

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1	8	0	0	0	0	Numerous references are incomplete (Simiu, Emil, National Institute of Standards and Technology)	We have completed the references.
2	8	0	0	0	0	Chapter 8 "Towards a resilient and sustainable future". No comments. (RUSSIAN FEDERATION)	No action required.
3	8	0	0	0	0	This chapter seems to me the most innovative and relevant of all chapters in this special report. It covers topics which have so far been widely neglected in the IPCC context, such as the role of values, perceptions, access and equity, as well as winners and losers at various levels, and the implications for human security as a new normative dimension. Most importantly, this chapter addresses the challenge how to facilitate transformational change through adaptive management, learning, innovation, and leadership, and how this may lead to a resilient and sustainable future. However, this entire chapter seems to me a bit too abstract and theoretical. It would be added value if the authors could give a few concrete examples about how resilience can be built to cope with and adapt to future extremes, and how particular pathways in promoting resilient transformations could look like. These examples should be streamlined for policymakers. In addition, the complex relationship between resilience and sustainability should be elaborated and exemplified. I would also suggest that chapter 8 should be the last chapter of this special report because it really provides the most relevant conclusions and outlooks. (Bohle, Hans-Georg, University of Bonn)	We have tried to include more examples and make it less theoretical.
4	8	0	0	0	0	The chapter can be more concise with less key concepts explanation, and be consistent with other previous chapters. There are some overlapping/crossing contents in different sub-sections because of too many synergies. Where possible, the cases in previous chapters should be used as supportive information rather than conceptual and descriptive statements mainly. (CHINA)	We have reduced definitions and made more cross-references to other chapters.
5	8	0	0	0	0	It would be better if this chapter discusses more about how to identify the synergies and trade-offs between the climate change mitigation and adaptation. In some cases, mitigation projects can facilitate or hinder local people's efforts in adaptation to climate change, and adaptation projects can affect ecosystems and their potential of carbon sequestration. Bruno Locatelli et al. wrote a paper to discuss the possibility of linkages between adaptation and mitigation in projects in Latin America, which is available on the website: www.cifor.cgiar.org . The title of this article is "Forests and climate change in Latin America Linking adaptation and mitigation in projects and policies". Besides, Henry David Venema noted that decentralized renewable energy projects play as a simultaneously mitigative and adaptive response to climate change. (cited from Mitigation and Adaptation Strategies for Global Change (2007)12:875-900)). WSSD has explored and developed the concept of "mainstreaming". Mainstreaming involves the integration of policies and measures on climate change into the ongoing sectoral and development planning and decision-making, so as to ensure the long-term sustainability of investments as well as to reduce the sensitivity of development activities to both today's and tomorrow's climate (Klein, 2002; Huq et al.,2003). More details are described in the Working Paper on Tyndall Centre for Climate Change Research, "Integrating mitigation and adaptation into climate and development policy: three research questions". In China, some scholars stress the synergies between sustainable development and adaptation action. They believe that one of the most effective way to enhance adaptive capacity is to integrate the tool of dealing climate risks into city's development planning(cited from Green Leaf 2007(12):10-11); Qin Dahe and Chen Yiyu took note of the GHGs emission from adaptation projects in 2005 and they called such kind of emission as "adaptation-style emission". Their viewpoints were described in the book Climate and Environment Changes in China(Volume II) Beijing: China Science Press,2005:373-380.This was also introduced in the article of "Discussion on Integrating Climate Change Factors into Environmental Planning of the National 12th Five Year Development Plan in China" ,by YANG Xiao et al., in Journal of CHINA POPULATION, RESOURCES AND ENVIRONMENT-2010(2):79-83. Recognition of and research on this kind of emission is another big question for developing countries in dealing with climate change, which needs to be better explained. (CHINA)	Good references and suggestions, but not sure really relevant for our chapter - can be used in main AR5.
6	8	0	0	0	0	UNCERTAINTY LANGUAGE: no confidence or uncertainty statements in Executive Summary or underlying Chapter, other than occasional apparently colloquial usage that should be removed. (Stocker, Thomas, IPCC WGI TSU)	Important: remove all "may". We do not really need uncertainty language. But we probably do need some confidence language.
7	8	0	0	0	0	IPCC CITATIONS: It is not helpful to cite IPCC 2007, please cite specific Chapter, SPM or Synthesis Report (Stocker, Thomas, IPCC WGI TSU)	Noted, TBF (to be fixed)
8	8	0	0	0	0	see figure 4-3 -- shouldn't this be picked up in this chapter instead of in 4? (International Federation of Red Cross and Red Crescent Societies (IFRC))	The figure is interesting but would require that we write the chapter to explain it.
9	8	0	0	0	0	The chapter focuses on the implications of climate change extremes and extreme events for sustainable development. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	No response necessary.
10	8	0	0	0	0	The executive summary is quite good, clear, and precisely articulates the issues that the chapter considers. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	We have improved the executive summary.

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11	8	0	0	0	0	There is an inherent tension in the chapter between the wealth of approaches, theories and tools available and the cognitive, conceptual, institutional, political, and economic obstacles to further action. However, the different issues are clearly and comprehensively addressed. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	No response necessary.
12	8	0	0	0	0	Concerns: (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	No response necessary.
13	8	0	0	0	0	1. The overall approach is leaning towards theoretical considerations. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	We have tried to make it less theoretical, but it is a forward-looking chapter and we lack empirical evidence for a sustainable and resilient future.
14	8	0	0	0	0	2. The major obstacles to moving along a path of sustainable development are described without communicating the sense of urgency and the severity of those obstacles. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	Noted. Something we can fix in the Introduction?
15	8	0	0	0	0	The objectives of the chapter are unclear, which may partly relate to the scope set out for it. From its contents we know that it's exploring the combined potential of climate change adaptation and disaster risk reduction to reduce vulnerability to extreme weather and climate and thus contribute to sustainable development. We can also deduce that resilience, both as an approach and as a goal to aspire to, is important for sustainable development as well. And that systemic transformation is necessary because the way we frame issues, structure and assess problems, set priorities, make decisions, allocate resources, and learn from these processes is out of step with the social and environmental problems are confronting now and will be for decades, if not centuries, to come - including but not limited to effective DRR and CCA. (Eyzaguirre, Jimena, National Round Table on the Environment and the Economy)	That is an excellent framing of the chapter.
16	8	0	0	0	0	The objective of the chapter is stated on page 4 (from line 21 to 23): "to assess scientific knowledge on the transformative changes needed, particularly in development policies and pathways.". This objective is ONLY appropriate if preceding chapters logically come to that conclusion. (Eyzaguirre, Jimena, National Round Table on the Environment and the Economy)	We have reformulated the sentence and chapter objectives.
17	8	0	0	0	0	The chapter reads more like a literature review than a scientific assessment of the knowledge base. In several instances strong statements are made with no or with few references. I offer the following example: "where there is no national legislative structure, achieving local disaster risk reduction and climate change adaptation planning is very difficult" (page 13, lines 35-36). Another one: "An inability to acknowledge the collective long-term consequences of individual decisions is a principal reason that societies are not well-equipped to deal with climate change" (page 17, lines 26-28). A final one: "This is needed to both to raise the political and policy profile of our current sustainability crisis [...]" (page 18, line 49-50). (Eyzaguirre, Jimena, National Round Table on the Environment and the Economy)	We have referred to previous chapters: Where there is no national legislative structure, achieving local disaster risk reduction and climate change adaptation planning can be complicated (see Chapter 6, Section 6.4). ;
18	8	0	0	0	0	The structure of the chapter is difficult to follow, particularly from section 8.2 to 8.5. A recurring challenge that I've found reading this chapter is that it attempts to do too much. It introduces several concepts, sometimes explaining them and why we should care about them only belatedly (for example, we don't get an explanation of what a social-ecological system is until several pages in), refers to these same concepts inconsistently, and alternates between talking about DRR plus ACC versus sustainable development as a whole. The text also seems to jump back and forth between scales of decision making / units of analysis (individuals, communities, national governments, global frameworks), so it's not always clear to whom the conclusions apply. At a minimum, these sections would benefit from greater precision in the use of headings. The chapter is more or less a policy analysis, whose structure typically covers: What's the problem?; Trends (say, in vulnerability); Conditions underlying those trends (say in adaptive capacity, short-term-ism, silo-ed decision-making); Outlook if nothing changes; Way forward (Eyzaguirre, Jimena, National Round Table on the Environment and the Economy)	Unfortunately we are restricted to the plenary agreed outline, although we have moved sections to make it more coherent..
19	8	0	0	0	0	In trying to cover so much ground, the chapter suffers, at times, from a superficial exposition of complex adaptive systems theory and transformational change theory, which is unlikely to be too useful for readers who are either already somewhat familiar with or who know nothing about them. The chapter would benefit from deeper analysis and use of concrete examples. (Eyzaguirre, Jimena, National Round Table on the Environment and the Economy)	Good comment, but not sure how we can address at this stage
20	8	0	0	0	0	There are many vague sentences where causes and effects are linked by terms like "may", "could" and so on. This weakens the arguments made and should, where possible, be avoided (Goessling-Reisemann, Stefan, University of Bremen)	To avoid determinism, we have deliberately used may.

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21	8	0	0	0	0	Le début du chapitre traite de l'approche systémique sous toutes ses faces, montrant qu'elle seule permet de considérer les conséquences des choix et de chercher à concilier des contradictions entre court et long terme etc. Ce sont beaucoup de vérités de bon sens : par exemple que le DD a un lien avec la DRR et l'ACC. Le rapport fait état des multiples études publiées sur ces sujets. Ainsi la section sur les illusions du progrès dans la maîtrise des risques (Katrina), la banalité que le changement climatique peut exacerber des risques préexistants, la différenciation incertaine entre les effets des petits et grands désastres sur les valeurs, sur les outils de planification et leurs limites sur les technologies. La section sur l'intégration du court et du long terme dans les réponses aux extrêmes est sans doute plus originale : évocation des « trappes de pauvreté » et les barrières dont la sous-estimation des risques, la promotion de la résilience les changements brusques des systèmes sociaux et des écosystèmes obligeant à passer des adaptations progressives aux transformations de rupture, la nécessité de considérer simultanément plusieurs contraintes sont successivement traitées. L'approche par les ressources de toutes natures est une autre originalité du chapitre. La fin du chapitre, aborde, dans un ordre et selon une logique qui n'est pas évidente, les apprentissages qui, ne sont guère abordées dans les autres chapitres bien qu'ils soient d'une grande portée. (BOURRELIER, PAUL-HENRI, AFPCN)	These points are well noted. On the organization of the end of the chapter, and on the learning issue, the chapter has been largely modified and we hope that the new version is clearer.
22	8	0	0	0	0	Bibliography Add : Bourrelrier P-H. 2010 Un autre regard in Après Copenhague, Responsabilité et Environnement, Annales des Mines, Paris. Décamps H. et Schmidt-Lainé C. 2010 : Ecosystèmes et événements climatiques extrêmes, pp. 11-25 in Décamps H. (animateur) : Evénements climatiques : Réduire les Vulnérabilités des Systèmes Ecologiques et Sociaux, Institut de France, Académie des Sciences, (Lex Ulis Cedex A : EDP Sciences). Dupuy JP 2002 Pour un catastrophisme éclairé, Le Seuil Paris. Lebeau A. 2008 L'Enfermement planétaire, Le débat Gallimard, Paris. (BOURRELIER, PAUL-HENRI, AFPCN)	We did not find appropriate places to include these references.
23	8	0	0	0	0	This should be an integrative chapter, but there is no need to repeat basic concepts, rather should the findings of the individual chapters be joined and integrated. (GERMANY)	We have reintroduced some basic comments so that it reads as a stand-alone chapter as well.
24	8	0	0	0	0	Overall, the chapter is useful for its strong emphasis to the value of resilience approaches to strengthening climate change adaptation and disaster risk reduction, and ultimately towards sustainable development in the context of a changing climate. The explanations of resilience and the need to integrate social and ecological systems dynamics into planning and decision-making processes are critical and useful contributions to addressing the challenges that climate change will bring. Similarly the approaches to inclusive and participatory planning and decision-making and processes that promote transparency and accountable governance will be critical in strengthening sound decision-making processes for sustainable development. The chapter highlights well the importance of attention to both anticipatory approaches to DRR and adaptation and the need for corrective approaches to existing efforts. However, the chapter needs a much stronger focus on implications for policy and practice, and what lessons this analysis provides for future actions. The chapter is overly conceptual and needs to be grounded with more specifics and examples of how resilience approaches can be applied. More specific discussion on dimensions of social and ecological resilience are needed. This is very weak throughout the chapter. Section 8.6 begins to do this, but more is required. Examples of how resilience concepts of flexibility and learning have been successful in practice need to be given. For instance, examples of flexible policies could be given (e.g. Contingency budgets to respond to natural disasters and emergencies in municipal, sub-national or national budgets). While in many cases this is 'new' to the climate change adaptation and DRR fields, examples could be drawn from adaptive management in natural resources which would concretize some of the conceptual discussions. This would make the chapter much more accessible to those not engaged with the resilience literature, and help in understanding how concepts can be applied in practice. Examples of adaptive management in ecosystem management include: Johnson, B.L. (1999). Introduction to the special feature: adaptive management - scientifically sound, socially challenged? Conservation Ecology 3(1):10; Ladson, A.R. and Argent, R.M. (2002). Adaptive management of environmental flows: lessons from the Murray-Darling Basin from three large North American rivers. Australian Journal of Water Resources, 5(1):89-101.; Tompkins, E.L. Planning for climate change in small islands: insights from national hurricane preparedness in the Cayman Islands. Global Environmental Change - Human and Policy Dimensions 15(2):139-149. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	Good comment. There is a general thread of making the chapter connect better to policy and practice. How much can be fixed?
25	8	0	0	0	0	More explicit attention to how social and economic resilience could be integrated are needed beyond generalities of integrating flexibility and learning. For an excellent discussion on needed interventions for social policies, pls see Means, R. and A. Norton, eds. (2010). Social dimensions of climate change: equity and vulnerability in a warming world. Washington: The International Bank of Rural Reconstruction/The World Bank. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have added more discussion on social resilience.

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26	8	0	0	0	0	The chapter reads as disparate and disjointed in several sections with inconsistencies in the text (e.g. definitions of adaptation). It would benefit from stronger synergies across sections particularly in regards to definitions (e.g. adaptation and coping are used differently in various parts of the paper) and issues related to scenarios and modelling tools (e.g. section 8.6.2.1 and 8.2.3) to ensure consistency and reduce duplication. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have changed the order of sections and edited to increase the coherence of the chapter.
27	8	0	0	0	0	The chapter would benefit from stronger linkages with preceding chapters, again so that there is consistency throughout the report on definitions (e.g. adaptive capacity, adaptation, disaster risk reduction). For example, Section 8.3.1 inappropriately suggests adaptation is only focused on responding to long term climate threats and not short term impacts of climate variability. More detailed discussions on strategies for technological and institutional innovations and decision-support tools (e.g. cost-benefit analysis) in preceding chapters would also strengthen sections in this paper. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have added more references to other chapters.
28	8	0	0	0	0	The lack of attention to natural resource and ecological aspects of resilience and sustainable development beyond a short section on ecosystem services (8.5.2) is of concern. DRR and climate change options related to agriculture (e.g. flood and drought tolerant varieties) and land management (e.g. rangeland management) are absent from the discussion. One example of an agricultural option that directly contributes to DRR and adaptation is flood-tolerant rice. The International Rice Research Institute (IRRI) with support from the UK Department for International Development (DFID) has developed a rice variety that can withstand submergence for two weeks and recover. At present over 15 million ha of rice-growing land in South and Southeast Asia is at risk of floods, resulting in annual yield losses of over \$600 million. This 'scuba rice' (Sub-1 variety) has been released in ten countries in Asia and is being tested in several African countries (References: Septiningsih, E. M. et al (2009). Development of submerging-tolerant rice cultivars: the sub1 locus and beyond. Annals of Botany 103:151-160; Singh et al (2009). Responses of Sub1 Rice Introgression lines to submergence in the field: yield and grain quality. Fields Crops Research 113: 12-23. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We do not have space for this, but the topic is covered more comprehensively in Chapter 4.
29	8	0	0	0	0	Stronger reference to the importance of strengthening monitoring systems for social and ecological systems in order to track changes and in particular for monitoring threats towards (particularly extreme events) tipping points should be made in the chapter. This is discussed briefly in section 8.6.1, page 29, lines 7-11, but would benefit from more explicit discussion of what systems (e.g. hydrology, soil fertility, poverty disaggregated by sex, age) and be made explicit in earlier sections of the text, such as section 8.2.4 on technologies. Missing from the discussion are the current data and information gaps, particularly in developing countries where monitoring systems and capacities are limited. Explicit discussion of how lack of monitoring (of slow-onset) change and lack of inter-sectoral co-ordination has led to environmental, social and economic problems is also useful in making this case. See Glantz, MH ed.(1999). Creeping environmental problems and sustainable development in the Aral sea basin. Cambridge: Cambridge University Press. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have made reference to a case study in Chapter 9 on early warning systems.
30	8	0	0	0	0	Gender is almost completely absent from the text. Despite discussions on issues of trade-offs, equity, differential impacts and winners and losers, gendered analysis is conspicuously lacking. Gender dimensions need to be brought in more strongly throughout the chapter, for example in sections on technology access, human security, and options for pro-active long-term resilience (institutional mechanisms, opportunities for transformational change). For examples of how integrating gender perspectives in adaptation and DRR planning yielded stronger outcomes in prevention, disaster relief, recovery and reconstruction see Enarson, E. and BH Morrow (1997). A Gendered Perspective: The voices of women. [Peacock WG et al, editors] London: Routledge, pp 116-140; and Means and Norton, ed. (2010). Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World. Washington, DC: International Bank of Rural Reconstruction/the World Bank ; and ISDR (2008). Gender perspectives: integrating disaster risk reduction into climate change adaptation. Good practices and Lessons Learned. Switzerland: UN/ISDR. For discussions on gendered approaches to leadership and engagement at multiple levels for effective planning for DRR and adaptation, see Oxfam GB (2010). Gender, Disaster Risk Reduction and Climate Change Adaptation, A Learning Companion. Oxford: Oxfam GB. For additional case examples of integrating gender into climate change adaptation planning, see Terry, Geraldine, ed. (2009) Climate Change and Gender Justice. Oxford: Oxfam GB. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have added reference to gender in Section 8.4.1, and included the Oxfam and ISDR references.

