541	2	24	25	24	25	The citation for Haines et al. (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
542	2	24	26	0	0	There is a new publication on "health service provision": Ergler, C., Sakdapolrak, P., Bohle, H.-G. & Kearns, R.A. (2011): Entitlements to health care: Why is there a preference for private facilities among poorer residents of Chennai, India? In: Social Science & Medicine 72 (Elsevier): 327-337 (Bohle, Hans-Georg, University of Bonn)	we cannot include all references because of space limitations
543	2	24	29	0	0	The evidence for mental health effects should be in a separate paragraph. There should be a more definitive statement regarding the evidence for mental health impacts - which is not strong if one excludes the un-controlled, self reported studies. The sentence saying that mental health issues "have been studied" should be deleted. The main text is not consistent with the information in the Box 2,2 which is also on mental health effects and ptsd. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	THIS HAS BEEN INTEGRATED INTO THE NEW SECTION 2.5
544	2	24	31	24	31	The citation for Aherne et al. (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
545	2	24	31	24	31	For Department of Health (2009), the only publication by this author and year in the chapter's reference list carries a letter. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	done - changed to Department of Health, UK 2009

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
546	2	24	37	0	0	There is a new publication on "Health Vulnerability": Sakdapolrak, P. (2010): Orte und Räume der Health Vulnerability: Bourdieus Theorie der Praxis für die Analyse von Krankheit und Gesundheit in megaurbanen Slums von Chennai, Südindien. Studies in Development Geography, Vol. 38, Verlag für Entwicklungspolitik, Saarbrücken (ISBN 978-3-88156-797-8) (Bohle, Hans-Georg, University of Bonn)	done
547	2	24	41	24	42	Better to state "pre-existing medical conditions" (delete the word chronic). Although the example given refers to a chronic disease, any illness, even if temporary, can increase a person's vulnerability by reducing their overall health status. (Grynspan, Delphine, UK Health Protection Agency)	For Department of Health (2009), the only publication by this author and year in the chapter's reference list carries a letter. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)
548	2	24	44	24	45	Add public health INTERVENTIONS ("perspective of the public health intervention and health care services required"). Otherwise the sentence is not clear, as a public health perspective includes population health as well as health services and health promotion & protection interventions. (Grynspan, Delphine, UK Health Protection Agency)	ADDRESSED IN NEW SECTION 2.5
549	2	24	47	24	49	The factors that have the greatest impact on vulnerability to extreme heat are age (extremes of age); pre-existing health status; population adaptation (the individuals' physiological adaptation to heat, as well as behavioral adaptation); infrastructure (the 'urban heat island' effect for example); and social deprivation. "Clothing choice" listed here is simply one example of behavioural adaptation (or maladaptation). Similarly outdoor activities, not only outdoor work, only increase vulnerability if not well adapted to the ongoing weather conditions (eg: strenuous physical activity in the sun increases vulnerability, but non-strenuous activity in the shade/cool area can actually protect people better than remaining indoor in an overheated building). (Grynspan, Delphine, UK Health Protection Agency)	THE DETAIL ON HEAT RISK FACTORS HAS BEEN REMOVED AS THIS IS NOW DEALT WITH IN THE HEAT WAVE CASE STUDY IN CHAPTER 9.
550	2	24	48	24	48	Is there evidence that gender is a factor of vulnerability in itself? I thought it was confounded by other factors (the nature of activities/work and age distribution, for example, which tend to be distributed differently between male/female). (Grynspan, Delphine, UK Health Protection Agency)	GENDER ISSUES ARE NOW DEALT WITH IN THE NEW SECTION 2.5 IN A GENERIC WAY BECAUSE OF SPACE RESTRICTIONS. IN SHORT NO ROOM FOR AN EXTENSIVE DISCUSSION OF EVENT SPECIFIC GENDER RELATED FACTORS
551	2	24	49	24	49	It is not only in developed countries that the poor are more vulnerable. Shanty towns in developing nations are also an example of a high vulnerability group. Poor socioeconomic status impacts on vulnerability because it tends to be associated with poor health status, reduced access to cooling/protective infrastructure (eg: no money to buy air conditioning), and lower social capital (isolation, reduced ability to call on others for help and to 'speak up for oneself'). (Grynspan, Delphine, UK Health Protection Agency)	SLUMS IN RELATION TO HEALTH STATUS ARE DEALT WITH IN THE NEW SECTION 2.5
552	2	24	50	24	51	no needs to give page number (Incecik, Salahattin/Selahattin, Istanbul Technical University)	NO LONGER RELEVANT
553	2	24	51	24	51	Typo in citation: For Staffoggia et al. (2006), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)) ATTENDED TO
554	2	24	53	24	54	Social isolation, use of air conditioning, and proportion of the population that is elderly are all examples of social and environmental vulnerability, not additional factors. (Grynspan, Delphine, UK Health Protection Agency)	THIS IS DEALT WITH IN CHAPTER 9
555	2	24	54	25	2	The latter part of this paragraph should reflect that while social networks have been found to decrease vulnerability and improve health outcomes, recent findings suggest that particularly bonding social networks may be counterproductive. Reference: Wolf, J., Adger, W.N., Lorenzoni, I., Abrahamson, V., Raine, R. (2010) "Social capital, individual responses to heat waves and climate change adaptation: An empirical study of two UK cities", Global Environmental Change 20(1): 44-52. (Wolf, Johanna, Memorial University of Newfoundland)	COMMENT NOW REDUNDANT GIVEN MERGER OF SECTIONS 2.5 AND 2.7
556	2	25	1	25	1	please do not forget that also the meteorological characteristics of the heat-waves 2003 and 2006 were not exact the same. Thus, the difference in mortality can only to some extent be attributed to awareness, early warning and preparedness. See also Ch9 P11 (Koppe, Christina, Deutscher Wetterdienst)	true, reflected (especially in ch9, as noted)
557	2	25	4	25	6	However, as mentioned earlier in chapter 2, there are some generalisations that can be made. The very young and very old, those with underlying medical conditions and people with lower socioeconomic status are generally more vulnerable, across all hazards. (Grynspan, Delphine, UK Health Protection Agency)	done
558	2	25	6	25	6	Typo? I imagine the reference is Ahern et al. (Grynspan, Delphine, UK Health Protection Agency)	corrected
559	2	25	8	25	9	Also needed are surveillance and control measures for toxic contaminants (eg: radiation contamination following earthquake in Japan 2011; widespread contamination due to spillage of petrol following Katrina in USA, and many other examples). (Grynspan, Delphine, UK Health Protection Agency)	done: Cruz et al 2004

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
560	2	25	11	25	12	It is not always possible to prevent displacement: sometimes the nature of the hazards requires evacuation, however many local sheltering solutions you have organised. Suggest rephrasing to "sufficient and safe shelter during displacement" (Grvnszpan, Delphine, UK Health Protection Agency)	something added: 'sufficient and safe shelter to prevent or mitigate displacement'
561	2	25	12	25	12	Educating the population is also fundamental and would be worth adding to this list. (Grynszpan, Delphine, UK Health Protection Agency)	added
562	2	25	21	25	21	The citation for Werrity et al. (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
563	2	25	23	25	24	The difficulties in attributing the health condition refer to the secondary effects. Delete the second because in the sentence. (Grynszpan, Delphine, UK Health Protection Agency)	this would not be understood by non-specialists so it is necessary to reiterate in this way
564	2	25	23	25	25	The meaning of this paragraph is not clear and the references do not look correct. A discussion of the lack of information from low and middle income countries is needed. The obvious fact that it is difficult to get good epidemiological data in a disaster situation could also be mentioned. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	The references are appropriate. I have mentioned difficulty of data collection.
565	2	25	27	25	36	How does this relate to the text on a similar subject on page 24 (Street, Roger B, UK Climate Impacts Programme)	COMMENT IS REDUNDANT DUE TO MERGER OF SECTIONS 2.5 AND 2.7
566	2	25	30	25	35	This para would benefit from adding the above reference also to highlight that social networks do not necessarily improve health outcomes in vulnerable groups such as the elderly but may be amplifying vulnerability. See Wolf et al. 2010 in comment no. 2 above. (Wolf, Johanna, Memorial University of Newfoundland)	COMMENT IS REDUNDANT DUE TO MERGER OF SECTIONS 2.5 AND 2.7
567	2	25	33	25	33	"who might have been considered to be the more vulnerable group" -- what's this based on? Provide support and/or a source for the statement. (Stocker, Thomas, IPCC WGI TSU)	ATTENDED TO IN MERGER OF SECTIONS 2.5 AND 2.7
568	2	25	40	0	0	Box 2-2: A box is not an instrument to provide detailed results from a single, previous study! This box has no clear message or purpose, and must be deleted. These results could be provided in a figure if they remain crucial for your chapter. (Stocker, Thomas, IPCC WGI TSU)	THE BOX HAS BEEN REMOVED
569	2	25	40	26	6	The box should be re titled. The validity of this review is not clear- it is also not very up to date (nearly 10 years old now). There have been a lot of studies on the health outcomes of Katrina in the US. The review results are hard to interpret without some discussion of the quality of the various studies. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	THE BOX HAS BEEN REMOVED
570	2	25	41	25	41	Would prefer climate change rather than global warming. (Street, Roger B, UK Climate Impacts Programme)	EDITED OUT
571	2	25	42	26	10	Box 2-2 would be more relevant if it presented the statistics associated with natural disasters (preferably climate-related natural disasters) and examined whether the health impacts were similar to those associated with other disasters. The distributional limitations of the data set should be stated clearly in the first sentence. (CANADA)	THE BOX HAS BEEN REMOVED
572	2	26	15	0	0	Cultural dimensions - Culture dimensions also include gender and other social exclusion issues as they behave differently. (Hillier, Debbie, Oxfam)	Agreed but we have considered gender under social
573	2	26	30	26	30	inconsistent use of quotes within one bullet: single vs. double quotes (Stocker, Thomas, IPCC WGI TSU)	done
574	2	26	38	26	38	The citation for Neilson et al. (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed to: Jonas Østergaard Nielsen and Anette Reenberg 2010 Cultural barriers to climate change adaptation: A case study from Northern Burkina Faso, Global Environmental Change 20 (2010) 142–152
575	2	26	44	26	44	add "be" in "need to [be] found to extend" (Stocker, Thomas, IPCC WGI TSU)	done
576	2	26	48	0	0	Eriksen et al. (2011) discuss consequences of responses to climate change, and that adaptation to some may in fact increase vulnerability of others (Eriksen, Siri; Aldunce, Paulina; Bahinipati, Chandra Sekhar; Martins, Rafael D'Almeida; Molefe, John Isaac; Nhemachena, Charles; O'Brien, Karen; Olorunfemi, Felix; Park, Jacob; Sygna, Linda; Ulsrud, Kirsten, 2011. When not every response to climate change is a good one: Identifying principles for sustainable adaptation. Climate and Development 3, pp. 7-20) (Sygna, Linda, Department of Sociology and Human Geography)	While this is a useful contribution, we have to reduce the number of references and I think the point is made with the existing references
577	2	26	49	26	51	Key players bearing all the costs and receiving all the benefits from their actions can also be problematic in terms of adaptation if the players are limited. This can create a castle mentality where each adapts for their own benefit. This approach is also a potential limit to adaptation that is limited to local interests only. (Street, Roger B, UK Climate Impacts Programme)	I have inserted this point.
578	2	27	2	27	2	The citation for Gaillard et al. (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
579	2	27	2	27	2	The citation for Gaillard et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
580	2	27	11	0	0	To add to the discussion on governance: civil society organizations and NGOs play significant role in governance and linking communities with their governments. This needs to be included in this section. (UNITED STATES OF AMERICA)	this no longer fits in this section so has not been added
581	2	27	12	27	12	The citation for Wamsley (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
582	2	27	13	27	38	Discussions on vulnerability of different social groups and gender are more relevant to social dimension than cultural. (UNITED STATES OF AMERICA)	DONE AND NOW INCLUDED UNDER SOCIAL GROUPS IN NEW SECTION 2.5
583	2	27	15	27	15	The citation for Douglas and Wildavsky (1982) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	removed
584	2	27	17	27	18	The citation for Massey and Sutton (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
585	2	27	18	27	18	The citation for Orr (2003) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
586	2	27	18	27	18	The citation for Peterson (2001) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
587	2	27	19	27	19	The citation for Kintisch (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
588	2	27	19	27	19	The citation for Hulme (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
589	2	27	20	27	20	The citation for Chester (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
590	2	27	20	27	20	The citation for Elliott (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
591	2	27	20	27	20	The citation for Guth et al. (1995) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
592	2	27	22	27	22	The citation for Marris et al. (1998) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
593	2	27	27	0	0	Institutional and governance dimensions - Lacking here is the rights based approach in climate change and development where the governance is accountable to its citizens as right holders. (Hillier, Debbie, Oxfam)	added
594	2	27	27	29	20	Næss, L.O., G. Bang, S. Eriksen and J. Vevatne, 2005. Institutional adaptation to climate change: Flood responses at the municipal level in Norway. Global Environmental Change Part A 15: 125-138: This article draws on the findings of two case studies of flood management in Norway and assesses the optimal conditions for institutional management of flood risk. It is determined that Norway's centralized institutional framework does not give adequate incentives for proactive local flood management. Instead, national programs clashed with local projects and concerns, and led to a sense in the community that the municipal institutions had less political power on these issues (taken from the GECHS bibliography) (Sygna, Linda, Department of Sociology and Human Geography)	done
595	2	27	30	27	30	For Adger (199): Please correct the publication year for this reference. (IPCC WGII TSU)	References have been checked.
596	2	27	37	27	39	What are the categories? (IPCC WGII TSU)	It comprises five thematic areas, each divided into three subsections, giving 28 components and 167 characteristics so too many to set out here. Some clarification made
597	2	27	45	27	49	Not only interaction and integration between DRR policy and CC adaptation policy but also risk specific policies have to be better integrated, especially when similar perceptions are driving the responses by vulnerable individuals/groups. This is the case for example in UK heat wave policy relating to UK cold spell policy but the two approaches being completely different and unintegrated, when actually policy could effectively reduce risk by similar measures (e.g. grants/subsidies for improving insulation in homes of vulnerable). Reference for the evidence on heat/cold policy is: Wolf, J., Adger, W.N., Lorenzoni, I. (2010) "Heat waves and cold spells in the UK: An analysis of policies and perceptions with reference to the elderly", Environment and Planning A 42(11): 2721-2734. (Wolf, Johanna, Memorial University of Newfoundland)	yes, accepted and included
598	2	27	51	0	0	Ronald Coase should be cited. (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	we cannot include all references because of space limitations

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
599	2	28	6	28	6	The citation for Nakagawa and Shaw (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	removed
600	2	28	7	28	7	The citation for Putnam; Portes (1998) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	removed
601	2	28	13	28	38	Is this section on institutions and governance the best location for this discussion of social groups and gender? (IPCC WGII TSU)	structure has changed in this version
602	2	28	28	28	28	The citation for Neal and Phillips (1990) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
603	2	28	28	28	28	Typo in citation: For Neumayer and Plümpner (2007), the second author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	done
604	2	28	31	28	31	change "and see the other articles in this themed issue" to "and references therein". (Stocker, Thomas, IPCC WGI TSU)	changed
605	2	28	34	28	34	don't understand "has led on the important acknowledgement". Please clarify. (Stocker, Thomas, IPCC WGI TSU)	changed
606	2	28	45	0	0	Box 2-3: not a single reference is given in this box. Add references. BTW, this is more a case study than a box, i.e., providing additional technical information for the assessment given in the main text. (Stocker, Thomas, IPCC WGI TSU)	done
607	2	28	45	29	20	Box 2-3 - References are needed to support the information in the box. (CANADA)	done
608	2	29	25	0	0	Section 2.5.7. It seems awkward that there is only one subsection here, for Migration and Displacement. Is this the only specific aspect of interactions and integrations that should be called out? (IPCC WGII TSU)	migration moved to the demography section
609	2	29	27	29	27	"This section began..." -- which section are you referring to here: 2.5 or 2? Please specify. (Stocker, Thomas, IPCC WGI TSU)	done
610	2	29	35	29	38	Issues mentioned are only very briefly touched upon, without explanations. To avoid that the reader has to consult the references cited to better understand what is mentioned, I suggest to add more explanations (e.g.: why are "natural disasters not natural at all"?). Elaborate more on how disciplinary boundaries were crossed in food security/vulnerability analysis. (Willems, Patrick, Katholieke Universiteit Leuven)	a brief explanation of unnatural disasters is given plus a clarification of the boundaries sentence.
611	2	29	40	29	41	The citation for Sen (1981) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	corrected to read Sen, A., 1981
612	2	29	44	0	0	Topic on "coupled human/social-environment systems" needs to be extended (Willems, Patrick, Katholieke Universiteit Leuven)	an extra paragraph has been included elsewhere
613	2	29	44	29	44	The sentence is not complete. (GREECE)	completed
614	2	29	44	29	44	Is this all on couples human/social environmental systems? Or is here something missing? If so, we note that no new material can be added as it won't be available for review anymore. (Stocker, Thomas, IPCC WGI TSU)	ATTENDED TO IN MERGER OF SECTIONS 2.5 AND 2.7
615	2	29	44	29	44	Sentence is either incomplete or is part of the list in the previous paragraph. (CANADA)	ATTENDED TO IN MERGER OF SECTIONS 2.5 AND 2.7
616	2	29	44	29	44	Something missing. (IPCC WGII TSU)	ATTENDED TO IN MERGER OF SECTIONS 2.5 AND 2.7
617	2	29	44	29	44	It is unclear what source Turner et al. (2003) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	References have been checked.
