

#	Ch	From Page	From Line	To Page	To Line	Comment
1	SPM	0	0	0	0	This version of the SPM is an improvement on the previous version. In particular, the overall restructuring of the SPM has been helpful, as has the simplification of the Figures from the previous draft and the addition of two new Figures. However, it is still a difficult document for a non-specialist to read. Further effort should be made to write in plain language that is readily understandable by policymakers. (CANADA)
2	SPM	0	0	0	0	The purpose of the bolded sentence and its relationship to underlying text in the paragraph seems inconsistent and this is confusing to readers. In some cases, the bolded text presents a high-level statement that is then supported by specific findings, referenced to the full report. This approach is successful when used. In other cases, the paragraph seems less closely linked to the bolded statement. In these cases, the bolded statement is often presented as a finding itself, with a confidence statement, and then the underlying paragraph presents additional findings which are tangential to the main finding. In such cases, a new bolded statement would be preferable that encompasses all the findings presented in the paragraph. (CANADA)
3	SPM	0	0	0	0	Greater consistency is needed in the use and positioning of uncertainty language: (1) Some bolded statements have confidence values assigned to them, whereas others do not. (2) Some of the bolded statements are so general that assigning them a confidence level, as if they were findings of this assessment report, seems hard to defend. (3) There is inconsistency in reporting confidence vs agreement/evidence language. Sometimes, for medium confidence statements, the agreement and evidence is not reported even though this would be useful information. In other cases, the agreement and evidence supporting high and even very high confidence is provided, even though this is less needed. (4) It is not always clear to which sentences in a paragraph a confidence statement applies. Presumably, if sentences in a single paragraph are referenced to different sections of the full report, then any given confidence statements would apply only to those sentences referenced to the same sub-section. (CANADA)
4	SPM	0	0	0	0	Consideration should be given to whether referencing to down to the level of sub-sections (i.e. Ch.Section.Subsection) is appropriate in each case. Where results are representative of the whole section, then the upper tiered reference should be used (see for example comment on page 8 lines 18-24). (CANADA)
5	SPM	0	0	0	0	This statement ("Effectively applying and combining approaches may benefit from considering the broader challenge of sustainable development") is quite timid. Suggest the authors consider making it more concrete. (CANADA)
6	SPM	0	0	0	0	The Chinese government appreciates and thanks all the authors of the IPCC Special Report on "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)", the Bureau and Technical Support Units (TSU) of IPCC Working Group I and II, and everyone involved for their hard work in preparation of this special report. We believe that the assessment on the status quo of extreme disasters, responses and risk management through this special report will provide a positive reference to governments in taking actions in adaptation to climate change. (CHINA)
7	SPM	0	0	0	0	The Chinese government welcomes this opportunity to make comments on the Summary for Policy makers (SPM) of Final Government Distribution (FGD) of the SREX, and hopes that the following suggestions will play a positive and constructive role in the process of revising the special report. (CHINA)
8	SPM	0	0	0	0	As for the conclusions from observed and future changes of extreme events, they should be consistent with those in other IPCC reports, e.g. AR4. In case that they are different, there should be explanation in this report, indicating they are in a category of new findings. Especially concerning the changes of tropical cyclones, explicit evidences should be given in support of the conclusions and new findings in this SPM. In addition, the current climate models still have large uncertainties in projecting the future changes of extremes. Therefore, it should be prudent to allocate an appropriate level of likelihood to the future changes of extremes. For example, the confidence level of future extreme temperature changes is rated "virtually certain" in this SPM. While in AR4, such changes were treated as being "very likely". (CHINA)
9	SPM	0	0	0	0	For the way to express uncertainties, it requires special elaborations and treatments, which should be both in line with relevant IPCC guidance documents and clearly understood, and which should not be expressed ambiguously. In SREX report, there is a large amount of judgment-based wording to show confidence, likelihood, consistency, etc., and when they are used to address a given phenomenon, they should be expressed in more plausible manner. For example, on P3 in L43-44, a conclusion with low-confidence, which still claims to be robust, would be difficult for policy makers to understand. (CHINA)
10	SPM	0	0	0	0	The whole SPM report is generally good and informative. The authors are commended for a job well done (KENYA)

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11	SPM	0	0	0	0	Sweden finds the report balanced and interesting statistics are presented. However, it is of main importance to have the policy makers in mind as the target group. There are a lot of statistics and information which might be too much to take in. Therefore, IPCC might think about the possibility of publishing a "light" version of the summary that are shorter and more accessible for a policy maker. Further, several of the figures are coarse and blurry. The resolution is not optimal, the pixels are visible, which make them difficult to read. Several of the legends, text and numbers on the axis in the diagrams are also difficult to read. Also, there seems to be a general problem with the precision with regard to definitions. In Box SPM.1 Extreme (weather or climate) event is defined. Policy makers will have problems in understanding what a weather variable is and what a climate variable is. Perhaps one idea would be to provide one or two examples of each of these. There is no reference to what time-span there is for an extreme event. Of course there is no single time parameter that could be given, but the report would benefit from a discussion of the time parameter when defining extreme event. For example, when trying to define a heatwave the number of days above a certain threshold is key to what impacts the heatwave can have. In other places in the report closely related terms are used. For example, on line 7 the term "extreme weather" is used, on line 8 the terms "climate event" and "climate extremes" is introduced. So again, some more precision could be used here. Start with the definitions given in the box; Should "Extreme (weather or climate) event" be interpreted as "Extreme weather event" or "Extreme climate event". If so, use these two terms throughout the entire report. (SWEDEN)
12	SPM	0	0	0	0	This first comment is meant as a general guidance, not as a line by line comment, to assist in further improvement of readability for the target group of this summary. The summary is difficult to read since it is unstructured with too many individual conclusions and too many references to the main text, introducing disturbing redundancy for policymakers who will not look into the underlying report for the scientific background. We think the summary could be much improved if it would better focus on the concepts as illustrated in figure SPM.1 and some of the major questions that policymakers might have regarding changes in weather and climate extremes, e.g.: 1) How are extremes in weather and climate events changing on the regional and local scales?, 2) How often (frequency), when (e.g. in which season of the year) and where (e.g. location) are we exposed to those extremes? and 3) How vulnerable are we to those extremes and changes therein (e.g. disaster losses)? (NETHERLANDS)
13	SPM	0	0	0	0	There is obviously a trade-off between the strength of the statement and the certainty level (on a specific location, globally, in time etc). We feel that sentences have been made less precise in order to be more globally 'true'. This has resulted in many statements that have high level of agreement/confidence, yet the statements contain words like 'can' or 'some' which make the conclusions so general that they are not useful. Our advice would be to scan the report for words like 'can', take them out and reduce the certainty level if required. Be more location specific if needed. Location specific facts are valuable too. Another difficulty is that it is not always clear whether a statement is about observed or projected values. Also, it is not always clear what impacts / losses can be attributed to extremes or climate more in general (e.g. section 'human impacts and disaster loss'). The same holds for measures (e.g. low-regret measures p 9) (NETHERLANDS)
14	SPM	0	0	0	0	A proper definition of 'RISK' would also help policymakers to better understand the summary. We think most policymakers use the definition $RISK = (Probability\ of\ Occurrence\ of\ an\ Event) * (IMPACT)$. Here 'Probability of Occurrence of an Event' might range from very unlikely to virtually certain and 'IMPACT' from Low to Catastrophic. Besides RISK, the definition and relationship that is used for vulnerability and impacts is confusing. e.g, pg 1 line 13-14: impacts <..> depend on <..> vulnerability. This is the inverse of the vulnerability definition of IPCC. pg 2 line 25 uses vulnerability as susceptibility. Furthermore, we think that policymakers want to know which risks can be reduced (e.g. by adaptation) and which risks are remaining and should therefore be dealt with when such events finally occur. (NETHERLANDS)
15	SPM	0	0	0	0	Some valuable items for the special report that are underrepresented so far we think: - What makes this report and the focus on extremes really DIFFERENT from what IPCC reported so far about climate change?, - Where are we overall in assessing/projecting extremes, what are main challenges, at what timescales? How have extremes been reported on so far. How suitable are the models we have? How suitable are our approaches for coping with extremes? The examples in the Table are mainly based upon 'low confidence' arguments (both for observed and projected statements) give a weak impression. In this way it is easy for a policymakers to postpone their actions. (NETHERLANDS)
16	SPM	0	0	0	0	The tables are mainly based upon 'low confidence' arguments (both for observed and projected statements) give a weak impression. In this way it is easy for a policymakers to postpone their actions. (NETHERLANDS)
17	SPM	0	0	0	0	The Danish government would like to thank all authors of the SREX for a comprehensive and useful assessment. The SPM is a highly relevant and informative document with valuable insights. (DENMARK)
18	SPM	0	0	0	0	This summary could provide steps for policymakers regarding the assessment of climate change impacts and the strategies necessary for preparation and response to climate extremes and disasters. (TRINIDAD AND TOBAGO)

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19	SPM	0	0	0	0	The German Government appreciates the work that has been done by the authors of the final government distribution of the SREX and its summary for policy makers; acknowledges the significant effort of the authors in reflecting the knowledge gathered and assessed from a range of disciplines. For further improvement of the SPM, Germany - calls for enhancing the usability of the SPM for policy makers; in this context, notes that various statements need to be more focused, clearer, and less general and repetitive; underlines that some parts of the text need to be adjusted to be appropriate for non-scientists, - emphasises the need to include stronger figures (illustrations) appropriate for policy makers, - suggests adding a section on the most significant gaps in research knowledge, - urges to put the issue of extreme events into the context of anthropogenic climate change, and reference to mitigating GHG emissions and its role to avoid the potential increases of extreme events - in this context stresses the need to explain the consequences of not analysing the impacts of different temperature scenarios on the levels of risk identified by the SREX. - urges to add a statement on the serious shortcomings of past disaster risk management and climate change adaptation activities, and that climate change will pose added challenges for the appropriate allocation of efforts to manage disaster risk, and that greatly improved and strengthened disaster risk management and adaption will be needed. - underlines the need to identify and highlight the most vulnerable regions or situations, best practices, lessons learnt, and priority actions; in this context notes the usefulness of the Table SPM.1 (case studies) We look forward to the Approval Session in Kampala for approving the SPM of the Special Report. (GERMANY)
20	SPM	0	0	0	0	We suggest to rearrange the structure in a more logical way: 0. context/definitions, 1. observations (of extreme events, vulnerability, exposure, impact etc.), 2. projected changes (of extreme events, vulnerability, exposure, impact etc.) 3) measures and actions needed/possible including past experiences (disaster risk reduction, adaptation). Section C and Section E both address management strategies, the first for the past the second for the future. There are however many overlaps and repetitions. This text needs serious streamlining. (GERMANY)
21	SPM	0	0	0	0	Please use "weather or/and climate extreme" in a consistent way throughout the SPM and the report. (GERMANY)
22	SPM	0	0	0	0	Please use Uncertainty Language for confidence levels consistently and indicate both confidence levels and underlying levels of evidence and agreement. If not always possible, please give an explanation, why not. (GERMANY)
23	SPM	0	0	0	0	The difference and interdependencies of adaptation and risk/disaster management is not clear enough. (GERMANY)
24	SPM	0	0	0	0	There are no key figures that can be highlighted by policy makers. The figures provided are difficult to understand for non-experts without considerable effort. (GERMANY)
25	SPM	0	0	0	0	We miss a section on the most significant gaps in knowledge and uncertainty: We suggest to mention a number of issues, including these: Data on disasters and disaster risk reduction at the local level, especially in developing countries, which can constrain improvements in local resilience. / Studies on national disaster risk management systems and associated risk management measures explicitly integrating knowledge of and uncertainties in projected changes in vulnerability, exposure, and climate extremes. / Projections of changes in climate extremes, at a scale relevant to adaptation and risk management decisions, to help design more targeted adjustments in strategies, policies, and measures. / Understanding of the underlying processes and their simulation in models / Quantitative assessment of the effects of changes in population, exposure of people and assets, and vulnerability as determinants of loss. / Availability of long term high quality observational data of extremes and studies analysing these data (in particular for floods and droughts). / Information is particularly limited in many vulnerable regions (GERMANY)
26	SPM	0	0	0	0	The explicit use of the values 100% and 0% percent in the revised likelihood scale (Guidance Notes by Mastrandrea et al.) seems inappropriate in the IPCC context. From a statistical point of view this does not make sense, since e.g. hypothesis tests practically can never reach these values. Modeling results or expert views, of course, may have such outcomes. However, even in the case that 10 out of 10 experts have the same opinion this does not necessarily mean that we can be absolutely certain about the outcome. Experts can be mistaken. And so do models. We still have to be aware of the model deficiencies, the fact that they all have more or less common origins and are all based upon the same knowledge level, which means that up to now no model ensemble is absolutely trustworthy, no matter how many members it has. Therefore it may well be interpreted as overconfident, which might be dangerous especially from the political point of view (e.g. climate sceptics). We therefore suggest to continue using the "old" likelihood scale terminology, i.e. working with the exceedance of specific high threshold values (e.g. >99% for "virtually certain") or the non-exceedance of specific low threshold values (e.g. <1% for "exceptionally unlikely"). (GERMANY)
27	SPM	0	0	0	0	Costing aspects for the choice of the response / prevention measure are rarely mentioned, such as "it is better to invest in prevention than to do nothing". (GERMANY)
28	SPM	0	0	0	0	The underlying report indicates that agriculture is vulnerable and exposed to climate change. Therefore, the SPM should refer more specifically to agriculture, food security and nutrition (understanding the 4 dimensions of food security: availability, access, use and utilisation, stability). The link to agriculture and food security is missing. (GERMANY)
29	SPM	0	0	0	0	A major methodical problem with this report is, that "the influence of development on greenhouse gas emissions and anthropogenic climate change." There is no reference to the extreme consequences of the different scenarios of increases of two degrees (Cancún Agreement), a 3-4 degrees (actual pledges) or five degrees (actual emission trend) in this century compared to preindustrial times. This gives the wrong impression, that climate change would be a fixed and known problem, not dependent on the further emission trend. See for example page 1, line 38-41. Please add a sentence clarifying this. (GERMANY)