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31	8	0	0	0	0	The chapter should have more explicit discussion of opportunities for engaging with the private sector in addition to governments and civil society to deliver resilience objectives. The chapter frequently mentions insurance as a risk transfer strategy which is one area for private sector engagement that could be expanded. Others include public-private partnerships or incentives for private sector for development of more climate and disaster resilient infrastructure, agricultural and health technologies, delivery of services such as agricultural extension, communication technologies which can be used for monitoring systems (mobile phones, weather centres). (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We mention partnerships but could not find a large literature on this area. Insurance is covered in Chapter 7 so we do not want to repeat it.
32	8	0	0	0	0	Gender is almost completely absent from the text. Despite discussions on issues of trade-offs, equity, differential impacts and winners and losers, gendered analysis is conspicuously lacking. Gender dimensions need to be brought in more strongly throughout the chapter, for example in sections on technology access, human security, and options for pro-active long-term resilience (institutional mechanisms, opportunities for transformational change). For examples of how integrating gender perspectives in adaptation and DRR planning yielded stronger outcomes in prevention, disaster relief, recovery and reconstruction see Emerson, E. and BH Morrow (1997). A Gendered Perspective: The voices of women. [Peacock WG et al, editors] London: Rutledge, pp 116-140; and Means and Norton, ed. (2010). Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World. Washington, DC: International Bank of Rural Reconstruction/the World Bank ; and ISDR (2008). Gender perspectives: integrating disaster risk reduction into climate change adaptation. Good practices and Lessons Learned. Switzerland: UN/ISDR. For discussions on gendered approaches to leadership and engagement at multiple levels for effective planning for DRR and adaptation, see Oxfam GB (2010). Gender, Disaster Risk Reduction and Climate Change Adaptation, A Learning Companion. Oxford: Oxfam GB. For additional case examples of integrating gender into climate change adaptation planning, see Terry, Geraldine, ed. (2009) Climate Change and Gender Justice. Oxford: Oxfam GB. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have added reference to gender in Section 8.4.1, and included the Oxfam and ISDR references.
33	8	0	0	0	0	This important concluding chapter brings together a number of key concepts introduced in previous chapters. Statements need to be reviewed closely by the authors, as some could be interpreted as straying from science assessment to policy advocacy. Both are important, but the role of the IPCC is limited to the former. Attachment of confidence statements, particularly to the statements in the Executive Summary, would help. The scope of the chapter is much broader than management of extreme events and disasters - such that some aspects may be more appropriate for the AR5. Clarity is also needed on whether discussion is on extreme climate events, or on "climate change extremes". For the most part, preceding chapters and the bulk of the references in this chapter focus on climate extremes. Finally, the authors are urged to consider the value of jargon, such as "transformational change" and "three-loop learning", in terms of their effectiveness in communicating to governments. (CANADA)	Need to consider this carefully. We do have many general statements / conclusions.
34	8	0	0	0	0	The term "transformational change" needs to be defined at the start of the chapter (it is defined on p. 30 but not clearly) and used consistently throughout. On page 4 (and elsewhere) it is stated that "transformation is needed", but page 35 talks about "the potential need for transformation". A helpful characterization, that could be moved forward and given prominence, is the first two sentences of section 8.6.3.3 (p. 34, lines 5-8) that states that the transformation of society towards sustainability and resilience includes incremental as well as radical innovation. Most important is clarity regarding the objective presented on p. 10 "to assess scientific knowledge on the transformative changes needed". It is necessary to better document that the need for transformative changes (clearly defined) is a conclusion based on assessment of scientific knowledge. Argument is made later that this is the case, with reference to preceding chapters, but none of those reach that conclusion clearly. Finally, there would be value placing greater focus on adaptation as a way of generating social transformation (p. 6) rather than stating that transformation is a prerequisite for successful adaptation and DRR. (CANADA)	Good points: We have stressed that both incremental and transformational changes are needed.
35	8	0	0	0	0	The chapter would benefit from additional boxes that provide more details on the examples of success that are described, so as to highlight good practices. (CANADA)	We did not have sufficient space in the chapter for this and leave it for Chapter 9 (although we try to reference successes).
36	8	0	0	0	0	Executive summary of this important so to say "concluding" chapter of the report should integrate reference to risk transfert and insurance solutions, which are referred to in pages 6, 24 and 30 of this chapter. (NUSSBAUM, Roland, Mission Risques Naturels)	We did not want to repeat what is in Chapter 7.
37	8	0	0	0	0	This chapter has overlaps with other chapters, as mentioned above that should be edited or clarified. (Nightingale, Katherine, Christian Aid)	We have tried to reduce overlaps and have made better use of cross-references.
38	8	0	0	0	0	General Comment - This chapter is very well written! (UNITED STATES OF AMERICA)	Thank you!

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39	8	0	0	0	0	Well-written chapter and a companion to Chapter 1 for me. Both could emphasize even more the importance of risk-based (resiliency?) thinking as an element of the cultural change that is needed in dealing with climate change. A culture of "expecting the unexpected" requires new sets of leadership qualities, norms, attitudes as well as changes in attitudes about innovation and stability. Refreshing to see the "adaptive leadership" literature from business get tapped a little. (UNITED STATES OF AMERICA)	We are linking more closely with Chapter 1 in the final version, and have emphasized the need for risk-based thinking in the concluding section.
40	8	0	0	0	0	This chapter brings out the importance of managing our systems and ourselves in a multi-stressor complex, not just a focus on disaster risk. Climate change is rapidly reorganizing the interactions among all kinds of risk factors and we have to keep this system orientation lest we stumble over risk vs. risk tradeoffs. It also reminds us that there are opportunities (probabilistic gains) in change as well as vulnerabilities (probabilistic losses) An understandably large part of climate change literature focuses on vulnerabilities. (UNITED STATES OF AMERICA)	No changes necessary.
41	8	0	0	0	0	This chapter seem to lack a good connection to previous chapters which would be expected to be the basis for the chapter. In particular, we miss some of the reference to the work of CBD, which have been referred to in at least two of the other chapters (Ch 6 and 7). It seems strange that CBD/SCBD is not in the reference list for this chapter at all. In particular with regard to the section 8.5.2 about sustainability of ecosystem services, where no reference are made to central publications of the CBD/CBDS. (NORWAY)	Reference to the Global Biodiversity Outlook has been included in section 8.2.2 (Secretariat of the Convention on Biological Diversity (2010) Global Biodiversity Outlook 3. Montréal.)
42	8	0	0	0	0	In general there is a strong need for more illustrations in this chapter. (NORWAY)	This has been a continuous challenge, and we have tried to come up with effective figures and tables but end up excluding them as they are ineffective.
43	8	0	0	0	0	Use of calibrated uncertainty language: Throughout the chapter and in the Executive Summary, the author team should consider characterizing the degree of certainty in its assessment findings using the calibrated language outlined in the AR5 Guidance Note on Treatment of Uncertainties (Mastrandrea et al. 2010): summary terms for evidence and agreement, levels of confidence, and likelihood terms. Use of calibrated language would enable the reader to understand more fully and compare more systematically the state of knowledge across statements. (IPCC WGII TSU)	Already noted
44	8	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)	We have tried to clarify this section.
45	8	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)	We have to
46	8	1	1	0	0	Is resilient justified in the title ? What is a sustainable and resilient future ? Till now « sustainable » has been applied to development : what is its meaning applied to future eventually deprived of development? Is resilient opposed to sustainable or, as one can think, is twinning resilient et sustainable meaningful? As a whole, extremes are stressed in the chapter with a dramatic notation notably divergent from others chapters : why ? (BOURRELIER, PAUL-HENRI, AFPCN)	We have clarified this in the introduction by adding: "However, within the context of climate change, it is becoming increasingly clear that the sustainability of humans on the Earth is closely linked to resilient social-ecological systems "
47	8	2	0	3	0	The executive summary is clear and articulates the issues addressed in the chapter. However, there are not references to the background material in the chapter and uncertainty values are not attached to each assertion. Therefore, although the chapter is in fact a true assessment, it does not look as such according to IPCC practices. It is clear that, since modeling of sustainable development is not as robust as climate modeling to substantiate future projections, it is not possible to attach levels of evidence to the conclusions. However, at least levels of agreement may be assigned, according to the literature analyzed. (Barros Vicente IPCC WGII TSU)	Already noted
48	8	2	14	0	0	It is noted that almost no findings included in the executive summary include a qualifier informing about the corresponding level of uncertainty. It is suggested to include the level of uncertainty in all findings summarized in the executive summary, as appropriate and following the good practice of other chapters. (Radunsky, KLaus, Umweltbundesamt GmbH)	Already noted
49	8	2	14	0	0	It is noted that no finding included in the executive summary includes a reference to the underlying subchapters. It is strongly recommended to include such reference following the good practice of the other chapters. (Radunsky, KLaus, Umweltbundesamt GmbH)	We have added references to underlying chapters.

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50	8	2	14	0	0	EXECUTIVE SUMMARY: Each statement given in the ES needs to be linked to an underlying section(s) in the chapter so the reader is able to trace the underlying assessment leading to this statement. (Stocker, Thomas, IPCC WGI TSU)	We have gone through this to make sure there is agreement.
51	8	2	14	0	0	Executive Summary. The Executive Summary effectively and clearly presents the chapter's conclusions. It could be further strengthened through providing citations to the specific sections of the chapter relevant to each paragraph of the executive summary. Additionally, the author team should consider characterizing the degree of certainty in its assessment findings using the calibrated language outlined in the AR5 Guidance Note on Treatment of Uncertainties, especially summary terms for evidence and agreements and levels of confidence. (IPCC WGII TSU)	Already noted
52	8	2	14	3	38	The Executive Summary captures many of the concepts but not the nuances of the chapter. Caution is needed when making generalizations. Addition of confidence language as outlined in the SPM would be helpful, particularly with regard to the type, amount, quality and consistency of evidence that supports these statements. (CANADA)	Already noted
53	8	2	16	2	18	What is 'rapid' and 'severe' climate change? Has this been defined somewhere in the chapter/report? Why does Chapter 8 tend to focus immediately on a most dramatic form of climate change, when SREX as an overall report has a much broader focus reflected in the glossary definition of 'climate change'. (Stocker, Thomas, IPCC WGI TSU)	This chapter is discussing the future, which is still being decided and where we do face the risk of experiencing a warming of 4degC and beyond within this century. We have moved this statement to the end of section 8.6.
54	8	2	16	2	18	This first statement could be interpreted as stating that without changes that are difficult (impossible?) to plan and implement, efforts to adapt are futile. Clarity is needed regarding the phrase "rapid and severe climate change". This is not discussed in the chapter, and is only referred to in a single paragraph on p. 22 (section 8.4.3). This is important because it sets the tone for the entire chapter. (CANADA)	We have removed this wording from the ES.
55	8	2	16	2	18	"Adapting to climate extremes associated with rapid and severe climate change without transformational policy and social change will be difficult: If not chosen through proactive policies, forced transformations and crises are likely to result." The bolded words should be added. (UNITED STATES OF AMERICA)	A modified version of this statement is now in the conclusion.
56	8	2	16	2	18	It would be preferable to specify more clearly what is meant here by "rapid and severe climate change." Does this sentence pertain to specific scenarios of rapid and severe climate change (e.g., under high emissions scenarios), for which transformational change would be needed for adaptation, or is "rapid and severe climate change" referring to any scenario of future climate change? (IPCC WGII TSU)	We have moved this to the end of section 8.6 and modified it with "for example, warming beyond four degrees C within this Century.
57	8	2	16	2	20	Surely some incremental adaptation is possible, desirable and justified on economic grounds, in addition to other criteria. Examples of community-based adaptation where modest changes lead to significant improvements. Experience with climate mitigation demonstrates that telling people whole sale transformation is needed is not conducive to action, so this is a rather dis-empowering way to start the chapter. People want agency and want practical steps leading to results. Is it possible to use historical analogues to demonstrate successful / unsuccessful cases of policy-induced transformational social change? Could the authors explain early on what they mean by transformational social change? (Eyzaguirre, Jimena, National Round Table on the Environment and the Economy)	We have added incremental responses to the executive summary. We emphasize in the chapter that transformation does not have to be large -- it can involve changes in thinking too. This understanding has also been added to Chapter 1, and we have introduced a discussion of transformation in the introduction.
58	8	2	18	2	18	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	Already noted
59	8	2	18	2	18	It may be preferable here to use "assesses" instead of "reviews." (IPCC WGII TSU)	We have changed the wording, except when we review definitions.
60	8	2	27	2	28	When we speak of "multiple-stressors" there is no distinction made for triage in extreme events. How does one choose among such stressor in an environment-specific condition? (Liotta, Peter, Independent Scholar)	This comment is useful but too detailed for the Executive Summary to address.
61	8	2	27	2	28	It may be helpful for the reader to also mention the "converse" situation--that there can be co-benefits from measures that do take multiple stressors into account and are implemented in a way that reduces multiple risks. (IPCC WGII TSU)	Yes and we have added an example on water management in New York to the body of the text
62	8	2	30	0	0	Words like "requires" should be applied only where there is strong evidence that no alternatives will result in success. Otherwise its preferable to use language that indicates that, based on experience to date, these are important attributes of success. (CANADA)	Agreed.
63	8	2	31	2	31	Please define social-ecological systems. Does it mean social and ecological systems? It would also help to bold "requires integrated, systemic approaches" when discussing building resilient and sustainable development pathways. (UNITED STATES OF AMERICA)	Agreed, added: A concern for socio-ecological systems recognizes the interdependence of these systems in the Introduction