618	2	29	53	0	0	Consider nuancing the "migration is both a condition of, and a response to, vulnerability" to "migration can be". Migrants can also be seen as active agents of change. There is a range of migrants from unskilled to highly skilled experts who are in demand and travel around the world. I am sure some of the authors of the report are among the latter. (Kolmannskog, Vikram, Norwegian Refugee Council)	done
619	2	29	53	30	3	A note on terminology: Migration is often seen as voluntary unless otherwise stated ("forced migration"). There is general agreement to avoid the use of the term "environmental refugee". See for example Informal Group on Migration/Displacement and Climate Change of the IASC, 2008. Climate Change, Migration and Displacement: Who will be affected? Working paper submitted by the informal group on Migration/ Displacement and Climate Change of the IASC, 31 October 2008, p. 1. Consider using the term "environmentally displaced persons." See for example Kolmannskog, V. and Myrstad, F., 2009. Environmental Displacement in European Asylum Law. European Journal of Migration and Law, Vol 11, p. 313–326 (Kolmannskog, Vikram, Norwegian Refugee Council)	done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
620	2	30	5	0	0	Elaborate on this incomplete knowledge base (coordinate with other chapters). Barnett and Webber (2009) suggest that in the coming decades climate change is most likely to exacerbate existing migration patterns more than it will create entirely new flows. Also relevant literature is V. Kolmanskog, 2008, Future floods of refugees: A comment of climate change, conflict and forced migration. Report by the Norwegian Refugee Council, Oslo; E. Piguat, 2008. Climate change and forced migration. Research Paper No 153. Evaluation and Policy Analysis Unit, UN-HCR. 15 p; (Sygna, Linda, Department of Sociology and Human Geography)	Barnett and Webber included but not all points can be made due to space restrictions
621	2	30	11	30	12	Would this also pertain to those people who choose to migrate due to increased pressures? (Street, Roger B, UK Climate Impacts Programme)	well, 'force' is just a stronger way of saying they migrated due to 'increased pressure'
622	2	30	18	30	18	rather unscientific language: "a crushing blow" (Stocker, Thomas, IPCC WGI TSU)	changed
623	2	30	28	0	0	Section 2.5.8. It would be very beneficial to provide clear definitions of what is meant by "timing," "timescales," and the relationship between the concepts in this context. The section's discussion seems to conflate the terms, which is confusing, especially given that there is discussion both of vulnerability changing depending on the time of day and of trends in vulnerability over longer timescales. (IPCC WGII TSU)	have changed this slightly
624	2	30	43	30	43	"biophysical" -- what do you mean by biophysical projections? We assume you are referring to physical-biogeochemical projections from climate models. Please clarify and replace here and throughout the text. (Stocker, Thomas, IPCC WGI TSU)	done
625	2	30	46	30	47	"that changes not only seasonal, but also during the day" : and the week, too. Far less people are working during the week-end, and this change strongly their exposure (incomparaison with that of the week) (FRANCE)	done
626	2	30	48	0	0	Padang, Indonesia (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	added
627	2	30	48	30	48	The citation for Setiadi et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
628	2	31	8	31	8	The citation for Doocy et al. (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
629	2	31	16	0	0	Figure 2-3: this figure can easily be removed, given that the only reference made in the text is to show that "socio-demographic exposure ... to coastal hazards varies [not various] significantly between the morning-, afternoon-, and night time" and no additional explanations are provided. A simple reference to the Setiadi et al., 2010, is thus by far enough. (Stocker, Thomas, IPCC WGI TSU)	THIS COMMENT IS REDEDUNDANT AS THIS SECTION HAS BEEN REMOVED IN ITS ENTIRETY
630	2	31	18	31	18	The citation for Setiadi et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
631	2	31	20	31	36	There are also those looking at climate variability (including extremes) and change for which the full range of time scales are being considered. This is especially the case in terms of vulnerability and changes in vulnerability being realised first as variability and extremes exceed thresholds and sensitivities. This also involves looking at current vulnerabilities and addressing the existing adaptation deficit. (Street, Roger B, UK Climate Impacts Programme)	THIS COMMENT IS REDEDUNDANT AS THIS SECTION HAS BEEN REMOVED IN ITS ENTIRETY
632	2	31	20	31	37	This paragraph mixes a number of distinct points. It would be much clearer to consider dividing the paragraph into several shorter discussions of the separate concepts. (IPCC WGII TSU)	done
633	2	31	20	31	45	Most of this can be deleted. (IPCC WGII TSU)	done
634	2	31	31	31	31	The citation for Birkmann and Teichman (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
635	2	31	39	31	45	Was this survey taken before or after Hurricane Katrina? If before, was there any follow-up work indicating whether these perceptions were changed after Katrina? (Trewin, Blair, Australian Bureau of Meteorology)	section deleted
636	2	31	39	31	45	The quotes provided in this paragraph do not have sufficient context. Further, they do not form an effective conclusion for the section. (IPCC WGII TSU)	THIS COMMENT IS REDEDUNDANT AS THIS SECTION HAS BEEN REMOVED IN ITS ENTIRETY
637	2	31	42	31	43	Typo in citation: For Fussell (2005), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	References have been checked.
638	2	31	48	32	12	It would help if this sub-section could be illustrated with an example (Street, Roger B, UK Climate Impacts Programme)	THIS COMMENT IS REDEDUNDANT AS THIS SECTION HAS BEEN REMOVED IN ITS ENTIRETY
639	2	31	54	31	54	It is unclear what source Turner et al. (2003) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
640	2	32	0	37	0	The section on vulnerability profiles seems to discuss methods again rather than substantive results and hence it is difficult for the reader to assess the relative vulnerability of these different areas. For example section 2.6.6 on coastal systems and low lying areas discusses what types of indicators could be used to make a vulnerability profile. But it does not tell the reader what the science says about what vulnerability is in these places. There is no reference to the DIVA results which have in fact set out spatially where is most vulnerable. Those results should be reported and compared to other types of vulnerability assessment at more local scales - do the results reinforce each other and hence show a consistent pattern of vulnerability? Or do different studies highlight different places to be vulnerable? Let us see the empirical results. This comment applies to all the subsections - food security etc. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	THIS COMMENT IS REDEDUNDANT AS THIS SECTION HAS BEEN REMOVED IN ITS ENTIRETY
641	2	32	8	32	8	What hazards are you referring to here when you talk about "various hazards that climate change is likely to modify or to intensify..."? What's the basis of the uncertainty given ("likely")? The assessment of changes in hazards has to be based on Chapter 3 and Chapter 2 should thus not provide it's own assessment based on few studies. (Stocker, Thomas, IPCC WGI TSU)	LANGUAGE HAS BEEN TIGHTENED UP IN NEW SECTION 2.5
642	2	32	9	32	9	The citation for Birkmann and Teichman (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	References have been checked.
643	2	32	12	0	0	It is very important for reviewers to have access to the references supporting claims made in the text. The second order draft should include all references, not notations indicating that references will be included later. Their absence could compromise the review process and that is not something that we can afford to let happen. (CANADA)	references have been completed
644	2	32	12	32	12	missing references!!! (Stocker, Thomas, IPCC WGI TSU)	section has been removed
645	2	32	15	37	2	not quite clear what this section is supposed to do -- the sectoral information is somewhat arbitrary -- it confuses to flow rather than adding conceptually or in a descriptive sense. (International Federation of Red Cross and Red Crescent Societies (IFRC))	section has been removed
646	2	32	15	37	2	Suggest that Section 2.6 is quite weak and could be deleted. It is not necessary as an introduction to sectoral analysis in Chapters 4-7, and it breaks up the closely related sections 2.5 and 2.7. The section is lacking in references (two references for agriculture, one for freshwater resources, one for coastal systems) despite the fact that there are vast bodies of literature on each of these (indeed an IPCC Technical Report on freshwater resources). Vulnerability is used (p.33, l. 28-32) in a different sense than it has been defined for this report. (CANADA)	section has been removed
647	2	32	17	0	0	Section 2.6.1. This introduction to all of the sections that follow in 2.6 sets up an expectation that is not met: the reader expects data-rich vulnerability profiles that establish "qualitative and quantitative baseline information," "identify data gaps," etc., while the subsequent sections focus to a large extent on impacts and don't seem to present extensive profiles as defined here. Furthermore, it is important that the approach taken to discussion of vulnerability in Section 2.6 is distinct from the discussion of trends in exposure and vulnerability in Section 2.7. (IPCC WGII TSU)	section has been removed
648	2	32	19	32	20	To avoid confusion, it would be preferable to indicate that the "classification" in the AR4 referred to here is for sectors considered in chapters of the AR4, as opposed to classification of vulnerability itself, etc. (IPCC WGII TSU)	section has been removed
649	2	32	22	32	22	change to "The vulnerability profiles discussion" (Stocker, Thomas, IPCC WGI TSU)	section has been removed
650	2	32	30	32	30	In what context would there be improvement of performance? Reduction in vulnerability? (Street, Roger B, UK Climate Impacts Programme)	section has been removed
651	2	32	37	32	37	There is an additional zero in "(KMI, 2010)" (GREECE)	section has been removed
652	2	32	37	32	37	The citation for KMI (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
653	2	32	40	32	51	This issue is well covered in Chapter 4, so can be deleted. Please use primary references from experts in the field. (IPCC WGII TSU)	section has been removed
654	2	32	42	32	42	What do you mean by "...a decline in precipitation rate changes..."? - this suggests precipitation rates will change less, and I don't think that is what you are wanting to say. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
655	2	32	42	32	44	For what region is this vague statement regarding changing temperature/precipitation, and impacts on food production in relation to?? Do you mean to use the term 'likely' as a formal IPCC likelihood statement? Hopefully not, given how unclear this statement is, and the fact only one study is cited, so please replace 'likely' with an alternative word. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
656	2	32	42	32	45	These broadly sweeping, but sparsely cited comments about general climate change do not provide the most effective introduction to the discussion of the vulnerability profile for this sector. (IPCC WGII TSU)	section has been removed
657	2	32	44	0	0	There is a new publication on the overall impact of climate change on food security, which is provided as a summary of ten years experience of GECAFS: (Bohle, Hans-Georg, University of Bonn)	section has been removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
658	2	32	44	0	0	Ingram, J., Ericksen, P. & Liverman, D. (eds.) (2010): Food Security and Global Environmental Change (Earthscan). London (Bohle, Hans-Georg, University of Bonn)	section has been removed
659	2	32	45	32	45	Would this also include economic status of each affected country and areas therein and the spatial characteristics of changes in climate? (Street, Roger B, UK Climate Impacts Programme)	section has been removed
660	2	32	47	32	51	Again, for what region is this vague statement in relation to? You must cite references that support this statement. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
661	2	32	47	32	51	This overview of impacts on ag could be far more comprehensive (and also gives the misleading impression that irrigation is an effective risk reduction strategy - which has recently emerged to not be the case in SE Aus where the spatial and temporal extent of the recent drought meant irrigation water was not available - which exposed irrigation farmers' maladaptive reliance on such a strategy). For more insights into risks, impacts and ag see: Rickards, L. and Tucker, K. (2009) Challenges for Australian Agriculture. In: H. Sykes (ed) Climate Change: On for Young and Old, Future Leaders, Melbourne. Pp. 84-101. (http://www.futureleaders.com.au/ebooks/climate_change_ebook.php) (Rickards, Lauren Amy, University of Melbourne)	section has been removed
662	2	32	47	32	51	We recommend stating that around 69% fo all agriculture is rainfed and is therefore susceptible to rainfall changes. Source: Wani, S.P., Sreedevi, T. K., Rockstrom, J. and Ramakrishna, Y.S. (2009) 'Rainfed agriculture – Past trends ad future prospects' in Wani S.P., Rockstrom J. and Oweis, T. (eds.) Rainfed agriculture: Unlocking the potential. Oxford: CABI. (World Food Programme (WFP))	section has been removed
663	2	32	47	33	5	The statements in these paragraphs are not adequately supported by literature citations. (IPCC WGII TSU)	section has been removed
664	2	32	53	33	26	Discussions on agriculture and food security needs to address issues related to extreme events and how vulnerability profiles in this sector will be affected by extreme events rather than general climate change discussions. (UNITED STATES OF AMERICA)	section has been removed
665	2	32	54	32	54	Sensitivity to climate variability, extremes and changes. (Street, Roger B, UK Climate Impacts Programme)	section has been removed
666	2	33	7	33	14	Separation here is between external and internal factors, thus it's unclear why the listing from (i) to (iv) includes both external and internal factors. Suggest to change to: (1) External factors have the nature of: (i) ..., (ii)..., (iii)...; and (2) Internal factors are the ... (Stocker, Thomas, IPCC WGI TSU)	section has been removed
667	2	33	10	33	10	It is unclear why "changing extremes due to climate change" are a shock rather than a trend--the extremes themselves may be shocks, but the change due to climate change seems more of a trend. (IPCC WGII TSU)	section has been removed
668	2	33	16	33	26	Reference(s) needed. (IPCC WGII TSU)	section has been removed
669	2	33	21	33	22	Would this not also include inability or lack of acceptance of the need to move away from, as well as the lack of acceptance of traditional varieties of crops? (Street, Roger B, UK Climate Impacts Programme)	section has been removed
670	2	33	28	33	32	The studies cited here use vulnerability in the manner as it is defined in the IPCC TAR and AR4, but the term is used slightly differently in this report (as outlined in Chapter 1). (CANADA)	section has been removed
671	2	33	28	33	32	May wish to look at http://www.ymparisto.fi/download.asp?contentid=122222&lan=en as an example of further activity on mapping vulnerability (CARAVAN project) (Street, Roger B, UK Climate Impacts Programme)	section has been removed
672	2	33	29	33	30	The citation for O'Brien (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
673	2	33	30	33	30	The citation for Gov't of Sri Lanka (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
674	2	33	34	33	53	It seems that some text is missing at the beginning of this box. Is this correct? (Seneviratne, Sonia, ETH Zurich)	section has been removed
675	2	33	36	0	0	Box 2-4. What is the point of this box? What key message or concept is explored here? How widely applicable are these results derived from Sri Lanka? No references are provided. Please delete this box, which again is more a "hidden" Case Study than a box. Case Studies are dealt with in Chapter 9. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
676	2	33	36	0	0	Box 2-4. The text in this box leads one to expect that the table will present indices for exposure, as well as for sensitivity and adaptive capacity. But information is presented only for sensitivity and adaptive capacity--and primarily for rice paddies although agriculture and fisheries are mentioned more broadly in the table title and box text. Additionally, how does the table demonstrate a mapping exercise as mentioned in the box? (IPCC WGII TSU)	section has been removed
677	2	33	49	0	0	Table 2-4: it's odd to include subtitles (i.e., "for drought and flood", "for sea level rise") in each of the boxes of a table. Why not just adding one more column to the left and move these subtitles in there, i.e., ending up with a 3x3 table with row 1 for the Indices, row 2 drought/flood, and row 3 SLR? (Stocker, Thomas, IPCC WGI TSU)	section has been removed
678	2	34	2	0	0	Section 2.6.3 - Human health. This section is poor and needs attention. It is full of vague, generalised statements. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
679	2	34	2	0	0	Section 2.6.3. This section is focusing more on impacts and policy responses than on the vulnerability profile related to human health. Where impacts are discussed, links to Chapter 4 are needed where appropriate. (IPCC WGII TSU)	section has been removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
680	2	34	2	35	13	With the exception of lines 13 and 30, the whole section seems to assume that any change will necessarily make things worse. You need to discuss changes in cold spells and the impact on cold-related morbidity/mortality in mid- and high-latitude wintertime more. (Boucher, Olivier, Met Office)	section has been removed
681	2	34	4	34	4	what about non-adverse effects? The introductory sentence could at least mention the possibility of such effects as well. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
682	2	34	5	34	5	Reference Filiberto et al., 2010 missing. (Ulbrich, Uwe, Freie Universitaet Berlin)	section has been removed
683	2	34	5	34	5	This reference is missing in the chapter's reference list. (IPCC WGII TSU)	section has been removed
684	2	34	5	34	5	The citation for Filiberto et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
685	2	34	10	0	0	Table 2.5: link table to Chapter 3 by adding references to the Chapter 3 sections for the individual "climate change threats". The table includes a number of inconsistencies that need to be reviewed and revised. For example, it's unclear why Air Pollution would count as a climate change threat, as air pollution can take place completely independent of climate change. Also, why is the increased concentration of ground-level ozone listed under "health impacts" -- it's the cause, not the health impact. Similarly the contamination of potable water is not yet a health impact... it might of course lead to health impacts, etc. The table titles might need to be changed to reflect better what is listed in the table. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
686	2	34	12	34	21	Most of this is covered in Chapter 4 and can be deleted. References are needed for the material that is kept, along with reference to the appropriate sections in Chapter 4. (IPCC WGII TSU)	section has been removed
687	2	34	14	34	14	What is meant by "small health effects"? Please be quantitative. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
688	2	34	14	34	16	Sentence "Currently" -- what's the uncertainty assessment (high confidence) based on? Add reference and put confidence in italics (in case this is the result of a true, formal uncertainty assessment). (Stocker, Thomas, IPCC WGI TSU)	section has been removed
689	2	34	14	34	16	"Currently small health effects [...]". This sentence is too general, in particular because it states that it applies to ALL countries and regions. I believe this is only true in regions where specific extreme events are projected to increase. As highlighted in chapter 3, projections for some extremes (e.g. drought, floods) are still linked with large uncertainties in many regions. Moreover, some regions may also experience a decreased occurrence of some extremes. Finally, although an increase of hot extremes is virtually certain on the global scale and very likely in most regions (chapter 3 ES), it may not be associated with adverse health effects in all regions. Please revise and refer to chapter 3 regarding specific assessments of changes in physical events. (Seneviratne, Sonia, ETH Zurich)	section has been removed
690	2	34	15	34	15	"Very high confidence," assuming it is being used per the AR5 Guidance Note on Treatment of Uncertainties, should be italicized. (IPCC WGII TSU)	section has been removed
691	2	34	19	34	19	The citation for HDR (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
692	2	34	19	34	19	The citation for WHO (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