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30	SPM	0	0	0	0	Please add information on the fact that some concepts in the SREX are different from those of AR4. It can be expected that such differences both in the concepts (e.g. exposure, vulnerability, etc.) as well as reflection of climate change trends - will be picked up at the plenary. (GERMANY)
31	SPM	0	0	0	0	The methodological reasons, why it is more difficult to attribute change to causes on the local / regional scale should be explained. (GERMANY)
32	SPM	0	0	0	0	We appreciate the enormous work for producing the SREX. About the SPM: it is always very difficult to reflect the main messages from the longer report in a few pages, in particular for this report i.e. because of the geographical variety, the different degree of data and information available etc. Overall we found the report rather difficult to read and sometimes too general to be useful to e.g. local policymakers. We also regret the absence of a Technical Summary in this report. (BELGIUM)
33	SPM	0	0	0	0	As explained in this report, in several instances observations and data are lacking, models are not consistent, projections on smaller scales are not available etc. The scientific understanding of hazards, disaster risks, and local disaster risk management is frequently scattered and/or poor, in particular in developing countries. Therefore we suggest to add as a last section in the SPM a paragraph related to further research and observations needs. (BELGIUM)
34	SPM	0	0	0	0	It is noted that the SPM does not provide an overview on gaps related to research and data related to the topics addressed in the report. As those gaps limit the assessment and as future research and systematic observation and reporting activities could improve the understanding of the subjects addressed in the SREX considerable those gaps should be identified and addressed. E.g. a better understanding of the regional and local natural variability on various timescales (including decadal variability) could help to identify impacts of anthropogenic climate change. (AUSTRIA)
35	SPM	0	0	0	0	The SPM lacks a true summary of the assessment made (" Summary of the SPM"). Only experts might be in a position to prepare such summary after studying the whole SPM. It should highlight two issues: 1) It is obvious that there is an adaptation deficit in many parts of the world with respect to extreme weather related disasters. Adapting to current, natural climate variability already could significantly reduce impacts of extreme weather related disasters. 2) Future climate conditions should be considered related in particular to heat waves and increased extreme sea levels. 3) This report does not provide assessments of projected changes in extremes at spatial scales smaller than for large regions. However, disasters are most acutely experienced at the local level. (AUSTRIA)
36	SPM	0	0	0	0	It is noted that the report could not address trends of a significant number of extreme weather events, such as hail, thunderstorms due to lack of data/observations over a time period that is long enough to assess meaningful trends. It is suggested to provide such information/explanation in the SPM because many people would wonder why such frequent extreme weather events are not at all addressed in the SPM. (AUSTRIA)
37	SPM	0	0	0	0	It is noted that the SPM is missing some very policy relevant information identified in the Executive Summaries of the individual chapters. The comments below provide some more detail on this. (AUSTRIA)
38	SPM	0	0	0	0	On the structure of the SPM: we see the logic to first inform about the current situation (sections B, C) and thereafter discuss the future (sections D, E). However, the border line between the current and future situation is fuzzy and actually moving. It might be clearer and avoid the risk of duplication if after the introductory section A there is one section addressing current and future exposure, vulnerability, climate extremes, impacts and disaster losses and another section on current and future disaster risk management and adaptation to climate change. (AUSTRIA)
39	SPM	0	0	0	0	There are few references in the SPM to the participation of the civil society in the elaboration of policies for managing risks of extreme events and disasters. (BRAZIL)
40	SPM	0	0	0	0	The focus of policies for managing risks of extreme events and disasters should be based on the human component. (BRAZIL)
41	SPM	0	0	0	0	A. (Title) "CLIMATE EXTREMES AND DISASTER: CONTEXT". Replaced by EXTREME EVENTS or CLIMATE VARIABILITY or METEOROLOGICAL CONDITIONS. (VENEZUELA)
42	SPM	0	0	0	0	In general, the SPM doesn't adequately reflect the discussion in Ch6 on a) taking a systems-based approach to adaptation and DRR, b) the role of government policies and functions in addressing climate-related risk, c) the role of the humanitarian system in addressing CC adaptation and DRR (UK)
43	SPM	0	0	0	0	We suggest that the paper lacks a sense of the cumulative effects of climate stress and extreme weather events on society. This could be drawn out in section D under 'Human Impacts and Disaster Losses'. Cumulative effects will exacerbate exposure. In section C, it is possibly also worth reflecting how considering the cumulative effects may influence the sort of response you'd design. (UK)
44	SPM	0	0	0	0	The report could in general put more emphasis on the idea of enhanced resilience for both disaster risk management and adaptation to climate change. This is a concept that is central to the subject of the Special Report, as it aims to break the boundaries between DRR and adaptation. For example, line 40, page 11 could be pulled up to the top of the section 'Implications for sustainable development' and an explanation of what is meant by resilience included. (UK)

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45	SPM	0	0	0	0	The SPM doesn't explain anywhere the relationship between a changing climate and a change in the extremes of climate. Suggest putting together a summary table which shows the possible relationships and say what the current state of knowledge is about the relationships for different climate variables (alternatively this could be a text box or an annex). Suggest using figure 1-2 from page 55, Chapter 1 of the underlying report to help illustrate this. An example of a measured change would be useful. This could be placed in a text box in section A or an annex. A useful summary could also be taken from page 13, chapter 3, line 13-21 (this could be cut down or put in an annex or box too): 'The occurrence of extremes is usually the result of multiple factors, which can act either on the large scale or on the regional (and local) scale. Some relevant large-scale impacts of external forcings affecting extremes include the overall increases in temperature induced by changes in radiation, the enhanced humidity content of the atmosphere, the increased land-sea contrast in temperatures, which can, e.g., affect circulation patterns and in particular monsoons. On the regional and local scales, additional processes can modulate the overall changes in extremes, including regional feedbacks, in particular linked to land-atmosphere interactions with e.g., soil moisture or snow (e.g., Section This section briefly reviews the current understanding of the causes (i.e., in the sense of attribution to either external forcing or internal climate variability) of large-scale (and some regional) changes in the mean climate that are of relevance to extreme events, to the extent that they have been considered in detection and attribution studies.' (UK)
46	SPM	0	0	0	0	The SPM provides general information, and, of course, cannot disptach its findings into regional or subregional sections or chapters. Another fact is that the matter of SREX is quite difficult, quite complex for non-specialists, because, e.g., it involves probabilistic notions, specail terminology, and relates to phenomena which are rather rare, difficult to classify, not belonging to everyone's experience. The text presents the text has to present - many aspects, and compile, cumulate, considerations of several phenomena and all regions A consequence is that the text may be quite difficult to ingest by policymakers ; they may find it difficult to exploit for the understanding of their national situation and future. The readers must realize that, or be told of that. (FRANCE)
47	SPM	0	0	0	0	The SPM and the full Report provide the required assessment. Here are a few suggestions regarding clarity and consistency. The different paragraphs in the Summary for Policymakers should harmonize their use of assessed likelihood and level of confidence (used loosely here, not in a strictly statistical sense). In some sections (Exposure and variability in B, Disaster losses in sections B and D, section C, Preparing for and responding to changing risks of climate extremes and disasters in section E, Implications for sustainable development in E), the assessed likelihood is not mentioned at all. In other sections (Climate extremes and impacts in sections B and D), they appear to be used in an interchangeable way. If both terms are used that way, the text would gain in clarity if the equivalences or relationships between confidence levels in Box SPM.2 Figure 1 and the likelihood terms were provided. For example, is a statement starting by "it is likely that" equivalent to a medium or high confidence? It is not very clear in these 2 sections. The other sections are clearer. They provide simple statements and indicate between brackets the level of confidence or the levels of evidence/agreement. The sections 'Climate extremes and impacts in sections B and D' might consider doing the same thing for consistency. (FRANCE)
48	SPM	0	0	0	0	There is a general pattern emerging from the SPM : exceptions apart (heatwaves) the level of confidence in the increase of extreme events in the future remains low. Consequently, mainly low-regrets measures of risk management and adaptation are proposed. Perhaps should it be stated more clearly. (FRANCE)
49	SPM	0	0	0	0	The treatment of uncertainty comes after the conclusions. Therefore, it is very difficult, when you read the report to figure out if e.g. vitrually certain is more certain than very likely or not, and more generally what every single term represents in terms of probability percentage. It is therefore suggested to move this part between parts A and B. (FRANCE)
50	SPM	0	0	0	0	Confidence/agreement/evidence statements should be clearly associated with lines and statements to which they apply. (USA)
51	SPM	0	0	0	0	We feel that this is a valuable insight from the report. We hope that it will be considered for elevation to the SPM, given its relevance to policymakers. (Chapter 7, p. 3) "Closer integration at the international level of disaster risk reduction and climate change adaptation, and the mainstreaming of both into international development and development assistance could foster efficiency in the use of available and committed resources and capacity (high confidence). [7.4] Neither disaster risk reduction nor climate change adaptation is as well integrated as they could be into current development policies and practices. Both climate change adaptation and disaster risk reduction might benefit from sharing of knowledge and experience in a mutually supportive and synergistic way. Climate change adaptation could be factored into all disaster risk management, and weather related disasters are becoming an essential component of the adaptation agenda. [7.4]" (USA)
52	SPM	0	0	0	0	We feel that this is a valuable, policy relevant insight from the report because it has the potential to influence decisions on how to move the fields of DRR and CCA forward. We hope that it will be considered for elevation to the SPM. (Chapter 7, p. 44) "The literature shows a widespread view that CCA and DRR could both benefit from closer integration with each other and that both would benefit society better if there was more integrated into sustainable development (UN ISDR 2009a). By integration in this sense is meant symbiosis or synthesis rather than formal integration at the institutional level. Integration across scales can be facilitated if integration between DRR and CCA were also to take place at local, national and international levels. Integration at the international level might help to facilitate integration at national and local levels although the opposite is also possible. This Special Reports is itself a prime example of emerging cooperation. It is in line with a wider evolution in the global environmental change science research community whose products serve both disaster risk reduction and climate change adaptation at the international level of management." (USA)