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
64	8	2	33	2	33	"Evidence of the success and limitations of these approaches indicate that disaster risk management and adaptation policy can be integrated, reinforcing and supportive -" additional word suggested in bold. (UNITED STATES OF AMERICA)	Agreed
65	8	2	37	2	39	I do not understand the core of this statement, seems not to fit to the explanations stated further in the paragraph (Langniss, Ole, Fichtner GmbH & Co KG)	We have re-formulated this statement to improve comprehension.
66	8	2	37	2	42	This paragraph should be changed. We think it is rather misleading to speak of "winners" of a disaster. The paragraph should rather focus on the implications on human security. Where conflict-prone regions are hit by natural disasters, there are major risks that conflicts will escalate further. Disaster risk reduction and adaptation to climate change need to take into account security-related impacts of climate change. Disaster risk reduction should be used as a lever for good governance. Targeted conflict resolution should be used in conflict-prone regions after natural disasters. (GERMANY)	The supporting statement has been changed to emphasise the contingent and context specific conditions that lead to 'winning' or 'losing'. Disasters studies have long argued that events produce winners - political, economic etc and this has more recently been taken up by work on climate change.
67	8	2	37	2	42	There is a need to clarify whether this statement applies globally or only to those locations with weak capacities to manage risks ("particularly" is ambiguous). If the former it would appear to contradict the statement on p. 3 (lines 23-25) that relate transformational change to places with high vulnerability and low adaptive capacity. Stating the need to "reassess and transform institutions and governance arrangements" is unlikely to resonate in countries with strong, well established institutions. In these cases it would be more productive to focus on what type of change can be implemented within existing arrangements to enhance resilience. (CANADA)	Agreed, the text has been changed to emphasise more its generic applicability.
68	8	2	40	0	0	"create synergies across scales": Not clear which scales are meant here (geographic areas, time scales, or governance levels). (NETHERLANDS)	Agreed, now reads: creating synergies across temporal and spatial scales
69	8	2	42	2	47	statement is not supported by the text in the related paragraphs (which themselves are chaotic (see comments on para 8.4, page 19 (NETHERLANDS)	Done (see point 279), paragraphs are reformulated and text changed
70	8	2	44	2	47	Because mitigation, adaptation, and disaster risk reduction are associated with different decision making horizons, it could be helpful to mention how the time frames associated with each interact in this context. (IPCC WGII TSU)	Our focus is that they have overlapping time horizons.
71	8	2	49	2	52	How and when do generic approaches best suit local scales? (Liotta, Peter, Independent Scholar)	Text changed making clearer the example of low-intensity events.
72	8	2	50	2	50	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	We have changed this.
73	8	3	4	3	7	Please also note that this stems from issues of classism & racism. (UNITED STATES OF AMERICA)	We have noted this in the text.
74	8	3	7	3	9	This statement regarding technology transfer is not actually supported by section 8.2.4 (technology choices, availability and access) which is silent on the topic. Two sentences in section 8.3.2 (p16) address access to technology, with reference to Metcalf and Eddy Inc (2005 - incorrectly referenced as Metcalf and Eddy). The discussion does not touch on the wide range of issues associated with technology transfer, and outlined in various reports including those of the UNFCCC Expert Group on Technology Transfer. It would be more constructive to talk about technology as one of several tools that assist in CCA and DRR - a message clear in this chapter. Reference to technology transfer should be removed from the Executive Summary in the absence of a fulsome discussion in the underlying chapter. (CANADA)	Reference to technology transfer has been taken out of this section - it is still noted in 8.2.4 but not expanded upon.
75	8	3	15	3	16	If usage of the terms "thresholds" and "tipping points" is revised in 8.4.3, revisions to this sentences should also be considered. (IPCC WGII TSU)	We have revised the sentences.
76	8	3	23	3	23	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	Agreed - term is deleted.
77	8	3	23	3	24	What is the difference between 'extreme climate events' and 'climate extremes'? (Stocker, Thomas, IPCC WGI TSU)	Changed now to : extreme climate and weather events
78	8	3	23	3	24	Do you mean to use 'likely' here as a formal calibrated IPCC likelihood term? Please refer to the uncertainty guidance document. If not, please replace with an alternative word. (Stocker, Thomas, IPCC WGI TSU)	Agreed - wording has been changed.
79	8	3	23	3	24	The terms "extreme climate events" and "climate extremes" are redundant, given that "extreme weather or climate events" is a term consistent with the SREX glossary and "climate extremes" is a shorthand version of this term, as established in chapter 3. Here, it would preferable to use only "extreme climate and weather events" OR "climate extremes." (IPCC WGII TSU)	I would prefer "extreme climate and weather events". This also reflects the fact that there is full range of weather related hazards of varying magnitude
80	8	3	23	3	25	This focused statement sends a clearer message than the first one in the Executive Summary and could usefully be moved up front. (CANADA)	Thank you - this has been done.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
81	8	3	40	3	40	There are standard practices and a state of the art in disaster risk reduction. This is not the case for climate change adaptation which is still in an incipient phase, developing conceptual elements and defining approaches, as suggested in lines 42, 43 and 44, page 5, below. Is it acceptable to consider them as comparable in this context, in particular in the present? (CARLINO, HERNAN. UNIVERSIDAD TORCUATO DI TELLA)	An interesting point, our focus is rather on the scope for integration that exists across these two communities
82	8	3	43	0	0	It seems the chapter focuses on climate extremes, not "climate change extremes". Previous chapters, and elsewhere in this chapter, highlight the difficulty of differentiating extremes related to climate change and those related to climate variability. (CANADA)	This is correct, as stated in the first line of the introduction, 'This chapter focuses on the implications of changing climate extremes for development, and considers how disaster risk reduction and climate change adaptation together can contribute to a sustainable and resilient future'.
83	8	3	43	3	43	should be: '..implications of climate extremes....'. (Stocker, Thomas, IPCC WGI TSU)	This has been changed to "implications of changing climate extremes for development" to emphasize that we are discussing this in the context of climate change.
84	8	3	43	3	43	The phrase "climate change extremes and extreme events" is not ideal. There are types of extreme events for which frequency, magnitude, etc. are projected to be influenced by climate change, as discussed in this introductory paragraph. It would be preferable to use a phrase that more clearly indicates that climate change can lead to changes in the occurrence of extreme events--without calling the events and extremes themselves climate change. For example, "extreme weather and climate events and changes in them due to climate change" might be preferable. (IPCC WGII TSU)	This has been changed to "implications of changing climate extremes for development" to emphasize that we are discussing this in the context of climate change.
85	8	3	43	3	54	There is a distinct explanation for why sustainable development, despite having been on the policy agenda for twenty years, remains contested. Traditionally, there have been two general approaches to understanding societies and states. One is the humanitarian or ecological perspective in which the focus is on society—how people live and are affected by war, pollution and economic globalization. The other is a realist perspective in which the focus is on the economic, political and military relations among major powers such as the European Union, the United States, China and Russia. What these traditional approaches underemphasize is the overlap and natural alignment between them. To understand the map of the future one needs to critically appreciate how astonishing population growth in cities—particularly fast-growing metropolises in weak or failing states in Africa, the Middle East and Asia—will have on ecology and ecosystems, human security and the national security of Western states as well as allies and trading partners. (Liotta, Peter, Independent Scholar)	We have emphasized this important point in section 8.5.2.1
86	8	3	45	3	45	Please include a citation to Chapter 3 after '....characteristics of extreme events'. (Stocker, Thomas, IPCC WGI TSU)	We have included "(see Chapter 3)".
87	8	3	50	0	0	I guess it would be helpful to refer to chapter 5 where resilience is also discussed in detail (Clot, Nicole, Intercooperation)	We have referred to Chapter 1, which discusses resilience.
88	8	3	50	3	50	On this line, the paragraph's focus shifts to resilience. It would be helpful for the reader to indicate the link between approaches that focus on "sustainable development" v. "resilience." Such a clarification would assist the reader in understanding the transition from the sentences on lines 46-50 to the rest of the paragraph. (IPCC WGII TSU)	We have added a transition sentence: "However, within the context of climate change, it is becoming increasingly clear that the sustainability of humans on the Earth is closely linked to resilient social-ecological systems."

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
89	8	3	50	4	5	In this section, resilience is conceptualized as a systems concept only, with particular reference to social-ecological systems and the kind of resilience thinking which is promoted by the Resilience Alliance and by the Stockholm Resilience Institute. However, recent discussions on the issue of social resilience have argued that, in addition to systems conceptions of resilience, people-centred concepts of resilience should also be promoted. Such people-centred notions of resilience do not look at societies as social systems (which is rather a functionalist view, with "social engineering" as an implication), but on the concrete perceptions, values and actions of households and communities which face stress situations and have to take coping and adaptation decisions. Their resilience, from this perspective, is basically determined by their capabilities, freedoms, human rights and by their agency. These ideas have not yet been systematically published. First ideas have been put forward, for example by Bohle, H.-G., Etzold, B. & Keck, M. (2009): Resilience as Agency. In: IHDP Update 2: 8-13 (which had been falsely quoted in the references of chapter 5). The most recent, comprehensive publication on this perspective of resilience as agency has been published by Obrist, B., Pfeiffer, C. & Henley, R. (2010): Multi-layered social resilience: a new approach in mitigation research, In: Progress in Development Studies 10 (4): 283-293. The general argument is that human agency as expressed in the ability to deal with hazards or disturbance, to deal with uncertainty and future changes, to adapt, cope, learn and innovate, to develop leadership capacity etc. is not the properties of social "systems", but rather of human capabilities. This calls for a people-centred approach and a closer look on social actors and relevant explanations and social theories. In this chapter, the downplaying of human agency in systems approaches is mentioned (page 19, line 5-6); however, it is not further elaborated. The same is true for the analysis of power in explanations of change. This is a central issue which might be further elaborated. (Bohle, Hans-Georg, University of Bonn)	This is an important point and we have emphasized the role of human agency and social resilience. The references have been included.
90	8	3	52	3	52	The citation for Brand and Jax (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Added to the list
91	8	3	53	4	2	Rather than constructing a "contrast" I would propose to present resilience as a thinking going beyond engineering systems (assuming that the reference supports this statement as well) (Langniss, Ole, Fichtner GmbH & Co KG)	The text has been changed to "goes beyond".
92	8	4	4	4	6	Is this an accurate assertion? Social losses are disproportionately concentrated in developing countries; however, economic losses, as a consequence of larger capital stocks in developed countries should be higher there, depending on what is being measured and how is it done. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	We have deleted this sentence.
93	8	4	5	0	0	dealing should be "deal" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	We changed the preposition instead
94	8	4	8	4	9	Institutional arrangements and governance should be included here. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	This has been added to the text.
95	8	4	11	4	17	I suggest including this point in the executive summary @ p. 3 line 17. "Global risk assessments show that the social and economic losses already associated with climate extremes are disproportionately concentrated in developing countries..." (UNITED STATES OF AMERICA)	The ES has been rewritten (relate to #92).
96	8	4	14	4	14	Understandings and perspectives cannot promote directly but help to promote. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	Text has been changed accordingly.
97	8	4	14	4	15	Given the lack of citations, it appears the second half of this sentence is a conclusion of the author team. It would be preferable to indicate more specifically what is meant by "most impacts" and to indicate the author team's degree of certainty in the statement through use of calibrated uncertainty language, per the AR5 Guidance Note on Treatment of Uncertainties. For example, the statement could be read as stating either that more severe impacts will occur in contexts with the limitations mentioned or that most of the impacts (out of all impacts overall) will occur in these contexts. (IPCC WGII TSU)	We have modified this sentence.
98	8	4	22	4	22	"the objective is to assess scientific knowledge on the transformative changes needed, particularly in relation to integrating adaptation into development policies and pathways." (UNITED STATES OF AMERICA)	Text has been changed accordingly.
99	8	4	24	4	27	It would be preferable to indicate that the statement here is a conclusion arising from the author team's assessment throughout the chapter--as opposed to the more ambiguous phrasing of "a key point emphasized." (IPCC WGII TSU)	Changed sentence to start with "The assessment of literature presented in this chapter shows ..."
100	8	4	25	4	27	"A key point emphasized throughout this chapter is that changes in extreme events call for greater alignment and integration of climate change responses and sustainable development strategies, but that this alignment depends on greater coherence between short-term and long-term objectives." Integration is critical as well as alignment. (UNITED STATES OF AMERICA)	Text has been changed accordingly.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
101	8	4	33	4	33	It is unclear what source Pelling (2010a) corresponds to in the chapter's reference list, given the only reference by this author and year in the reference list does not carry a letter. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	This reference has been added.
102	8	4	34	4	37	Is this a new definition? (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	This is a distinction that we make in the chapter, based on our interpretation of definitions in the glossary.
103	8	4	37	4	37	or sea level, suggest adding: and how to address these vulnerabilities (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	Considers and addresses
104	8	4	38	4	38	Specific chapters--and ideally specific chapter sections--should be referenced here to illustrate what is meant by "earlier chapters." (IPCC WGII TSU)	We have cross-referenced earlier chapters and sections.
105	8	4	40	4	43	This simple and helpful distinction between disaster risk reduction and climate adaptation should also be included at the outset of chapter 1. (UNITED STATES OF AMERICA)	We have sent this comment to Chapter 1 for consideration.
106	8	4	41	4	41	Volcanoes, and to a lesser extent earthquakes can in fact be climate related (as discussed in chapter 3). Better wording would be 'climate-derived'. (Stocker, Thomas, IPCC WGI TSU)	Text has been changed accordingly.
107	8	4	46	0	0	"...most promising context ..." Why? References? (Langniss, Ole, Fichtner GmbH & Co KG)	Change this to "arena" (and changed DRR to DRM) NEED REFERENCES!
108	8	4	46	4	49	promising contexts for mainstreaming or integrating climate change adaptation into sustainable development planning. (UNITED STATES OF AMERICA)	No changes necessary.
109	8	4	49	4	50	"...given that many of the impacts of current and future climate change will be experienced through extreme weather events..." is a strong, sweeping statement that is supported by only one citation. Such an assessment relating to impacts is outside of the scope of Chapter 8, and would need to be supported with reference to multiple lines of evidence. (Stocker, Thomas, IPCC WGI TSU)	Statement is deleted - beyond the scope of this chapter and not critical to it.
110	8	4	50	4	50	On this line, it would be more accurate to use the phrase "through changes in extreme weather events" instead of "through extreme weather events," since extreme weather events would occur with or without climate change. (IPCC WGII TSU)	Text has been changed accordingly.
111	8	5	1	5	2	It should be: Risks to human societies and ecosystems, whether they are part of sustainable development processes or not. Otherwise it is implied that every society is in a sustainable development pathway. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	We have emphasized that these influence sustainable development planning.
112	8	5	5	0	0	The definitions of adaptation/vulnerability/hazard/exposure/SD etc are a repetition from chapter 1 and 2. It should can be avoided. <Section 8.2.1> has many repetitions in concepts/definitions etc (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	We have tried to reduce repetition, but feel that presenting a discussion of the concepts and how we interpret them within the chapter context is essential, particularly for readers who will not read the entire report.
113	8	5	5	0	0	Section 8.2.1: It is not clear why Chapter 8 need to reintroduce terms that have already been extensively outlined in Chapters 1 and 2. If Chapter 8 are using there terms differently from how they have been earlier introduced or defined in the glossary, then you need to in these instances explain why this is necessary. Otherwise, these terms do not need to be reintroduced here. It is confusing for the reader to see terms reintroduced, often inconsistently with how they have previously been defined in the report without any reasoning as to why this is necessary. (Stocker, Thomas, IPCC WGI TSU)	We have tried to reduce repetition, but feel that presenting a discussion of the concepts and how we interpret them within the chapter context is essential, particularly for readers who will not read the entire report.
114	8	5	8	5	8	Section 8.2.1 needs to be more concise and brief. If a glossary section is provided, the author can elaborate the relationship among adaptation, disaster risk reduction and sustainable development. (CHINA)	We have tried to reduce repetition, but feel that presenting a discussion of the concepts and how we interpret them within the chapter context is essential, particularly for readers who will not read the entire report.
115	8	5	9	5	9	The terms "climate extremes" and "extreme events" are redundant, given that "extreme weather or climate events" is a term consistent with the SREX glossary, which is shortened as "extreme events" in places throughout the report, and "climate extremes" is also a shorthand version of the term, as established in chapter 3. Here, it would preferable to use only "extreme climate and weather events" OR "climate extremes" instead of the redundant phrase "climate extremes and extreme events." (IPCC WGII TSU)	A helpful point 'extreme weather or climate events' has now been inserted in several places in the text where existing terminology was less consistent: (page/line) 8/54, 11/29, 20/20, 21/30, 22/40, 22/53, 23/13, 29/20, 29/30, 33/21