693	2	34	19	34	21	It should be made clear that this projection is coming from the AR4, ie, the basis from which hopefully updated and more detailed projections will be given in SREX. Some of this will hopefully be in Chapter 4. Note: Confalonieri et al. not in the reference list. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
694	2	34	20	0	0	Can someone suffer from death? (Boucher, Olivier, Met Office)	section has been removed
695	2	34	21	34	21	Reference Confalonieri et al, 2007 missing. (Ulbrich, Uwe, Freie Universitaet Berlin)	section has been removed
696	2	34	21	34	21	The citation for Confalonieri et al. (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
697	2	34	23	34	23	"negative health effects" -- what about positive effects? Aren't there any? Please clarify? (Stocker, Thomas, IPCC WGI TSU)	section has been removed
698	2	34	23	34	28	This would also include building of the health infrastructure and health system. (Street, Roger B, UK Climate Impacts Programme)	section has been removed
699	2	34	23	34	28	This paragraph glosses over key issues. The capacity to respond requires much more than information. Please provide an assessment based on the literature, with references. (IPCC WGII TSU)	section has been removed
700	2	34	30	34	31	"The overall balance of effects on health....." - Where are the references cited in support of this statement?? (Stocker, Thomas, IPCC WGI TSU)	section has been removed
701	2	34	30	34	31	Is a reference available for this statement? Furthermore, are the terms "likely" meant in the IPCC sense? In this case they should be indicated in italic. (Seneviratne, Sonia, ETH Zurich)	section has been removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
702	2	34	37	0	0	Box 2-5: What is the point of a box which simply repeats a selection of very vague statements coming from the AR4?? This box must be deleted. There is no purpose for including this box, and it is up to Chapter 4 to address the impacts of these extremes later in the report. There is no reason for Chapter 2 to be repeating vague projections coming from the AR4. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
703	2	34	37	0	0	Box 2-5. This box focuses mostly on occurrence of extreme events and resulting health impacts, information that would be better discussed in this report in Chapters 3 and 4. (IPCC WGII TSU)	section has been removed
704	2	34	37	0	0	Please delete this box; it is from the AR4, on which the SREX is supposed to build. Please provide updated information from Chapter 3. (IPCC WGII TSU)	section has been removed
705	2	34	37	34	37	The citation for Confalonieri et al. (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
706	2	34	37	35	13	The overall information content of Box 2.5 seems rather low, and it overlaps with material entailed in chapters 3 and 4. I would suggest to remove this box and refer in the text to chapters 3 and 4 regarding possible impacts of climate change on health (chapter 3 for the information on past and projected trends in relevant events, and chapter 4 for actual impacts on health). For details see next comments. (Seneviratne, Sonia, ETH Zurich)	section has been removed
707	2	34	39	35	11	Although mental health is mentioned briefly at the start of this section, it is not mentioned at all in any of the disaster specific examples, when it is well known that some of the worst effects of drought in rural communities, for example, are mental. See Rickards, L. (2008) 'Critical Breaking Point?' The effects of drought and other stressors on farming families. Report for Birchip Cropping Group. www.bcg.org.au/cb_pages/SocialResearchProjects.php (Rickards, Lauren Amy, University of Melbourne)	section has been removed
708	2	34	40	34	40	A short definition can be added: "Floods (temporary covering of land by water outside its normal confines) are low-probability, high impact events..." (GREECE)	section has been removed
709	2	34	40	34	40	"Floods are low-probability, high impact events...." - This is nonsense!! Depends where, and what magnitude flood event is considered. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
710	2	34	40	34	40	Please check chapter 3 (Section 3.5.2) for flood definition. It seems a bit awkward that this chapter provides a definition of floods instead of referring to chapter 3. Moreover the proposed definition "low-probability high-impact event" is not correct. In many regions, floods are recurring phenomena, and have thus a high probability and low impacts because the population and ecosystems are adapted to their occurrence (e.g. floodplains). (Seneviratne, Sonia, ETH Zurich)	section has been removed
711	2	34	40	34	44	Would suggest to remove the first two sentences which do not belong in this chapter. The two last sentences refer to "weather disasters": it is not clear what is meant by this and what are the exact implications for health. Overall, I am not sure that this paragraph provides some useful information to the reader. (Seneviratne, Sonia, ETH Zurich)	section has been removed
712	2	34	41	34	41	"Major storms and in the last two decades." - So what? This same statement could be rewritten for almost any disaster type. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
713	2	34	46	34	49	Note that a fraction of the death toll was due to poorer air quality during the heat wave. It is difficult to disentangle the two. (Boucher, Olivier, Met Office)	section has been removed
714	2	34	46	34	51	The information content of this paragraph seems relatively limited, there is certainly more information available in the literature. (Seneviratne, Sonia, ETH Zurich)	section has been removed
715	2	34	47	34	47	"Hot days, hot nights and heatwaves have become more frequent": This sentence does not belong in this chapter. If such a statement is necessary, then it should refer to the chapter 3 ES. The exact corresponding statement of the chapter 3 ES is: "It is very likely that there has been [...] an overall increase in the number of unusually warm days and nights on the global scale [...]" (Seneviratne, Sonia, ETH Zurich)	section has been removed
716	2	34	47	34	48	What is the reason for Chapter 2 repeating physical climate observations? It is up to Chapter 3 to make quantified statements regarding any change in hot days, heat wave etc. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
717	2	35	6	35	6	Dust storm prevalence, associated with drought, would be another important factor. Refer to: Thomson MC, Molesworth AM, Djingarey MH, et al. 2006. Potential of environmental models to predict meningitis epidemics in Africa, Tropical Medicine and International Health, 11(6):781-788. (CANADA)	section has been removed
718	2	35	10	35	10	"In some regions....." - What regions? (Stocker, Thomas, IPCC WGI TSU)	section has been removed
719	2	35	11	35	11	In an IPCC report written by a collection of leading experts on risk, vulnerability and exposure, do we really need a box that tells the reader that ".... Fires cause burns, damage from smoke inhalation and other injuries"?? (Stocker, Thomas, IPCC WGI TSU)	section has been removed
720	2	35	12	0	0	What will be the impact of wind storms (hurricanes and cyclones) on human health? (UNITED STATES OF AMERICA)	section has been removed
721	2	35	16	0	0	Section 2.6.4. This section also focuses mostly on impacts, as opposed to providing a vulnerability profile. It is also more concise than desirable. (IPCC WGII TSU)	section has been removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
722	2	35	30	0	0	This section needs to be rewritten based on the literature. Please do not use secondary references from someone who is not an expert in ecosystems. (IPCC WGII TSU)	section has been removed
723	2	35	31	0	0	What will be the impact of extreme events on ecosystems in addition to general vulnerability to climate change? (UNITED STATES OF AMERICA)	section has been removed
724	2	35	32	35	33	It is not clear what is meant by "the current climate regime." Do the authors intend to indicate that impacts on ecosystems, etc., have been observed to date? Additionally, it would be best to also provide a citation to chapter 4 here. (IPCC WGII TSU)	section has been removed
725	2	35	33	35	33	What is "high confidence probability"?? - not a term to be used in IPCC (see the IPCC Uncertainty Guidance Note); need to separate confidence from likelihood/probability. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
726	2	35	33	35	33	The term "high confidence probability" is confusing given the non-probabilistic confidence scale presented in the AR5 Guidance Note on Treatment of Uncertainties. If usage of "high confidence" is intended per the confidence scale in the Guidance Note, it should be italicized and not used with "probability" as part of the term. (IPCC WGII TSU)	section has been removed
727	2	35	35	35	35	What component of the IPCC AR4 are you citing here? Please cite a specific chapter. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
728	2	35	37	35	43	The second sentence of this paragraph suggests that abrupt changes impact ecosystems services and perhaps the ecosystems themselves; however, it seems that impacts on ecosystem services are intrinsically associated with impacts on ecosystems. The final sentence uses "global warming" where "climate change" would be more appropriate. (IPCC WGII TSU)	section has been removed
729	2	35	38	35	38	The citation for MEA (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
730	2	35	39	35	39	Abrupt changes, including variability that exceed thresholds and sensitivities as suggested in the following paragraph. (Street, Roger B, UK Climate Impacts Programme)	section has been removed
731	2	35	43	35	43	"(Tong et al...." (GREECE)	section has been removed
732	2	35	43	35	43	The citation for Parmesan et al. (2003) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
733	2	35	45	36	4	This paragraph should be better referenced. (IPCC WGII TSU)	section has been removed
734	2	35	48	35	48	The citation for Biggs et al. (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
735	2	35	50	35	50	"such as" is repeated twice (GREECE)	section has been removed
736	2	35	54	35	54	Reference Stenseth et al. 2002 is cited in the text but not provided in the reference list. (SPAIN)	section has been removed
737	2	35	54	35	54	Adding citation "Pitcher and Cochrane, 2002". They develop the Ecosim model for multiple interacting marine species, which includes a weighted linear aggregation of net present value (or its log), an employment goal, a population-rebuilding target, and a measure of ecological stability. (SPAIN)	section has been removed
738	2	35	54	35	54	The citation for Stenseth et al. (2002) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
739	2	36	1	36	4	good to include some references (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)	section has been removed
740	2	36	2	36	4	add "attribution" after "detection" -- in order to improve projections (not yet predictions) of climate change etc. it's necessary to also better understand the drivers of the changes, i.e., attribution of the detected changes is required. (Stocker, Thomas, IPCC WGI TSU)	section has been removed
741	2	36	7	36	28	The approach of Boruff et al. 2005 (based on Cutter et al. 2003) to evaluate the social vulnerability index in coastal areas would be relevant here: Boruff B.J., Emrich C., Cutter S.L. (2005) – Erosion hazard vulnerability of US coastal counties. Journal of coastal research, 21, p. 32-942.; Cutter S.L., Boruff B.J. and Shirley W.L., (2003) - Indicators of social vulnerability to environmental hazards. Social Science Quarterly. 84. 242–261. (MODARESSI. HORMOZ. BRGM)	section has been removed
742	2	36	9	0	0	Indicators for coastal systems are very general. What are the specific vulnerabilities to coastal areas due to extreme events? (UNITED STATES OF AMERICA)	section has been removed
743	2	36	9	36	9	denotes the risk to various coastal systems (Street, Roger B, UK Climate Impacts Programme)	section has been removed
744	2	36	11	36	11	"....cyclones, waves, storm surges...." (GREECE)	section has been removed
745	2	36	11	36	12	".....their incidence is being affected by human induced changes". You can't say this!!! You can not link cyclones, storm surges and tsunamis to any human influence (any such assessment, if possible, is very complex, and up to chapter 3 to assess). If you want to say that the vulnerability to cyclones, storm surges and tsunamis has been affected by changes in human land-use patterns, population densities etc, then this needs to be made clear, with appropriate references provided. (Stocker, Thomas, IPCC WGI TSU)	section has been removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
746	2	36	11	36	12	It seems that it would be more accurate to state that the "impacts," rather than the "incidence," of these natural events are being affected by human induced changes (including climate change). Discussion of the influence of climate change on the incidence of extreme events should reference relevant aspects of chapter 3. (IPCC WGII TSU)	section has been removed
747	2	36	15	36	15	The citation for Kaiser (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
748	2	36	15	36	21	How does this relate to what has been said in section 2.5 (Street, Roger B, UK Climate Impacts Programme)	section has been removed
749	2	36	24	36	25	An indicator system provides decision makers on local and national levels with ... (Street, Roger B, UK Climate Impacts Programme)	section has been removed
750	2	36	31	0	0	Industries are in the title but not much in the text ; examples should be welcome. (BOURRELIER, PAUL-HENRI, AFPCN)	section has been removed
751	2	36	33	0	0	Analysing in depth the vulnerabilities of mega-cities subject to multiple hazards is recommended (see also chapters 5 et 6). (BOURRELIER, PAUL-HENRI, AFPCN)	section has been removed
752	2	36	33	36	39	Need to provide references in support of the statements made in this paragraph. I'd like to see the evidence for the statement that "major attention has been given until now to rural areas and climate change"... (Stocker, Thomas, IPCC WGI TSU)	section has been removed
753	2	36	33	36	39	good to include some references (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)	section has been removed
754	2	36	33	36	39	Reference(s) needed. (IPCC WGII TSU)	section has been removed
755	2	36	35	36	36	Is not also environmental transformations within urban areas also indicative of increased vulnerability? (Street, Roger B, UK Climate Impacts Programme)	section has been removed
756	2	36	43	36	43	What is meant by "South and North cities"?? (Stocker, Thomas, IPCC WGI TSU)	section has been removed
757	2	36	43	36	43	I don't particularly like the use of "South and North" here given the possible confusion with geographic indicators - would prefer "developed and less developed countries" or similar. (Trewin, Blair, Australian Bureau of Meteorology)	section has been removed
758	2	36	43	36	43	Is South and North meaning developing and developed country cities? (Street, Roger B, UK Climate Impacts Programme)	section has been removed
759	2	36	49	36	49	The citation for BMI (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
760	2	36	50	36	50	The citation for European Commission (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
761	2	36	50	36	50	The citation for Rinaldi et al. (2001) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
762	2	36	52	36	52	"climate change related hazards" could be replaced by "climate related hazards" (FRANCE)	section has been removed
763	2	37	1	37	1	The citation for IRGC (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
764	2	37	1	37	2	The citation for Beck (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section has been removed
765	2	37	5	0	0	Section 2.7. In this section, there are a number of summary statements qualified by "may" or "could." If possible, it would be preferable to use the calibrated terms for evidence and agreement, confidence, or likelihood, as presented in the AR5 Guidance Note on Treatment of Uncertainties, to characterize these statements. Construction of such conclusions, using calibrated language, would help make clear the findings of the chapter's assessments. Given the extensive review of literature in this section, this section seems ripe for development of such assessment conclusions. (IPCC WGII TSU)	THE LANGUAGE HAS BEEN MODIFIED IN THE NEW SECTION 2.5
766	2	37	5	0	0	Section 2.7. Sections 2.6 and 2.7 should be further distinguished. For example, it might be better to focus 2.6 more directly on sensitivity and adaptive capacity without discussion of trends over time, while 2.7 could build on (and not repeat) the discussion in 2.6, focusing on trends over time for both vulnerability and exposure. (IPCC WGII TSU)	SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED WHICH CREATES A BETTER DIFFERENTIATION FROM 2.6. section 2.6 has been removed
767	2	37	5	37	5	It would also be useful to understand variability and changes in variability of vulnerability. Is there any relevant literature? (Street, Roger B, UK Climate Impacts Programme)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
768	2	37	9	37	14	This high confidence statement is not particularly useful given all major drivers are included in the long list provided: "in fact, there is high confidence for several hazards, changes in exposures and in some cases vulnerability are the main drivers behind observed trends in disaster losses".... (Stocker, Thomas, IPCC WGI TSU)	The more detailed analysis (for specific hazards such as storms and floods) is provided in chapter 4. For chapter 2, the point to be made is that changes in exposure and vulnerability are often more important than changes in hazards.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
769	2	37	9	37	21	Most of this can be deleted as it is covered elsewhere or in Chapter 4. (IPCC WGII TSU)	ACHIEVED IN MERGER OF SECTOIONS 2.5 AND 2.7
770	2	37	11	37	11	It would be better to specify "disaster risk" here instead of just "risk," assuming that is what was meant. (IPCC WGII TSU)	EDITED
771	2	37	11	37	14	The meaning is not very clear. (GREECE)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
772	2	37	14	37	14	It is unclear what source UNISDR (2009) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	corrected 2009a
773	2	37	16	37	21	The first and second sentences of this paragraph are somewhat contradictory: "detailed quantitative information" seems contradictory to a lack of "good data and analysis." Further, it would be helpful to clarify more clearly how the discussion in Section 2.7 overall differs from treatment of similar topics in chapter 4. (IPCC WGII TSU)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
774	2	37	28	0	0	Section 2.7.2. This is another particularly long and detailed section. Can it be summarised and reduced to the most crucial information? (Stocker, Thomas, IPCC WGI TSU)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED AND THE RELATED SENTENCE HAS BEEN EDITED OUT
775	2	37	28	0	0	it's interesting to see that some of the paragraphs in this subsection are almost entirely based on UN-reports (e.g., page 38, line 29ff; page 38, line 42ff; page 39, line 1ff) whereas other are entirely based on peer-reviewed literature (e.g., page 39, line 7ff; page 39, line 20ff). It's hard to believe that there would be such a huge difference between the available literature for closely related issues covered in this one subsection. We would thus like to encourage the use of peer-reviewed literature in those heavily UN-report based sections. (Stocker, Thomas, IPCC WGI TSU)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED. FURTHER THE USE OF UN LITERATURE HAS BEEN REDUCED
776	2	37	28	39	43	Degradation of infrastructure through insufficient financing/maintenance could be emphasized as a factor in many developed world urban centres (as generally noted in OECD, 2006; Auld and MacIver, 2007; Neuman, 2009). Auld, H. and D. MacIver 2007. Changing weather patterns, uncertainty and infrastructure risks: Emerging adaptation requirements. AIRD Occasional Paper 9, Environment Canada, Toronto. 18pp. OECD 2006. Infrastructure to 2030: Telecom, land transport, water and electricity. Organisation for Economic Co-operation and Development, Paris. 355pp. Neumann, J. 2009. Adaptation to Climate Change: Revisiting Infrastructure Norms, Issue Brief 09-15, Resources for the Future, Washington, DC. 12pp. (CANADA)	APPROPRIATE REFERENCING (AULD et al., 2007) HAS BEEN INCLUDED
777	2	37	28	42	32	This section on trends in vulnerability and exposure is highly relevant and sections 2.7.2 - 2.7.4 are strong (although would benefit from additional references). This section should be the focal point of the chapter as it provides context (at the appropriate level) for subsequent chapters. (CANADA)	unfortunately the structure of the chapter is already fixed
778	2	37	32	37	32	good to refer to Chapters 3/4 here, but a more explicit linking of Chapters 3/4 would be desirable. (Stocker, Thomas, IPCC WGI TSU)	A slight elaboration added to show why more linking with other chapters is not given here
779	2	37	33	37	33	"in" is repeated twice. (GREECE)	EDITED
780	2	37	40	37	41	"Globally the end of the first decade of the 21st century represents an important watershed for human settlement"? What does this mean? Why "watershed"? Is this a commonly used expression (Stocker, Thomas, IPCC WGI TSU)	deleted
781	2	37	46	37	46	What is (United Nations, 2010)?? (Stocker, Thomas, IPCC WGI TSU)	all references have been checked and corrected