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53	SPM	0	0	0	0	We feel that this is a valuable outcome of the report given that it could potentially influence decisions regarding the trajectory of both DRM and CCA. Please consider elevating it to the SPM. (Chapter 7, p. 3)"Opportunities exist to create synergies in international finance for disaster risk management (DRM) and climate change adaptation (CCA), but these have not yet , been fully realized (high confidence). International funding for DRM remains relatively low as compared to the scale of spending on international humanitarian response. Governments have committed to mobilize greater amounts of funding for CCA and this may also help to support the longer-term investments necessary for disaster risk reduction. [7.4.2]" (USA)
54	SPM	0	0	0	0	We appreciate alot of improvements in the SPM since the last draft. However, we have some concrete comments and in addition we would mention that the report might have been even better with a more holistic approach and with more focus on the synergies between mitigation strategies (including carbon sinks) and adaptation strategies. Furthermore we would like to see a more balanced presentation of the different types of impacts of climate extremes. In the current draft we think that the impacts on human health, ecosystems and environmental sustainability have been given minor attention compared to the focus on economic loss. (NORWAY)
55	SPM	0	0	0	0	SPM Figure 3A, 3B: We propose that you add "Legend" to the legend box, and place the "globe" inset box next to the inset map so that it stands out better from the regional inset boxes. (NORWAY)
56	SPM	0	0	0	0	Cyprus has no comments on the SPM (CYPRUS)
57	SPM	0	0	0	0	Overall feeling is that the SPM is not very informative on what to expect in a region of special interest to a particular policymaker. (FRANCE)
58	SPM	0	0	0	0	There is a need for a clarification and better consistency of the use of "weather and climate extremes". We recommend to define it at the beginning and then use "extreme events" (as is defined in Box SPM1) everywhere rather than sometimes "climate extremes" and sometimes "weather and climate extremes" (FRANCE)
59	SPM	0	0	0	0	The draft Summary for Policymakers is generally clear and accessible, with a sensible and logical approach taken in presenting the material. The discussion of the cumulative impact of (multiple) events leading to greater risk of disaster is especially welcome and timely. However the SPM fails to convey the confidence with which climate science is projecting significant changes in the occurrence of extremes events. Also the discussion is confusing, ambiguous and at times contradictory. E.g. page 5, lines 4&5 (IRELAND)
60	SPM	0	0	0	0	The discussion in Box SPM 2, is the underlying cause of the confusion. There are four criteria of evaluation use in this report: • Probability (likelihood), • Confidence (High-Medium, Low), • Evidence (robust, medium, limited) and • Agreement (High, Medium, Low). The relationship between these terms is not clear. There is significant ambiguity in the formulation of "Confidence" Box SPM 2, and Figure 1. For example, it would appear that a statement with High Agreement but Limited Evidence would be assign a High Confidence, this seems counter intuitive. Similarly there would be low confidence assigned to a finding with robust evidence but low agreement. It is not clear what "agreement" means in this context. The use of the term "evidence" is confusing at times, and often seems to be synonymous with "data". Use of term "evidence" should be confined to statements where the text is referring to data or analysis which supports a specific finding or conclusion. The criteria are applied unevenly in the discussion of the various topics. (IRELAND)
61	SPM	0	0	0	0	There is a sharp contrast between the discussion of the physical science and the socio-economic and governance elements of the SPM. There are many statements of "high confidence" with "strong agreement" in the socio-economic and governance sections related to the effectiveness of various strategies for risk reduction and improved planning etc.. There is little discussion of how to implement such strategies especially in developing and vulnerable areas where many of the necessary governance structures are weak. One might be led to conclude that the science is weak in projecting changes in the occurrence of extreme events and action on adaptation is not urgent. Furthermore, if the science ultimately becomes stronger, then issues of governance and planning can be readily addressed to reduce the risk of disaster. Is this a valid conclusion? The scientific analysis suggests that changes in extremes are likely, with a high degree of confidence. The uncertainty lies in the detail of local and region impacts. Greater clarity is required in distinguishing between "extreme weather "events and "extreme climate" events, if, indeed, such a distinction is intended by the authors. It is not clear if these terms are to be read synonymously (IRELAND)
62	SPM	0	0	0	0	The following references are relevant to the above ideas. (NOTE: Page 5, Line 52-54; Page 6, Line 1-4; Page 9, Line 13-16; Page 10, Line 33-38) Tompkins EL, Adger WN. Does adaptive management of natural resources enhance resilience to climate change? Ecology and Society. 2004;9:14. Folke C. Resilience: The emergence of a perspective for social-ecological systems analyses. Global Environmental Change. 2006;16:253-67. Biermann F. 'Earth system governance' as a crosscutting theme of global change research. Global Environmental Change. 2007;17:326-37. Moser S, Dilling L. Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change. Cambridge: Cambridge University Press; 2007. Armitage DR, Plummer R, Berkes F, Arthur RI, Charles AT, Davidson-Hunt IJ, et al. Adaptive co-management for social-ecological complexity. Frontiers in Ecology and the Environment. 2009;7:95-102. Olsson P, L. H. Gunderson, S. R. Carpenter, P. Ryan, L. Lebel, C. Folke, and C. S. Holling. Shooting the rapids: navigating transitions to adaptive governance of social-ecological systems. Ecology and Society. 2006;11:21 (IRELAND)

#	Ch	From Page	From Line	To Page	To Line	Comment
63	SPM	1	0	0	0	Page 1, Lines 3, 8, 13, 15, 19, and 44: There is a necessity to make an explanation on why "Climate extremes" are a direct consequence of climate change, and how these (the Climate Extremes) are related to extreme meteorological events. An "Extreme meteorological event", and its delicate balance with the climate change, should be addressed in the sense that the climate is not as extreme as the meteorological extremes events may really be. In addition, it is important to reflect the relationship between an extreme event and the reality of tropical regions. How the causes (climate change) affect the consequences (extreme meteorological events) and why we can refer to climate dynamics as "extreme". (VENEZUELA)
64	SPM	1	0	4	0	Section A and B are rather talkative and less informative. Clearer statements up to the point would help the overall report. (GERMANY)
65	SPM	1	3	0	0	In section A, there is need for an explanation preferably in the first paragraph on what necessitated the development of this important report and how the authors were selected (KENYA)
66	SPM	1	3	0	0	Section A: It is suggested to include in this section the following statement (from Executive Summary of Chapter 2) due to its policy relevance: Adaptation and risk management policies and practices will be more successful if they take the dynamic nature of vulnerability and exposure into account. including the explicit characterization of uncertainty and complexity at each stage of planning and practice. (AUSTRIA)
67	SPM	1	3	0	0	The concept of "climate extremes" is not commonly used. (BRAZIL)
68	SPM	1	5	1	11	The first paragraph of the SREX is not an engaging introduction to the report. The first statement indicating that the SPM presents findings from the SREX is self-evident and could be deleted. The introductory sentences should remind readers of the scope of SREX, not describe the assessment "approach". Some appropriate text currently exists within the captions to Figures SPM 1 and 2 and should be used here rather than in the captions. E.g., "This report examines how changes in extreme weather and climate events, along with changes in vulnerability and exposure, may lead to changes in disaster risk. It also examines how disaster risk management and adaptation to climate change can reduce this risk and increase the resilience of communities to the adverse impacts of extreme climate events." The authors should also consider combining paragraph 3 of this section ("This report integrates perspectives from several historically distinct research communities...") with the first paragraph to make a distinct and complete introduction to the SREX. (CANADA)
69	SPM	1	6	1	7	BOX SPM1 gives a definition of extreme (weather or climate) events but it does not explain the difference between weather and climate events. For the non-expert reader it is difficult to grasp what the difference precisely is. We suggest to add a footnote explaining this, and also to add a reference to the full definition of "extremes" in section 3.1.2 (weather event = on the time scale of changes in weather patterns = a few days; climate = longer, such as droughts) (BELGIUM)
70	SPM	1	7	1	7	Revise to state "... scientific and other relevant literature ...". This report, probably more than other IPCC reports, also draws heavily upon non-scientific literature (for example reports of the GEF and many of the UNFCCC documents cited in Chapter 7). This broader source of information is appropriate, but it should be explicitly acknowledged that these are not scientific documents. (CANADA)
71	SPM	1	7	1	7	THE USE OF WORD EXTREME SHOULD FOR CLIMATE AND WEATHER SHOULD SEVERE (TANZANIA)
72	SPM	1	7	1	8	Reference missing about the time frame of the assessment (e.g. add a footnote - that the literature assessed was from X to z) Reference footnote to sustainable development might also be required. as considered within the Brundland definition on SD and taken up in the Summit for SD to be held in Brasil in 2012. (GERMANY)
73	SPM	1	7	1	8	Here you introduce "weather and climate events" for the first time; define and explain briefly the difference between the two. "relationship between climate change and extreme weather and climate events ("climate extremes")" text reads very peculiar... please improve writing to be understandable for lay persons. (GERMANY)
74	SPM	1	8	1	8	Remove "much of" from the beginning of this sentence. This phrasing makes the scope of the report sound uncertain. (CANADA)
75	SPM	1	8	1	8	Development' even 'sustainable development' may not capture all that we're concerned about for climate extremes impacts. Suggest "implications for society". (USA)
76	SPM	1	8	1	11	Change "impacts" to "extreme events" on lines 9 and 10, and on line 11 add "from extreme events" at end of sentence. These changes help constrain the scope of the discussion to the mandate of the report. Using "impacts" alone brings in issues such as beneficial opportunities and the whole scope of adaptation. (CANADA)
77	SPM	1	9	1	9	Include the economic factor; not only climate, environmental and human factors (CUBA)
78	SPM	1	11	1	11	We suggest to insert box SPM.1 here rather than later. (BELGIUM)
79	SPM	1	11	1	11	Please add a new sentence before "Box SPM 1": "The SREX SPM present climate extremes related to temperature, precipitation, cyclones, droughts, floods and sea level. The underlying report includes additional climate extremes at both global and regional level." (NORWAY)
80	SPM	1	13	1	13	impacts from" might be replaced by « impacts caused by » or « climate extremes impacts » » (FRANCE)
81	SPM	1	13	1	14	Suggest deleting this sentence from this particular paragraph. It is an important statement - indeed it seems to be a major conclusion of the assessment. As such it may not be appropriate to include in this introductory text. (CANADA)
82	SPM	1	13	1	14	The sentence: "The character and severity of impacts from climate extremes depend not only on the extremes themselves but also on vulnerability and exposure." is too vaguely formulated and tricky as it does not define the severity, vulnerability and exposure of whom? It should be formulated in a way that it is made clearer that the severity of disaster impacts are aggravated or depending on population vulnerability and exposure. If for whom and how cannot be made clear than i suggest deletion of such a general sentence. It is to be considered that the whole concepts are also taken up later on (GERMANY)
83	SPM	1	14	1	14	exposure should be placed before vulnerability ; (The two words are most often associated in the SREX; placing them systematically in the same order would make the reading more fluent.) (FRANCE)