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
116	8	5	10	5	11	The author team should consider overlap between this statement and the one on the previous page (p. 4, lines 49-51) for which Burton et al. (2002) is cited. The citation provided here also needs to be clarified because two IPCC (2007) citations are given in the reference list. Additionally, it would be preferable to also cite the most relevant AR4 chapters, in addition to the Synthesis Report (assuming the SYR is the intended citation here). (IPCC WGII TSU)	We have deleted this paragraph
117	8	5	11	5	11	Please cite a specific IPCC chapter. (Stocker, Thomas, IPCC WGI TSU)	We have deleted this paragraph
118	8	5	11	5	11	It is unclear what source IPCC (2007) 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)	We have deleted this paragraph
119	8	5	12	5	13	Given the specific focus of Milly et al. (2008), the author team should consider whether this statement is fully supported by the citation and provide further citations as appropriate. (IPCC WGII TSU)	We have deleted this paragraph
120	8	5	12	5	15	This helpful distinction between adaptation and disaster risk reduction should also be included in chapter 1 and the SPM. (UNITED STATES OF AMERICA)	We have passed this comment to Chapter 1
121	8	5	17	5	19	The definition of "adaptation" provided here could potentially be interpreted to go beyond the definition presented in the AR4 Synthesis Report glossary, specifically in mentioning "enhanc[ing] resilience," "climate variability," and "associated extreme weather events." It would be helpful to clarify whether these differences are substantive or not. In addition, it is important to also consider and perhaps mention the definition of "climate change adaptation" in the SREX glossary, as well as related discussion in chapter 1. Also, as mentioned more generally for this and subsequent paragraphs, the degree to which definitions should be presented here should be carefully considered by the author team. (IPCC WGII TSU)	We have used the glossary definition of adaptation
122	8	5	17	5	33	These definitions of adaptation and adaptive capacity are useful and more accessible than those in chapter 1. Suggest using these in chapter one. (UNITED STATES OF AMERICA)	We have changed them to align with the earlier chapters and glossary
123	8	5	17	6	37	The rationale for providing an extended presentation here of definitions is not completely clear, given the SREX glossary and extended discussion of terms in chapter 1. Consistency with and reference to the SREX glossary needs to be ensured for any retained definitional discussion. Additionally, overlap and consistency with chapter 1 should be considered. (IPCC WGII TSU)	We have tried to reduce repetition, but feel that presenting a discussion of the concepts and how we interpret them within the chapter context is essential, particularly for readers who will not read the entire report.
124	8	5	19	5	19	This citation needs to be clarified. Two IPCC (2007) citations are given in the reference list. (IPCC WGII TSU)	We have deleted these sentences.
125	8	5	19	5	19	It is unclear what source IPCC (2007) 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)	We have deleted these sentences.
126	8	5	26	5	28	It would be preferable to also consider and mention here the definition of "adaptive capacity" in the SREX glossary, as well as discussion in chapter 1. (IPCC WGII TSU)	We have used the glossary definition: "Adaptive capacity underlies action and is defined in this report as the combination of strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake adaptation." We have also presented some other understandings that are consistent with thinking about the future and developing resilience.
127	8	5	27	5	28	The citation [IPCC WG II, AR4, chapter 17, p727] is not correct. Please cite chapters of previous IPCC Assessment Reports by giving the author names of the chapter, followed by the publication year. Also, list this citation in the reference list under the author names. (IPCC WGII TSU)	We have corrected this.
128	8	5	35	5	35	It is unclear what source O'Brien et al. (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)	We have noted it as K. O'Brien et al. 2006 to distinguish it from a reference to G. O'Brien et al. 2006.
129	8	5	41	5	41	Please cite IPCC products correctly! (Stocker, Thomas, IPCC WGI TSU)	We have corrected this.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
130	8	5	41	5	42	The citation 'IPCC Working Group 2, Summary for Policymakers, p.69' is not correct. It probably refers to the Technical Summary, not to the Summary for Policymakers. Please ensure the reference is correct. If citing the Technical Summary, cite this source as 'Parry et al. 2007' in the text and add the following reference to the reference list: Parry, M.L., O.F. Canziani, J.P. Palutikof and Co-authors 2007: Technical Summary. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 23-78. (IPCC WGII TSU)	We have corrected this.
131	8	5	44	5	44	It is unclear what source O'Brien et al. (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)	We have noted it as K. O'Brien et al. 2006 to from a reference to G. O'Brien et al. 2006.
132	8	5	44	5	47	may now also add the Japanese tsunami effects as well as the combined effects of various hazards (e.g. earthquake, tsunami and nuclear radiation). While none of these individual risks were climate determined, aspects could have been and the importance of the experience is the consequences of hugely impactful combined effects. Potentially a coastal storm surge or flood could have created similarly severe effects "even" in an industrialized society. (Jeggle, Terry, University of Pittsburgh)	We recognize this as important but do not want to complicate the argument here!
133	8	5	45	5	45	Please cite IPCC products correctly! (Stocker, Thomas, IPCC WGI TSU)	We have corrected this.
134	8	5	45	5	46	The citation 'IPCC WG 2, Chapter 7' is not correct. Please cite chapters of previous IPCC Assessment Reports by giving the author names of the chapter, followed by the publication year. Also, list this citation in the reference list under the author names. (IPCC WGII TSU)	We have corrected this.
135	8	5	46	5	47	What are 'novel' hazards? What robust scientific evidence can you cite to support this 'possibility for novel hazards'? Does this imply they are hazards without any known precedent? (Stocker, Thomas, IPCC WGI TSU)	We have deleted this sentence.
136	8	5	50	5	52	This definition can have implications on which actions could be supported through climate financing. Merits further clarification on additionality. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	We do not discuss additionality in this chapter, but recognize the implications.
137	8	5	51	5	52	"In many cases, the most attractive adaptation actions are those that offer development benefits in the relatively near term, as well as reductions of vulnerabilities in the longer term." This seems like a key point to highlight in the executive summary. (UNITED STATES OF AMERICA)	We have included this in the ES.
138	8	6	3	6	3	Typo in citation: For Owuor et al. (2011), 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)	This has been corrected in the references.
139	8	6	3	6	5	There is something missing in the sentence: who is "viewing it..."? (NORWAY)	This has been changed to "sustainable adaptation is defined as..."
140	8	6	9	6	9	It is unclear what source Pelling (2010b) corresponds to in the chapter's reference list, given the only reference by this author and year in the reference list does not carry a letter. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	We have added the correct reference.
141	8	6	10	6	11	regulatory ecosystem services: This expression should be clarified. What is exactly regulatory ecosystem services? Is this reference to regulations on the use of services provided by ecosystems? (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	We have reworded this: hazards associated with floods, landslides, storm surges and fires can be influenced by declines in ecosystem services that regulate runoff, erosion, etc.
142	8	6	11	6	11	It would be preferable to cite specific relevant sections in chapter 1. (IPCC WGII TSU)	We have referred to sections in Chapter 1.
143	8	6	12	0	0	whereas concepts of hazards and vulnerability are explained further, an equal explanation for "exposure" is lacking (Langniss, Ole, Fichtner GmbH & Co KG)	This was inadvertently deleted from this draft and has been added in.
144	8	6	12	6	12	It would be useful if the definition of exposure, which is fully explained earlier in the report is nevertheless referenced here. (Chapter 2, page 5, lines 43-44). (NORWAY)	This was inadvertently deleted from this draft and has been added in.
145	8	6	14	6	15	Please delete this sentence beginning "Purposeful harm.....". Why does chapter 8 need to provide such text-book, basic explanations of terms such as 'hazard'? (Stocker, Thomas, IPCC WGI TSU)	This has been deleted. (We included basic explanations because some readers are new to the concepts discussed in this report)
146	8	6	16	6	21	Though definitely controversial, it is worth considering human influence as cause for seismic events. See: Klose, Human-Triggered Earthquakes and their Impact on Human Security, in Achieving Environmental Security (IOS Press, 2010): 13-30. (Liotta, Peter, Independent Scholar)	This is a good point, and discussed in Chapter 3.
147	8	6	19	6	21	If Fussler and Klein are elaborating IPCC definition, which they are not, as the reference is previous to the TAR, then it is their own interpretation on vulnerability. If such is the case, in what way would adaptive capacity be combined in terms of vulnerability other than through the lack of that capacity? (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	This sentence has been deleted.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
148	8	6	20	6	21	This final sentence could be misinterpreted as a scientific attribution between anthropogenic forcing and weather related hazards. To make it clearer that this sentence relates to the what is said in the previous sentence, these two sentences should be combined, ie, "...are all factors that can modify hazard patterns (MEA etc etc), and therefore most weather-related hazards now have an anthropogenic element (Lavell, 1999; Cadona 1996). (Stocker, Thomas, IPCC WGI TSU)	Text has been changed accordingly.
149	8	6	23	6	37	While correct that there are many different definitions of vulnerability, great effort has been spent in Chapter 1 to develop a definition for this report (which differs from that of the TAR and AR4) and it needs to be applied consistently throughout the report. (CANADA)	We have referred to Chapters 1, 2 and the Glossary.
150	8	6	23	6	37	This discussion of definitions of "vulnerability" should clearly consider and reference the definition presented in the SREX glossary, discussed in chapters 1 and 2, and used throughout the report. (IPCC WGII TSU)	We have referred to Chapters 1, 2 and the Glossary.
151	8	6	24	6	24	It would be preferable to cite specific relevant sections in chapter 2. (IPCC WGII TSU)	We have referred to Chapters 1, 2 and the Glossary.
152	8	6	27	6	27	Please cite specific IPCC chapter. (Stocker, Thomas, IPCC WGI TSU)	This has been deleted from the text.
153	8	6	27	6	27	It is unclear what source IPCC (2007) 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)	This has been deleted from the text.
154	8	6	30	6	32	"...reduced vulnerability due to development improvement ... (UNDP 2004,...)" contradicts to the following sentence stating "increase in loss and insurance claims". This reads to me, that vulnerability actually increases with development (Langniss, Ole, Fichtner GmbH & Co KG)	To avoid misinterpretation, we have changed reduced vulnerability to reduced mortality.
155	8	6	39	6	40	It would be preferable to cite specific relevant sections or components of chapter 3 (e.g., Table 3.1). (IPCC WGII TSU)	We have referred to sections of other chapters.
156	8	6	39	6	42	I don't think that Pouyaud, B and E. Jordan, 2001: Small glaciers disappearing in the Tropical Andes: a case study in Bolivia: the Chacaltaya glacier, 16°S. J. Glaciol., 47, 187-194. can be used as a (the only) reference for the string of statements made in this sentence in which glaciers are not even mentioned. (Kaser, Georg, University of Innsbruck)	We have removed this reference and referred instead to earlier chapters.
157	8	6	39	6	42	unclear definition of climate means, why increased heat stress and example of changing climate means and not of changes in severity of weather related hazards? (NETHERLANDS)	We have changed climate means to "climate impacts" to be more precise.
158	8	6	49	6	49	The phrase "climate change extremes" is not ideal. It would be preferable to use a phrase that more clearly indicates that climate change can lead to changes in the occurrence of extreme events--without calling the extremes themselves climate change. For example, "changes in extreme events due to climate change" might be preferable. (IPCC WGII TSU)	This statement has been deleted
159	8	6	49	6	51	"Sustainable development is an international goal that can be threatened in some areas by climate change extremes, thus climate change adaptation and disaster risk reduction are critical elements of long-term sustainability for economies, societies, and environments at all scales." Again, this key point should be highlighted in the exec summ & SPM. (UNITED STATES OF AMERICA)	We have rewritten the ES but have not included this statement.
160	8	6	54	6	54	Is it not worth some details on the planet heading into "ecological overdraft"? (Liotta, Peter, Independent Scholar)	It is not clear that ecological overdraft will be understood by all readers.
161	8	7	5	7	7	Add 'social' to sentence: 'Because sustainable development means finding pathways that achieve economic, environmental [and social] goals without sacrificing.... (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	Text has been changed accordingly.
162	8	7	12	7	12	The citation for Garg 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)	We have added the reference.
163	8	7	16	7	19	Probably it would be better to mention here that there are limited examples to date of systematic climate change adaptations, as the lack of adaptation strategies is prior to the possibility of their being successful. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	This has been taken into account in the revised text.
164	8	7	18	7	20	"In neither the case of disaster risk reduction or adaptation, however, has the record been encouraging to date in reducing vulnerabilities in practice, particularly in developing countries." This conclusion is alarming and not at all supported by the case studies that demonstrate coastal reforestation, community networks to support evacuation and other measures have been very effective. (UNITED STATES OF AMERICA)	This sentence/paragraph has been modified
165	8	7	25	7	27	An additional reason is that there is a lack of evidence that explicitly demonstrates how interventions or approaches may contribute towards adaptation or strengthening adaptive capacity. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	This has been taken into account in the revised text.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
166	8	7	25	7	27	It seems that evaluation of the success of adaptation actions does not necessarily require attribution of "observed environmental stresses to climate change." For example, another way to evaluate success is to gauge the extent to which the goals of a given action (determined in anticipation of a given environmental stressor) are achieved, independent of whether the environmental stressor materializes. (IPCC WGII TSU)	We have made this point in the text.
167	8	7	28	7	28	The phrase "climate change extremes and extreme events" is not ideal. It would be preferable to use a phrase that more clearly indicates that climate change can lead to changes in the occurrence of extreme events--without calling the events and extremes themselves climate change. For example, "changes in extreme events due to climate change" might be preferable. (IPCC WGII TSU)	The text has been changed accordingly.
168	8	7	31	7	48	the opening sentence (line) 32-33 suggest balance in the 'different conclusions' on the impacts of disasters on growth. But the larger number of quoted references suggest a negative impact. It would be better to state this at the beginning of the paragraph. (NETHERLANDS)	The text has been modified to reflect this.
169	8	7	36	7	36	The citation for Raddatz (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	The date has been corrected in the text (2007)
170	8	7	37	7	37	If there are contrasting views on the influence of disasters on economic growth, it might better not to qualify the nature of the link. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	We have emphasized disagreement, but pointed out that the balance of evidence suggests a negative effect.
171	8	7	37	7	37	The citation for Cavallo and Noy (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have changed the date in the text (2009).
172	8	7	40	0	0	This statement if read independently can give different conclusions. The quotes study must have defined the boundries and parameters of this conclusion. It is best to avoid this this statement. (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Not clear which statement this refers to.
173	8	7	48	7	48	It is unclear what source O'Brien et al. (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)	We have noted it as G. O'Brien et al. 2006 to distinguish it from a reference to K. O'Brien et al. 2006.
174	8	7	51	0	0	Values and representations command the attitudes and actions towards disaster risk. Paradoxally, to avoid denial and impede disaster to happen, it is necessary to suppose i twill will happen (Dupuy, 2002). (BOURRELIER, PAUL-HENRI, AFPCN)	An interesting perspective.
175	8	8	13	8	13	The citation for Rohan (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	The date has been changed in the text (2000).
176	8	8	27	8	42	Some literatures focus on climate change and equity, such as Kristian Hoyer Toft (2009; Global justice and climate change); Grasso (2010) also discussed the differences between distributive equity and procedural equity in adaptation funding regime. The traditional DRR in global community is based on humanitarian aid when disaster happened. However, it is necessary for the international adaptation mechanism to be built on another theoretical approach of (historical) responsibility, on which the content in the quotation marks is based. The difference between the two principles is legitimacy, since the latter would lead to a global binding obligation for financial mechanism. But the human rights principle would rely on a charity behavior from rich countries. It would be interesting to indicate this value and justice theory differences and its implication for resolving the disputes in global negotiations by building a feasible global adaptation funding. (CHINA)	Interesting point. I agree, but perhaps more appropriate for the AR5 adaptation chapter, and not really for SREX?
177	8	8	44	8	46	In case the economic rationality approach could be used at global level. It means that countries with the most serious economic losses would be compensated in the first place, which is not a fair principle. In fact, the global community has agreed on a funding criteria on adaptation to climate change,i.e. "the most vulnerable first", such as the least developed countries, small island countries, etc. (CHINA)	We have revised this paragraph to focus more generally on philosophical value frameworks.
178	8	8	47	8	47	It is unclear what source World Bank (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)	We have corrected this.
179	8	8	48	8	51	It would be helpful to specify whether the term "extensive risks" is being used here casually to indicate "a lot of" risk or being used as a specific technical term. (IPCC WGII TSU)	"Extensive risks" has been replaced with "wider consequences"
180	8	8	53	8	53	The citation for ICOMOS (1993) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
181	8	9	0	10	0	whole section 8.2.3: more hands-on example like with water availability (p9 41) would be expected for other issues (Langniss, Ole, Fichtner GmbH &Co KG)	We have tried to include more hands on examples in this section.
182	8	9	0	10	0	In realtion to subchapter 8.2.3: The impression is that not enough planning tools for sustainable development are discussed. (NETHERLANDS)	We have moved this section to 8.6, where we discuss other approaches, tools and integrating practices.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
183	8	9	5	0	0	Section 8.2.3 Planning for the Future - This section correctly highlights the value of the tool of scenario development for adaptation and DRR planning. However, the section does not sufficiently highlight the importance of climate, social, environmental and economic data needed to feed into scenario planning. While the section rightly highlights challenges of uncertainty, it is downplays the value of projections and forecasts for giving useful ranges to inform scenario development, and planning and decision-making processes. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have added these points into the text.
184	8	9	5	0	0	Section 8.2.3 Planning for the Future -- The section appropriately emphasizes the importance of differing world views in planning, and of the value of participatory mechanisms to support inclusive planning. However, it would be useful to point out (as in a later section of 8.2.5 (page 18 Lines 1-6) that it is important not to 'romanticise local actors or their viewpoints), and that local perspectives and actions may be unsustainable or be maladaptive. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We do not distinguish in this section between local and global perspectives and actions.
185	8	9	5	0	0	Section 8.2.3 Planning for the Future -- Adding specific examples of how scenarios, participatory backcasting and anticipatory action learning have been used for decision-making and strengthened adaptive capacity would be useful to concretize these concepts and understand their value in practice. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have included an example from the Thames Estuary.
186	8	9	7	0	0	This is a perfect place to highlight the 'scenario neutral' approach taken in the Thames Estuary: Environment Agency (2009) Thames Estuary 2100 Flood Risk Management Plan, Environment Agency, London (http://www.environment-agency.gov.uk/research/library/consultations/106100.aspx , link verified 10th August 2010).; Also other approaches that are emerging: Hine D, Hall JW. Information gap analysis of flood model uncertainties and regional frequency analysis. Water Resources Research 2010, 46, W01514. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have incorporated this into the text.
187	8	9	8	9	8	What scientific reasoning is there that suggests uncertainty is increasing?? It is fine to say "Planning for a future with uncertainty when the stakes are high....", but there is no scientific basis to suggest this uncertainty is increasing. (Stocker, Thomas, IPCC WGI TSU)	We have removed "heightened uncertainty" from the sentence.
188	8	9	8	9	9	It would be preferable to indicate more clearly what is meant by "heightened uncertainty." (IPCC WGII TSU)	We have removed "heightened uncertainty" from the sentence.
189	8	9	21	9	21	It would be helpful to provide citations to exemplify the mentioned types of scenarios. (IPCC WGII TSU)	We have added additional references.
190	8	9	21	9	22	Please provide a reference for IPCC SRES (Stocker, Thomas, IPCC WGI TSU)	We have added this reference.
191	8	9	21	9	39	this paragraph mixes the concept of projections i.e. a likely future with the concept of scenarios i.e. a possible consistent future (Langniss, Ole, Fichtner GmbH & Co KG)	This is common in the literature, and we have tried to be clear that scenarios and projections are related.
192	8	9	26	9	26	The citation for azerty (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have deleted this reference.
193	8	9	35	9	36	The citation for Brauch and Oswald Spring (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
194	8	9	44	9	44	Please provide full citation for Gao and Hu 2011 (Stocker, Thomas, IPCC WGI TSU)	We have corrected this.
195	8	10	4	0	0	only here the term "predictive" scenarios is introduced, could be done earlier see comment on p9,121 ff (Langniss, Ole, Fichtner GmbH & Co KG)	We have changed "predictive" to "projections based on" because scenarios are not meant to be predictions.
196	8	10	10	10	11	Typo in citation: For Carlsson-Kanyama et al. (2008), 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)	We will change this to Carlsson in the references.
197	8	10	15	10	15	It would be preferable to specify more clearly what is meant by "surfacing." Is "revealing" or "making clearer" meant? (IPCC WGII TSU)	We have changed this to "explicit acknowledgement".
198	8	10	34	10	35	Typo in citation: For Volkery and Ribiero (2009), 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)	We have corrected this in the text.
199	8	10	37	10	38	Typo in citation: For Volkery and Ribiero (2009), 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)	We have corrected this in the text.
200	8	10	42	10	45	This would be good topic for a Box - combining local- and global-scale scenarios that link storylines. (CANADA)	A good suggestion but we did not have sufficient material for this.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
201	8	11	0	0	0	Section 8.2.4 still has significant overlaps with Chapter 7, Section 7.4; please reduce repetition (Stocker, Thomas, IPCC WGI TSU)	We have made reference to section 7.4.3 and attempted to reduce repetition.
202	8	11	0	12	0	subchapter 8.2.4: Too focused on the hardware side of technology (and mainly related to infrastructure) a review on the use of Information technology (F.eks. for early warning systems) seems to be missing) (NETHERLANDS)	We refer readers to section 7.4.3, and end our section with mention of information technology.
203	8	11	3	0	0	Section 8.2.4 Technological Choices, Availability and Access. This section would benefit with stronger synergies with section 8.6.1. Technology is a broad concept -- and clarity as to what this means in practice would be useful (e.g. climate forecasting, agricultural and food production technologies, infrastructure for water management , energy systems, resilient buildings, roads; information and communication technologies). Currently the section is focused mostly on dam infrastructure, missing significant opportunities that other technologies may provide. Access (and gendered dimensions of access) are not discussed, although mentioned in the title. Stronger linkages could be made on opportunities that exist with technologies for monitoring systems, e.g. use of GIS and spatial technologies to support early warning.. One example is the WB and DFID funded Ethiopia Productive Safety Nets Programme that uses community-based means testing to identify social protection programme beneficiaries and remote sensing technology and GIS for early warning and rapid response systems (See for example Davies, MK et al 2009. Climate Change Adaptation, Disaster Risk Reduction and Social Protection. DAC Network on Poverty Reduction (POVNET). Organization of Economic Cooperation and Development (OECD). Seigel, P.B. 2010. No regrets approach to Decision-Making in a Changing climate: Toward Adaptive Social Protection in and Spatially Enabled Governance. Background Paper for the World Resources Report 2010. World Resources Institute: Washington, DC. January 2011) (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We refer readers to section 7.4.3, where GIS and other monitoring systems are discussed. We have emphasized that it is a broad concept.
204	8	11	17	11	18	True, but the opposite might be true too: short term risk reduction measures can also lead to long term vulnerability reduction. The statement is therefore of only little value to the debate. What are the key determining factors for the mentioned contradiction between short term risk reduction and long term vulnerability? How would the technology have to be designed to reduce both? (Goessling-Reisemann, Stefan, University of Bremen)	The standard assumption is that reducing short-term risk will lead to long-term vulnerability reduction, thus we feel it is important to point out that this assumption is not always valid.
205	8	11	17	11	22	The concepts contained in these lines are almost identical to those contained in lines 41-46 of the same page. (NORWAY)	We have corrected this error.
206	8	11	36	11	36	The citation for Altieri and Rosset (2002) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
207	8	11	53	11	54	assumed lifetime of DRR physical infrastructure is generally much longer than 3 to 4 decades in developed countries: rather centuries than decades, and rather focussing on the land unit (e.g: watershed) than on each individual infrastructure. (FRANCE)	We have included "or longer" to capture this, but maintained the focus on infrastructure.
208	8	12	10	13	48	The section on tradeoffs in decision-making does not explicitly acknowledge a number of important points. 1) Our current systems are not always well-adapted but may suffer from interest conflicts where existing policy may reflect what is possible (politics being the art of the possible) rather than necessarily any "best" solution for all actors. 2) Goal conflicts may inherently exist between different policy goals also at the same level, such as for instance between goals for advancing biofuel development in forests (that may require planted intensive forestry) and goals for increasing biodiversity in forests (that place preference on natural forest). 3) This situation of goal conflict is institutionalised by that governmental decision-making is traditionally structured per department, so that for instance conservation and energy goals may remain separate. This context for tradeoffs in decision-making should be written into the section. (SWEDEN)	We recognize that all of the tradeoffs cannot be captured in a short section.
209	8	12	14	12	14	The citation for Pelling and Dill (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected the year - 2009.
210	8	12	34	12	36	The topic of mainstreaming in business planning and operations would be a good candidate for a Box. (CANADA)	We did not have sufficient space in the chapter for this.
211	8	12	48	12	48	It would be preferable to indicate more clearly what is meant by "surface." Is "reveal" or "make clearer" meant? (IPCC WGII TSU)	We have reformulated the sentence.
212	8	13	1	13	6	It would be preferable to provide relevant citations for these statements. (IPCC WGII TSU)	Text has been deleted
213	8	13	8	13	18	In chapter 8 (page 13, line 8-18) cross-scale interactions are briefly mentioned, and a reference to Cash et al. 2006 is made in the text. However, all the three references in the text (page 13, line 17-18) are missing in the bibliography of this chapter. (Bohle, Hans-Georg, University of Bonn)	We have corrected this.
214	8	13	17	13	18	The citation for Brasseur and Rosenbaum (2003) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
215	8	13	18	13	18	The citation for Cash 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)	We have corrected this.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
216	8	13	18	13	18	The citation for Sayer and Campbell (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	This has been updated to Campbell et al., 2010.
217	8	13	24	13	24	The citation for Christoplos 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)	We have added this reference.
218	8	13	35	13	37	It would be preferable to indicate more clearly what is meant by "more difficult." What is difficult, more specifically? Additionally, relevant citations should be provided. (IPCC WGII TSU)	We have changed this to "complicated" (and referred to Chapter 6)
219	8	13	35	13	40	Please provide evidence to support the claim that in an absence of a "national legislative structure, achieving local disaster reduction and climate change adaptation planning is very difficult." This claim appears to be contradicted by the sentence following the statement and information contained in Chapter 6. on page 19 "As a general rule, actions generated within and managed by communities are most effective since they are context specific and tailored to local environments (Cutter 2003; Liso et al. 2003; Mortimer and Adams 2001). (CANADA)	Text has been changed to correct emphasis and new references (La Trober and Davis, and Pelling and Holloway) added to strengthen this statement which is in support of CH 6.
220	8	14	8	0	0	add: climate change adaptation and development (NETHERLANDS)	We have added development.
221	8	14	19	14	19	It would be preferable to cite specific relevant sections in chapters 5 and 6. (IPCC WGII TSU)	We have cited relevant sections.
222	8	14	30	0	0	Repetition. Can be removed (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	We feel it is necessary to introduce coping here (earlier mention has been deleted).
223	8	14	30	14	30	It would be preferable to cite specific relevant sections in chapter 2. (IPCC WGII TSU)	We have cited relevant sections.
224	8	14	34	14	37	This also holds for developed countries, as we are experiencing currently in our climate adaptation project in Germany focusing on the energy sector: short term issues receive a much higher attention than climate adaptation, even though investment cycles are often 30-50 years long. (Goessling-Reisemann, Stefan, University of Bremen)	We have added this important point.
225	8	14	38	14	39	Typo in citation: For Brauch and Oswald (2011), 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)	We have corrected this.
226	8	14	39	14	50	This section inappropriately describes adaptation as long term and coping as short term. Consistency with the IPCC definition of adaptation should be used. Adaptation is also in response to fast onset events (e.g. drought, floods) that may arise from long-term climate change. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We recognize that this is a simplification, but it is consistent with the glossary definition of coping, which aims to achieve basic functioning in the short to medium terms.
227	8	14	42	14	45	The example might overlook something: if the children were not removed from school during a drought, the farm could economically collapse and fail to support their owners, which could result in the loss of lives. Then the long-term adaptation makes no sense either. Again: short term responses CAN affect long term responses, but not necessarily. The authors should clarify when and how this contradiction appears. (Goessling-Reisemann, Stefan, University of Bremen)	We have added that there are immediate survival benefits, but this still does have long-term impacts.
228	8	14	45	0	0	add: long term adaptation and development (NETHERLANDS)	We have added this.
229	8	14	48	0	0	household coping and adaptive capacity should be "household coping and adaptive capacity in short term" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	We have added this.
230	8	15	7	15	12	Relevant citations should be added. (IPCC WGII TSU)	Text simplified to emphasise connection between existing references and text in question
231	8	15	15	15	16	"These effects have been discussed by Benson and Clay (2004) and investigated by Noy (2009)" AND? What did these studies find?? (Stocker, Thomas, IPCC WGI TSU)	The findings have been described.
232	8	15	23	15	23	There is no reference to the difficulty, when making cost benefit analysis, in making decisions regarding the discount rate to be applied, and thus, perhaps, impairing the quality of conclusions made through that framework. This also relates to values and link the economic approach and the human rights approach inextricably. A growing body of literature and a heated discussion on which rate to apply would have provided some inputs to the considerations in this section. No reference was made, either, in lines 35 to 47, page 8, when dealing with the same issues or ones of a similar nature. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	This is discussed in Chapter 4, Section 4.6
233	8	15	23	15	23	It is unclear what source UNDP (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)	We have corrected this.
234	8	15	32	15	34	meaning of "correcting" in comparison to addressing not explained. Meaning of the two phrases unclear (Langniss, Ole, Fichtner GmbH & Co KG)	The sentence has been rephrased.
235	8	15	32	15	34	The distinction between these two statements should be further clarified. (IPCC WGII TSU)	The sentence has been rephrased.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
236	8	15	37	17	29	the prevailing economics paradigm giving preference to the present could be added to this list of barriers: a box discussing the discount rate issue would be relevant in this chapter. (FRANCE)	This is a good point, but we do not have the space to elaborate on the current economic paradigm, unfortunately.
237	8	15	39	15	40	This sentence could be strengthened through use of calibrated uncertainty language, such as summary terms for evidence and agreement, to characterize the author team's degree of certainty in the statement, per the AR5 Guidance Note on Treatment of Uncertainties. (IPCC WGII TSU)	We have used the term "robust evidence" here.
238	8	15	39	15	46	The treatment of this obstacle is not in line with its relevance and the conclusion is not clear. Further, more updated information is available. In addition, the issue merits further consideration as finance is a classical way of arbitrage between present and future. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	It is not clear which obstacle is being referred to in this paragraph.
239	8	15	43	15	43	Incipient, still being developed but questionable? On what grounds? (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	The comment is unclear relative to the text.
240	8	15	53	0	0	It must be specified whether these calculations are for climate change adaptation or adaptation to disasters or both (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	We have specified climate change adaptation in the text.
241	8	15	53	15	54	What value do such UNDP and UNFCCC estimates between \$9 to \$136 annually have? This tends to distract as wildly disparate estimates. (Liotta, Peter, Independent Scholar)	We have deleted this paragraph
242	8	15	53	15	54	The information presented here should be considered with respect to--and harmonized with--the estimates provided in Table 4-18 and Table 7-1. (IPCC WGII TSU)	We have deleted this paragraph
243	8	15	53	16	6	This would be more appropriate for this discussion of financial needs to focus on extreme events, rather than adaptation broadly. The statement that the methodologies used are questionable is useful, and it would be helpful to do an objective assessment of these numbers. While the statement that it is counterproductive to take adaptation funding from development funding is correct, it also very important to ask how development funding can be invested to more effectively create climate-resilient adaptation. Stress synergies and opportunities where they exist. (CANADA)	We have deleted this paragraph
244	8	15	54	15	54	What does "MDG" stand for? (Goessling-Reisemann, Stefan, University of Bremen)	Have specified Millennium Dev. Goals
245	8	15	54	15	54	This range of needed money for adaption development appears to be very large. (GERMANY)	We have deleted this paragraph
246	8	16	3	16	3	How/why are these methodologies questionable? Please expand. (Stocker, Thomas, IPCC WGI TSU)	We have deleted this paragraph
247	8	16	3	16	3	With reference to the statement: "Even though the methodologies that have been used to calculate these estimates are questionable..." (our emphasis) - either there needs to be some elaboration as to why they are questionable or auxiliary verb should be amended. As it stands now it is quite a direct statement without any substantiation. (NORWAY)	We have deleted this paragraph
248	8	16	3	16	3	It would be preferable to be more specific about why the methodologies are questionable--what uncertainties are at play, what assumptions are potentially problematic, etc.? (IPCC WGII TSU)	We have deleted this paragraph
249	8	16	5	16	6	The statement here, indicating that adaptation funding might be taken from development funding, seems at odds with conclusions presented elsewhere in the chapter about the need for integrating adaptation and development. (IPCC WGII TSU)	This sentence has been deleted.
250	8	16	6	16	7	There is a logical flaw here. If additionally funding is necessary, and the authors sugest that it is counterproductive to draw on development funding, it would be worthwhile developing an argument as to where funds should be drawn from. (Liotta, Peter, Independent Scholar)	This sentence has been deleted.
251	8	16	11	16	15	Relevance of the last sentence is not clear. (Stocker, Thomas, IPCC WGI TSU)	We have moved the sentence to a place where the point is more relevant.
252	8	16	11	16	15	It would be much preferable to indicate more specifically where such trends have been observed--everywhere in the world, as implied by the current wording, or only in specific regions? (IPCC WGII TSU)	We have specified that the research was done in South Asia.
253	8	16	21	16	23	This sentence should be clarified--what "changes" are being referred to, what is meant by "national findings regions," and does the sentence presumably indicate that national funding increases the likelihood of shift from proactive to reactive management? (IPCC WGII TSU)	The sentence has been deleted.
254	8	16	26	16	27	This conclusion that creative partnerships "has been found to dramatically reduce costs" is important. It is presently supported by a single reference. Further details and confidence statements to depict the type, amount, quality and consistency of evidence would be useful. (CANADA)	MARK??
255	8	16	26	16	27	Are there examples of successful partnerships that can be provided? (UNITED STATES OF AMERICA)	MARK??
256	8	16	27	16	27	Change "had" to "have" (UNITED STATES OF AMERICA)	Changed to "has" because it relates to "A change in culture".