782	2	37	46	37	46	The citation for United Nations (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
783	2	37	48	37	48	Urbanization is of concern to disaster risk management and adaptation in the context of climate change because... (Street, Roger B, UK Climate Impacts Programme)	BETTER EXPLANANTION HAS BEEN PROVIDED IN THE NEW SECTION 2.5 (MERGED SECTIONS 2.5 AND 2.7)
784	2	37	50	37	50	The citation for Guha-Sapir et al. (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
785	2	37	53	37	53	The citation for Fungfeld (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
786	2	37	53	38	2	refer to Chapters 3/4 and 9 when discussing the 2009 Melbourne heat wave. (Stocker, Thomas, IPCC WGI TSU)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
787	2	38	1	38	2	Does a good level of preparedness relate to high adaptive capacity and potential low sensitivity? (Street, Roger B, UK Climate Impacts Programme)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
788	2	38	2	38	2	The citation for QUT (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
789	2	38	5	38	6	Please put the sentences as follows: "Cross (2001) argues that small cities and rural communities may be more vulnerable to disasters than big cities or megacities, since megacities may have considerable resources for dealing with hazards and disasters. The access for helpers to rural areas may become very difficult, which has been proven i.e. by the flood in Pakistan 2010." (GERMANY)	this is a stylistic choice which has not been accepted

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
790	2	38	13	38	14	low-lying coastal zones and steep slopes are highly sensitive (and one could argue possess low adaptive capacity and therefore are highly vulnerable. (Street, Roger B, UK Climate Impacts Programme)	THIS HAS BEEN ATTENDED TO IN THE NEW SECTION 2.5
791	2	38	15	38	15	Is this true in most countries? (IPCC WGII TSU)	edited for this
792	2	38	20	38	20	", the lack of service provision with respect, for example, to..." (GREECE)	EDITED OUT
793	2	38	24	38	25	"refugee populations" -- could you specify what kind of refugees are meant here? It seems important not to give the impression that this refers to "weather and climate"-caused refugees only. (Assuming that that's indeed the case, correct?) (Stocker, Thomas, IPCC WGI TSU)	REFERENCE TO REFUGESS HAS BEEN REMOVED AS CAN'T VERIFY THAT THEY ARE "CLIMATE AND WEATHER" REFUGEES
794	2	38	24	38	27	Please confirm that this paragraph is discussing refugees only, and not internally displaced persons. Links to section 2.7.6 would seem appropriate. (CANADA)	REFERENCE TO REFUGESS HAS BEEN REMOVED AS CAN'T VERIFY THAT THEY ARE "CLIMATE AND WEATHER" REFUGEES
795	2	38	24	38	27	It is not clear what 58 percent of refugees refers to. What is the population of refugees compared to total urban population or marginalized population in the urban areas? What are their specific vulnerability compared to IDPs or slum population or other marginalized groups? (UNITED STATES OF AMERICA)	REFERENCE TO REFUGESS HAS BEEN REMOVED AS CAN'T VERIFY THAT THEY ARE "CLIMATE AND WEATHER" REFUGEES
796	2	38	25	38	25	This is unclear. (IPCC WGII TSU)	REFERENCE TO REFUGESS HAS BEEN REMOVED AS CAN'T VERIFY THAT THEY ARE "CLIMATE AND WEATHER" REFUGEES
797	2	38	27	38	27	The citation for UNHCR (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
798	2	38	30	38	30	The citation for Satterthwaite (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
799	2	38	34	38	34	Please provide reference, as it is not included in the reference section. As well, verify the usage of "ability" in the sentence. (CANADA)	all references have been checked and corrected
800	2	38	35	38	35	The citation for UN Habitat (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
801	2	38	40	38	40	The citation for United Nations (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
802	2	38	47	38	47	The citation for UN Habitat (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
803	2	38	51	38	52	There should be recognition that this includes changes in variability and extremes as what is defined as extreme may change as a result of climate change. (Street, Roger B, UK Climate Impacts Programme)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
804	2	39	1	39	30	Most of this is repeated elsewhere and can be deleted. (IPCC WGII TSU)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
805	2	39	4	39	5	"room remains for a systematic research agenda..." -- close to calling for action in this research area, which of course is not appropriate in an IPCC report. (Stocker, Thomas, IPCC WGI TSU)	REMOVED
806	2	39	7	39	9	The following references can be added:"Small and Nicholls, 2003; Nicholls et al., 2007; McGranahan et al., 2007; Kabebe and Nicholls, 2010" (GREECE)	useful sources but we have to reduce our references
807	2	39	7	39	18	The citations in this paragraph require substantial revision and attention. Many citations are not provided in the chapter's reference list, or it is unclear what source a citation corresponds to in the reference list. The missing citations must be added to the reference list. Then, all citations must be checked to ensure that they can be unambiguously linked to a reference in the reference list. (IPCC WGII TSU)	done
808	2	39	8	39	8	"Nichols et al., 2008" not found in the references (GREECE)	changed to Nicholls et al 2011
809	2	39	25	39	25	The citation for Adelekan (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
810	2	39	25	39	30	Should this not be part of the previous paragraph. (Street, Roger B, UK Climate Impacts Programme)	I think it works here too
811	2	39	26	39	26	The citation for Rahman et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
812	2	39	33	39	34	Typo in citation: For Roth and Coelho (2007), the first author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	all references have been checked and corrected
813	2	39	36	39	43	Insurability requires compliance of policyholders' properties to land use planning and construction rules - Economic dimension of these trends in Exposure and Vulnerability is too limited and should definitely also include considerations about penetration dynamics of insurance products, both as passive adaptation tools as well as Incentivizing tools for DRR. (NUSSBAUM, Roland, Mission Risques Naturels)	while the subject is important, the need to reduce the size of the chapter/report precludes further elaboration
814	2	39	46	0	0	Economic dimensions - Economic dimensions should discuss the feminisation of poverty due to the impact of climate change. (Hillier, Debbie, Oxfam)	GENDER ASPECTS OF WEALTH AND WELL BEING ARE COVERED IN THE NEW SECTION 2.5

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
815	2	39	48	39	48	The opening sentence of this section ("poverty is arguably one of the most pressing social issues facing humanity") needs to be supported by evidence. Or is this just a statement of general knowledge, the opinion of the author team or even the result of the assessment? Please revise accordingly. (Stocker, Thomas, IPCC WGI TSU)	THIS HAS BEEN REMOVED IN THE NEW SECTION 2.5
816	2	39	48	39	51	It is hard to interpret what is trying to be stated in the second two sentences of this paragraph. (IPCC WGII TSU)	deleted
817	2	39	53	39	53	Another very unspecific statement: ""poverty and climate change are interlinked yet distinct" -- how useful are such general statements? Is this needed for what follows hereafter? (Stocker, Thomas, IPCC WGI TSU)	deleted
818	2	39	53	39	53	The citation for Erikson and O'Brien (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
819	2	40	3	40	3	The citation for Erikson and O'Brien (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
820	2	40	3	40	3	It is unclear what source O'Brien et al. (2008) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	all references have been checked and corrected
821	2	40	6	40	7	This is unclear. (IPCC WGII TSU)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
822	2	40	14	40	15	Need to clarify what this last sentence is trying to convey. (Street, Roger B, UK Climate Impacts Programme)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
823	2	40	22	20	54	Please combine the assessment on migration with the other information on migration. (IPCC WGII TSU)	done
824	2	40	22	40	22	... be more vulnerable than others to climate variability and extremes. (Street, Roger B, UK Climate Impacts Programme)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
825	2	40	23	40	23	Typo in citation: For Staffogia et al. (2006), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	References have been checked.
826	2	40	24	40	25	Additional references on heatwaves and vulnerability among elderly: Wolf, J., Adger, W.N., Lorenzoni, I., Abrahamson, V., Raine, R. (2010) "Social capital, individual responses to heat waves and climate change adaptation: An empirical study of two UK cities", Global Environmental Change 20(1): 44-52; Abrahamson, V., Wolf, J., Lorenzoni, I., Fenn, B., Kovats, R.S., Wilkinson, P., Raine, R. (2009) "Perceptions of heatwave risks to health: interview-based study of older people in London and Norwich, UK", Journal of Public Health 31(1): 119-126. (Sygna, Linda, Department of Sociology and Human Geography)	Heatwaves now discussed in more detail in chapter 9 rather than here.
827	2	40	25	40	25	Typo in citation: For Gosling et al. (2009), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	References have been checked.
828	2	40	26	40	26	For United Nations (2009b), there is no reference in the chapter's reference list from this authors and year that carries the letter 'b'. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	References have been checked.
829	2	40	28	40	28	"...aging. Currently...." (GREECE)	revised
830	2	40	36	41	3	The citations in this paragraph require substantial revision and attention. Many citations are not provided in the chapter's reference list, or it is unclear what source a citation corresponds to in the reference list. The missing citations must be added to the reference list. Then, all citations must be checked to ensure that they can be unambiguously linked to a reference in the reference list. (IPCC WGII TSU)	revised
831	2	40	40	0	0	Perhaps clarify that OCHA and IDMC looked at "climate-related sudden-onset disasters" so drought displaced are not included in the number. (Kolmannskog, Vikram, Norwegian Refugee Council)	done
832	2	40	40	40	41	20,293,413 is very exact for an 'estimate'! Better to say "about 20 million" or something that more appropriately reflects an estimation. (Stocker, Thomas, IPCC WGI TSU)	done
833	2	40	41	40	41	"disasters (OCHA/IDMC, 2009)." (GREECE)	done
834	2	41	3	41	3	What is meant by "of authorities tends"? (Stocker, Thomas, IPCC WGI TSU)	corrected
835	2	41	15	41	15	".be at risk to exposure" - Is this not confusing the technical meanings of 'risk' and 'exposure'? Is exposure not a component of risk? (Stocker, Thomas, IPCC WGI TSU)	changed
836	2	41	15	41	18	In keeping with our general comment on Section 2.7 (suggesting further distinguishing Sections 2.6 and 2.7), this example may be more appropriate for Section 2.6 given that it describes existing patterns of vulnerability. (IPCC WGII TSU)	section 2.6 has been removed
837	2	41	18	41	18	The citation for Ocola et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
838	2	41	18	41	21	This sentence is very hard to interpret. In particular, what exactly is "quite rare"? (IPCC WGII TSU)	removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
839	2	41	26	41	26	The citation for Filho (1996) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
840	2	41	33	41	33	The citation for Brieting and Wikenberg (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
841	2	41	44	0	0	experiences should be "experienced" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	done
842	2	41	44	41	44	"...who have experienced..." (GREECE)	done
843	2	41	44	41	45	suggest to provide a link to some of the case studies, who cover aspects of this (Stocker, Thomas, IPCC WGI TSU)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED AND THIS HAS BEEN EDITED OUT
844	2	41	47	41	47	The citation for Critcuer and Zook (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
845	2	41	51	0	0	Section 2743, Health and Well-Being, should address transportation from residence to working location problems : making them closer by urban densification supposes a control of risks et compromises by land planning. (BOURRELIER, PAUL-HENRI, AFPCN)	unfortunately, lack of space precludes coverage of this
846	2	41	51	0	0	Section 2.7.4.3. This section focuses on trends that increase vulnerability and exposure; it would be good to discuss, as appropriate, trends that decrease vulnerability and exposure in the context of heath and well-being. (IPCC WGII TSU)	this has been referred to - albeit briefly - in various parts. Eg regarding urban environments which can be bth creators of risk and vulnerability as well as buffering th seam through increased availability of services etc
847	2	42	4	42	4	The citation for Burkle and Greenough (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
848	2	42	4	42	4	The citation for De Salvo et al. (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
849	2	42	6	42	9	Are linked the increse of obesity and cardiovascular diseases on members of develop countries with the heat risk, on the Skelton et al, 2009 and Stamtakes et al 2010 publications? (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)	I am not sure what this comment is asking
850	2	42	8	42	9	Typo in citation: For Stamtakis et al. (2010), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	done
851	2	42	17	42	32	The good discussion on the ecosystem services deterioration needs to be address and linked to the extremes events increase by pertinent litterature citation. (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)	unfortunately we do not have enough space to extend this
852	2	42	18	42	19	"For example" would be good to support with a citation. (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)	THE COMMENT IS REDUNDANT BECAUSE SECTIONS 2.5 AND 2.7 HAVE BEEN MERGED
853	2	42	20	42	20	The citation for Goudie (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
854	2	42	21	42	21	The citation for Middelton et al. (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
855	2	42	22	42	22	The citation for Jardie et al. (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
856	2	42	29	42	29	"....low-lying...." (GREECE)	DONE
857	2	42	30	42	31	Provide a reference for these observed trends from the Mekong Delta. (Stocker, Thomas, IPCC WGI TSU)	DONE
858	2	42	31	42	31	"These trends are already observable e.g. in the Mekong Delta" : there is no reference (FRANCE)	DONE
859	2	42	35	0	0	Section 275 is too rapid. (BOURRELIER, PAUL-HENRI, AFPCN)	unfortunately we do not have enough space to extend this
860	2	42	35	43	2	This subsection on Science and Technology is not strong, although it is potentially relevant. The reference in the first sentence to the agricultural sector is curious and unsubstantiated. More detailed discussion of early warning systems would be appropriate. A useful reference on technologies for adaptation is Klein, R.J.T., Alam, M., Burton, I., Dougherty,W.W., Ebi, K.L., Fernandes, M., Huber-Lee, A., Rahman A.A., and Swartz, C. (2006): Application of environmentally sound technologies for adaptation to climate change; United Nations Framework Convention on Climate Change Secretariat, Bonn, Germany, Technical Paper FCCC/TP/2006/2. 107 p. (CANADA)	done
861	2	42	38	42	39	Note clear what these two sentences are trying to convey. (Street, Roger B, UK Climate Impacts Programme)	EDITED OUT
862	2	42	39	0	0	Grammatical errors in the sentence (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	EDITED OUT
863	2	42	39	0	0	"However a the beneficiaries ..." This sentence does not make sense (International Petroleum Industry Environmental Conservation Association (IPIECA))	deleted

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
864	2	42	39	42	39	delete "a" before "the beneficiaries" (Stocker, Thomas, IPCC WGI TSU)	EDITED OUT
865	2	42	39	42	41	The meaning is not very clear. (GREECE)	EDITED OUT
866	2	42	42	42	42	"...will depend on..." (GREECE)	EDITED OUT
867	2	42	42	42	42	add "be" in "which will [be] dependent on the..." (Stocker, Thomas, IPCC WGI TSU)	EDITED OUT
868	2	42	42	42	43	Dependent on the ability to apply, but also on the ability of the proponents of the S&T to appropriately convey the S&T. (Street, Roger B, UK Climate Impacts Programme)	HAVE INCLUDED A LIST OF FACTORS IN THE NEW S&T SECTION IN SECTION 2.5 THAT DETERMINE THE KNOWLEDGE TRANSFER PROCESS
869	2	42	43	42	43	The citation for Gisselquist et al. (2002) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
870	2	42	43	42	43	The citation for IAASTD (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
871	2	42	47	42	48	It would be helpful to clarify what is meant by blending of "ecological cautiousness and the creation of eco-technologies with a pro-nature, pro-poor, and pro-women orientation." Further, it might also be helpful to define the terms "ecological cautiousness" and "eco-technologies." (IPCC WGII TSU)	unfortunately we do not have enough space to extend this
872	2	42	53	42	53	The citation for Barnston et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
873	2	42	53	42	53	The citation for Goddard et al. (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
874	2	42	53	42	53	The citation for Stockdale et al. (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
875	2	43	1	0	0	(Changnon and Changnon, 2010) is not in the References list (International Petroleum Industry Environmental Conservation Association (IPIECA))	all references have been checked and corrected
876	2	43	1	0	0	To illustrate the increasing use of climate information in business I would cite the WMO 2008 workshop on Climate change and the offshore industry. WMO (2008), A workshop on "Climate change and the offshore industry, WMO, Geneva, May 2008 : http://www.wmo.int/pages/prog/amp/mmop/OGP_JCOMM_WCRP_workshop_en.html (International Petroleum Industry Environmental Conservation Association (IPIECA))	NOT INCLUDED AS MATERIAL USED COVERS THIS ADEQUATELY AND IS OF THE NON-GREY LITERATURE TYPE, THAT IS THE REFERENCES USED ARE FROM THE PEER REVIEWED LITERATURE
877	2	43	1	43	1	The citation for Changnon and Changnon (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
878	2	43	2	0	0	(van de Walle and Turoff, 2007) is not in the References section (International Petroleum Industry Environmental Conservation Association (IPIECA))	all references have been checked and corrected
879	2	43	2	43	2	The citation for van de Walle and Turoff (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
880	2	43	5	43	5	Should not the focus of this section be on trends? (Street, Roger B, UK Climate Impacts Programme)	Comment relates to an earlier structure
881	2	43	5	44	33	This section on governance would be stronger if there were more clear references to managing the impacts of extreme events and disasters. (CANADA)	Done and dealt with in the new section 2.5
882	2	43	7	43	23	Relation of this text to that within section 2.5 (Street, Roger B, UK Climate Impacts Programme)	REDUNDANT AS HAS BEEN EDITED OUT IN THE MERGER OF SECTIONS 2.5 AND 2.7
883	2	43	11	0	0	are is redundant (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	EDITED OUT
884	2	43	11	43	11	The citation for Ostrom (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
885	2	43	11	43	12	"....will also determine..." (GREECE)	EDITED OUT
886	2	43	11	43	12	delete "are" before "also determine" (Stocker, Thomas, IPCC WGI TSU)	EDITED OUT
887	2	43	15	43	48	Would be good to include references related to the climate risks. (Suarez, Avelino, Institute of Ecology and Systematic, Cuban Environmental Agency)	AN ATTEMPT HAS BEEN MADE TO INCLUDE CLIMATE EVENTS - EVIDENCE IS MAINLY IN THE FORM OF FLOODS
888	2	43	19	43	19	Delete "so called". The term 'developing countries' is used throughout SREX. (Stocker, Thomas, IPCC WGI TSU)	done
889	2	43	26	44	9	These are in total 4 paragraphs with overall a single (!) reference to an underlying study! The assessment text provided here needs to be based and multiple studies and referenced as much as possible to available (hopefully) peer-reviewed literature. In particular as you mention specific "...examples that illustrate..." (page 43, line 34) part of what is discussed in these subsections (Stocker, Thomas, IPCC WGI TSU)	The section has been modified and the respective references to studies are included
890	2	43	27	43	29	The meaning is not very clear. (GREECE)	EDITED OUT

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
891	2	43	36	43	39	Neither of the two sources cited here would be considered academic publications and therefore it is imperative that the authors (and by extension the IPCC) have full confidence in the quality of the data used for this analysis. The 2010 Global Corruption Report is now available on-line (http://www.transparency.org/publications/gcr), it would seem appropriate to note that it explicitly examines risks related to climate change. (CANADA)	The sources are integrated and it is correct that the report is available on the internet (as mentioned now). It definitely is linked to problems in coping and adaptation in combination with the failed state index. Wording crafted more carefully.