#	Ch	From Page	From Line	To Page	To Line	Comment
84	SPM	1	14	1	15	Please add: ... when they produce widespread damage, EXCEED COPING CAPACITIES OF THE AFFECTED SOCIETIES and ... (GERMANY)
85	SPM	1	15	0	0	definition of disaster - includes deaths? 10 deaths, or just "alterations in the normal functioning of communities or societies" (SWEDEN)
86	SPM	1	15	0	0	{Climate extremes}, exposure, and vulnerability are influenced by a wide range of factors... Time frame in this sentence should be explained. (VENEZUELA)
87	SPM	1	15	0	0	In addition to the communities or societies vulnerable to risks, should be consider as a human systems (social and economic) such as infrastructure, services, and property market as potential subject to risks. The definition of risk must incorporate the different actors taking into account the regional and socioeconomic differences. (VENEZUELA)
88	SPM	1	15	0	0	It is also relevant for natural systems. Other parts of the doc clearly refer to both social and natural systems in this context. Therefore, it could be added: .. societies or natural systems. (HUNGARY)
89	SPM	1	15	1	15	We think that also natural systems should be included here, and propose that the sentence after "..or societies" is changed to: "... alterations in the normal functioning of communities, societies or natural systems." This change will also make the sentence more coherent with the statement in line 31-33. (NORWAY)
90	SPM	1	16	0	0	...anthropogenic climate change, natural variability... These two are not discerned for the purpose of the present document. (VENEZUELA)
91	SPM	1	16	1	16	BETWEEN THE WORDS NATURAL VARIABILITY I PROPOSE THE INSERTIAM OF THE WORD CLIMATE (TANZANIA)
92	SPM	1	16	1	16	We propose to insert the word "climate" in front of variability. The sentence is changed to "..., including anthropogenic climate change, natural climate variability and socioeconomic development.". Rationale: Consistent language throughout the SPM. (NORWAY)
93	SPM	1	16	1	17	It should be clearly distinguished, and taken into account, the terms "natural" and "anthropogenic" when associated to Climate Change and Climate Variability. Thus, it is advisable to change the term "natural variability" by "climate variability" and also include the term "climate variability" in the SPM glossary as defined in the SREX Glossary of 22 August, page 4 (SPAIN)
94	SPM	1	17	1	18	Replace "focus on reducing" with "are intended to reduce" to add precision. This sentence does not capture the fact that adaptation also involves actions to take advantage of beneficial impacts. (CANADA)
95	SPM	1	17	1	19	Please add a statement on the fact that mitigation of GHG emissions to avoid climate change and consequent potential increases of extreme events is needed to reduce increased (disaster) risks, as mitigation and adaptation/disaster risk management are complementary approaches. The statement on limits of risk management and adaption should not only be alluded to in a subordinate clause: please add a full sentence stating that there are limits. (GERMANY)
96	SPM	1	19	1	19	Please add a sentence preferably after "Figure SPM 2", or in the figure caption explaining that GHG mitigation is not considered as part of disaster risk management in this report. (NORWAY)
97	SPM	1	21	1	21	The word "historically" does not provide real information and should be omitted for increased lucidity. (SWEDEN)
98	SPM	1	21	1	27	It would be appropriate to mention the areas of the globe where these historical research communities referred to are located for easy of assessing the global/geographical coverage, hence the global representativeness of the findings (KENYA)
99	SPM	1	22	1	22	replace "brings" with "brings in" (SWITZERLAND)
100	SPM	1	22	1	24	The sentence of "Each community... in the knowledge base." does not provide needful information and should be omitted for increased lucidity. The same applies to the beginning of the next sentence, i.e. "In the interdisciplinary setting of the SREX". The rest of the latter sentence should be fine to include. (SWEDEN)
101	SPM	1	23	1	24	"...provide important insights into the status of and gaps in the knowledge base" too complicated; what about "...provide important insights into the status of the knowledge base and its gaps"? (GERMANY)
102	SPM	1	24	1	24	Delete "In the interdisciplinary ...of the SREX", as this is essentially just a restatement of the point made in the previous sentence. Start the sentence with "Many", and insert "in the SREX" after "findings". (CANADA)
103	SPM	1	24	1	24	Base might be replaced by « basis » (FRANCE)
104	SPM	1	25	1	25	Delete sentence "These interfaces are also illustrated in Table SPM.1." This is not an appropriate way to refer to the substantive content of Table SPM.1. Recommend restricting reference to Table SPM.1 in the SPM to where the content is discussed. (CANADA)
105	SPM	1	25	1	25	Delete the word "accurately" from the sentence so that the sentence just reads "to convey the degree of certainty..." (CANADA)
106	SPM	1	25	1	25	Please change "These interfaces are also illustrated in Table SPM 1" with "Concrete examples of findings can found e.g. in Table SPM.1". (NORWAY)
107	SPM	1	25	1	27	How to communicate uncertainty is key to the whole report. Therefore, it will not suffice to only give reference to the highly technical box SPM.2. This box is based on the Guidance Note for Lead Authors which is, of course, a rather technical account on how to communicate uncertainty in the underlying reports of AR5. Since we are here dealing with a summary for policy-makers, a more comprehensive and explanatory description of the treatment of uncertainty must be provided. (SWEDEN)
108	SPM	1	27	1	27	We propose that you try to explain and communicate better why the confidence differs between the physical parameters (temperature, precipitation and wind), and their resulting effects (warm spells,floods, droughts etc.). (NORWAY)
109	SPM	1	30	1	30	exposure should be placed before vulnerability ; The two words are most often associated in the SREX; placing them systematically in the same order would make the reading more fluent. (FRANCE)

#	Ch	From Page	From Line	To Page	To Line	Comment
110	SPM	1	30	1	39	Figure SPM.1 caption: This text should be describing the Figure not the report and should use language such as "The Figure illustrates....". Much of the text here that describes what the report assesses should be moved into the main text as suggested above. (CANADA)
111	SPM	1	30	1	39	As stated before, there is an imperative need in the document to determine how much is the human activity (anthropogenic climate change) exacerbating the natural variability (or trend). (VENEZUELA)
112	SPM	1	32	1	32	Instead of the word " anthropogenic", the word " man-made" would be appropriate so as to avoid use of complex terminologies for policy makers, some of whom may not be having scientific backgrounds. (KENYA)
113	SPM	1	34	1	35	The sentence seems to be 'circular': a changing climate leads to changes in climate parameters/characteristics. We suggest to replace it by: 'Changing climate involves / is characterised by changes in the freq...etc. ' (BELGIUM)
114	SPM	1	35	0	0	Suggest change "development" at beginning of line 35 to "development (including resource and land-use planning)." (NEW ZEALAND)
115	SPM	1	36	0	0	Figure SPM.1: We note that the figure caption refers to resilience. Is it possible to capture the concept in the figure? (USA)
116	SPM	1	37	1	37	Also indicate after "the risk that cannot be eliminated" , is important to establish that these risks are increased due to climate change (COSTA RICA)
117	SPM	1	37	1	37	Replace "largely outside" with "beyond" to indicate that the scope of the report is clearly defined. (CANADA)
118	SPM	1	37	1	38	The reason for containing here the sentence "Other important processes... and anthropogenic climate change." is not clear. Isn't this already clear from the remit of SREX? (SWEDEN)
119	SPM	1	41	0	0	Figure SPM2: as it is now the figure suggests that these options are side-by-side on a single axis, which is most probably not the case as the caption suggests an overlapping between them. Please improve the diagram. (BELGIUM)
120	SPM	1	41	0	0	Figure SPM.2: We think that the detail in the original figure (6-3) has been lost. As a result, the figure is open to multiple interpretations (i.e.- is this a continuum? Is transformation the ultimate goal? Or something to avoid?) (USA)
121	SPM	1	41	1	45	Figure SPM.2: This is an interesting attempt to capture key terms of the CCA and DRR communities. However, while the figure caption notes that these can be overlapping, the figure conveys them as distinct approaches, which does not seem appropriate. It may be useful to elevate "Reducing Vulnerability" and "Increase Resilience" to the level of goals, and the others as approaches for attaining those goals. Furthermore the structure and shaded colouring seems to suggest a linear progression (least change to most change?) that is not necessarily accurate and/or not appropriately explained in the caption. It may be that the concept the authors are trying to convey cannot be captured well in a graphic. Suggest that further thought be given to both the figure and the caption. (CANADA)
122	SPM	1	41	1	45	For better understanding of terminology of Figure SPM.2, each approaches such as "Reduce Vulnerability"and so on should be coupled with some expamples such as "poverty reduction" and etc.. Otherwise policy makers and ordinary peoples don't understand the implication of this figure, even though the underlying figure seems to be informative and helpful. (JAPAN)
123	SPM	1	42	1	45	As with the caption for Figure SPM.1, the text of the Figure SPM.3 caption should describe the Figure not the Report. Suggest lines 43-45 be removed. (CANADA)
124	SPM	1	44	1	44	The text refers now to "climate extremes". Unless this is explicitly intended, suggest complementing into "weather and climate extremes". (SWEDEN)
125	SPM	1	47	2	23	Considering that the SREX integrates perspectives from distinct research studying adaptation and disaster risk management, it seems strange that Definitions Central to the SREX doesn't include "Disaster risk management". A definition of disaster risk management should be included in Box SPM1 or explanations of distinction and relationship between "adaptation" and "disaster risk management" should be added to the definition of "adaptation". (JAPAN)
126	SPM	1	49	0	0	Box SPM1: We miss a clear statement on the change of concepts of vulnerability wrt to previous IPCC reports (GERMANY)
127	SPM	1	49	0	0	Box SPM.1: Please add a definition of RISK. (GERMANY)
128	SPM	1	49	0	0	Box SPM.1: the difference of the definition of vulnerability and exposure compared to the IPCC 4th assessment a sentence/footnote should be added to clarify that the words are interpreted differently from earlier IPCC reports. (GERMANY)
129	SPM	1	49	0	0	SPM.Box.1: The concept of "resilience" should be introduced as it is used throughout the SPM (GERMANY)
130	SPM	1	49	0	0	SPM.Box.1: Define term "adaptive management" in Glossary (lacking) (see page 14, line 9) (GERMANY)
131	SPM	1	49	0	0	Box SPM.1. Definitions listed in Box SPM.1 have a severe anthropogenic vision that creates a conflict once trying to explain interrelations (human/natural systems) stated from Page 2, Lines 25-47. (VENEZUELA)
132	SPM	1	49	2	21	Move the box to the end in a glossary chapter. If put at the beginning, it is disturbing for the reader who is forced to go through all kinds of definitions. (NETHERLANDS)
133	SPM	1	49	2	23	It needs to be more clear in Box SPM.1 that each of the concepts is defined in the context of climate change. This could be achieved by incorporating climate change into each individual definition or by beginning the Box with a statement clarifying that the context for each definition is climate change. (CANADA)
134	SPM	1	49	2	23	Suggest that Box SPM.1 list definitions in alphabetical order so as to not to imply ranking of concepts. (CANADA)