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
257	8	16	37	16	41	Adaptation is also being regarded as an extra burden for the developing countries (UNEP, SEI, IISD, "Negotiating Adaptation: International issues of Equity and Finance", Copenhagen Discussion Series, Paper 3, July 2009) which does make sense of the development context consideration. (CHINA)	We have deleted this sentence.
258	8	16	45	16	45	"Forthcoming" is not acceptable as reference date. Not published literature cut-off date of May 31. (Stocker, Thomas, IPCC WGI TSU)	We have deleted the reference.
259	8	16	45	16	47	The point should also be made from a collective viewpoint, communities, societies, countries at large, are they prepared, conceptually equipped and politically able to identify, assess and decide on this kind of trade offs. (CARLINO, HERNAN, UNIVERSIDAD TORCUATO DI TELLA)	We have added in "groups" to acknowledge this, although the specific research focuses on individuals.
260	8	16	51	16	51	Typo in citation: For Hogarth and Kunreither (1995), 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)	We have corrected this.
261	8	16	52	0	0	seek out information should be "seek information" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	We have deleted "out".
262	8	17	7	0	0	Reference source is missing. (JAPAN)	We have added a reference.
263	8	17	10	17	10	Typo in citation: For Trope and Lieberman (2003), 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)	We have changed this to Liberman.
264	8	17	16	17	17	"NIMTOF" Can suggestions be provided to reduce this critical problem? Probably not. (UNITED STATES OF AMERICA)	We do not know of any literature on this.
265	8	17	19	17	20	"...the difficulty in projecting the long-term climate..." should be reworded to the "...the challenges in projecting the long-term climate...." and cross-reference given to Ch03, section 3.2.3. (Stocker, Thomas, IPCC WGI TSU)	We have changed this accordingly.
266	8	17	22	17	22	"population at risk" - of what? (Stocker, Thomas, IPCC WGI TSU)	We have rephrased this sentence to indicate that an increased population is exposed to the risks of extreme climate and weather events.
267	8	17	25	17	26	Agreed, the lack of probabilities for extreme events makes adaptation in sectors with an historical command-and-control approach to dealing with disturbance very challenging. (Goessling-Reisemann, Stefan, University of Bremen)	No changes necessary.
268	8	17	32	0	0	Section 8.3.3: This section does not come across as a review of the literature on resilience, but rather as a recommendation for using it in the context of climate adaptation. Even though I find the arguments convincing, a more objective tone and a broader discussion of the critique on resilience would probably be advisable. (Goessling-Reisemann, Stefan, University of Bremen)	We have revised this section to be more neutral.
269	8	17	32	19	21	Section 8.3.3 just emphasized how resilience thinking provides a useful framework to understand the interactions between climate change and other challenges, but discuss little on how to apply the tool. (CHINA)	The applications are discussed more in 8.6
270	8	17	34	17	45	This discussion of resilience should consider consistency and overlap with the discussion in chapter 1 on page 9, lines 11-33. (IPCC WGII TSU)	We have revised the section for consistency.
271	8	17	49	17	52	The author team might consider reducing overlap between this description of resilience thinking and page 3, line 53, to page 4, line 2. (IPCC WGII TSU)	We have moved the introductory description of resilience to this section
272	8	18	6	18	6	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	This sentence has been deleted.
273	8	18	10	18	10	The citation for Blaikie 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)	This sentence has been deleted.
274	8	18	33	18	34	Resilience is also currently being used as a guiding principle for climate adaptation processes, a notion that probably extends Goldsteins use as a planning approach. See: Gleich, A.v.; Stuehrmann, S.; Brand, U; Goessling-Reisemann, S.: "Directed innovation towards climate adaptation – Resilience as guiding orientation in energy supply of Germany's Northwest", ISEE Conference 2010, Proceedings, Oldenburg (Germany), http://www.isee2010.org/full_papers.php (Goessling-Reisemann, Stefan, University of Bremen)	We could not find the full paper on the web site indicated.
275	8	18	49	18	49	"This is needed" is tending to be policy-prescriptive, please rephrase. (Stocker, Thomas, IPCC WGI TSU)	This sentence has been deleted.
276	8	18	50	0	0	fare should be "fair" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	This sentence has been deleted.
277	8	18	50	18	50	"our current sustainability crisis" is an emotive statement - what crisis? who is we? - please rephrase (Stocker, Thomas, IPCC WGI TSU)	This sentence has been deleted.
278	8	18	54	19	3	It should be clarified what is meant by "the core challenge that disaster risk management brings to climate change adaptation." Also, what is the balance being struck between--"command-and-control" and what else? (IPCC WGII TSU)	SHOULD WE DELETE THIS SENTENCE?