892	2	43	36	43	48	Reference(s) needed. (IPCC WGII TSU)	done
893	2	43	39	43	48	This 10-line sentence is too long and unclear. Please rewrite. (Stocker, Thomas, IPCC WGI TSU)	done
894	2	43	41	43	41	It would be helpful to indicate what IDP stands for. (IPCC WGII TSU)	done
895	2	44	2	44	2	"....and assessed...." (GREECE)	EDITED OUT
896	2	44	7	44	7	"....which have..." (GREECE)	EDITED OUT
897	2	44	22	44	33	The citations in this paragraph require substantial revision and attention. Many citations are not provided in the chapter's reference list, or it is unclear what source a citation corresponds to in the reference list. The missing citations must be added to the reference list. Then, all citations must be checked to ensure that they can be unambiguously linked to a reference in the reference list. (IPCC WGII TSU)	deleted
898	2	44	27	44	27	"....as well as the recognition...." (GREECE)	EDITED OUT
899	2	44	34	44	34	What are the trends in role of civil society organizations and NGOs in governance? (UNITED STATES OF AMERICA)	deleted
900	2	44	36	0	0	What is meant by 'gradual climate change'? Why is this term needed? Surely 'climate change' as defined by the IPCC covers what you mean here, without needed to add 'gradual'. (Stocker, Thomas, IPCC WGI TSU)	THIS WAS REMOVED
901	2	44	36	44	36	This should include the influence of changing climate on variability and extremes. (Street, Roger B, UK Climate Impacts Programme)	THIS SECTION WAS REMOVED BECAUSE THIS ISSUE IS DEALT WITH IN CHAPS 3 AND 4, SO THE COMMENT NO LONGER APPLIES
902	2	44	38	44	45	In this paragraph, there are two usages of "high confidence" that should be italicized if they are being used per the confidence scale in the AR5 Guidance Note on Treatment of Uncertainties. (IPCC WGII TSU)	done
903	2	44	47	0	0	Table 2-7: These observed and projected climate change impacts are all related to Groundwater. I don't find this table useful. Again, not clear why chapter 2 is wasting page-space repeating observations and projections from the AR4. Table 2-7 should be deleted. (Stocker, Thomas, IPCC WGI TSU)	removed
904	2	45	1	45	3	Table 2-7, despite its caption, captures only a small subset of observed and projected climate change impacts with a very strong focus on groundwater. The source within the AR4 should be identified (e.g., SPM, Synthesis Report, or specific chapter of WGII report). (CANADA)	removed
905	2	45	8	45	11	This statement conflicts with the description of adaptation as an iterative process (Chapter 1) and sends the message that more science is needed (improved understanding of extreme events and disasters is a pre-requisite) before practical actions and policies can be implemented. This message is not consistent with the main findings of the AR4 or many other major reports. (CANADA)	This section is just related to the need to assess vulnerability and risk (using different approaches) as a relevant and necessary step for decisionmaking
906	2	45	13	45	18	The report puts forward a "modern vision of disaster risk management". There are, however, no references that support this "modern vision". There are actually plenty of "visions" regarding disaster risk management, which is enough to afford a review with several pages. Meanwhile, the current trend is to propose "risk governance" which is superior to risk management and there are also several conceptual models for that (e.g. IRGC framework). The components provided by the report are not well explained. For instance, why disaster management is a component of disaster risk management, and what is their relationship? I believe that the authors put this "modern vision" to start the section on risk identification and assessment. If it is necessary, then at least a brief but comprehensive review should be provided. Or the authors may just remove this part, as it seems not so important in this section. (CHINA)	Rephrased. It is important to define the context of risk management and why risk identification is a relevant component and step for DRM. The difference of disaster risk management and disaster management is obvious, because it is not the same to focus the disaster itself than its latency to develop anticipatory actions.
907	2	45	13	45	21	I would expect consideration of how what is presented here relates to risk identification and assessment within the climate change community (e.g., Willows and Connell, 2003) (Street, Roger B, UK Climate Impacts Programme)	This report presents the views of CCA and DRM but it is mainly to consider the DRM approaches. This is a special report on <u>managing risks to improve CCA</u> .
908	2	45	13	45	28	May also wish to consider http://www.ukcip.org.uk/essentials/adaptation/managing-adaptation/ in terms of risk identification and assessment. (Street, Roger B, UK Climate Impacts Programme)	There are several techniques and models to assess risk. This needs registration.
909	2	45	13	53	52	There should somewhere be a sub paragraph. "Risk transfer" like § 2.8. Risk identification and Assessment in this part of the chapter, to integrate several general introductory elements which appear too late in next chapters (see for instance remarks 37, 38 and 39 below. (NUSSBAUM, Roland. Mission Risques Naturels)	Risk transfer usually is related to financial protection that includes risk transfer and retention. It will be addressed in other chapters
910	2	45	23	45	24	italics for ex ante, ex post... need to make sure this is consistent with the style guide. (Stocker, Thomas, IPCC WGI TSU)	They are in latin.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
911	2	45	33	45	38	It is difficult to understand the main point being made in the first two introductory sentences, largely because it is not clear what "it" refers to and because the two sentences seem to repeat similar information. (IPCC WGII TSU)	Done
912	2	45	33	45	41	This is an important paragraph. The new formats of communication also have to recognize and resonate with different ways of experiencing risk (viscerally or cognitively, as Weber et al. 2006 point out). This suggests that information may need to be communicated through art, stories, movies, etc. more than through graphs, statistics and abstractions. (OBrien, Karen, Department of Sociology and Human Geography)	Risk communication means to take into account the "language" of the decision maker. It is not the same for a mayor, than for a ministry of finance or to the community. The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
913	2	45	37	45	37	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	done
914	2	45	43	46	19	Somewhere in this chapter (and perhaps here in this section) it should be acknowledged that there is good evidence that reactive anticipatory adjustments result when a group identified as vulnerable (e.g. elderly/heat waves) do not perceive themselves as vulnerable. Reference: Abrahamson, V., Wolf, J., Lorenzoni, I., Fenn, B., Kovats, R.S., Wilkinson, P., Raine, R. (2009) "Perceptions of heatwave risks to health: interview-based study of older people in London and Norwich, UK", Journal of Public Health 31(1): 119-126. AND Wolf, J., Lorenzoni, I. and Few, R., Abrahamson, V., Raine, R. (2009) "Conceptual and practical barriers to adaptation: an interdisciplinary analysis of vulnerability and adaptation to heat waves in the UK" In: Adger, W.N., Lorenzoni, I., O'Brien, K. (eds.) Adapting to Climate Change: Governance, Values and Limits. Cambridge University Press, p. 181-196. (Wolf, Johanna, Memorial University of Newfoundland)	Some of these issues are included in 2.6.3
915	2	45	43	46	31	The bullet lists in these two paragraphs either should be fused or further distinguished. As is, they seem somewhat redundant, both focusing on understanding and knowledge of disaster risk. (IPCC WGII TSU)	All are considered different and relevant
916	2	46	3	46	3	It seems better to say "how climate change affects hazards" rather than "how climate change impacts are transformed into hazards." (IPCC WGII TSU)	Done
917	2	46	17	0	0	What is the list of references corresponding to ? (International Petroleum Industry Environmental Conservation Association (IPIECA))	The previous set of paragraphs.
918	2	46	17	46	17	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
919	2	46	17	46	19	how does one need to interpret this list of references given here? Is the bulletized list above synthesized from all these references? Or is the bulletized list taken from page 15 of the ICSU-LAC, 2010, report (where the other cited studies were included?). Please clarify. It would be useful to be more specific about which study/reference provides support for what bullet. (Stocker, Thomas. IPCC WGI TSU)	Bullets have been obtain from the all references included
920	2	46	18	46	18	The citation for Biermann et al. (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Done
921	2	46	22	46	22	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
922	2	46	25	0	0	Identification phase should also include potential tipping points (International Petroleum Industry Environmental Conservation Association (IPIECA))	Deleted
923	2	46	34	0	0	Section 2.8.2. Citations in this section. Throughout the section, underlying literature needs to be more thoroughly cited, in a more balanced and comprehensive manner. One chapter author is cited repeatedly throughout the section, which makes the section seem more of an introduction to this person's work than a thorough assessment of the entire body of relevant literature. (IPCC WGII TSU)	There are several authors in the section. Certainly, there are not many good examples of vulnerability and risk evaluations using integrated and comprehensive approaches using indicators.
924	2	46	34	0	0	Section 2.8.2. Clarity of language. The writing in this section needs to be carefully considered. Syntax and paragraph composition currently strongly hinder ready understanding of key points being made. (IPCC WGII TSU)	It was revised by native English speaker, but it could be reviewed again by style editor
925	2	46	34	52	30	To Chapter 2 paragraph 2.8.2 (Global Climate Observing System Steering Committee)	OK
926	2	46	34	52	30	One of the impliable disaster index can be aggressiveness degree of dangerous weather events. In (Kobysheva, 2008) the aggressiveness degree of various weather events was estimated, taking into account the relative value of their physical impacts, duration and scope. The pressure of strong wind (wind speed more than 25 m/s) was taken as a basis. Thereby other weather events had more or less values of aggressiveness degree. These indeses were included in the risk assessment for infrastructure in several districts on the European part of the Russian Federation. (Global Climate Observing System Steering Committee)	This would be more a index of hazard than of vulnerability and risk

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
927	2	46	34	52	30	Section 2.8.2 Taking future climate into account in risk assessments – an approach from Norway: In 2008, the Norwegian Climate Adaptation Programme issued a report on expected sea levels, including storm surges, in Norway for the years 2050 to 2100. In following up this report, the programme secretariat has devised a three step approach: Step 1: Risk and vulnerability analysis related to the current sea level and storm surge level. This gives an indication of the current risk factors for existing buildings and structures, as well as for planned developments, independent of future climate change. Step 2: Overview of the consequences of rising sea levels and future storm surges. This involves visualizing different sea levels on a thematic map, incorporating local knowledge about wave height, sea currents, wind directions and topography. It identifies areas that will definitely be flooded on a permanent basis, those likely to be frequently flooded, and those that will be affected by storm surges. The overall picture can be compared with maps showing existing buildings, infrastructure and installations in the affected areas. Step 3: Definition of required measure. Both existing buildings and infrastructure and potential new areas to be developed should be considered. Strategies might involve relocation, technical installations or retrofitting, warning systems and evacuation procedures. Further, Norway's Planning and Building Act enables the definition of zones that require special attention. Building restrictions can be applied to such areas for which local authorities find it necessary to carry out more thorough risk assessments, or where special building codes may apply in order to maintain safety (NORWAY)	This case can be considered as an example of physical risk assessment. General explanation of physical risk has been made
928	2	46	36	46	36	"Risk analysis was an issue of interest in Babylonian times already" : there is no reference (FRANCE)	Removed
929	2	46	36	46	36	The first sentence of this paragraph either needs to be cited and expanded or deleted. (IPCC WGII TSU)	Removed
930	2	46	43	46	48	Would have also expected referent to the IPCC AR4, WGII chapter 2 (Street, Roger B, UK Climate Impacts Programme)	Done
931	2	46	43	46	48	For these two "schools of thought" for defining disaster risk, further clarification would be desirable. For the first school of thought, it might be helpful to specify, first, how broadly this definition of risk is used and, second, if it can be interpreted in ways compatible with the second definition--for example, in the first school of thought, are decisions effectively creating hazards that interact with vulnerable exposed elements, which lead to loss? For the second school of thought, is this definition of risk used more broadly beyond the disaster risk research community? It seems that it is, for example, for climate change risk assessment more generally, for securities assessments, etc. Finally, it would be good to link this discussion of risk definitions to Chapter 1, such as Sections 1.1.2.2 and 1.3.1 and 1.3.2. (IPCC WGII TSU)	The intention of this paragraph is to explain that there are two main different views of risk. The second perspective is related to DRM and CCA.
932	2	46	44	46	48	is the "disaster risk community" meant to represent the "second school of thought"? If so, please write this given that "two main schools of thought" are announced. (Stocker, Thomas, IPCC WGI TSU)	The intention of this paragraph is to explain that there are two main different views of risk. The second perspective is related to DRM and CCA.