#	Ch	From Page	From Line	To Page	To Line	Comment
135	SPM	1	49	2	23	For Box SPM.1 Definitions Central to the SREX: 1. It is suggested that the definitions for 'climate change', 'vulnerability', 'adaptation' among others that are already available in AR4 Synthesis Report be applied. If they are correct or any major modification is required, they should be consistent with the other IPCC reports. 2. As these words like resilience, risk, disaster risk management, etc., appear very frequently in the report, it is suggested that their definitions be added. It is suggested to introduce the definitions from other authoritative reports, e.g. risk should be defined as follows: Risk: The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damage) resulting from interactions between natural or human-induced hazards and vulnerable conditions. UN/ISDR, 2004. It is suggested to use the definition that is already included in the SREX, like disaster risk management which has already been defined on P9 in the last paragraph, Chapter 1, IPCC SREX: Disaster Risk Management is defined as the social processes for designing, implementing, and evaluating strategies, policies, and measures to improve the understanding of disaster risk, foster disaster risk reduction and transfer, and promote continuous improvement in disaster preparedness, response, and recovery practices, with the explicit purpose of increasing human security, well-being, quality of life and sustainable development. Event: occurrence of a particular set of circumstances. Likelihood: it is used as a general description of probability or frequency. AS/NZS4360:2004, 4. (CHINA)
136	SPM	1	49	2	23	Box SPM.1 Suggest adding "resilience" as it is a related term to vulnerability. "Resilience" is referred to later in the SPM (page 5, line 14). (SWEDEN)
137	SPM	1	49	2	23	Please insert "natural extremes" with definition and examples in Box SPM 1, and try to concretize how this report separates between anthropogenic and natural causes for the extreme events and their historical and projected evolution. (NORWAY)
138	SPM	1	49	2	47	We note that the definitions here differ from some of the accepted definitions in the AR4. While we appreciate efforts standardize definitions as per our comments on the earlier draft, we believe consistency is important and would recommend that accepted definitions not be changed unless there is a clear underlying rationale for a new definition in the report. One challenge is that DRR and CCA use different terminology. It might be helpful to note that the definitions used in the report for vulnerability and exposure are being taken from the DRR school. This report is talking about disaster risk, where $R=E*V$, not climate vulnerability, where $V=E*S*AC$. (USA)
139	SPM	1	51	0	0	The text refers to an "SREX glossary" but none is provided; is it referring to Box SPM.1? If so, consider re-titling this Box to "SREX glossary" (USA)
140	SPM	1	51	1	52	The 2 sentences seems overlapping. We suggest : ' Core concepts as defined in the glossary and used in this report include the following terms: (BELGIUM)
141	SPM	2	1	0	0	Climate Change: a change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. Climate Change is better explained when considering the effects of anthropogenic activity on the natural ongoing variability (constantly variable) of climate. As for human societies, economies, etc., the effects of Climate Change that have to be taken into account are those changes that have been originated, and hence exacerbated, by anthropogenic activity. Natural variability of climate usually tends to happen in a wide time scale, while exacerbation by anthropogenic activity generates the timely extreme events. (VENEZUELA)
142	SPM	2	1	2	4	Recognizing that this report is an important input to the UNFCCC process, the footnote to this definition that is included in the Glossary should also be included as a footnote in the SPM. (CANADA)
143	SPM	2	1	2	4	This definition is quite appropriate for the scientific community. However, to the policy makers, local farmers or pastoralists, these abstract scientific terms don't make any sense! A definition and description in livelihood terms is required if we are to categorically deal with the climate change problems. It would be appropriate if climate change was defined as " a permanent shift in the normal patterns of climate that may be associated with lack of rains, withering of crops, drying of streams and rivers and dying of livestock among other problems" (KENYA)
144	SPM	2	1	2	4	SPM.Box.1: Please provide a more understandable way of defining CC, e.g. something like "Climate change is the change of relevant climate parameters in a specified region or country according to a defined reference period like climate data from 1961 - 1990. The change of these parameters can be a deviation in the mean value or the exceedance of a defined threshold." (GERMANY)
145	SPM	2	1	2	4	Box SPM.1: in the definition of "climate change" we would like to have a footnote to inform that this is different from the UNFCCC definition, and provide a link to the glossary for further information (based on the AR4 full definition, that should be copied in the SREX glossary). The definition of "climate change", which appears in the very name of IPCC cannot be changed from one report to the next without extreme caution and justification. (BELGIUM)
146	SPM	2	1	2	4	The definition of climate change must be contextualized within the framework of the UNFCCC. (VENEZUELA)
147	SPM	2	1	2	19	Box SPM.1: All definitions provided in box SPM1 relate to singular words, whereas only "disasters" is plural. We suggest to standardize. (BELGIUM)
148	SPM	2	1	2	21	Definition of "climate" is required. One needs to understand what "climate" is before being explained as to what " climate change" is. It would be appropriate if the definition would be the first in this list of definitions. (KENYA)
149	SPM	2	2	2	2	To be more precise. eliminate the terms "...of it..."leaving the sentence as: "... and/or the variability properties..." (SPAIN)
150	SPM	2	2	2	2	SPM.Box.1: "that persist for an extended period": misleading: the individual events might last for a very short time. Please rephrase. (GERMANY)

#	Ch	From Page	From Line	To Page	To Line	Comment
151	SPM	2	2	2	2	replace "changes in the mean and/or variability of its properties and that..." by "changes in its properties (such as changes in the mean, variance, distribution, quantiles etc.) and that..." (SWITZERLAND)
152	SPM	2	3	2	3	As written, this sentence could be misunderstood to mean that changes to the composition of the atmosphere and land use are not external forcings. Suggest a slight revision here:"or to ANTHROPOGENIC forcings SUCH AS persistent changes in the composition of the atmosphere or in land use." (CANADA)
153	SPM	2	3	2	3	Suggest adding a "natural", i.e. writing "Climate change may be due to natural internal processes, natural external forcings, or to...", in order to avoid misunderstanding as to the "external forcing" nature of the anthropogenic influence. (SWEDEN)
154	SPM	2	3	2	4	could be "or/and" instead of "or" (BELGIUM)
155	SPM	2	5	2	5	The use of "climate" and "weather" is not always clear in the Summary. I understand that a strict distinction between them would be too scholastic for the objective of the Report. But, still I would recommend to write three more keywords among the explanations of the key terms. Our proposal for this would be as follows. Climate: statistical distribution of weather for as long a time (30 years in the professional practice), often characterised by uni- and multivariate statistical parameters (i.e. mean, standard deviation, spatial, temporal and cross correlations, etc.) of the individual atmospheric variables. Climate anomaly: Short-term (from weeks to seasons) deviation from the climate. In this usage, climate extreme is a rarely occurring and high-impact climate anomaly. Weather: Multivariate state of key atmospheric variables at a given site in a given moment, or sequence of such states during a short period of time (practically from hours to a few weeks). Weather can be extreme in both considerations. (HUNGARY)
156	SPM	2	6	2	6	Delete "(weather or climate)". The definition itself identifies these as weather or climate events. (CANADA)
157	SPM	2	6	2	6	In addition to "a weather and climate variable", it would be reasonable to also refer to "phenomena" in the sense of coupled events, such as referred to on the same page, lines 38-41. (SWEDEN)
158	SPM	2	6	2	6	SPM.Box.1: We do not agree with the expression "climate extremes". This expression is misleading as the concept of climate is strongly linked to average situations. It will be very difficult to communicate the concept of "climate extremes" to the public, who is not familiar with statistical probability distributions. It should be replaced by more appropriate expression or deleted altogether. (GERMANY)
159	SPM	2	6	2	7	Suggest deleting "above (or below) a threshold value" from the definition. The concept of a threshold is often used but the key attribute of an extreme is that it is a rarely observed value that occurs in the tails of the variable's customary distribution. The concept of frequency is also missing from the definition. Suggest that possible re-wording could be: "infrequent occurrence of a value of a weather or climate variable in the upper or lower ends (tails) of the range of observed values of the variable." (CANADA)
160	SPM	2	6	2	7	Suggest clarifying the definition for 'climate extreme' It isn't clear what differentiates 'weather' extremes from 'climate extremes' – is it just to do with the time scale of the event and if so, how? The current definition for both weather and climate extremes is very general: Extreme (weather or climate) event: the occurrence of a value of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends ("tails") of the range of observed values of the variable. It is still unclear what differentiates 'weather extreme' from a 'climate extreme'. It would be useful to include from Chapter 3 of the underlying report the explanation that this isn't actually a very well defined term. The distinction between extreme weather events and extreme climate events is not precise, but is related to their specific time scales: An extreme weather event is typically associated with changing weather patterns, i.e., within time frames of less than two weeks. An extreme climate event happens on longer time scales, i.e., from several weeks to several years or even decades. It may also be the sum of several (moderate) extreme weather events (e.g., the accumulation of above-average rainy days over a season).' (UK)
161	SPM	2	6	2	7	The definition of extreme seems too restrictive. Phenomena (cyclone, drought) do not match this definition. This definition should also stress that the extreme can be due to the unusual persistence of non extreme values. The Chapter 3 of SREX has more accurate definitions. These definitions should be consistent with the SPM definitions (FRANCE)
162	SPM	2	6	2	7	This report is concerned with weather and climate extremes. Please add climate extremes (see page 1, lines 7-8) to the list of definitions, as this term is used throughout the rest of this report. (USA)
163	SPM	2	6	2	7	We propose to replace the definition of Extreme (weather or climate) event with the definition of Extreme weather event from AR4 for consistency and clarity: "Extreme (weather or climate) event: An extreme weather event is an event that is rare at a particular place and time of year. Definitions of rare vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of the observed probability density function. By definition, the characteristics of what is called extreme weather may vary from place to place in an absolute sense. Single extreme events cannot be simply and directly attributed to anthropogenic climate change, as there is always a finite chance the event in question might have occurred naturally. When a pattern of extreme weather persists for some time, such as a season, it may be classed as an extreme climate event, especially if it yields an average or total that is itself extreme (e.g., drought or heavy rainfall over a season)." (NORWAY)
164	SPM	2	6	2	7	Two important aspects are missing from the definition of extremes. The first one is the high impact the second is the duration which can also be extreme. Hence, I would recommend to add the definition as follows: Extreme (weather or climate) event: the occurrence of a value or the duration of a weather or climate above (or below) a threshold value near the upper (or lower) ends ("tails") of the range of observed values of the variable or the duration of the event. In the practice, we consider rare events with high impact, only. (HUNGARY)

#	Ch	From Page	From Line	To Page	To Line	Comment
165	SPM	2	6	2	7	There is a need to better explain what "weather and climate extremes" are, as explained in chapter 3, page 7. The distinction between the 2 is not that straightforward as in most cases extremes in the climate distribution are related to weather. (FRANCE)
166	SPM	2	7	0	0	Box SPM1: the explanation of extreme (weather or climate) event is good. However it is unclear to a reader what the difference is between a climate event and a weather event, or if they are interchangeable in the SREX text. Needs to be clearly defined! (SWEDEN)
167	SPM	2	7	2	8	It would be useful to provide here a list of or at least to mention some of concrete forms of extremes phenomena. E.g.: ... of the variable. These events include extreme frequency, intensity, spatial extent or duration of such weather and climate events as hurricanes, floods, heat waves and droughts etc. (HUNGARY)
168	SPM	2	7	10	49	Throughout the document reference is made to the confidence intervals. While this is explained in Box SPM2, it only appears at the end of the document, it seems appropriate to either move box SPM2 to earlier in the document or make a specific reference to it at the start of the document (BELGIUM)
169	SPM	2	9	0	0	Box SPM1: Exposure: Missing that exposure is determined by the frequency, the magnitude and the duration of an event (SWEDEN)
170	SPM	2	9	0	0	Include the word "ecosystems" after "livelihoods". (BRAZIL)
171	SPM	2	9	2	10	Replace "and" with "or" in line 10. Not all factors will be present in all places or for all peoples with high exposure. (CANADA)
172	SPM	2	9	2	10	Perhaps this definition could end with "... adversely affected by extreme (weather or climate) events." (SWEDEN)
173	SPM	2	9	2	12	The terms "vulnerability" and "exposure" are the most significant keywords. The meanings of these terms should be described in detail using concrete examples. (JAPAN)
174	SPM	2	12	0	0	Will the typical policy-maker understand what "propensity" means? (SWEDEN)
175	SPM	2	12	0	0	SPM.Box.1: Please improve explanation for vulnerability. Is it the sensitivity? (GERMANY)
176	SPM	2	12	0	0	Vulnerability depends on types of events !! I would suggest to add at the end "by an extreme event" at the end of the sentence (FRANCE)
177	SPM	2	12	2	12	This definition of vulnerability is good, concise and easy to grasp. It is also consistent with the lengthier (and very helpful) discussion of vulnerability in Ch. 1 and 2. However, we strongly recommend making it clear that this definition is different than that used in the IPCC Fourth Assessment. We suggest the following sentence be added to the existing definition (perhaps in brackets or as a footnote): "This definition differs from that used in previous IPCC assessments in that vulnerability is considered independent of physical events and exposure." This change would also help reinforce the concepts as depicted in Figure SPM.1. (CANADA)
178	SPM	2	12	2	12	SPM.Box.1: "propensity"? what exactly would this mean, and how would it be different from "predisposition"? (GERMANY)
179	SPM	2	12	2	12	Box SPM.1: The definition of "vulnerability" is different from AR4. This change may be welcome, but needs to be explained as it appears in the very name of WGII. The new definition should also be made clearer : is it the propensity to be affected in general (by any cause), or by climate, or by climate change, or by a specific climate event? (changes need to be reflected in the glossary) (BELGIUM)
180	SPM	2	12	2	12	References to "vulnerability" should be further detailed, specially with regards to explicit reference to populations under food and nutrition insecurity and under low levels of socio and economic development. (BRAZIL)
181	SPM	2	14	0	0	As above: severe alterations in natural systems should also be mentioned (and indirectly those can have their influence on social systems). (HUNGARY)
182	SPM	2	14	2	14	In the concept of Disasters, it is necessary to include "ecosystems" in the following manner: "functioning of a community, ecosystem or a society" (CUBA)
183	SPM	2	14	2	17	The definition of disasters could be simplified to read: "Severe alterations in the normal functioning of a community due to EXTREME events interacting with vulnerable social conditions, leading to widespread adverse effects." Extreme events are already defined in the report as being those related to weather and climate. The contribution of hazardous physical events such as volcanoes and earthquakes to disaster risk is not within the scope of this report. Alternatively you could use the phrase "due to hazardous events interacting with vulnerable social conditions" and have a generic definition of disasters. (CANADA)
184	SPM	2	14	2	17	Box SPM.1: The definition of "disaster" is ambiguous regarding "environmental disasters" : it mentions "environmental effects", but should include critical damage to natural ecosystems in a clearer way (Figure SPM1 shows that these are considered in the SREX, but it is not clear in the current text). We do not think the definition should be restricted to human systems only. If the intention is that "community" includes "ecological community", this should be clarified, or "ecosystems" should be added. The end of the definition could read "... that require immediate emergency response to satisfy critical human needs, or result in critical damage to ecosystems..." (or include natural systems in another way). A reference to a chapter providing details and references should be added to each of these key definitions. (BELGIUM)
185	SPM	2	14	2	17	"The definition should not include a reference to the responses, i.e. stopped with "... environmental effects.". Of course. responses are important, but a disaster remains a disaster even if there is no response to it. Another option is to mention as an explanation the role of the (risk and) disaster management (e.g. ... environmental effects. Disaster management would inter alia include immediate emergency response to satisfy critical human needs and that may require external support for recovery.) " (HUNGARY)
186	SPM	2	16	0	0	include the word "and/or environment" after "human needs". (BRAZIL)