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
279	8	19	0	22	0	subchapter 8.4 This is a problematic subchapter because of the confusion around the relevance of mitigation. (NETHERLANDS)	We have reordered the sections and attempted to minimize confusion by stating clearly that it refers here to <u>greenhouse gas reductions</u> .
280	8	19	12	19	19	This part is very useful and the message that there is a complex relationship between stressors which would therefore pose additional challenges that policymakers should be aware of should be considered for inclusion in the SPM of the report as well. (NORWAY)	This has been included in the SPM subtext
281	8	19	24	19	254	"8.4 Interactions among Disaster Risk Management, Adaptation to Climate Change Extremes, and Mitigation of Greenhouse Gas Emissions." Is disaster risk management being used interchangeably with disaster risk reduction? (UNITED STATES OF AMERICA)	We have made our terminology more consistent.
282	8	19	27	0	0	These few lines tackle the interactions, specially the opportunities of urban and rural re-structuration for CO2 mitigation and risks reduction. (BOURRELIER, PAUL-HENRI, AFPCN)	correct
283	8	19	27	0	0	the statement 'In many instances, climate change adaptation and mitigation may be synergistic is not supported by text in the rest of the chapter and putting the reader on the wrong footing. A large part of the subchapter (in particular 8.4.2.) is addressing the urban and rural divide, but mitigation is not an element of this divide. (NETHERLANDS)	text edited to emphasise more the discussion on synergy
284	8	19	31	19	31	Please cite a specific IPCC chapter. (Stocker, Thomas, IPCC WGI TSU)	reference deleted in preference for original science
285	8	19	31	19	31	It is unclear what source IPCC (2007) 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)	reference deleted in preference for original science
286	8	19	33	19	33	The sentence: "The extent of adaptation required will depend on the mitigation efforts undertaken" is important and the need to consider adaptation and mitigation together may as well be included in the SPM to the report. (NORWAY)	agreed, this point has been added to the executive summary
287	8	19	34	19	34	Please reword: "...could increase drastically IF levels of climate change exceed systematic thresholds.." (Stocker, Thomas, IPCC WGI TSU)	done
288	8	19	44	20	54	Multiple studies suggest that only 5 percent of all cities are subject to urban planning design. This should be emphasized here as critical to meeting demands of this urban century. (Liotta, Peter, Independent Scholar)	we emphasize the limitation of SYNERGISTIC urban planning.
289	8	19	53	19	53	The citation for World Bank (2010c) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have changed this.
290	8	20	1	20	2	Not clear how decreasing GHG emissions and reduced air pollution will "enhance robustness to heat waves". What do you mean with this? (Stocker, Thomas, IPCC WGI TSU)	text changed to add clarity
291	8	20	1	20	4	Caution against speaking of GHG reductions in the context of this report. Important to remember the natural variability component in climate change and extreme events, and the inability to directly attribute anthropogenic GHG emissions to many extreme events. (Stocker, Thomas, IPCC WGI TSU)	Agreed, but this section is explicitly about connections between Climate Change mitigation, adaptation and disaster risk management so this emphasis is needed.
292	8	20	1	20	4	This isn't just about synergies. This should also make the point that integrating climate adaptation & mitigation into urban community planning increases resilience and helps achieve sustainable development goals if social and ecological factors are considered. (UNITED STATES OF AMERICA)	A very important point, but not the topic of this particular section.
293	8	20	13	20	15	Effectively Katrina (as indicated) gives the example a very long and partial to a normal social life. Shocks and institutions did not favor resilience. (BOURRELIER, PAUL-HENRI, AFPCN)	agreed
294	8	20	13	20	15	The last sentence of this paragraph contains within it a fundamental point with respect to the challenges which developing countries will have to grapple with, and which possibly may mean that climate change adaptation is the loser in respect of implementation. If a developed country experienced a situation whereby social capital was lost and the town's rebuilding was slowed, this is likely to be a non-starter for developing countries. This needs to be highlighted with a view to equipping policymakers and stakeholders in developing countries to make a case why there are long-term benefits to be enjoyed from <i>short-term losses even for them</i> . (NORWAY)	agreed and the temporal challenge is now noted in addition.
295	8	20	18	0	0	HEP (explain acronym) (NETHERLANDS)	done
296	8	20	18	20	18	The acronym HEP needs to be defined. (IPCC WGII TSU)	done
297	8	20	18	20	19	Explain "HEP" and "REDD+" (Goessling-Reisemann, Stefan, University of Bremen)	done
298	8	20	19	0	0	(REDD+) first use of the acronym in this chapter. It would be better to write it in full here (NETHERLANDS)	done
299	8	20	24	0	0	Urban re-structuration is effectively a difficult task, case specific, experimental ; the text does not stress enough that densification worsens some risks but help to solve the grid security problems. (BOURRELIER, PAUL-HENRI, AFPCN)	densification is noted in the text

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300	8	20	29	20	29	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	text edited
301	8	20	34	20	35	Statement is too vague. (NETHERLANDS)	text edited for clarity
302	8	20	38	20	38	insert "may" before "generate .." (Stocker, Thomas, IPCC WGI TSU)	done
303	8	20	39	20	40	Please give references to support your two examples here of increased run-off and storm-surge increase. (Stocker, Thomas, IPCC WGI TSU)	303: Hardoy, Mitchell and Pelling added. 304: edited for clarity. 305: edited for clarity. 306: Hanson replaced by Satterthwaite and Hardoy references
304	8	20	49	20	49	It would be preferable to indicate what is meant by "exposure may be increasing rapidly," given that it is elsewhere stated in the paragraph that exposure *is* increasing rapidly (i.e., on line 42, page 20). (IPCC WGII TSU)	Noted
305	8	20	50	20	50	It should be clarified what is meant by "cannot explain." It is ambiguous if the wording should be interpreted as meaning that wealth has no effect on risk reduction investments or that it is only one factor that affects them. (IPCC WGII TSU)	
306	8	20	51	20	51	The citation for Hanson 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)	
307	8	21	12	21	12	The citation for Boonyabancha (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	done
308	8	21	12	21	14	This sentence could be further strengthened through use of calibrated uncertainty language, such as summary terms for evidence and agreement, to characterize the author team's degree of certainty in the conclusion, per the AR5 Guidance Note on Treatment of Uncertainties. (IPCC WGII TSU)	text deleted
309	8	21	16	21	26	It should be said that energetic autonomy in rural area, as communication mobile tools, help to reduce risks. (BOURRELIER, PAUL-HENRI, AFPCN)	noted and included in rural section
310	8	21	27	21	29	This is a useful (clear and concise) statement. Suggest the authors consider elevating it to the Executive Summary. (CANADA)	done
311	8	21	27	21	29	This sentence could be further strengthened through use of calibrated uncertainty language, such as summary terms for evidence and agreement or a level of confidence, to characterize the author team's degree of certainty in the conclusion, per the AR5 Guidance Note on Treatment of Uncertainties. (IPCC WGII TSU)	considered
312	8	21	32	0	0	Thresholds and tipping points: major subject, treated here too rapidly. Others chapters have stressed the increase of societies vulnerability where intrinsic risks of disasters are disclosed (and no more) by natural hazards. (BOURRELIER, PAUL-HENRI, AFPCN)	text has been edited
313	8	21	32	0	0	Section 8.4.3. Consistency of this section with the glossary, section 1.2.4, and section 3.1.7 should be considered. For example, the glossary contains the term "climate threshold," which is defined differently from "threshold" as used here in the context of impacts becoming disaster (see also 1.2.4). Since the discussion in this section considers both climate thresholds and disaster-related thresholds, it is important to employ consistent and clearly distinguished language to describe the two situations. It would be helpful to clarify the relationship between climate thresholds as defined in the glossary and terms here, such as climate tipping points, regime shifts, critical social thresholds, and tipping points in social systems. (IPCC WGII TSU)	These terms do not appear in the final glossary version, but the section has been edited for clarity. We have defined tipping point and referred to Chapter 3.1.1.
314	8	21	34	21	35	Here you should refer the reader also to the 'surprises' section of Chapter 3, Section 3.1.7. (Stocker, Thomas, IPCC WGI TSU)	We have referenced this section.
315	8	21	36	21	37	The author team should consider clarifying if these examples are tipping points or extreme impacts of tipping points. (IPCC WGII TSU)	edited
316	8	21	38	21	38	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	edited
317	8	21	41	0	0	It would be useful to explicitly list the dramatic changes from Scheffer 2009 and 2001, as they are referred to several times in this section. (International Petroleum Industry Environmental Conservation Association (IPIECA))	This covers a wide range of social and ecological systems, this is now noted in the text.
318	8	22	4	22	4	What are 'novel' hazards? What robust scientific evidence can you cite to support this possibility for novel hazards? Does this imply they are hazards without any known precedent? (Stocker, Thomas, IPCC WGI TSU)	text amended to indicate the place specificity of novelty rather than implying absolute novelty as a requisit.
319	8	22	4	22	4	Suggest moving "as in the European 2003 heatwave" forward to come after "anticipated limits" (Stocker, Thomas, IPCC WGI TSU)	good, this adds clarity.
320	8	22	8	22	13	It would be preferable to provide citations supporting these statements. (IPCC WGII TSU)	Weitzman added

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321	8	22	8	22	18	While admirable to examine the "fat tails" of impact probability density function, the authors do not clearly explain what value this has for adaptation--especially undermining earlier arguments for mitigating risk for areas in critical shorateg need of higher probability events. (Liotta, Peter, Independent Scholar)	text now edited to make this clearer
322	8	22	13	0	0	RRC communities are probably more interested by plurality of current risks, more easily evaluated and familiar to insurers, but this consideration must not divert from risks of break. (BOURRELIER, PAUL-HENRI, AFPCN)	agreed - concatenation is added to extensive risk as a current focus of DRR/RM research.
323	8	22	13	22	13	Delete "fat". The "tails" of the curve of a PDF, as representative of a distribution, are by their nature "thin", but "tails" is descriptive enough -- the additional qualifier is not needed. (Stocker, Thomas, IPCC WGII TSU)	done
324	8	22	22	22	25	It would be preferable to provide citations supporting these statements. (IPCC WGII TSU)	Reaser, Turner and Clifton, and Orlove added.
325	8	22	25	22	25	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	done
326	8	22	26	22	28	It would be preferable to indicate the spectrum of responses here, rather than just the extremes, indicating for example where or whether adaptation and mitigation play a role in such responses. (IPCC WGII TSU)	edited to avoid the implication of a continuum
327	8	22	28	0	0	Another reference could be added for geoengineering : The Royal Society (2009) Geoengineering the climate: science, governance and uncertainty (International Petroleum Industry Environmental Conservation Association (IPIECA))	included
328	8	22	31	0	0	Limits of resources put on constraints at all levels and to all sectors. Planet limits have multiple consequences, including greenhouse effect, and entail global, severe, systemic, risks (Lebeau, 2008). This section should at least mention some resources rarefaction and following prices increase, pollutions by lack of sites, and finally another development unavoidable. (BOURRELIER, PAUL-HENRI, AFPCN)	considered
329	8	22	34	22	38	This all in one sentence, consider to brake up into smaller sentences to increase readability. (NORWAY)	done
330	8	22	45	22	50	This key point should be included in the exec summary. "The capacity to manage risks and adapt to changes are unevenly distributed within and across nations, regions, communities and households..." (UNITED STATES OF AMERICA)	Agreed, to the first executive summary point has been added: Disaster risk, climate change impacts and capacity to cope and adapt are unevenly distributed
331	8	22	48	22	48	It would be preferable to cite specific relevant sections in chapters 5, 6, and 7. (IPCC WGII TSU)	We have added the section references.
332	8	22	52	22	54	Can you cite any climate-disaster related literature as evidence for individuals being forced to enter into dangerous livelihoods? (Stocker, Thomas, IPCC WGI TSU)	Added: Mgbako and Smith, 2010, and Ferris, 2011.
333	8	23	5	23	5	Children is repeated twice, although it was not clear to this reader which it was women or youth who had been omitted (taking into account the rest of the section). (NORWAY)	agreed - edited
334	8	23	5	23	6	The statement "... as more vulnerable to climate change-related extreme events" suggests that a distinction is made between vulnerability to climate change-related extremes, and extremes related to historic climate variability. Suggest revising to take out "vulnerable to climate-related extremes", which would make this consistent with the rest of the SREX. (CANADA)	done.
335	8	23	5	23	15	The vulnerability of WOMEN and girls to climate change should be added to the discussion on children and elderly at the outset. See gender references given in overall comment 7 on gender. For example, in the devastating cyclone of 1991 in Bangladesh, the death rate was reportedly 5 times higher among women than men. This was due to cultural norms inhibiting women without a man present, women not having learned how to swim, and women's lack of access to early warning information. Ref: UNDP 2007. Fighting Climate Change: Human Solidarity in a Changing World. New York: UNDP. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	done, and reference included, the text is also extended using Cannon (2002) as a reference.
336	8	23	21	32	22	Clarify what "will require the inclusion of future generations in decision making" means. Rewording as "consideration of future generations" may make more sense, depending on the authors intent here. (CANADA)	agreed this was a vague statement. It has been deleted.
337	8	23	41	23	41	The citation for Last (1994) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have added the reference.
338	8	23	50	24	1	Statement not relevant here (NETHERLANDS)	agreed - deleted
339	8	24	15	0	0	Traditional and indigenous knowledge is very different from local (or lay) knowledge. A useful definition is that of Berkes et al. (2000): Traditional knowledge is a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment. Berkes, F., Colding, J., and Folke, C. (2000): Rediscovery of Traditional Ecological Knowledge as adaptive management; Ecological Applications, v. 10, p. 1251-1262. (CANADA)	Paragraph has been edited to make this clearer
340	8	24	23	24	23	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
341	8	24	43	0	0	Survival or collapse of ecosystems (see 833) and their services in the context of DRR and CCA. Referring to chapters 3, 4 et 8, the SREX could be more explicit on these collapse risks (Décamps 2010). (BOURRELIER, PAUL-HENRI, AFPCN)	Added comment in intro para of this section and reference to Woodward, G (ed.) (2010) Advances in Ecological Research 42: Ecological Networks, London: Academic Press.
342	8	24	46	24	48	This opening sentence must be supported with reference to scientific literature. (Stocker, Thomas, IPCC WGI TSU)	Adger et al and West et al added.
343	8	24	46	24	48	This important point should be included in the exec summary. "Reducing human pressures on ecosystems and managing natural resources more sustainably can facilitate efforts to mitigate the rate and magnitude of climate change and to reduce vulnerabilities to natural hazards and climatic extremes." (UNITED STATES OF AMERICA)	Two comments added to the executive summary: line 26 - and underlying social and ecological conditions; and line 44/45 The degradation of ecosystems providing essential services also limits options for future mitigative and adaptive actions locally.
344	8	24	46	24	50	Would have liked to see some reference to the notion of sustainability of ecosystem services in the context of disaster risk reduction and adaptation in the summary for policymakers. (NORWAY)	Agreed, see response to comment 343
345	8	25	12	25	12	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	agreed - deleted
346	8	25	24	25	29	Use of "may" in this paragraph suggests a lack of consensus in the literature, which seems surprising particularly in the first usage ("functionally diverse systems may be better able to adapt than functionally impoverished systems"). (CANADA)	agreed - more precise text added and 'may' deleted.
347	8	25	31	25	38	"GHG mitigation actions may affect biodiversity positively or negatively". Unfortunately, only negative examples are given in the remaining paragraph. Positive examples may incorporate off-shore wind power plants (their basements being a artificial reef for mussels + through ban of ship traffic and fishery within the plant area creating a retreat for many species) or open field photovoltaic plants which may protect areas otherwise intensively used for agriculture. Possibly the upcoming SRREN may provide you with examples and references (Langniss, Ole, Fichtner GmbH &Co KG)	SRREN has been reviewed which is cautious about secondary positive ecological impacts, though these are noted and so SRREN has been referenced as a source but the idea not expanded upon.
348	8	25	31	25	38	This part of the chapter should give a balanced view of hydropower disadvantages but also advantages in climate change adaptation: Dams can serve to store water and therefore make regions more drought-resilient. Relevant sources "Hydro will play a major and increasing role in both climate mitigation and adaptation. As well as the energy services it provides, freshwater storage will be required to supply an increasing number of water-related services. This will call for new design approaches for the future, especially regarding provision for extreme floods and droughts, and this will affect both new and existing assets. Source: World Energy Council 2010: 2010 Survey of Energy Resources. P.292 "Africa's water resources are abundant, but because of an absence of water storage and distribution infrastructure, they are grossly underused. Therefore, water security—reliable water supplies and acceptable risks from floods and other unpredictable events, including those from climate change—will require a significant expansion of water storage capacity from the current 200 cubic meters per capita (Grey and Sadoff 2006). "About 40 percent of the total spending needs are associated with power, reflecting Africa's particularly large deficits. About one third of the power investment needs (some \$9 billion a year) are associated with multipurpose water storage for hydropower and water resource management. After power, water supply and sanitation and then transport are the most significant items." Source: Vivien Foster and Cecilia Briceño-Garmendia (Eds.) 2011: Africa's Infrastructure. A time for Transformation. World Bank and French Development Agency. http://siteresources.worldbank.org/INTAFRICA/Resources/aicd_overview_english_no-embargo.pdf (International Hydropower Association (IHA))	This section focuses on biodiversity implications of renewables, and for large dams the evidence is not positive. The SRREN has been referenced as an authoritative source that considers the wider benefits beyond but including biodiversity. Also considered in 8.5 when discussing HEP.
349	8	25	32	25	34	Please cite references for this example concerning bio-energy plantations. (Stocker, Thomas, IPCC WGI TSU)	Foly and Fargioni added.
350	8	25	48	25	53	Further explanation would be useful, as it seems strange that one would have to rely on experimental observations and modeling studies to conclude that forests are vulnerable to climate extremes - there would seem to be abundant observational evidence. (CANADA)	Agreed, the original text tried to make this point and was not clear enough, it has been edited.
351	8	26	2	26	39	The indication that there are winners and losers of changes, without any prejudice about the balance, is a very right one ; this question deserves being examined in depth, considering regulation and transfers of gains and losses. (BOURRELIER, PAUL-HENRI, AFPCN)	Agreed, we have tried to do this where the evidence from disasters allows.
352	8	26	7	26	10	There is something wrong in this sentence - "but also response" in line 8 does not make any sense. (NORWAY)	Agreed, this has been edited.
353	8	26	18	26	21	I do not understand how the example illustrates the statement spatial and temporal separation (Langniss, Ole, Fichtner GmbH &Co KG)	To help clarity the following has been added: with those benefiting from such development including distant speculators