933	2	46	46	46	48	And the implications are for decision and policy making? (Street, Roger B, UK Climate Impacts Programme)	Usually risk is evaluated for decisionmaking
934	2	46	48	46	48	Typo in citation: For UN/ISDR (2004), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Done
935	2	47	1	0	0	We recommend including a concrete example of hazard vulnerability assessments at the local level. Suggested example: "A challenge in engaging communities in vulnerability assessments is communicating their knowledge to decisionmakers. In the context of coastal Mexico, Krishnamurthy et al. (2011) developed a Geographic Information Systems (GIS) based model to quantify and assess household-level vulnerability to hurricanes through a household vulnerability index with data collected through focus groups. The results showed that infrastructural weaknesses were considered to be the most important explaining vulnerability to hurricanes in the community. This type of analysis can help communicate local perceptions of risk to policymakers and engage vulnerable communities in the decision making process through visual media such as maps." Reference: Krishnamurthy, P.K., Fisher, J.B. and Johnson, C.A. (2011) 'Mainstreaming local perceptions of hurricane risk into policymaking: A case study of community GIS in Mexico'. Global Environmental Change. 21(1): 143-153. (World Food Programme (WFP))	Removed. Example of evaluation is included in Chapter 5
936	2	47	1	47	25	Although "local people often have a much more sophisticated insight into many of these determinants of risk than outsiders", they may don't have enough information, especially (in the case of floods) about what is happening far away upstream. (FRANCE)	Rephrased
937	2	47	3	47	23	The information in this box is more relevant for Chapter 5. (IPCC WGII TSU)	Removed
938	2	47	11	0	0	Too much affirmative : local interests lead often to risk denial. (BOURRELIER, PAUL-HENRI, AFPCN)	Rephrased

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
939	2	47	13	47	15	The statement that risk assessment "must be locally-based..." for risk management to be effective should be rephrased to avoid possible interpretation of the sentence as being prescriptive. The final sentence of the paragraph could similarly be improved. Additionally, the discussion on pages 49 through 51 emphasizes the importance of integrated and holistic approaches that, among other things, integrate across scales--this discussion therefore seems to contradict a sole focus on locally based risk assessment. (IPCC WGII TSU)	Rephrased
940	2	47	28	47	28	For ISO (2009a), there is no reference in the chapter's reference list from this authors and year that carries the letter 'a'. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
941	2	47	46	47	48	It might be necessary to explain the terms "epistemic" and "aleatory" uncertainties. Check the use of italics for non-text unrelated to formalized uncertainty language. (Stocker, Thomas, IPCC WGI TSU)	These words are used widely by experts in probability. In the case of interested lay persons the intention is to invite them to look for extended explanations.
942	2	47	46	47	54	The discussion of probabilistic risk assessment should be linked to the relevant text in Chapter 1 (Sections 1.3.1 and 1.3.2). (IPCC WGII TSU)	It is linked
943	2	47	47	0	0	"forcast" should be "forecast" (Simiu, Emil, National Institute of Standards and Technology)	Done
944	2	48	2	48	2	"....takes account of the hazards..." (GREECE)	Removed
945	2	48	3	48	3	add "into" in "that takes [into] account" (Stocker, Thomas, IPCC WGI TSU)	Removed
946	2	48	12	48	30	First, citations need to be provided for this paragraph and the approach it describes. Second, the presentation in this paragraph would benefit from further explanation of whether this approach is one of many or is used by everyone--and generally how the described approach fits into the literature more broadly. (IPCC WGII TSU)	Removed
947	2	48	12	49	2	these paragraphs are hard to read and understand due to poor english. Some of the sentences and statements don't make sense, in particular the part starting with "For Instance..." (line 13ff) and the parts of the first bullet "hazard assessment" (line 19ff). Please revise and correct. (Stocker, Thomas, IPCC WGI TSU)	Removed
948	2	48	27	48	28	Not sure that this is clear. Risk as defined and used within the climate change community considers likelihood and vulnerability and not just potential impacts (exposure and sensitivity) or consequences. (Street, Roger B, UK Climate Impacts Programme)	Removed
949	2	48	27	48	30	The following can be added: " It comprises understanding, evaluating and interpreting the perceptions of risk and societal tolerances to risk to inform decisions and actions in the risk management process (FLOODsite, 2005)" (GREECE)	Removed
950	2	48	36	48	36	What's the "stratification of risk"? Please explain. (Stocker, Thomas, IPCC WGI TSU)	Using Loss exceedance curves in DRM stratification refers to levels of risk. Risk reduction measures depends of these defined levels by decision makers. One recent example is GAR 2011 (UNISDR 2011)
951	2	48	39	48	41	This describes one way not the only way of looking at probabilistic risk assessment. The evolution has not just come form the insurance industry. (Street, Roger B, UK Climate Impacts Programme)	May the reviewer is right if we speak about harzads but not about risk
952	2	48	44	48	46	(1) does it make sense to call "indicators" or "indices" "techniques"? (2) what are harder, what softer aspects of risk -- needs more explanations, otherwise delete. (Stocker, Thomas, IPCC WGI TSU)	They are at present important methods based in physical risk assements and social/cultural assesments. Rephrased
953	2	48	44	49	2	The report touches upon a very critical point in risk assessment today. If the risk is defined as in Chapter 1, then the probabilistic approach will be the appropriate approach to assess the risk. In fact, however, the UN has provided the equation of Risk=Hazard*Vulnerability, which is actually the risk indicator or index approach mentioned in this manuscript. What the UN approach derives will be a risk index, but its inherent meaning is not the risk. At least, risk is a two-dimensional metric {<probability, consequence>}. Risk index could be a projection of risk to the ordinal scale, which simplifies its expression and helps decision-making. Box 2-7 shows a very nice example, in which the event has been fixed to be with PML of 500 years. The suggestion would be, if possible, that it should try to distinguish the two approaches from the terminology. Risk assessment is to evaluate risk {<probability, consequence>}, but what the risk indicator/index approach (or the UN approach) has derived is not the full metric of risk. In the past years, a large number of studies have been carried out with the UN approach, saying that risk assessment is carried out for some disaster in some region, and come up only with single figures. Particularly, most of them are just piling up indicators (either physical and geographical or socio-economic) to derive one comprehensive figure, without carefully considering the use and meaning of the risk index. In this sense, it would be great that some coinage is provided to the risk indicator approach to take it away from "risk assessment", leaving the one that only refers to the risk metric {<probability, consequence>}. (CHINA)	Both approaches are described and mixed in the examples included in one box, to explain that depending on the type of decionmaking they can be useful.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
954	2	49	6	0	0	Box 2-7: Is this detail on DDI crucial for SREX? Why is this index singled out and elevated to a box? Is DDI used again in other chapters? If not, suggest this box is not necessary. (Stocker, Thomas, IPCC WGI TSU)	This is good example how to evaluate risk in a "language" understandable by a Ministry of Finance, using PMLs
955	2	49	6	0	0	Box 2-7. If the Disaster Deficit Index is calculated through a simple equation (e.g., a ratio of potential losses to available funds), it would greatly help the reader's understanding to provide the equation. Additionally, Probable Maximum Loss is not described in the box text although it appears in Figure 2-4. (IPCC WGII TSU)	Explanation of the PML exceeds the scope of the box.
956	2	49	8	49	8	what is meant here by "the balance of each nation" -- what balance do you have in mind. Need to be more specific, this could mean anything. (Stocker, Thomas, IPCC WGI TSU)	National Balace is the term used by government accountants (incomes and expenditures). This is the reason why the DDI is important for the evaluation of contingent liabilities
957	2	49	8	49	19	It would be helpful to indicate what goes into the calculation of the metric. (Street, Roger B, UK Climate Impacts Programme)	Explanation of the PML exceeds the scope of the box.
958	2	49	25	49	32	The following references can be added for DDI: "Freeman et al., 2002; Ordaz and Santa-Cruz, 2003; Carreño et al., 2007; Cardona et al., 2008; Peduzzi et al., 2009) (GREECE)	They are included in the more recent reference that includes the last assesement of the countries
959	2	49	27	49	27	It should be left to the Ministries of Finance and Economics to decide if they find Figure 2-4 interesting (not interested!) and useful! Delete this sentence. (Stocker, Thomas, IPCC WGI TSU)	DDI has been used broadly by Ministries of Finance of the Americas, the IDB and the WB, and it has been proved to be useful in most countries of the region to define risk reduction and transfer strategies. This is the reason it has been included in the box
960	2	49	32	0	0	It is not acceptable for a second order draft not to contain all the information that the writing team intends to include as part of the chapter. Adding new material following government and expert review compromises the review process. (CANADA)	References about this include details that are too many to be included in the box
961	2	49	32	49	32	A nice -peer reviewed- application of calculating governments' vulnerability and risks focussing on Mexico may be found in: - Cardenas, V., Hochrainer, S., Mechler, R., Pflug, G., Linnerooth-Bayer, J. (2007). Sovereign financial disaster risk management: the case of Mexico. Environmental Hazards 7: 40-53. It would also be worthwhile and important to go back to the original research underlying and preceding the construction of the DDI by Cardona et al., such as described in the following papers and books (please excuse the self referencing, but I think this is important and potentially helpful to better identify this research strand and where it came from): -Freeman, P. K., L. A. Martin, J. Linnerooth-Bayer, R. Mechler, G. Pflug and K. Warner (2003). Disaster Risk Management: National Systems for the Comprehensive Management of Disaster Risk and Financial Strategies for Natural Disaster Reconstruction. Inter-American Development Bank, Washington DC. -Mechler, R. (2004). Natural Disaster Risk Management and Financing Disaster Losses in Developing Countries, Verlag für Versicherungswirtschaft, Karlsruhe. -Mechler, R., J. Linnerooth-Bayer, S. Hochrainer, G. Pflug (2006). Assessing Financial Vulnerability and Coping Capacity: The IASA CATSIM Model. In J. Birkmann (ed.). Measuring Vulnerability and Coping Capacity to Hazards of Natural Origin. Concepts and Methods. United Nations University Press, Tokyo: 380-398. -Hochrainer, S. (2006). Macroeconomic Risk Management against Natural Disasters. German University Press (DUV), Wiesbaden. -Mechler, R., Hochrainer, S., Pflug, G., Lotsch, A. with Williges, K. (2009). Assessing the Financial Vulnerability to Climate-Related Natural Hazards. Background Paper for the Development and Climate Change World Development Report 2010. Policy Research Working Paper 5232. World Bank, Washington, DC. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	The main references of DDI (IDEA, IDB and Cardona, published by the IDB) include the reference to a work developed by Paul Freeman et al. as antecedent of DDI. However, that work never developed an index for the countries. It described how to evaluate a financial gap as result of the sustraction of the country's available resources from a potential loss. This is similar but not the same because, in addition, the techniques and methods to evaluate the losses and the available resources are completely different. Then it is difficult to say and include here that DDI was developed by Paul Freeman et al.
962	2	49	32	49	32	Add discussion? (IPCC WGII TSU)	References about this include details that are too many to be included in the box
963	2	49	37	49	38	What does it mean when you state "Physical or material reality have a harder topology"? And how is this relevant in the context of SREX? (Stocker, Thomas, IPCC WGI TSU)	Physical risk (potential physical damage) is different than potential social effects. This is very relevant when the discussion is related to vulnerability and risk assessment.
964	2	49	37	49	39	First, Munda (2000) is not listed in the reference section for the chapter. Second, the discussion of topology is somewhat difficult to interpret. It is not clear why historical information cannot also be quantitative. (IPCC WGII TSU)	Included. The terminology is used to in social sciences. Clearly historical reality is desribed by political sciences and sociology using different approaches tha numbers.
965	2	49	39	49	39	The citation for Munda (2000) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
966	2	49	41	50	4	Please provide support for the statement that "an integrated and interdisciplinary focus can more consistently take into account...". While this makes sense, it is necessary to support this statement, and similar statements repeated several times hereafter (e.g., in the call for "holistic approaches" on page 49, lines 48ff, or on page 49/50, lines 54-1, etc.), with scientific evidence. (Stocker, Thomas, IPCC WGI TSU)	Because these methods are dealing with social, cultural, governance "soft" variables and their interactions (non-linear and complex). This is not possible at present with available physical risk assessment techniques. The holistic approaches have been applied in several countries and cities worldwide with interesting results for decisionmaking.
967	2	50	2	50	4	See earlier cited reference Preston and Stafford Smith 2009 (Street, Roger B, UK Climate Impacts Programme)	It makes similar reflections but it can not considered a proposal of a method to address this type of objectives
968	2	50	6	50	6	It is unclear what source Turner et al. (2003) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
969	2	50	11	50	11	missing references!!! (Stocker, Thomas, IPCC WGI TSU)	Rephrased
970	2	50	11	50	11	Could include Willows and Connell, 2003 as a reference, as well as IPCC AR4, WGII, chapter 2 (Street, Roger B, UK Climate Impacts Programme)	Rephrased
971	2	50	11	50	11	Yes, please add references. (IPCC WGII TSU)	Rephrased
972	2	50	13	50	13	It is unclear what source Turner et al. (2003) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
973	2	50	21	50	21	"...between selected factors..." (GREECE)	Rephrased
974	2	50	27	50	27	It is unclear what source Cardona (1999) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
975	2	50	27	50	27	For Cardona and Hurtado (2000a), there is no reference in the chapter's reference list from these authors and year that carries the letter 'a'. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Done
976	2	50	27	50	27	It is unclear what source Turner et al. (2003) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
977	2	50	28	50	28	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grey literature list
978	2	50	34	50	38	Are the "hard" and "soft" comparisons here reflective of commonly used terms in the literature? Also, are they at all linked to the hard and soft topology given on the previous page? If these terms are not broadly used in the literature, it may be best to remove them, as it's not clear that they substantively add to understanding. (IPCC WGII TSU)	They are just used in the literature to make the difference in risk assessment methods based on physical probabilistic analyses and holistic analyses based on indicators
979	2	50	43	0	0	Box 2-7: Is this detail on PVI crucial for SREX? Why is this index singled out and elevated to a box? Is PVI used again in other chapters? If not, suggest this box is not necessary. (Stocker, Thomas, IPCC WGI TSU)	This is good example how to evaluate risk in a "language" understandable by a Ministry of Planning, or Environment, or Agriculture, or Social Development, or Health, using indicators
980	2	50	43	0	0	Box 2-8. The description of the Prevalent Vulnerability Index, although detailed, is somewhat opaque. For example, is this index generated through a large equation based on mentioned indicators and data sources? Does a higher PVI correlate with higher vulnerability? Is there any way of presenting or describing the involved calculation more directly to aid understanding of the relative PVI and component values? (IPCC WGII TSU)	Detailed explanation exceeds the scope of the box. However, the details can be found in the references included.
981	2	51	2	51	2	"last four periods" -- what periods are you referring to here? (Stocker, Thomas, IPCC WGI TSU)	Rephrased
982	2	51	8	51	8	Vulnerability and therefore risk are also the result of inadequate... I would note that these are contributing factors but not the only ones. (Street, Roger B, UK Climate Impacts Programme)	Done
983	2	51	8	51	10	avoid unspecified and unsupported judgements like "adequate" and "inadequate" (Stocker, Thomas, IPCC WGI TSU)	Done
984	2	51	22	51	22	Undertaking a vulnerability assessment during an event can be difficult, but the need to collect data and information to support future vulnerability, impact and adaptation assessments is crucial. (Street, Roger B, UK Climate Impacts Programme)	Yes, it is difficult.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
985	2	51	26	51	27	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grev literature list
986	2	51	35	51	43	These sentences without citations seem to represent the findings or conclusions of the section's assessment of the literature. Ideally, calibrated uncertainty language, such as summary terms for evidence and agreement, should be used to characterize the degree of certainty in these conclusions, per the AR5 Guidance Note on Treatment of Uncertainties. (IPCC WGII TSU)	A second paragraph has been included after this one and it has been selected for ES using the terms suggested.
987	2	51	38	51	38	what's the "issue of tipping points"? This is very vague. Suggest to be more specific and to at least provide examples of what you have in mind. We suggest to refer to section 3.1.7 Surprises in Chapter 3. (Stocker, Thomas, IPCC WGI TSU)	Done
988	2	51	40	51	41	Also integrative and consistent goals. (Street, Roger B, UK Climate Impacts Programme)	Done
989	2	52	2	52	2	The citation for Cardona (2003b) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Corrected. 2004
990	2	52	18	52	19	... and conducted by appropriate experts, including consultants. Not sure I understand 'At portfolio level'. (Street, Roger B, UK Climate Impacts Programme)	Deleted
991	2	52	19	52	19	missing text; sudden end of section: "at portfolio level....."? (Stocker, Thomas, IPCC WGI TSU)	Deleted
992	2	52	19	52	19	Sentence not complete. (IPCC WGII TSU)	Deleted
993	2	52	25	52	25	The citation for Van Aalst and Burton (1999) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Done
994	2	52	25	52	25	The citation for Van Aalst and Burton (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Done
995	2	52	39	52	39	The citation for Grothmann/Patt (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Done
996	2	52	43	52	43	It is unclear what source Turner et al. (2003) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Done
997	2	52	44	52	44	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	The reference is a report of ICSU in Latin America and the Caribbean. Versions in Spanish and in English have been uploaded in the grev literature list
998	2	52	50	52	50	The citation for DKKV et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Done
999	2	52	50	52	51	delete note to reference DKKV (Stocker, Thomas, IPCC WGI TSU)	Done
1000	2	52	50	52	51	Take out comment. (IPCC WGII TSU)	Done
1001	2	52	53	52	54	Effectiveness is only one criteria. I would prefer that this refer to an adaptation assessment as it could be either appraisal (ex ante implementation) or evaluation (ex poste implementation) (Street, Roger B, UK Climate Impacts Programme)	This ia a general statement.