#	Ch	From Page	From Line	To Page	To Line	Comment
187	SPM	2	16	2	17	"that require...recovery" should be suppressed. It is an unnecessary development; a disaster is a disaster; response requirement is another consideration. (FRANCE)
188	SPM	2	19	2	21	The definition of adaptation could be simplified to read: "The process of adjustment to actual or expected change in order to moderate harm or exploit beneficial opportunities. In natural systems, this may involve human intervention." (CANADA)
189	SPM	2	19	2	21	Box SPM.1: The definition of "adaptation" is different from that in the AR4. While the new definition may be an improvement, this should be noted and justified, at least in a footnote with a reference to a more detailed explanation in a chapter, as "adaptation" appears in the very name of WGII. (BELGIUM)
190	SPM	2	22	0	0	"Resilience is a key term here (espec for policymakers) and frequently mentioned in the full doc and in the SPM (like vulnerability, adaptation), thus it would be useful to provide a short definition in this box OR simply to add some wording on it in the text for the ""Adaptation""." (HUNGARY)
191	SPM	2	22	2	22	Include the definition of Disaster risk management in BOX SPM.1: Definitions Central to the SREX. "Disaster Risk Management is defined in this report as the social processes for designing, implementing, and evaluating strategies, policies, and measures to improve the understanding of disaster risk, foster disaster risk reduction and transfer, and promote continuous improvement in disaster preparedness, response, and recovery practices, with the explicit purpose of increasing human security, well-being, quality of life and sustainable development." (NORWAY)
192	SPM	2	25	0	0	Drivers vs. Determinants... only one should be used. (VENEZUELA)
193	SPM	2	25	2	25	This is the third time the sentence appears ..suggest ONCE formulated well in the introduction; there is also a possibility of contradiction - earlier it is said that it is actually vulnerability and exposure determine the severity - now it is stated the risk - there is some confusion here, without specifying what is actually considered to increase vulnerability and exposure.. (GERMANY)
194	SPM	2	25	2	25	The discussion of "Exposure and vulnerability are key determinants of disaster risk" maps to 1.1.2.1 (currently reads 1.1.2) in chapter 1. (USA)
195	SPM	2	25	2	26	Section 3.1 does not provide discussion of the dependence of impact on landfall location, therefore this statement is not correctly cited. This same sentence appears in section 3.1. but that is all there is - this one sentence. There is no text that discusses this issue or assesses the evidence for how impacts associated with tropical cyclones vary with exposure. There is a brief mention of this topic in FAQ 3.1, but without a supporting reference. Suggest either deleting this sentence or assessing whether there is an appropriate reference in Chapter 4 (where exposure issues are discussed). (CANADA)
196	SPM	2	25	2	26	Add ",and the track it moves along." after "a tropical cyclone can have very different impacts depending on where and when it makes landfall". (CHINA)
197	SPM	2	25	2	27	The paras from line 25-32 and from line 43-47 address the same issue and contain some duplication. They should be shortened and joined. (GERMANY)
198	SPM	2	25	2	32	The supporting text (non-bold) needs to include the words "exposure", "vulnerability" and "disaster risk" to more clearly link to the bolded statement. The final statement of this section (regarding cumulative effects) is correct, but does not link to the bolded statement and should therefore be deleted. (CANADA)
199	SPM	2	25	2	47	The first and third bolded statements in this section make closely related points and could either be combined, or reordered to follow consecutively in a logical order (the third bolded statement seems like it should be a pre-cursor to the first bolded statement - i.e., the severity of impacts depends strongly on vulnerability and exposure; therefore, V & E are key determinants of disaster risk). (CANADA)
200	SPM	2	25	2	47	The three paragraphs have logical problems. It is suggested to follow the sequences of "fact" (L34-41), "exposure and vulnerability" (L23-32) and "impacts" (L43-47) for description. That is, L34-41 should be the first paragraph, and the second paragraph should be formed by combining both L23-32 and L43-47. (CHINA)
201	SPM	2	25	3	2	The paragraphs here, do not have any "likelihood", "confidence", "agreement", or "evidence" assigned to them. Please assign. (USA)
202	SPM	2	26	2	27	The heat wave example does not add any new information here, if it is not explained in more detail how the vulnerability of the different populations is generated. (GERMANY)
203	SPM	2	28	0	0	Page 2, Lines 28, 35, 37, 39, 40, 43, 51, 53, 54: "Extreme Climate" should be changed for "Extreme meteorological Events". The extreme are the meteorological events, not the climate. Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44 (VENEZUELA)
204	SPM	2	28	0	0	In addition to "or social-ecological", and economic aspects. (VENEZUELA)
205	SPM	2	28	0	0	"It is dealt with later, however, already here it would be important to add the ""responses"" besides the ""events"" (as the responses – incl. the mismanagement - can have an even stronger effect in this regard). Therefore: Extreme and non-extreme weather and climate events, and the responses to these events also affect .." (HUNGARY)
206	SPM	2	28	2	28	The meaning of "non-extreme" weather and climate events is not readily clear here. (SWEDEN)
207	SPM	2	29	2	29	This line introduces too many scientific terms without explaining them and the linkages between them (resilience, coping capacity, adaptive capacity, social-ecological systems) (GERMANY)
208	SPM	2	29	2	30	The distinction between communities, societies and social-ecological systems might seem rather vague and a simplification of the sentence to "... adaptive capacity of human and natural systems..." should be considered. Otherwise "social-ecological" systems should be changed to "ecosystems" to indicate that this is also relevant for little- or non-managed natural systems. (NORWAY)
209	SPM	2	34	0	0	"A changing climate leads to changes" should be rewritten as follow: "A changing climate would lead to changes". (VENEZUELA)
210	SPM	2	34	0	0	Bold statement is too definitive and not representative underlying chapter text. Consider, "A changing climate may lead to substantial changes in". Consider qualifying "unprecedented" with "unprecedented within human history". Or "... extreme weather and climate events, some of which are historically unprecedented." (USA)

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211	SPM	2	34	0	0	This statement as it relates to "spatial extent" appears to be refuted by the bold text at the bottom of p. 155 (3.2.3.1): "It is not possible in this chapter to provide assessments of projected changes in extremes at spatial scales smaller than for large regions." (USA)
212	SPM	2	34	0	35	A changing climate leads not only "to changes in the frequency, intensity, spatial extent, and duration of extreme weather and climate events." It should be added that it changes - even without changes in the frequency, intensity, spatial extent, and duration of extreme weather and climate events" the existing weather patterns. [In many parts of the world this is at the moment a key challenge for the vulnerable population. (GERMANY)
213	SPM	2	34	2	34	Replace "A changing climate" with "Climate change" since this is the term that has been defined in Box 1. (CANADA)
214	SPM	2	34	2	34	Please, consider term "seasonality" should be added to the list "frequency, intensity, spatial extent, and duration". (FINLAND)
215	SPM	2	34	2	34	skip "extreme" at the end of line (is valid for any climate 'event') (SWITZERLAND)
216	SPM	2	34	2	35	Insert "occurrence time" between "spatial extent, "and "duration of extreme weather...". (CHINA)
217	SPM	2	34	2	35	This conclusion does not add anything new. It is better to rephrase it in a way that addresses the feeling of many that almost every extreme is related to climate change. The conclusion gains in importance if it addresses this feeling. A suggestion might be that in most circumstances [specify] currently observed climate change cannot be related to extremes with sufficient statistical significance. (NETHERLANDS)
218	SPM	2	34	2	35	This is a circular definition - a change in extremes is surely a part of a changing climate, rather than resulting from it. This statement is also made elsewhere in the report. Suggest changing to: "changes in the spatial extent and duration of extreme weather and climate events are generally a factor of a changing climate" (UK)
219	SPM	2	34	2	41	The phrase at the end of the bolded statement related to unprecedented extreme events does not appear to be explained further in the supporting text of the paragraph below. (CANADA)
220	SPM	2	34	2	41	Suggest moving the sentence "Irrespective... will occur." to the end of this paragraph, in order to create a better flow of thought. (SWEDEN)
221	SPM	2	34	2	41	A statement should be added that global climate change can according to AR4 likely be attributed to anthropogenic activities, and that this will be even more true in the future given the unprecedented increase of anthropogenic CO2 in the atmosphere. (GERMANY)
222	SPM	2	34	2	41	The structure of this paragraph is unclear, specially the order of the sentences and the sentence on "changes in extremes can also be linked" We would suggest : 1) A changing climate leads to changes in the frequency, intensity, spatial extent, and duration of extreme events, and can result in unprecedented extremes. 2) Changes in average or mean climate conditions can yield changes in extremes, particularly if the average conditions in the future correspond to events that are currently considered to be extremes (i.e. ...). 3) Some climate extremes (eg droughts) may also be the result of an accumulation of weather or climate events ... 4) However, irrespective of the magnitude of any anthropogenic changes in climate over the next century, a wide variety of natural extreme events will occur. (FRANCE)
223	SPM	2	35	0	0	"and can result in" should be rewritten as follow: "and could result". (VENEZUELA)
224	SPM	2	35	2	37	We suggest to rephrase: "A wide variety of natural weather and climate extremes would occur even without anthropogenic climate change". (NORWAY)
225	SPM	2	36	2	36	If the phrase 'the next century' reveals 'the next 100 years', the latter form may be better to avoid misunderstanding. (JAPAN)
226	SPM	2	36	2	41	These lines are extremely difficult to understand for non-experts. The sentence "Changes in extremes... present-day conditions." need to be rephrased and clarified. (GERMANY)
227	SPM	2	37	0	0	"and climate extremes will occur" should be rewritten as follow: "and extreme weather would occur". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
228	SPM	2	37	2	37	In the third sentence of this paragraph, the phrase "can also be linked" seems to be weak language - suggest reviewing and strengthening. The phrase at the end of the third sentence ("particularly if the average conditions in the future ...") is not needed and should be deleted unless supported by concrete examples of projections where current extremes represent average conditions in future. (CANADA)
229	SPM	2	37	2	39	This sentence is not clear. We propose: "Changes in average climate conditions can result in large increases in the frequency of a former extreme event, particularly if the average conditions in the future correspond to events that are currently considered to be extreme" (assuming that this is what is meant; the second part of the sentence, beginning with "particularly", may also be dropped). (BELGIUM)
230	SPM	2	38	0	39	Text from 'particularly' to 'distributions' is long winded. Suggest replacing with something like 'mean climate may shift, resulting in an increased frequency of events that are currently considered extreme' or, ' because mean future conditions in some variables are projected to be equivalent to present day extremes.' (UK)
231	SPM	2	39	0	0	"Wording of the explanation in the brackets is good for experts, but could be ""avoided"" for policymakers, i.e., .. be extreme. Some climate .." (HUNGARY)
232	SPM	2	39	2	39	when stating that an extreme "fall within the tail ends of present day distribution", it would be better to say that it falls either above the x percentile or below the y percentile of present day distribution. (NEW ZEALAND)
233	SPM	2	39	2	39	We suggest to delete the text in brackets. Please insert a reference to Figure 1-2 from the SREX report after "... extreme." Figure SPM.3 (NORWAY)
234	SPM	2	39	2	41	The final sentence of this paragraph is correct but does not clearly link to the bolded statement. (CANADA)
235	SPM	2	40	2	41	replace " accumulation" by "combination"; replace "independently" by "individually" (SWITZERLAND)
236	SPM	2	42	2	42	Insert new Figure SPM.3 (Fig. 1-2 from SREX) here. Rationale: The figure is a good illustration of how extremes can change in the future. (NORWAY)