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
354	8	26	18	26	21	Clarify how the statement about Hurricane Mitch impacts relates to the previous sentence about distributional equity. (CANADA)	To help clarify the following has been added: with those benefiting from such development including distant speculators
355	8	26	31	26	39	Urge caution in attempting to assign blame, even in the hypothetical. In doing so, it ignores the natural variability component and emphasises an anthropogenic signal that can not be detected for many extreme events even at a global scale, let alone then attribute the blame at a more local scale. (Stocker, Thomas, IPCC WGI TSU)	Noted and text changed
356	8	26	31	26	39	The point that understanding of winners and losers being highly subjective should be moved to start of the section. Issues of liability and compensation are beyond the scope of this report. While they have been part of discussions under the UNFCCC since 2008 (Bali Action Plan), without a more substantive literature base to assess there is no value including this it here. (CANADA)	Noted and text changed, additional references and information included.
357	8	26	38	26	38	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	done
358	8	26	42	0	0	The place given to this section treating the implications on security, emigration, human rights, is logic. Organised emigration and planned moving are powerful means to adapt and reduce risks of disasters. Human rights, already mentioned as moral values, are probably efficient means of progress. (BOURRELIER, PAUL-HENRI, AFPCN)	Agreed
359	8	26	44	27	17	This important point should be included in the executive summary. "Changes in climate related extreme events threaten human security..." This comment includes lines 4-5 and 14-17 on p. 27. (UNITED STATES OF AMERICA)	Agreed. This is integrated into the executive summary
360	8	26	44	28	7	The German Advisory Council on Global Change (WBGU) has developed scenarios for the conflict constellation 'Climate-induced increase in storm and flood disasters' (German Advisory Council on Global Change, Climate Change as a Security Risk, Earthscan, 2008, pp. 103-116). (GERMANY)	Potentially useful but unable to independently verify.
361	8	26	54	0	0	Climate change is generally regarded to act as a threat multiplier for instability in some of the most volatile regions of the world (CNA Corporation, National Security and the Threat of Climate Change, 2007, p. 6). (GERMANY)	A helpful comment and reference, included in the final para of this section
362	8	27	2	27	2	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	done
363	8	27	4	0	0	the paragraphs dealing with the possibilities of Climate change and displacement are not precise in their description. What is 'mass migration (line 5)' compared to 'displacement of an increased number of people'(line 16)? Or is it the same? What are the timescales for both to happen? (NETHERLANDS)	Text has been changed to improve clarity
364	8	27	4	27	6	widely discussed' - bit you only cite a single reference. (Stocker, Thomas, IPCC WGI TSU)	Reuveny, 2007, Raleigh et al, 2008, Warner at el, 2010 added
365	8	27	4	27	29	The German Advisory Council on Global Change (WBGU) has developed scenarios for the conflict constellation 'Environmentally induced migration' (German Advisory Council on Global Change, Climate Change as a Security Risk, Earthscan, 2008, pp. 116-129). Ammer et al. have described options for dealing with climate-induced migration (Margit Ammer et al., Legal Status and Legal Treatment of Environmental Refugees, Umweltbundesamt, Texte 54, Dessau-Roßlau 2010, http://www.umwelthundesamt.de/umweltrecht-e/index.htm) (GERMANY)	Ammer reference added.
366	8	27	15	27	15	It is unclear what source UNDP (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)	Human Mobility and Development (cited twice under different sub-titles in the draft reference list, but a singular document edited
367	8	27	20	27	20	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	edited
368	8	27	20	27	20	It would be helpful to specify what is meant by "permanent migration." Is migration to another part of a given country meant or migration to a different country? (IPCC WGII TSU)	added 'this will tend to be internal'
369	8	27	27	27	29	You must cite robust scientific studies if you are to speak of 'disappearing islands' and 'widespread desertification'. An IPCC report is not a location to make bold, dramatic statements without nay underlying scientific basis. (Stocker, Thomas, IPCC WGI TSU)	text edited
370	8	27	28	27	28	The citation for Montreaux and Barnett (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
371	8	27	37	27	40	This is a good candidate for a Box - details of the Aceh, Indonesia example. (CANADA)	Agreed, but space is against us
372	8	27	46	27	46	The citation for EU (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
373	8	27	47	27	47	The citation for SIDS (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have deleted this.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
374	8	28	4	0	0	There is a high probability of climate-induced conflicts. In their expected climate change scenario, Cambell et al. expect the following national security implications: "heightened internal and cross-border tensions caused by large-scale migrations; conflict sparked by resource scarcity, particularly in the weak and failing states of Africa; increased disease proliferation, which will have economic consequences; and some geopolitical reordering as nations adjust to shifts in resources and prevalence of disease." (Kurt Campbell et al., The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change, Center for Strategic and International Studies, November 2007, p. 6) (GERMANY)	Reference reviewed and included
375	8	28	7	28	7	The citation for Bauer (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
376	8	28	7	28	7	The citation for Pelling and Dill (2003) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	changed to 2009 to match reference list
377	8	28	10	0	0	Refer to Chapter 7 (Stocker, Thomas, IPCC WGI TSU)	Accepted and modified
378	8	28	12	0	0	influences should be "influence" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Accepted and modified
379	8	28	12	28	20	Not clear what the abbreviations AfDB and DFID represent. (Stocker, Thomas, IPCC WGI TSU)	Full names are provided
380	8	28	13	0	0	AfDB should be "ADB" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Accepted and modified
381	8	28	13	28	13	The acronym AfDB needs to be defined in the chapter text, in addition to in the reference list. (IPCC WGII TSU)	Accepted and modified
382	8	28	16	28	16	The acronym DFID needs to be defined in the chapter text, in addition to in the reference list. (IPCC WGII TSU)	Accepted and modified
383	8	28	26	28	32	This discussion of the Hyogo Framework should consider and cite relevant sections of chapter 7. (IPCC WGII TSU)	Accepted and modified
384	8	28	37	28	38	It would be preferable to provide relevant citations for this sentence. (IPCC WGII TSU)	Text deleted
385	8	28	50	0	0	The tone of the chapter and the report as captured well in this sentence. It is not the purpose of IPCC reports to make an argument (support a thesis). It is to assess the available literature and clearly present a summary of that knowledge. (CANADA)	The statement has been revised to be less policy prescriptive: As the preceding sections in this chapter and other chapters in the report have argued, achieving a sustainable and resilient future draws attention to the need for both incremental and transformational changes. Based on an assessment of the literature, there is high agreement that accomplishing such changes may involve a combination of adaptive management, learning, innovation, and leadership.
386	8	28	50	28	52	This sentence could be further strengthened through use of calibrated uncertainty language, such as summary terms for evidence and agreement, to characterize the author team's degree of certainty in the conclusion, per the AR5 Guidance Note on Treatment of Uncertainties. (IPCC WGII TSU)	We have included that there is high agreement based on an assessment of the literature.
387	8	29	3	29	5	Please provide supporting references. (Stocker, Thomas, IPCC WGI TSU)	Two references discussing the ways in which decision-making contexts and knowledge networks have been influenced by specific types of decision-making support system are included: Whitehead et al and Burch et al
388	8	29	3	29	23	Although it is still in very much in an incipient stage, it would nevertheless be nice if some reference could be made to the work of the World Meteorological Organization to establish a Global Framework for Climate Services which would be an important development in respect of the needs and gaps outlined in this paragraph. (NORWAY)	We have added a reference to this initiative in the text.
389	8	29	11	29	12	Scenarios and narrative story lines are also used in our approach to assess the vulnerability of the energy sector in Germany's Northwest (report coming up in May 2011, see www.nordwest2050.de) (Goessling-Reisemann, Stefan, University of Bremen)	We were not able to identify the particular report to include in the references.
390	8	29	11	29	12	Typo in citation: For Nichols et al. (2007), 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)	We have corrected the spelling of Nicholls.
391	8	29	26	29	26	The numbering of the section is off: it should be 8.6.1.1 (is: 8.6.2.1) (Goessling-Reisemann, Stefan, University of Bremen)	We have corrected the numbering.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
392	8	29	26	30	2	1) In the section of Approaches, Tools, and Integrating Practices, Modeling Tools should be expanded. Policy tools and other researches can all serve as tools for integration. 2) Could the author give any specific cases for measuring the adaptation policies? The indicators for measuring vulnerability and adaptive capacity in many literatures should be able to evaluate the change of a natural-social system, and the effectiveness of a holistic approach. such as (Developing Credible Vulnerability Indicators for Climate Adaptation Policy Assessment, by S H Eriksen, P M Kelly; http://www.mendeley.com/research/developing-credible-vulnerability-indicators-for-climate-adaptation-policy-assessment/) (Towards indicators for adaptation: policy needs, possible approaches and practical solutions, by Lisa Horrocks, A Hunt, http://iopscience.iop.org/1755-1315/6/36/362015/pdf/ees9_6_362015.pdf) (CHINA)	We have added reference to Eriksen and Kelly, along with Yohe and Tol 2002. The Horrocks paper was only an abstract thus we did not include it.
393	8	29	30	29	30	Typo in citation: For Clark and Weyant (2009), 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)	We have corrected the spelling of Clarke
394	8	29	35	29	35	The citation for Rose and Liao (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
395	8	29	43	29	43	Typo in citation: For Loorbach (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)	We have corrected the spelling in the reference list.
396	8	30	1	30	1	The citation for Lawn (2003) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have added the reference.
397	8	30	5	0	0	Decentralisation (see 833), transfer tools : same remark. Tools appropriate to importance of global stakes remain to develop. Some proposals (Munich..) have been made and deserve a priority examination. (BOURRELIER, PAUL-HENRI, AFPCN)	No changes considered necessary.
398	8	30	5	0	0	Section 8.6.1 Institutional Approaches -- In addition to risk transfer instruments such as insurance, this section should explicitly discuss the potential of a range of social protection measures, including cash transfers (conditional and unconditional), in strengthening economic resilience at household, national and regional levels. For evidence on a range of SP instruments (insurance, cash transfers, public works programmes) in different country contexts, and how they contribute to climate adaptation and disaster risk reduction, see Arnell et al (2010) Adaptive Social Protection: Mapping the Evidence and Policy Context in the Agriculture Sector in South Asia. Institute of Development Studies (IDS) working Paper 2010(345). Brighton: IDS. and Davies, M. et al. (2009). Climate Change Adaptation, Disaster Risk Reduction and Social Protection: Complementary Roles in Agriculture and Rural Growth? IDS Working Paper 2009(320). Brighton:IDS. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	This is discussed at length in Chapter 7.
399	8	30	7	30	8	Please provide supporting references. (Stocker, Thomas, IPCC WGI TSU)	Bicknell et al., Gero et al., Pelling and Wisner (eds) and Bhattamishra and Barrett added
400	8	30	11	30	13	It would be preferable to indicate that the mentioned factors influence both local hazard levels and vulnerability. (IPCC WGII TSU)	We have changed the wording to make this more clear.
401	8	30	26	30	26	These citations need to be updated to reflect the current chapter sections of chapter 5-7. Additionally, case study 9.2.10 could be referenced. (IPCC WGII TSU)	They have been updated and reference to 9.2.13 has been added.
402	8	30	29	30	29	Typo in citation: For Cummins and Mahul (2008), 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)	Have changed it in the reference list
403	8	30	52	31	3	This definition of transformation needs to be moved to the front of the chapter and clarified. The statement that "It involves a change in paradigm including shifts" suggests that the list that follows are essential to achieve transformational change, and that there may be other factors as well. If not all are essential in every case, then the wording should be revised to something like "It involves a change in paradigm and may include shifts in". (CANADA)	We have changed the wording to make this more clear.
404	8	31	6	31	17	This paragraph should be complemented with a discussion of the differences between governments and business, and why such approaches are not easily transferred (or even appropriate to transfer) from business to government. (CANADA)	We could not find literature saying that it is not easily transferred or appropriate to transfer, but did find examples of where government departments were pursuing transformative change methods (see Kegan and Lahey 2009)