1002	2	52	53	53	10	This is an important paragraph, but it requires supporting references. (CANADA)	Done
1003	2	53	1	53	10	Reference(s) needed. (IPCC WGII TSU)	Done
1004	2	53	4	53	6	Please provide references which show failure of risk communication in Katrina and the Pakistan Floods. (Stocker, Thomas, IPCC WGI TSU)	Done
1005	2	53	4	53	10	These statements "the failure of risk communication has been revealed in past disasters...", "Effective and people centered risk communication is therefore a key...", etc. must be supported by evidence from peer-reviewed studies. If this is not possible to provide references and/or evidence for these assessment results, they need to be removed. (Stocker, Thomas, IPCC WGI TSU)	Done
1006	2	53	12	53	35	The discussion of the role of the mass media includes a couple of statements that require revision and need to be supported by evidence. For example, what are the statements that "Communication within society is more and more organized according to the rules of the mass media" or that "Mass media do not reflect or echo reality" based on? Where is the evidence for this? In fact, these are pretty strong statements and include accusations to the media that are inappropriate. Such general and overly simplified statements should not be part of a careful scientific assessment and need to be deleted unless clear evidence in support can be provided. (Stocker, Thomas, IPCC WGI TSU)	Done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1007	2	53	12	53	35	The citations in this paragraph require substantial revision and attention. Many citations are not provided in the chapter's reference list, or it is unclear what source a citation corresponds to in the reference list. The missing citations must be added to the reference list. Then, all citations must be checked to ensure that they can be unambiguously linked to a reference in the reference list. (IPCC WGII TSU)	Done
1008	2	53	15	53	15	This categorical statement without citation needs to be qualified. As is, it suggests a simplistic overstatement. (IPCC WGII TSU)	Rephrased
1009	2	53	28	53	28	"...might also lead..." (GREECE)	This is third person of singular
1010	2	53	37	53	57	As mentioned earlier effectiveness is only one criteria (Street, Roger B, UK Climate Impacts Programme)	It is making reference only to effectiveness
1011	2	53	43	53	49	While it is desirable to include boxes that link individual chapters of the report, these should be in place before the second order draft is sent for review. Adding new material following government and expert review compromises the review process. (CANADA)	Deleted
1012	2	53	45	0	0	Box 2-10: As per IPCC Policies and Procedures, all information contained in the chapters of an IPCC Report must undergo formal expert review. Therefore, new issues beyond those covered in the Second Order Draft can not be introduced in preparation of the final draft of the report. Transferring material that is currently in the SOD of Chapter 9 into here would be fine, but introducing an entirely new Box based on new material that can not be reviewed is not an option. (Stocker, Thomas, IPCC WGI TSU)	Deleted
1013	2	53	45	0	0	Box 2-10. When developed, this box should also coordinate with other chapters where early warning systems are discussed, in addition to chapter 9. (IPCC WGII TSU)	Deleted
1014	2	53	45	53	45	Would also suggest including http://www.climate-science.gov/Library/sap/sap5-2/final-report/sap5-2-final-report-all.pdf (Street, Roger B, UK Climate Impacts Programme)	Deleted
1015	2	54	1	54	1	Is this not also looking at enhancement of vulnerability? (Street, Roger B, UK Climate Impacts Programme)	The section on risk accumulation underlines that risk accumulation can lead to an exacerbation and increase of inequality and marginalization - see first sentence. That means also risk accumulation is a key topic in order to understand drivers of vulnerability - which reveal itself in processes, such as marginalization or inequality and to improve as well the understanding of the determinants of risk. Also the example given with the temporary shelters after Hurricane Mitch is a good illustration how a sequence of hazards and respective disaster response mechanism can lead to an accumulation of risk. These processes provide insights into another type of factors that shape and determine risk.
1016	2	54	1	55	26	This content is strong, but would benefit from additional references. Overall, the concept of risk accumulation deserves greater profile in the chapter and the report. (CANADA)	We agree that the issue of risk accumulation is an important subject, therefore this part was not shortened and is still part of the chapter. Additional references were not added in order to avoid further increase in text length.
1017	2	54	3	0	0	If watchful when risks accumulate progressively, it is possible to react in time. (BOURRELIER, PAUL-HENRI, AFPCN)	Yes - we agree and therefore we outline also the importance of assessing risk and vulnerability before, during and after disasters.
1018	2	54	5	54	6	Would this not also pertain to changes in climate (including variability and extremes) where thresholds are exceeded? (Street, Roger B, UK Climate Impacts Programme)	In a very broad sense this would also include issues and thresholds of climate variability, however, the risk accumulation here refers mainly to both increases in vulnerability and reduced societal response capacities as well as e.g. A higher frequency in hazard events, such as illustrated with the example of Hurricane Mitch and the earthquake risk. The key emphasis focuses on the nexus between development and risk as well as links between disasters - this is not similar to links between hazards or climatic stressors/hazards. Therefore, the broader definition used "gradual build-up of disaster risk" is correct from our perspective.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1019	2	54	5	54	14	Please provide references for the "why climate change poses such a threat to humanity and ecosystems" -- what's this based on? (Stocker, Thomas, IPCC WGI TSU)	Section has been modified and the respective sentence part has been removed. In general climate change would affect both the hazard component and the vulnerability of people. However, the explanation of the former sentence would take to long - therefore the sentence was removed and formulated differently.
1020	2	54	10	54	10	It is unclear what source Wisner (2001) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	all references have been checked and corrected
1021	2	54	16	54	17	Would this also include eroding adaptive capacity, enhancing sensitivities and increasing exposure? (Street, Roger B, UK Climate Impacts Programme)	Correct - this issue has been added in order to be more comprehensive in the assessment
1022	2	54	19	54	20	The citation for Pelling and Satterthwaite (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	all references have been checked and corrected
1023	2	54	23	54	24	Would this not also include other events that by themselves are not disasters (e.g., those where thresholds are exceeded)? (Street, Roger B, UK Climate Impacts Programme)	Yes - in general the risk accumulation would pass a certain threshold before a disaster would occur. However, the present wording does not mean that all the processes above will lead to a disaster, rather the text underlines that these processes are important factors of the accumulation of disaster risk - not the accumulation of disasters.
1024	2	54	43	54	46	By relevant, is the concept of informative also being captured? (Street, Roger B, UK Climate Impacts Programme)	It is not clear to us what the review comment exactly implies. The sentence the comment refers to deal with the challenges of the science policy interface and these are important aspects of the "Barriers to Overcome" (see heading of the former 2.9.2)
1025	2	54	49	54	50	From a vulnerability, impacts and adaptation perspective there is the movement away from the paradigm of predict, optimise and relax to one that is assess, adjust and review. (Street, Roger B, UK Climate Impacts Programme)	This is an important point. The authors therefore included a sentence that underscores that disasters are a product of parallel developments - this also means that the exact prediction of such disasters is more complex compared for example to the prediction of specific hazards, such as floods.
1026	2	55	4	55	4	It is unclear what source ICSU-LAC (2010) corresponds to in the chapter's reference list, given multiple references for this author and year in that list. Please revise the citation so that its corresponding reference is unambiguous. (IPCC WGII TSU)	Part has been taken out.
1027	2	55	8	55	9	Why limit to strongly gradual climate change? Changes in variability and extremes associated with changes in climate should also be referenced. (Street, Roger B, UK Climate Impacts Programme)	Part has been taken out.
1028	2	55	8	55	13	These two sections (the first one in particular), with added references to the scientific literature to support the statements and conclusions, would nicely fit into the Introductory part of Chapter 2...? (Stocker, Thomas, IPCC WGI TSU)	Part has been taken out.
1029	2	55	8	55	26	These paragraphs seem to represent the findings or conclusions of the chapter's assessment of the literature. Ideally, calibrated uncertainty language, such as summary terms for evidence and agreement or levels of confidence, should be used to characterize the degree of certainty in these conclusions, per the AR5 Guidance Note on Treatment of Uncertainties. (IPCC WGII TSU)	Part has been taken out.
1030	2	55	29	0	0	Research gaps - A huge gap is exploring the gender mortality in natural disasters and its causes, excluded men and women's vulnerability and coping strategies. There is a striking lack of research on gender and disasters – it is accepted that women are 'disproportionately affected' but the analysis often goes little beyond this. The lack of disaggregated data is severely limiting and this has got to be addressed. Profiling should include disaggregated data by sex, age, ethnicity and other exclusion factors specific to the context. (Hillier, Debbie, Oxfam)	Part has been taken out.
1031	2	55	29	55	29	Do you have any recommendations on how to fill the research gap? (UNITED STATES OF AMERICA)	section on research gaps has been removed
1032	2	55	31	0	0	Section 2.10: Chapter 2 is far too long and exceeds any planned page allocation. We therefore strongly recommend that this section on 'Research Gaps' is removed. The text contained in this section does not appear to be the result of an expert assessment, is very general, and does not add significant value to the chapter. (Stocker, Thomas, IPCC WGI TSU)	section on research gaps has been removed
1033	2	55	50	55	51	The citation for Dessai et al. (2009) is not in the chapter reference list. (IPCC WGII TSU)	section on research gaps has been removed
1034	2	55	50	55	51	The citation for Dessai et al. (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	section on research gaps has been removed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1035	2	56	0	78	0	Chicken, J. C. and T. Posner 1998: The Philosophy of Risk, Thomas Telford. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1036	2	56	0	78	0	Crichton, D., 1999: The Risk Triangle, pp. 102-103 in Ingleton, J. (ed.), Natural Disaster Management, Tudor Rose, London. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1037	2	56	0	78	0	DETR, 1999: A better quality of life - the UK strategy for sustainable development, Department of the Environment, Transport and the Regions, Marsham Street, London. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1038	2	56	0	78	0	NRC, 2000: Risk analysis and Uncertainty in Flood Reduction Studies, National Research Council (US), National Academic Press (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1039	2	56	0	78	0	ISO/IEC Guide 73, 2002: Risk Management - Vocabulary - Guidelines for use in standards (GREECE)	included
1040	2	56	0	78	0	DEFRA, 2002: Risk performance and uncertainty in flood and coastal defence- A report, R&D Technical Report FD2302/TR1 (HR Wallingford Report SR587 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1041	2	56	0	78	0	Green C., de Marchi B. and F. Messner, 2004: Personal communication: Comments of social scientists of Floodsite sub-theme 1-3 on the Language of Risk (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1042	2	56	0	78	0	ITC, 2004: International Institute for Geo-Information Science and Earth Observation, (http://www.itc.nl/ilwis/applications/application01.asp) (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1043	2	56	0	78	0	International Strategy for Disaster Reduction (ISDR), 2004: Terminology: Basic terms of disaster risk reduction, (http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm) (GREECE)	similar reference is included
1044	2	56	0	78	0	FLOODsite, 2005: Language of risk - Project definitions, Integrated Flood Risk Analysis and Management Methodologies, Report T32-04-01 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1045	2	56	0	78	0	McInnes, K. L., Abbs, D. J. and J. A. Bathols, 2005: Climate Change in Eastern Victoria, Stage 1 Report: The effect of climate change on coastal wind and weather patterns, Report to Gippsland coastal Board, 26pp, (http://www.cmar.csiro.au/e-print/open/mcInnes_2005a.pdf) (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1046	2	56	0	78	0	Frei, C., Schöll, R., Fukutome, S., Schmidli, J. and P. L. Vidale, 2006: Future change of precipitation extremes in Europe: Intercomparison of scenarios from regional climate models, Journal of Geophysical Research, 111, D06105, 22 pp., doi:10.1029/2005JD005965 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1047	2	56	0	78	0	Beniston, M., Stephenson, D. B., Christensen, O. B., Ferro, C. A. T., Frei, C., Goyette, S., Halsnaes, K., Holt, T., Jylhä, K., Koffi, B., Palutikof, J., Schöll, R., Semmler, T. and K., Woth, 2007: Future extreme events in European climate: An exploration of regional climate model projections, Climatic Change, 81, 71-95, DOI 10.1007/s10584-006-9226-z (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1048	2	56	0	78	0	Fowler, H. J., Ekström, M., Blenkinsop, S. and A. P. Smith, 2007: Estimating change in extreme European precipitation using a multimodel ensemble, Journal of Geophysical Research, 112, D18104, doi:10.1029/2007JD008619. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1049	2	56	0	78	0	Navarro, M., Wohl, E. E., Oaks, S. D., 1994: Geological hazards vulnerability and risk assessment using GIS: model for Glenwood Springs, Colorado, Geomorphology, 10(1-4), 331-354, doi:10.1016/0169-555X(94)90024-8 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1050	2	56	0	78	0	Smith, K., 1996: Environmental Hazards: Assessing Risk and Reducing Disaster, 2nd ed. London and New York, Routledge. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1051	2	56	0	78	0	NRC, 2000: Risk analysis and Uncertainty in Flood Reduction Studies, National Research Council (US), National Academic Press. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1052	2	56	0	78	0	Tremblay - Boyer, L. and E. R. Anderson, 2007: A preliminary assessment of ecosystem vulnerability to climate change in Panama, ENVR 451 – Research in Panama, McGill University and the Smithsonian Tropical Research Institution (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1053	2	56	0	78	0	Morrow, B. H., 1999: Identifying and mapping community vulnerability, Disasters, 23(1), 1-18 (GREECE)	included

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1054	2	56	0	78	0	Zakour, M. J., and E. B. Harrell 2003: Access to disaster services: Social work interventions for vulnerable populations, <i>Journal of Social Service Research</i> , 30(2), 27-54. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1055	2	56	0	78	0	Blaikie, P., Cannon, T., Davis, I. and B. Wisner, 1994: <i>At Risk: Natural Hazards, Peoples' Vulnerability and Disasters</i> , London, Routledge. (GREECE)	included
1056	2	56	0	78	0	Cyr, St. and F. Joseph, 2005: At Risk: Natural Hazards, People's Vulnerability, and Disasters," <i>Journal of Homeland Security and Emergency Management</i> , 2, Issue 2, Article 4, doi:10.2202/1547-7355.1131 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1057	2	56	0	78	0	Kumpulainen, S., 2006: Vulnerability concepts in hazard and risk assessment, Natural and technological hazards and risks affecting the spatial development of European regions, Geological Survey of Finland, Special Paper 42, 65–74 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1058	2	56	0	78	0	Cannon, T., Twigg, J. and J. Rowell, 2003: <i>Social Vulnerability, Sustainable Livelihoods and Disasters</i> , London, Benfield Hazard Reserach Centre - Report to DFID Conflict and Humanitarian Assistance Department (CHAD) and Sustainable Livelihoods Support Office. (GREECE)	included
1059	2	56	0	78	0	Dawson, R. J., Dickson, M. E., Nicholls, R. J., Hall, J. W., Walkden, M. J. A., Stansby, P. K., Mokrech, M., Richards, J., Zhou, J., Milligan, J., Jordan, A., Pearson, S., Rees, J., Bates, P. D., Koukoulas, S. and A. R. Watkinson, 2009: Integrated analysis of risks of coastal flooding and cliff erosion under scenarios of long term change, <i>Climatic Change</i> , 95(1/2), 249-288 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1060	2	56	0	78	0	Nurse, L., Sem, G., Hay, J. E., Suarez, A. G., Wong, P. P., Briguglio, L. and S. Ragoonaden, 2001: Small Island States, In: McCarthy, J. J., Canziani, O. F., Leary, N. A., Dokken, D. J., White, K. S. (Eds.), <i>Climate Change 2001: Impacts, Adaptation and Vulnerability</i> , Cambridge University Press, Cambridge. 843–875. (GREECE)	included
1061	2	56	0	78	0	Rygel, L., O'Sullivan, D. and B. Yarnal, 2006: A method for constructing a social vulnerability index: an application to hurricane storm surges in a developed country, <i>Mitigation and Adaptations Strategies for Global Change</i> , 11, 741–764. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1062	2	56	0	78	0	Fekete, A., 2009: Validation of a social vulnerability index in context to river-floods in Germany, <i>Natural Hazards and Earth System Sciences</i> , 9, 393 - 403 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1063	2	56	0	78	0	Flanagan, B. E., Gregory, E. W., Hallisey, E. J., Heitgerd, J. L. and B. Lewis, 2011: A Social Vulnerability Index for Disaster Management, <i>Journal of Homeland Security and Emergency Management</i> , 8(1), Article 3, doi: 10.2202/1547-7355.1792 (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1064	2	56	0	78	0	Small, C. and R. J. Nicholls, 2003: A Global Analysis of Human Settlement in Coastal Zones, <i>Journal of Coastal Research</i> , 19(3), 584-599. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1065	2	56	0	78	0	Nicholls, R. J., Hanson, S., Herweijer, C., Patmore, N., Hallegatte, S., Corfee-Morlot, J., Chateau, J. and Muir-Wood, R. 2007: Ranking the world's cities most exposed to coastal flooding today and in the future, OECD Environment Working Paper No. 1 (ENV/WKP(2007)1), http://www.rms.com/Reports/OECD_Cities_Coastal_Flooding.pdf (GREECE)	related Nicholls publications are included
1066	2	56	0	78	0	McGranahan, G., Balk, D. and B. Anderson, 2007: The rising tide: assessing the risks of climate change and human settlements in low elevation coastal zones. <i>Environment and Urbanisation</i> , 19(1), 17-37. (GREECE)	included
1067	2	56	0	78	0	Kebede, A. S. and R. J. Nicholls, 2010: Population and assets exposure to coastal flooding in Dar es Salaam (Tanzania): Vulnerability to climate extremes, The economics of climate change in Tanzania Project report, http://economics-of-cc-in-tanzania.org/images/Dar-es-Salaam_City-Analysis_Final-Report_1_.pdf (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1068	2	56	0	78	0	Freeman, P. K., Martin, L. A., Linneroot-Bayer, J., Mechler, R., Pflug G. and K. Warner, 2002: Disaster Risk Management: National Systems for the Comprehensive Management of Disaster Financial Strategies for Natural Disaster Reconstruction, SDD/IRPD, Regional Policy Dialogue, Inter-American Development Bank, IDB, Washington. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1069	2	56	0	78	0	Ordaz, M. and S. Santa-Cruz, 2003: Computation of physical damage to property due to natural hazard events, IDB/IDEA Program of Indicators for Risk Management, National University of Colombia, Manizales. (GREECE)	Additional references have been considered, but in light of need to cut rather than expand the chapter, not all could be retained.