#	Ch	From Page	From Line	To Page	To Line	Comment
237	SPM	2	43	2	44	This paragraph, viz. "level of vulnerability and exposure" would seem to duplicate the discussion on this same page, line 25. (SWEDEN)
238	SPM	2	43	2	44	This conclusion is identical to the first one. The difference is only semantic (severity of disaster versus disaster risk). Both need to be merged into one conclusion. (NETHERLANDS)
239	SPM	2	43	2	47	The non-bold text does not appear to relate to the bolded statement. There is no clear link to vulnerability or exposure. (CANADA)
240	SPM	2	44	0	0	Extreme impacts are defined in chp1 pg 19 ' as: highly significant and typically long lasting consequences to society, the natural physical environment or ecosystems. Suggest putting this definition into the SPM. (UK)
241	SPM	2	46	0	0	"can increase" should be "could increase". (VENEZUELA)
242	SPM	2	46	2	46	Suggest replacing "can increase" with "increases" (this is a statement of fact, is it not - hot, dry conditions increase the likelihood of wildfire). (CANADA)
243	SPM	2	46	2	46	after "...humidity" "...strong wind" should be added. (Wind is often a driving force in the development of big fires, out of control.) (FRANCE)
244	SPM	2	46	2	47	Drought can increase not only wildfire but food insecurity. Priority should be given to people. (GERMANY)
245	SPM	2	50	0	0	Section B: Please indicate the changes in the state of knowledge in climate science wrt to AR4: What is new? Is there increased evidence for climate change, for its impact on extreme events, on climate change adaptation, disaster risk management? Is there new knowledge available that contradicts previous statements from AR4? (GERMANY)
246	SPM	2	50	0	0	Chapter OBSERVATIONS OF EXPOSURE, VULNERABILITY, CLIMATE EXTREMES, IMPACTS, AND DISASTER LOSSES / beginning: it should be stated clearly, that data availability is crucial for the results of this chapter. And that this is a crucial reason, that "Assigning "low confidence" for projections of a specific extreme neither implies nor excludes the possibility of 20 changes in this extreme" (6, 19). It should be indicated, that we have especially limited data in many very vulnerable regions. (The lack of data and the high vulnerability depend to a large degree on the same reasons). And that the high uncertainty - due to the lack of data - adds further to the climate change vulnerability of these regions. (GERMANY)
247	SPM	2	50	0	0	Section B: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "Many factors affect confidence in observed and projected changes in extremes. "Low confidence" in observed or projected changes of a specific extreme neither implies nor excludes the possibility of changes in this extreme." (AUSTRIA)
248	SPM	2	53	2	54	First sentence of para can be deleted: duplication: More or less the same sentence is already on page 1, lines 13-14. Also on page 2 in para line 25-32 and in para line 43-47. Also on page 4, line 52. (GERMANY)
249	SPM	2	53	2	54	This first sentence seems to be repeating what has already been said. Suggest removing. (UK)
250	SPM	2	53	2	54	First sentence says exactly the same as the previous paragraph. (FRANCE)
251	SPM	2	54	0	0	What is a "natural system"? Is it a system that has never interacted with humans? (very rare) Or, is it everything except humans? (SWEDEN)
252	SPM	3	0	4	0	paras on "high mountain phenomena", extreme temperature, and on large scale atmospheric dynamics (monsoon, El Nino) are missing. These aspects are discussed in section D for the future and should be added here for the observations. (GERMANY)
253	SPM	3	1	3	54	Some examples like on page 4 would be helpful to make the chapter "Climate extremes and impacts" more understandable (GERMANY)
254	SPM	3	2	3	2	Recommend adding at the end of the sentence that the vulnerability is exacerbated by the country's economic capacity to adapt and recover from losses due to these factors (COSTA RICA)
255	SPM	3	2	3	2	It is noted that this SPM is on Managing risks of extreme events and disasters to advance climate change adaptation, hence, the use of both "climatic" and "non-climatic" factors in this line may not be appropriate. There is need to stick to "climate factors" only (KENYA)
256	SPM	3	2	3	2	"influenced by both climatic and non climatic factors" should be suppressed. (The remark is not false but is uselessly complicated.) (FRANCE)
257	SPM	3	5	3	7	Title reads "Exposure and Vulnerability", but in the 1st sentence these terms are inverted. (GERMANY)
258	SPM	3	5	3	18	References to "vulnerability" should be further detailed, specially with regards to explicit reference to populations under food and nutrition insecurity and under low levels of socio and economic development. (BRAZIL)
259	SPM	3	7	0	0	It says " Vulnerability and exposure are dynamic, varying across temporal and spatial scales, and depend on economic, social, demographic, cultural, institutional, and governance factors", but then it is implied that we talk about society, and not for exemple forests vulnerbale to storms, or cows vulnerable to heat stress... Might need to clarify this by just adding ..." Vulnerability and exposure in societv are dvnamic" or similar (SWEDEN)
260	SPM	3	7	0	0	Exposure depends also on geographic factors (GERMANY)
261	SPM	3	7	3	7	"exposure" should be placed before "vulnerability" (FRANCE)
262	SPM	3	7	3	8	Suggest this bolded statement is general enough that it does not require a confidence statement. Removing the confidence statement would bring consistency to how similar bolded statements in section A of the SPM were treated. (CANADA)
263	SPM	3	7	3	8	Another factor is the state of environment (environmental degradation). (CUBA)
264	SPM	3	7	3	8	Reformulate the sentence, in this way it does not tell us a lot. Besides that, this conclusion is partially covered by conclusion 1 of section C, line 52. (NETHERLANDS)

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265	SPM	3	7	3	8	following the words "2, and depend on economic, social.... ,..., and governance factors", Natural factors should be included, so we request to add within the stated list of factors "...,ecological factors,..." or "..., natural factors,..." (SPAIN)
266	SPM	3	7	3	8	We suggest that "environmental factors" be also listed, to be consistent with the underlying report, section 2.3 line 4 (BELGIUM)
267	SPM	3	7	3	8	It would be correct to add also the natural factors. (HUNGARY)
268	SPM	3	7	3	10	Examples in the supporting paragraph should parallel the factors introduced in the bold statement. Examples of institutional and governance factors are absent. Both concepts are prone to misinterpretation and examples would help avoid that. (CANADA)
269	SPM	3	7	3	10	This paragraph. lists the factors that vulnerability depends on. Among them there are no references to natural or ecosystem factors, despite they are key and their health or conservation status deeply marked the capacity to provide environmental services for the communities, included the capacity to act as buffers to face extreme events. At the end, they contribute to improve the resilience of the whole system, socioeconomic and ecological, as it is pointed out in chapter 2 of the SREX (2.5.1. Environmental Dimensions) (SPAIN)
270	SPM	3	7	3	10	The text refers to different vulnerabilities, but without giving any specification of the degree of vulnerability depending on the different factors. This prioritisation would however be most helpful for decision making and financing of adaptation and disaster management. (GERMANY)
271	SPM	3	7	3	10	It might be more appropriate instead of race/ethnicity/religion to instead say 'culture' which seems to be more consistent with the underlying chapter (which doesn't suggest that 'religion' was in itself a factor that made communities more vulnerable) (UK)
272	SPM	3	7	3	10	The section on exposure and vulnerability is very short and general, and we believe it lacks important information on findings related to who are the most vulnerable. It is written that vulnerability depends on different factors such as wealth, age, gender etc. However, we propose adding more specific findings on this (e.g. in AR4 SPM it was concluded that poor people, children and elderly were the most vulnerable groups). Furthermore, information on most vulnerable areas/continents should be included (e.g. like in AR4 SPM). Information in this section is important for the next phase on what to do, included here in section C (ref sentence on p.4, l.52-54 - "Understanding the multi-faced nature of both vulnerability and exposure is a prerequisite for determining how weather and climate events contribute to the occurrence of disasters, and for designing and implementing effective adaptation and disaster risk strategies"). (NORWAY)
273	SPM	3	7	3	18	We suggest that a sentence explaining that diverse and well functioning ecosystems are less vulnerable than more modified ecosystems should be included. This needs more emphasis in the SPM. (NORWAY)
274	SPM	3	8	3	54	Uncertainty / confidence language (such as "high confidence", "limited to medium evidence", "likely" is used here for the first time without any explanation - it is not explained until box SPM2 on Page 11. We suggest adding a footnote where this language is first used (line 8) to direct the reader to box SPM2 for explanation of the terminology or moving box SPM 2 closer to the first reference. (NEW ZEALAND)
275	SPM	3	9	3	10	This sentence adds little value to the bold headline sentence in lines 7 and 8. (NEW ZEALAND)
276	SPM	3	9	3	10	Explain also why some countries are more vulnerable and exposed than others. It would also be appropriate to explain which regions of the world are responsible for climate change vulnerabilities experienced across the globe and how such regions are assisting or would like to assist the vulnerable regions address the climate change problems. This is generally of concern to policy makers. (KENYA)
277	SPM	3	9	3	10	Some of the aspects mentioned here lead to differences in physical exposure (e.g., poor people have to settle in hazard-prone areas); this should be mentioned here (GERMANY)
278	SPM	3	9	3	10	The correlations between vulnerability/exposure and "race/ethnicity/religion and gender" do not prove a causal link. It is not correct to infer that vulnerability and exposure is based on these factors. Within certain societies race/ethnicity/religion may be indicators of potential risk, but (except in limited circumstances) cannot be identified as the basis of the risk. The other factors indicated are more properly casual factors. (IRELAND)
279	SPM	3	10	3	10	It would be preferable if this paragraph linked its introduction of the economic, social, etc. factors related to vulnerability and exposure to the concept with the concept of their influence on adaptive capacity and resilience. The second paragraph in the Executive Summary of Chapter 2 (from which this paragraph of the SPM is drawn) does this effectively. (CANADA)
280	SPM	3	10	3	10	"disability" of what? (GERMANY)
281	SPM	3	10	3	10	We suggest that you consider to replace race/ethnicity/religion with socioeconomic factors. Rationale: The relationship between race/ethnicity/religion and vulnerability will probably be of a more indirect nature. (NORWAY)
282	SPM	3	10	3	10	We suggest that you include a new statement regarding cumulative effects of recurrent disasters. "The cumulative effects of small or medium scale, recurrent disasters at the sub-national or local levels can substantially affect livelihood options and resources and the capacity of societies and communities to prepare for and respond to future disasters. [2.2.1, 2.7]" (NORWAY)
283	SPM	3	12	3	12	We propose to replace socioeconomic status with socioeconomic conditions. (NORWAY)
284	SPM	3	12	3	18	Only the final sentence clearly relates to the bold statement, as rapid urbanization ties directly to observed trends. The other sentences are factually correct but need to include information on trends to relate to bold statement. (CANADA)
285	SPM	3	12	3	18	"In this listing, the vulnerability of the poor incl ""resource-poor"" (at level of people, families, societies or even countries, i.e. LDCs) is badly missing. In the SREX there are references to the special status of the poor in this regard (e.g. in 2.2.2. p. 79 ""high vulnerability and exposure .. and the scarcity of livelihood options for the poor""." (HUNGARY)