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
405	8	31	8	31	8	Typo in citation: For Harvard Business School Essentials (2003), 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)	We have corrected the text.
406	8	31	19	31	20	"Many of the recent approaches to change and transformation focus on learning organizations, and the importance of changing mindsets or mental models (Senge, 1990; Scharmer, 2009; Heifetz et al., 2009)." This statement truly reflects the limited evidence about lessons learned from transformational changes in larger society. The evidence presented in the references are focused primarily on learning organizations and businesses. There is little evidence to suggest the definitive statement in the Summary for Policymakers that "Transformational changes in socio-ecological systems can influence the capacity of societies to adapt to changes in extreme weather and climate events (medium agreement, limited evidence) page 9, lines 27-28, SPM. (Lee, Arthur, Chevron Services Company)	We have added "individual and collective mindsets" and added a reference that relates the former and the latter.
407	8	31	19	31	20	"Many of the recent approaches to change and transformation focus on learning organizations, and the importance of changing mindsets or mental models (Senge, 1990; Scharmer, 2009; Heifetz et al., 2009)." This statement truly reflects the limited evidence about lessons learned from transformational changes in larger society. The evidence presented in the references are focused primarily on learning organizations and businesses. There is little evidence to suggest the definitive statement in the Summary for Policymakers that "Transformational changes in socio-ecological systems can influence the capacity of societies to adapt to changes in extreme weather and climate events (medium agreement, limited evidence) page 9, lines 27-28, SPM. (International Petroleum Industry Environmental Conservation Association (IPIECA))	Same as above
408	8	31	20	31	20	The citation for Senge (1990) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
409	8	31	20	31	20	The citation for Scharmer (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	We have corrected this.
410	8	31	40	31	40	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	We have made a cross-reference to Chapter 3 and the wording suggested in comment 411..
411	8	31	40	31	41	It is not within the scope or author expertise of Chapter 8 to be assessing the uncertainty associated with future climate projections. Terms such as 'likely' and 'significant' can only be based on an expert assessment. You should limit this sentence to only a very general comment and direct the reader to chapter 3 where the more appropriate treatment of uncertainty is given. Suggested rewording: "However, in the case of climate change, future projections of climate variables and extremes will contain uncertainty (see chapter 3, Section 3.2.3), and consequently, there is a need for". (Stocker, Thomas, IPCC WGI TSU)	We have changed the wording.
412	8	31	44	31	53	The discussions of triple-loop learning in chapter 1 (in 1.4.4) and 8 (here in 8.6.2) should be coordinated and cross-referenced. (IPCC WGII TSU)	We have coordinated with Chapter 1.
413	8	32	2	32	3	Transformational change as depicted by this figure appears to be something that a great number of governments and NGOs are already doing - it seems logical and implementable. This contrasts with the impression obtained from most of the text, which makes transformation seem large but vague without clear means of implementation. The impression left by the figure is much more constructive. If this is an accurate representation of what is meant, then move this figure up to the first place transformation is discussed in the chapter (section 8.1). (CANADA)	We have moved the figure to chapter 1 in the report, and have attempted to "demystify" transformation.
414	8	32	15	0	0	We regret that some sort of actions to facilitate transformational change, such as adaptive management, preparedness, are so shortly treated, and followed by general and common considerations. (BOURRELIER, PAUL-HENRI, AFPCN)	We also regret that the discussion is limited by space.
415	8	32	15	32	52	Transformational change needs to highlight reduction of vulnerabilities and transforming institutions - especially policies and practices of governments must necessarily be transformed. (Abarquez, Imelda, Oxfam Hong Kong)	We have tried to capture this in the text.
416	8	32	17	32	17	It is not clear that risk management can display a preference. (IPCC WGII TSU)	We have changed the wording
417	8	32	27	32	52	These same concepts are developed in a similar amount of detail in Chapter 6. There is no need for repetition between Chapters, simply refer to the other relevant section. (CANADA)	We have improved cross-referencing.
418	8	32	29	32	52	Section 8.6.3.1 Would have liked to see something on adaptive management in the summary for policy makers. (NORWAY)	It is included as a subtext in the SPM.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
419	8	32	31	32	31	The citation for Pahl-Wostl 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)	Pahl-Wostl, C., M. Craps, A. Dewulf, E. Mostert, D. Tabara, and T. Taillieu. 2007. Social learning and water resources management. <i>Ecology and Society</i> , 12(2)
420	8	32	39	32	41	Accountability to beneficiaries is a key principle that could help here and that is being increasingly recognised and efforts to apply it are increasing. See HAP humanitarian accountability partnership. (Nightingale, Katherine, Christian Aid)	We mention accountability in section
421	8	32	41	32	41	The citation for Pelling 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)	We have corrected this.
422	8	32	43	32	52	Issues of experimentation and innovation also pose questions for value for money arguments as they are pushing untested ground and can therefore result in less impact in some areas to achieve better impact in others. This was a finding of the Seminar Workshop on Innovation in DRR, Jan 2011 see http://community.eldis.org/?233@@/.59e88298!enclosure=.59e882a2&ad=1 (Nightingale, Katherine, Christian Aid)	Very relevant, but we cannot cite a seminar report and would need to refer to a background paper or policy note.
423	8	32	44	32	44	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	We have changed it to "may".
424	8	33	1	33	22	Iterative Shared Learning Dialogue processes have been used to diagnose climate vulnerabilities and identify points of entry for increasing resilience. This approach was used as part of the "Risk to Resilience" project ISET led on the costs and benefits of climate related disaster risk reduction (see The Risk to Resilience Study Team (2009): <i>Catalyzing Climate and Disaster Resilience: Processes for Identifying Tangible and Economically Robust Strategies: Final Report of the Risk to Resilience Study</i> , eds. Moench, M., Fajber, E., Dixit, A., Caspari, E., & Anil Pokhrel, ISET, ISET-Nepal, Kathmandu, Nepal, 328 pp.). It was also used for diagnosing vulnerability across Nepal (see the publications tab at www.i-s-e-t.org Vulnerability Through the Eyes of the Vulnerable: Climate Change Induced Uncertainties and Nepal's Development Predicaments). Shared learning approaches are currently being used as a central strategic component in the Asian Cities Climate Change Resilience Network program in India, Thailand, Vietnam and Indonesia. See: (Planning for Urban Climate Resilience: Framework and Examples from the Asian Cities Climate Change Resilience Network BY STEPHEN TYLER, SARAH ORLEANS REED, KAREN MACCLUNE, AND SHASHIKANT CHOPDE. Working Paper 3 at www.i-s-e-t.org , and The Shared Learning Dialogue: Building Stakeholder Capacity and Engagement for Resilience Action INSTITUTE FOR SOCIAL AND ENVIRONMENTAL TRANSITION, Working Paper 1 at www.i-s-e-t.org). (Moench, Marcus, ISET)	We have added ISET References.
425	8	33	26	0	0	Box 8-2: Please cite supporting references that provide the basis for this box. (Stocker, Thomas, IPCC WGI TSU)	We have added references.
426	8	33	28	33	42	Relevant citations should be added to support these statements. (IPCC WGII TSU)	We have added references.
427	8	33	29	33	29	Not clear what the abbreviations AfDB and ALNAP represent. (Stocker, Thomas, IPCC WGI TSU)	We have spelled out the abbreviations.
428	8	33	29	33	29	The acronym ALNAP needs to be defined. (IPCC WGII TSU)	We have spelled out the abbreviations.
429	8	33	30	33	30	The acronym DEC needs to be defined. (IPCC WGII TSU)	We have spelled out the abbreviations.
430	8	33	31	33	31	The author team should clarify what is meant by "all." (IPCC WGII TSU)	We have changed this to "organisations".
431	8	33	37	33	39	Competition is a challenge, but consortiums or joint platforms like Consortium of British Humanitarian Agencies and Strengthening Climate Resilience consortium, where NGOs come together can go somewhat towards addressing this and enabling learning across members. These are often smaller than networks (CBHA is 15 members, SCR 3 members). (Nightingale, Katherine, Christian Aid)	A good suggestion but we did not have space to elaborate on this.
432	8	33	51	33	51	Typo in citation: For Argyyris and Schön (1978), 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)	Corrected in text.
433	8	33	53	33	54	It would be preferable to indicate more clearly what is meant by "empowered agency" and "scaled up into everyday spaces." (IPCC WGII TSU)	Changed to "individual and collective empowerment" and "be scaled up to trigger transformation"
434	8	34	0	0	0	This opening phrase ("impacts predominantly linked to water") is unnecessary and not supported by the AR4. Clearly water resources are critical, but this represents an inappropriate generalization. (CANADA)	We have changed the wording.
435	8	34	3	0	0	Should this section on innovation come before the section on learning? Logically innovation discovers new things and learning that enables that experimentation to become part of knowledge and good practice. (Nightingale, Katherine, Christian Aid)	We discussed this and decided that they are not sequential processes.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
436	8	34	3	34	3	In 8.6.3.3, it would be better to give more experience-driven examples of adaptation technology innovation and its possible contribution to the transformation. In the drought-affected Ningxia Hui Autonomous Region of China, the water agency have found an effective way called Water Using Rights Transfer Reform, by transferring irrigation water from farmers to the enterprise users, with a compensation from the latter to the former by the way of investment to renew those outdated open irrigation systems. It's a triple-wins innovation. (CHINA)	Unfortunately we do not have the space, but will refer to case studies in Chapter 9.
437	8	34	3	34	51	This page addresses innovation, a capital question. But the argument is not properly ordered and developed. It should at least add that innovation addresses not only the protection and the optimisation of usage and cycles of material resources of any nature (water, land, energy, genetics, space...) but also the immaterial, virtual, resources (knowledge, communication, intelligence et help to decision, social networks...) It is a priority domain for experimentation. (BOURRELIER, PAUL-HENRI, AFPCN)	A very good point! We have added text on this.
438	8	34	10	34	11	Typo in citation: For Mol and Sonnenfeld (2000), 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)	Corrected spelling of Sonnenfeld.
439	8	34	23	34	23	The citation for Hoogma 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)	REFERENCE TO ADD
440	8	34	23	34	23	The citation for Raven (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	REFERENCE TO ADD
441	8	34	27	34	27	The citation for Hoogma 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)	REFERENCE TO ADD
442	8	34	37	34	37	"The impacts of climate change are predominantly linked to the water system, in particular through exposure to floods and droughts" Surely this depends on the region being considered! Suggest rewording to: "The impacts of climate change in many regions are predominantly". (Stocker, Thomas, IPCC WGI TSU)	We have changed the wording accordingly.
443	8	34	37	34	38	The author team should consider if the phrase "predominantly linked to the water system" is an overstatement. The mention of increased exposure to floods and droughts should also consider and cite relevant sections of chapters 3 and 4, in addition to the sources indicated. (IPCC WGII TSU)	We have changed the wording.
444	8	34	41	34	41	What do you mean by "changes in direction of rainfall"? (Stocker, Thomas, IPCC WGI TSU)	Have changed the wording.
445	8	34	44	34	51	Further relevant citations should be provided for these sentences. (IPCC WGII TSU)	NEED REFERENCES HERE!
446	8	35	4	35	18	Leadership and leaders do not develop independently, but depend on the context of the institution or organisation where they are active. This institutional context that may impact the development of leadership includes among other things institutional rules, resources, and organisational culture. It also sets the stage for opportunities for development such as the opening of a policy window where e.g. adaptation suggestions can be forwarded. The section should be added to with a few sentences stating this context, for instance referring to Kingdon who is already quoted in one of the other chapters. (Potential ref: Kingdon, J. W. (1995). Agendas, alternatives and public policies, 2nd ed. New York:HarperCollins.) (SWEDEN)	Have added this useful point.
447	8	35	14	35	14	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	Have changed to "may"
448	8	35	14	35	16	Please clarify: Should the word "with" be replaced by "without"? If not, then this statement (transformation will result in loss of lives), requires clarification. (CANADA)	We have revised the sentence.
449	8	35	21	0	0	Aren't synergies between DRR and CCA about integrating these 2 with wider development work. In the SCR initiative www.csdrm.org this has involved integrating them (Nightingale, Katherine, Christian Aid)	text has been edited to draw out this theme more clearly
450	8	35	21	0	0	Section 8.7. In this concluding section, the author team should consider characterizing the degree of certainty in its assessment findings using the calibrated language outlined in the AR5 Guidance Note on Treatment of Uncertainties: summary terms for evidence and agreement, levels of confidence, and likelihood terms. Use of calibrated language would enable the reader to understand more fully and compare more systematically the state of knowledge across statements. (IPCC WGII TSU)	This has been done
451	8	35	29	35	32	"Four critical factors identified by Tompkins et al. that have been discussed in this chapter include...3) disaster risk reduction and climate adaptation integrated into..." (UNITED STATES OF AMERICA)	change has been made
452	8	35	41	35	41	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	changed
453	8	35	49	35	49	Rather than being perceived as logically impossible, you should make it clear that scientifically, these events (such as shutdown of Atlantic ocean circulations) have been assessed to be very unlikely within the 21st century. (Stocker, Thomas, IPCC WGI TSU)	text changed to improve clarity on this point

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
454	8	35	49	35	49	Typo in citation: For Volkery and Ribiero (2009), 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)	Ribeiro is correct - it has been changed.
455	8	36	2	36	5	This is a key point and should be included in the executive summary. "For example, overcoming the current disconnect between local risk management practices and national institutional and legal frameworks, policy and planning can be considered key to reconciling short-term and long-term goals for vulnerability reduction..." (UNITED STATES OF AMERICA)	It is now included!
456	8	36	20	36	21	The paragraph contains a very fundamental point underscoring the importance of consulting with the most vulnerable in communities on their aspirations. However, the sentence which reads "These periods are frequently the times when those most affected are not consulted on their development visions and aspirations for the future" is somewhat odd. It seems that "these periods" refer to when a disaster is occurring. With the exception of disasters such as droughts, it seems odd that one would want to consult with the most vulnerable when their house has just been washed away by a mudslide or flood to ask them about their aspirations for the future. It would seem likely that their answer then may be more related to survival and rebuilding than at less stressful time. This could seem somewhat patronising. (NORWAY)	agreed, changes made to better reflect the importance of pre-disaster integration of disaster planning and participation with everyday development process.
457	8	36	21	36	26	This issue of imposing values and visions is an important concern. Would it be good to mention initiatives like the Humanitarian Accountability Partnership with its principles of accountability to beneficiaries that are trying to address some of these challenges? (Nightingale, Katherine, Christian Aid)	A useful addition that has been included.
458	8	36	22	36	22	The use of "likely" here appears to be casual, not tied to the AR5 Guidance Note on Treatment of Uncertainties, and therefore its use should be avoided. (IPCC WGII TSU)	done
459	8	36	28	36	40	It seems incomplete to end an assessment Chapter with a whole series of quotes from individual authors. Consider providing a summary statement. (Stocker, Thomas, IPCC WGI TSU)	done
460	8	36	31	36	31	Typo in citation: For Vermeij 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)	Change spelling in the text.
461	8	36	40	0	0	Despite the fact that "learning by shocks is not an ethically defensible pathway" it should be stressed that the crisis briefly triggers awareness as regards the benefits of financing longterm adaptation measures and thus creates the conditions of the relevant -resilient- decision making (the "never again" reaction). (FRANCE)	This is raised earlier in the chapter, but given the human costs it may not be considered ethical.
462	8	36	43	0	0	References: many entries are incomplete! See e.g. Geels, 2002 or Geels and Schot 2007 and GFDRR nd (Goessling-Reisemann, Stefan, University of Bremen)	We have addressed incomplete references.
463	8	36	43	59	8	References: please check, several references are incompletely given (Rock, Joachim, Johann Heinrich von Thuenen-Institute)	We have addressed incomplete references.
464	8	39	33	39	34	For Brauch (2005a): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	Corrected
465	8	39	35	39	36	For Brauch (2005b): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	Corrected
466	8	41	6	41	6	For Cohen (2007): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
467	8	41	9	41	9	For Comunidad Andina (2009): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
468	8	41	10	41	10	For Comunidad Andina and GTZ (2006): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
469	8	42	51	42	54	For FEMA (2009): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	Corrected
470	8	43	1	43	2	For Feng et al. (2010): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	Corrected
471	8	43	23	43	23	For Fuente and Dercan (2008): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
472	8	43	36	43	36	For Gao and Hu (2011): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
473	8	43	44	43	46	GECHS (1999): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	Corrected

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
474	8	43	47	43	47	For Geels (2002): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
475	8	43	48	43	48	For Geels and Schot (2007): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
476	8	43	49	43	49	For GFDRR (no date): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
477	8	44	23	44	24	For Grübler 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)	Corrected
478	8	46	3	46	3	For Hunt and Berkes (2003): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
479	8	46	15	46	18	For IPCC (2007): 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)	Corrected
480	8	46	21	46	23	For IOM (2009a): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	Corrected
481	8	46	33	46	33	For Jabry (2002): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
482	8	46	36	46	36	For Jones (2010): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
483	8	47	32	47	32	For Kolb (1984): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
484	8	48	13	48	13	For Lebel et al. (2006): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
485	8	48	13	48	16	For Lebel et al. (2006): 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)	Corrected
486	8	49	12	49	12	For Mahul and Stutley (2010): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
487	8	49	13	49	13	For Markard and Truffer (2008): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
488	8	49	16	49	17	For Marulanda et al. (2010): The reference does not contain the name of the publication or journal. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
489	8	49	18	49	18	For Maskrey (1989): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
490	8	49	29	49	29	For McMicheal et al. (2008): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
491	8	49	46	49	46	For Miles et al. (2004): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
492	8	50	7	50	7	For Montgomery et al. (2000): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
493	8	50	14	50	14	For Moss 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)	Corrected
494	8	50	33	50	33	For Nemarundwe (2003): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
495	8	50	36	50	36	For Newman (1996): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
496	8	50	45	50	45	For Njuki et al. (2008): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
497	8	51	5	51	6	For O'Brien et al. (2006): 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)	Corrected

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
498	8	51	16	51	17	For O'Brien et al. (2006): 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)	Corrected
499	8	51	31	51	31	For OECD (2007): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
500	8	52	9	52	9	For Oswald Spring and Brauch (2011): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
501	8	56	10	56	10	For Swart et al. (2003): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
502	8	56	22	56	22	For Thomas-Slayter et al. (1995): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
503	8	56	28	56	28	For Tierney and Bruneau (2007): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
504	8	56	31	56	31	For Tol and Yohe (2007): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
505	8	56	39	56	40	For Tschakert and Dietrich (2010): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	Corrected
506	8	56	51	56	52	For UNDP (1994): This listed source is not available at the link provided. Please revise or delete the provided URL. (IPCC WGII TSU)	Corrected
507	8	57	1	57	2	For UNDP (2009): This reference seems to be redundant with the reference listed on p. 57, l. 5. Please check if those references refer to the same document and remove the redundant entry. (IPCC WGII TSU)	Corrected
508	8	57	5	57	5	For UNDP (2009): This reference seems to be redundant with the reference listed on p. 57, ll. 1-2. Please check if those references refer to the same document and remove the redundant entry. (IPCC WGII TSU)	Corrected
509	8	57	6	57	6	For UNEP (2009): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
510	8	57	7	57	7	For UNFCCC (2006): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
511	8	57	10	57	10	For UNGA (2009): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
512	8	57	13	57	13	For UNSC (2007): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
513	8	57	44	57	44	For Viscusi et al. (2003): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
514	8	57	49	57	49	For Von Hesse, Kamiche and de la Torre (2008): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Corrected
515	8	60	0	0	0	Figure 8-1. Similarities between this figure and figure 1-2 should be considered, and the discussions of triple-loop learning should be harmonized. A figure depicting the three types of learning probably should appear in only one location in the report. (IPCC WGII TSU)	Corrected