1070	2	56	0	78	0	Carreño, M.-L., Cardona, O. D. and A. H., Barbat, 2007: A disaster risk management performance index", <i>Journal of Natural Hazards</i> , 41(1), 1-20. (GREECE)	included
1071	2	56	0	78	0	Cardona, O. D., Ordaz, M. G., Marulanda, M. C. and A. H. Barbat, 2008: Fiscal impact of future earthquakes and country's economic resilience evaluation using the disaster deficit index, The 14th World Conference on Earthquake Engineering, October 2008, Beijing, China, http://www.manizales.unal.edu.co/ProyectosEspeciales/bid2/documentos/O3CardonaDDI.pdf	included

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1072	2	56	0	78	0	Peduzzi, P., Dao, H., Herold, C. and F. Mouton, 2009: Assessing global exposure and vulnerability towards natural hazards: the Disaster Risk Index, Natural Hazards and Earth System Sciences, 9, 1149–1159, http://www.nat-hazards-earth-syst-sci.net/9/1149/2009/nhess-9-1149-2009.pdf (GREECE)	included
1073	2	56	14	56	28	More than one reference is needed (IPCC WGII TSU)	section on research gaps has been removed
1074	2	58	44	58	47	For Biermann et al. (2009): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1075	2	58	48	58	49	For Biggs et al. (2009): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1076	2	61	21	61	23	For Cardona (2010b): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1077	2	61	24	61	26	For Cardona et al. (2003b): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1078	2	61	40	61	42	For Cardona et al. (2003): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1079	2	61	43	61	45	For Cardona et al. (2005): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1080	2	62	11	62	13	For Carroll et al. (2006): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1081	2	63	15	63	16	For Cutter, S.L., C.T. Emrich, J.T. Mitchell et al. (2006): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	done
1082	2	64	33	64	33	For Enarson, E. and Fordham, M. (2001): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	done
1083	2	65	8	65	9	For Food and Agriculture Organization (FAO) (2004): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1084	2	66	3	66	4	For Ginexi, E.M., K. Weihs, S.J. Simmens et al. (2000): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	done
1085	2	66	51	66	53	For IDEA (2005): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1086	2	67	19	67	20	For Johnson, P.T.J., A.R. Townsend, C.C. Cleveland, et al. (2010): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	done
1087	2	67	30	67	32	For Kasperson et al. (2005): This reference seems to be redundant with the reference listed on p. 67, ll. 35-37. Please check if those references refer to the same document and remove the redundant entry. (IPCC WGII TSU)	done
1088	2	67	35	67	37	For Kasperson et al. (2005): This reference seems to be redundant with the reference listed on p. 67, ll. 30-32. Please check if those references refer to the same document and remove the redundant entry. (IPCC WGII TSU)	done
1089	2	68	32	68	32	For Lamond et al. (2009): The information on this reference seems to be incomplete. Please add the missing information for this reference, e.g. the title of the journal article. (IPCC WGII TSU)	done
1090	2	70	1	70	2	For Maskrey (1993a): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1091	2	71	36	71	38	For Norris (2001): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1092	2	71	45	71	47	For O'Brien et al. (2008): Publications by the same author from the same year should be distinguished by adding ‘a’, ‘b’, ‘c’ etc. to the publication year. Please add those letters in the reference list and everywhere you are citing these sources in the text. (IPCC WGII TSU)	done
1093	2	71	48	71	49	For O'Brien, K, Leichenko R, Kelkar U, et al. (2004a): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	done
1094	2	71	50	71	51	For O'Brien et al. (2008): Publications by the same author from the same year should be distinguished by adding ‘a’, ‘b’, ‘c’ etc. to the publication year. Please add those letters in the reference list and everywhere you are citing these sources in the text. (IPCC WGII TSU)	done
1095	2	73	22	73	23	For ProVention Consortium (2009): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1096	2	73	30	73	32	For Reacher, M., K. McKenzie, C. Lane, T. Nichols, et al. (2004): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	done
1097	2	75	44	75	45	For Tong, S.M. et al. (2010): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1098	2	76	3	76	10	For Turner et al. (2003): Publications by the same author from the same year should be distinguished by adding 'a', 'b', 'c' etc. to the publication year. Please add those letters in the reference list and everywhere you are citing these sources in the text. (IPCC WGII TSU)	done
1099	2	76	39	76	41	For UNISDR (2007c): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	all references have been checked and corrected
1100	2	77	6	77	7	For Van Aalst, M. K. et al. (2007): All author names should be listed here for this reference, without use of "et al." Please add the other author names to the reference list. (IPCC WGII TSU)	done
1101	2	77	24	77	24	For Vincent (2007): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	done
1102	2	79	0	0	0	The title of this table should make it clear that this table is illustrative, not exhaustive. Some of the sections of this table are reasonably well done, but some are not at all - eg row on wealth/poverty (looks like something is missing) and on caste. All of this needs to be of a high standard or it should be deleted. On gender - . - Women are affected in their multiple roles as food producers and providers, as guardians of health, as care-givers, and as economic actors - harmful survival tactics can reinforce traditional practices that view women as commodities. eg in 2010 Pakistan floods - a worrying increase in the number of girls sold for marriage, in instances of forced prostitution, and in gender-based denial of resources or services has been reported, as desperate families seek money to survive. SEE Oxfam International (2011). Six months into the floods: Resetting Pakistan's priorities through reconstruction - Need to include the practice of women's assets being sold first in a disaster, which makes them more vulnerable and their lives more difficult SEE Sultana, Farhana (2010). Living in hazardous waterscapes: Gendered vulnerabilities and experiences of floods and disasters. - Should explicitly say that there is a striking lack of research on gender and disasters - it is accepted that women are 'disproportionately affected' but the analysis often goes little beyond this. The lack of disaggregated data is severely limiting and this has got to be addressed. On caste, here are some examples, all taken from Oxfam International (2008) Rethinking Disasters: why death and destruction is not nature's fault but human failure In western Rajasthan, dalit houses are often located in sand dunes up to nine kilometres away from revenue villages (the basic rural unit for administrative purposes), at the tail end of the drinking-water supply schemes. As the gender division of labour relegates women to fetch water, they have to bear the double burden of caste and gender. In Pakistan, religious minorities face similar discrimination. In Karachi, katchi abadis (slums or shanty towns), which are often inhabited by Sindhi Hindu religious minorities, are commonly located in low-lying flood-prone areas. Disasters aggravate discrimination. In the aftermath of the tsunami in Tamil Nadu, discrimination against dalits in the provision of relief, the removal of bodies, and the refusal to share emergency shelters was rampant, reflecting thousands of years of the caste system. Across the Palk Strait in Sri Lanka too, minority religious communities faced discrimination in relief efforts. After the 2001 Gujarat earthquake, almost every village had camps segregated by caste and religion. In Anjar and Bhachchau towns, dalits and Muslims did not have the same access to adequate shelter, electricity, running water, and other supplies that were available to higher caste Hindus. More recently in the Rajasthan floods in 2006, dalits were asked to leave relief camps for fear of 'polluting others'. Such issues exacerbate conditions for the most vulnerable, raising the likely human and material cost of the next disaster and thereby slowing development and weakening potential protection for whole societies. The social exclusion of minority groups also results in a failure to exploit their experiences, knowledge and abilities that could otherwise contribute to more effective disaster risk reduction. (Hillier, Debbie, Oxfam)	done by deleting Tab 2.1 and integrating refs from tab 2.1 into the section 2.5.2.1.2 Social Groups. Have also added a couple of pertinent and up to date refs for disability age etc
1103	2	79	0	0	0	Table 2-1. First, this table is not cited within the chapter text (although its desired location is specified). Also, the table could benefit from some additional detail, such as defining what is meant by "low" and "high" human development and perhaps indicating the distribution of percentages across more moderate levels of human development. For the reader of the table, it would be helpful to see how the percentages "add to 100%" for each column, to confirm for the reader that he/she is interpreting the data correctly. (IPCC WGII TSU)	Table has been removed
1104	2	79	0	0	0	Table 2-2. It is not clear that this table contributes to understanding in its current form. Most of this information could be provided in the chapter text with perhaps a more concise table providing a brief summary of the characteristics of vulnerability for each dimension. Additionally, the title refers to "identified groups" whereas the table itself presents the information by "dimension." Finally, the table is not referred to in the chapter text aside from the indication of its desired placement. (IPCC WGII TSU)	Table has been removed
1105	2	79	0	79	0	Table 2-2: header of first column ("dimension") not understood (do you mean "groups"?), dimension of first row (multiple & intersection) not understood, please clarify (GERMANY)	done by deleting Tab 2.1 and integrating refs from tab 2.1 into the section 2.5.2.1.2 Social Groups. Have also added a couple of pertinent and up to date refs for disability age etc
1106	2	79	0	79	0	Table 2-2: language should be harmonized (GERMANY)	done by deleting Tab 2.1 and integrating refs from tab 2.1 into the section 2.5.2.1.2 Social Groups. Have also added a couple of pertinent and up to date refs for disability age etc

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1107	2	82	0	0	0	Table 2-3 : the column 2 corresponding to the Global Commons has ??? . Instead this could include the following extreme climate events : Ocean acidification, increasing SST and algae concentration change (International Petroleum Industry Environmental Conservation Association (IPIECA))	Table has been removed
1108	2	82	0	0	0	Concerning drought in the drylands - the response should be Drought Cycle Management. See http://www.oxfam.org.uk/resources/learning/pastoralism/downloads/regional_pastoral_prog_dcm.pdf (Hillier, Debbie, Oxfam)	Table has been removed
1109	2	82	0	0	0	Table 2-3 is not referred to anywhere in the chapter. (CANADA)	removed
1110	2	82	0	0	0	Table 2-3. This table does not have a location of insertion indicated in the chapter, and it is also not cited in the chapter. (IPCC WGII TSU)	removed
1111	2	82	0	82	0	Not always decentralization implies improving the security of supply, since protection and design of major infrastructures can lead to a better security of supply. (SPAIN)	removed
1112	2	83	0	0	0	Table 2.4 Why report on a case study of Sri Lanka here when there are global syntheses of fisheries and food security - e.g. William Cheung et al 2009 Fish and Fisheries and Allison et al. 2009 Fish and Fisheries for different results on global fisheries vulnerability. The Table as it stands also does not have source (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	removed
1113	2	83	0	0	0	Table 2-5. Citations are needed for information presented in the table. For example, do all data come from Filiberto et al. (2010)? If so, it would be beneficial to specifically indicate this source in the table and also to provide it in the chapter reference list (since it currently does not appear in the references). (IPCC WGII TSU)	removed
1114	2	84	0	0	0	Table 2-7. First, the citation provided is for the AR4 WGII SPM. The data in the table, however, do not seem to originate from this source. Second, the title of table is misleading: where are observed and projected impacts clearly delineated in this table, why are methodologies described, and how does the "information required" column relate to the stated goal of demonstrating impacts affecting vulnerability and exposure? Further explanation of the table or revision of its contents is necessary. (IPCC WGII TSU)	removed
1115	2	85	0	0	0	Figure 2.1 This diagram is inappropriate - the framework is not used in the chapter so is just illustrative - so why this framework and not some other. Also is sourced as a non-peer reviewed source. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	removed
1116	2	85	0	0	0	Figure 2-1. This conceptual figure needs a legend to guide the reader through the interactions and elements it illustrates. Additionally, it might be beneficial to remove some of the most detailed (i.e., smallest font) text, describing it in the legend instead. (IPCC WGII TSU)	removed
1117	2	85	0	85	0	Figure 2-1: improve caption and figure (do not use white letters) (GERMANY)	removed
1118	2	86	0	0	0	Figure 2.3 The diagram source reference is missing. Is this peer reviewed. Is this a significant example - requires quite a lot of interpretation required here. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	FIGURE REMOVED
1119	2	86	0	0	0	Fig. 2-2: This figure seems to me rather simplistic and not well explained. What is the source of this figure? (Bohle, Hans-Georg, University of Bonn)	removed
1120	2	86	0	0	0	Figure 2-2. It's not clear that this figure contributes to conceptual understanding beyond the description already provided in the section text. (IPCC WGII TSU)	removed
1121	2	86	0	0	0	Figure 2-3. This figure might be easier to interpret for the reader if the color legend were presented all as "positive numbers," such as ">250 more men than women" and ">250 more women than men." It would also be very helpful to label each panel with the corresponding time of day. (IPCC WGII TSU)	FIGURE REMOVED
1122	2	86	0	86	0	Figure 2-3: improve caption (where, when?) and legend (too small) (GERMANY)	FIGURE REMOVED
1123	2	87	0	0	0	figure 2.4 and 2.5 Including these figures is problematic. Is the chapter confident that these are robust results. If they are included, they need to be redrawn - explaining method clearly and explaining the three letter acronyms for countries etc. Figure 2.5 is particularly difficult to interpret (what is 'lack of resilience' and how is it measured? How do these results compare to other related studies such as the Dilley et al hotspots study. If the chapter includes these, they will be read and reported by the countries - e.g. Honduras, to be the definitive IPCC results. I note also that the source is not a peer reviewed study. I would suggest these figures be deleted. (Adger, Neil, Tyndall Centre for Climate Change Research, University of East Anglia)	These indicators are considered robust enough to be used by the IDB and the WB for their technical cooperation and assistance (credits) to countries, but also by the countries themselves for policy making (changes in institutional, financial strategies, etc.) made in the last 6 years. There are reports, peer review papers, chapters of books published on these methods and results. The box is an illustration of the type of approaches mentioned in the chapter. DRM community in the region of LAC considers very useful this type of techniques and details are possible to see in the supported documentation
1124	2	87	0	0	0	Fig. 2-4: A matrix and a legend are missing for the right box in Fig. 2-4. (Bohle, Hans-Georg, University of Bonn)	Done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1125	2	87	0	0	0	Fig. 2-5: It is very difficult for the reader to understand the message of this figure. The components of the PVI are mentioned, but no idea is provided how these are measured and what the figure really means. (Bohle, Hans-Georg, University of Bonn)	References (reports and papers) about these results and techniques are available. They explain in details the subindicators and the meanings and reasons why they have been used. The detailed explanation of these indicators exceeds the scope of the box. They are here to illustrate techniques used in practice for decisionmaking.
1126	2	87	0	0	0	Figure 2-4: What do the colours (green - yellow - red) on the bars relate to? What are the units on the X-Axis of the second plot? (Stocker, Thomas, IPCC WGI TSU)	Colors were only to make difference from low to high values. Units are US millions.
1127	2	87	0	0	0	Figure 2-5: What do the numbers scattered horizontally on the plot represent? It seems this figure has not reproduced properly in the SOD PDF. (Stocker, Thomas, IPCC WGI TSU)	The figure has been reproduced properly
1128	2	87	0	0	0	Figures 2-4 and 2-5. The country names should be spelled out since abbreviations are not defined. It would also be helpful to provide further explanation of the figures in the figure legends. (IPCC WGII TSU)	Done
1129	2	130	0	131	0	Legends figures on the right side are missing [%]? (Koppe, Christina, Deutscher Wetterdienst)	Passed on to chapter 3 (for which this comment was intended). Feedback from ch3 CLAs: figure legend has been fixed.
1130	2	137	0	0	0	Can the influences of evaporation be neglected for streamflow and groundwater deficits and what about lakes, snow cover, or glaciers as storages? (Koppe, Christina, Deutscher Wetterdienst)	Passed on to chapter 3 (for which this comment was intended). Feedback from ch3 CLAs: The reviewer asks for too much detail and this level of detail is not warranted in this figure. However, to clarify this point we slightly revised the caption mentioning that this is a "Simplified sketch" of the processes and drivers relevant for meteorological, soil moisture (agricultural), and hydrological droughts."