#	Ch	From Page	From Line	To Page	To Line	Comment
286	SPM	3	12	3	23	Levels of confidence aren't always taken into the SPM document from the grounding report: L12 and 23 here, passim. (USA)
287	SPM	3	13	0	0	Page 3, Lines 13, 14, 21 and 29: "Extreme Climate" should be substitute by "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
288	SPM	3	13	3	14	It is not clear why coastal areas and megacities are singled out as vulnerable regions to climate change in this paragraph. Other regions (deserts, the Arctic, etc) are also vulnerable. Suggest that these references either be highlighted as examples of a vulnerable regions or that the paragraph be revised and explained further. Also, as Asian megadeltas are not countries, the structure of the first non-bold sentence does not work. (CANADA)
289	SPM	3	13	3	14	This sounds as if ONLY coastal settlements are exposed and vulnerable; what about mountain or arid regions? (GERMANY)
290	SPM	3	13	3	14	Examples from developed countries should be mentioned to like Venice, London (GERMANY)
291	SPM	3	13	3	14	Should be considered the inclusion of coastal States (with a coastal extension), as well as delta and insular States. Coastal States are also vulnerable. (VENEZUELA)
292	SPM	3	13	3	18	We propose that the exposure and vulnerability section should be more balanced in terms of geographic locations (including areas vulnerable to draught) and that the potential for extensive human losses should be reflected when exposure and vulnerability is presented. (NORWAY)
293	SPM	3	14	3	14	Could also indicate that coastal settlements are vulnerable to rising sea level, this is indicated based on the experience of Costa Rica, this country has 2 springs in the Pacific and the Caribbean, where it has seen that due to increased level Tues islands have disappeared and has invaded the coastline (COSTA RICA)
294	SPM	3	14	3	14	In this sentence and throughout the SPM, there is inconsistency in whether "small island states" is capitalized. We suggest that throughout the SPM, this term not be capitalized in order to be consistent with the format used in the underlying chapters (where the term is primarily not capitalized, although some variation also exists there). We note also that the use of the term "small island states" is a divergence from the AR4 and the outline for the AR5 where the term "small islands" is used. (CANADA)
295	SPM	3	14	3	14	"Asian" should be suppressed. (There are megadeltas in most continents.) (FRANCE)
296	SPM	3	14	3	15	The sections cited (4.4.3, 4.4.6, 4.4.9) refer to Asia, North America, and Polar Regions, respectively. Small Island States are discussed in 4.4.10. Modify text accordingly. (USA)
297	SPM	3	15	0	0	Please add information on the situation at the county side, as most poor and vulnerable people (food security, water security) live on the country side. Here is an one sided focus on mega cities. (GERMANY)
298	SPM	3	15	3	15	"refugees" would include "internally displaced people"? (GERMANY)
299	SPM	3	15	3	15	Replace reference to 4.4.6 by reference to 4.4.10 (FRANCE)
300	SPM	3	15	3	16	The exclusion of other vulnerable populations, such as the poor, elderly, children and persons with pre-existing health issues seems strange. Please review. (CANADA)
301	SPM	3	15	3	16	This sentence about vulnerable populations also including refugees would be better included under the previous para. In its current position it does not fit well under the sentence in bold (line 12-13). Being a refugee / IDP per se does not make you more vulnerable. (UK)
302	SPM	3	16	0	0	"Rapid urbanization and the growth of megacities, especially in developing countries". It has to be reinforced the comment made about the distinction of growth of megacities from developing to developed countries, because both are vulnerable, but not both have the same early warning system and the adaptation capacity . (VENEZUELA)
303	SPM	3	16	3	16	The term "marginal" is not clearly defined. Is it referring to economically marginal, biophysically marginal , etc.? Please clarify. (CANADA)
304	SPM	3	16	3	16	"marginal areas" of what? (GERMANY)
305	SPM	3	18	3	18	Include one of the conditions that generate an increase in the growth of vulnerable urban communities in developing countries is due to the lack of public policies for land use planning (this observation is highlighted according to the experiences of Costa Rica and the rest of Central America) (COSTA RICA)
306	SPM	3	19	3	19	We propose to include text, after line 19, that identifies some examples of how vulnerability and exposure is dependent upon extreme weather events. The following sentences are copied from chapter 9, and we believe that a short resume of them can give readers of the SPM a better understanding about the seriousness and complexity of weather and climate extreme events. "Climate change is expected to increase global temperatures and change rainfall patterns. In general, an increase in mean temperature, and a decrease in mean precipitation can contribute to increase wildfire risk. [9.2.2] Water is a critical resource throughout the world. Drought can increase competition for scarce resources, cause population displacements and migrations and exacerbate ethnic tensions and the likelihood of conflicts.[9.2.3] Floods are a major natural hazard in many regions of the world. Averaged over 2001-2010, floods and other hydrological events accounted for over 50% of the disasters and for example it was reported that in 2007 flooding worldwide accounted for four of the top five deadliest natural disasters. Currently about 800 million people live in flood prone areas and about 10% are annually exposed to floods. Causes of floods are varied, but may occur as a result of heavy, persistent and sustained rainfall or as a result of coastal flooding. [9.2.6] Weather and climate have a wide range of health impacts and play a role in the ecology of many infectious diseases. The relationships between health and weather, climate variability, and long term climate change are complex and often indirect. [9.2.7]" (NORWAY)
307	SPM	3	19	3	19	We suggest to include Fig. 4-7 from SREX. We feel that this figure shows nicely how the different disasters are categorized, and that extreme weather- and climate- related disasters is a global challenge. (NORWAY)
308	SPM	3	21	3	21	Suggest adding "on the Physical Environment" to this sub-title as all the text refers to Ch. 3. (CANADA)

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309	SPM	3	21	3	21	This paragraph does not cover impacts as the title suggests. While paragraph 3.5.5 concludes that vulnerability is predominantly determined by other factors than increases in greenhouse gases. If this is a balanced conclusion then it should be highlighted here. (NETHERLANDS)
310	SPM	3	21	3	21	The session title "climate extremes and impacts" is somehow misleading; one would be expecting that it would be covering three aspects: 1. climate change - extremes evidence and trends; 2. observed trends (which is what is reflected) and 3, impacts (which are not addressed. Therefore the title could be adjusted to "observed trends in climate extremes". (GERMANY)
311	SPM	3	21	3	21	Why "Climate Extremes" and not "Weather Extremes"? (GERMANY)
312	SPM	3	21	3	21	Delete "and impacts" - impacts are not treated in this part of the SPM (FRANCE)
313	SPM	3	21	3	54	The session could be organized more clearly - in particular to what is different from the 4th AR; starting by what is confirmed to be observed; what is not confirmed. Ending with a paragraph (currently line 23..) describing the difficulties and reliability (GERMANY)
314	SPM	3	21	4	11	This paragraph is difficult to read. Another ordering of information would be preferred. For example ranging from events with high confidence/very likely to events with low confidence/very unlikely. Or ordering by type of extreme (e.g. about temperature, winds etc...). Furthermore we would advise to highlight the type of extremes (e.g. high/low temperatures, precipitation, winds, droughts, etc...). Finally: Is this a complete list of climate extremes including our confidence, or are these just a few examples? (NETHERLANDS)
315	SPM	3	21	4	11	This section does not deal with extra-tropical cyclones, such as the recent Lothar/Martin/Klaus. The SREX contains a few statements about such events (which do have a high impact). (FRANCE)
316	SPM	3	21	4	11	The report does not mention impacts on air quality (connecting to the potential health problems). It does not say anything on the impacts on biomass (through destruction or alteration of net primary production). (FRANCE)
317	SPM	3	21	6	14	The section called "Climate Extremes and Impacts" on page 3 is the same on page 6. This can be misleading. (TRINIDAD AND TOBAGO)
318	SPM	3	23	0	0	Strike "There is evidence from." "Observations gathered since 1950 show changes in some extremes." Reserve the use of the word "evidence" for statements of uncertainty. (USA)
319	SPM	3	23	3	23	Suggest adding "over this time period" to the end of the first sentence to make clear that the following discussion will be about changes over this time period and not with respect to periods before 1950. (CANADA)
320	SPM	3	23	3	23	For easier understanding, the sentence "There is evidence from observations gathered since 1950 of changes in some extremes" should be modified as "There is evidence of changes in some extremes from observations gathered since 1950." (JAPAN)
321	SPM	3	23	3	23	Why only since 1950? (GERMANY)
322	SPM	3	23	3	23	Add the word « indices » : « Changes in some extreme indices » (FRANCE)
323	SPM	3	23	3	23	replace first sentence by "Based on observations gathered since 1950 there is evidence of changes in some extremes". (SWITZERLAND)
324	SPM	3	23	3	25	General comment: This special report should help to differentiate an "extreme event of natural occurrence" of an "extreme event because of climate change", and help identify indicators to reduce these gaps and increase the credibility of the impacts are mainly due to recent climate change is causing global environmental change. (VENEZUELA)
325	SPM	3	23	3	25	We suggest that only the first sentence is put in bold. Consider to include the confidence level instead in parentheses after the first sentence and moving sentence 2,3 and 4 to Box SPM 2. (NORWAY)
326	SPM	3	23	3	29	There is significant discussion on uncertainty in making projections of extremes, but no explanation as to why our understanding is limited. Need to explain this. Alternatively, this could be placed in in section D, lines 16-26, For example, from section 3.2.1 of the underlying report: Extreme events are rare, which means that there are also few data available to make assessments regarding changes in their frequency or intensity. The more rare the event, the more difficult it is to identify long-term changes (Section 3.2.1). (UK)
327	SPM	3	23	3	29	The first sentence is fine, the following two sentences focus on uncertainty. It would be more interesting to policymakers to pull out key messages and talk about confidence further down. Suggest following with something like this - (from Chapter 3 of underlying chapter)"There is evidence that some extremes have changed as a result of anthropogenic influences, including increases in atmospheric concentrations of greenhouse gases. Anthropogenic influences are likely to have led to warming of extreme daily minimum and maximum temperatures on the global scale. There is medium confidence that anthropogenic influences have contributed to intensification of extreme precipitation on the global scale. It is likely that there has been an anthropogenic influence on increasing extreme sea levels via mean sea level contributions. There is low confidence in attribution of changes in tropical cyclone activity to anthropogenic influences." There is no need to mention exposure, as this is dealt with in the section below. The content of this is much more interesting to the policy maker. This could then be followed with statements in confidence in results. Currently, statement in lines 23-25 is a bit obvious. Suggest re-wording to say something like "confidence in observed changes in climate extremes varies across regions and type of extreme due to variations in data availability" (UK)
328	SPM	3	23	4	11	Add attribution to each of your statements in the entire observations section. This allows you to delete page 4 lines 5-11 and clarifies the connection between detection and attribution with regard to the individual phenomena. Observed change statements without attribution are ripe for misinterpretation. (USA)
329	SPM	3	25	3	25	In the sentence "It consequently varies across regions and for different extremes", are the authors referring to the evidence base or to confidence in observed changes? (CANADA)

#	Ch	From Page	From Line	To Page	To Line	Comment
330	SPM	3	25	3	27	Repetition from page 6, line 19-20. General statement that should be moved to Box SPM.2 on uncertainty concepts. (GERMANY)
331	SPM	3	25	3	27	This sentence is very difficult to understand (GERMANY)
332	SPM	3	25	3	28	There is some uneven mixing of probability and confidence terminology in this section. The use of "confidence" terminology in this section is, at times, inappropriate. Clarify in definition of "confidence" in this context is required, the assignment of "low confidence" to the analysis of observations is liable for misinterpretation. More conventional language would be better, with no further need for nuance interpretation. The text could be interpreted (and suggested alternative text) would be P3 Ln end 25- end 28 " In many parts of the world, changes in the frequency or intensity in extreme events have not been observed as yet. In many instances the analysis is inconclusive due to a lack of robust observation data. Where analysis is robust, the observations have recorded changes in climate which are consistent with climate model projections, and in certain cases observed change is occurring more rapidly than model projections. There is [little or no] evidence that model projections of adverse changes in extreme events have been overestimated." If this a misreading of the text, then the existing text is obviously unclear. In any case, the existing text could be interpreted in any number of ways, not least to say that changes in extreme events are not occurring and there is low confidence or expectation that these changes will occur. (IRELAND)
333	SPM	3	26	3	26	"in observed changes" should be replaced by « to observed changes » (FRANCE)
334	SPM	3	27	3	27	Add one sentence as "It may be caused by limited literature or observations, especially in developing countries." after "...possibility of changes in this extreme." (CHINA)
335	SPM	3	27	3	27	"more or less" this is ambiguous and confusing (IRELAND)
336	SPM	3	27	3	28	The sentence that begins with 'Global-scale' is not understandable, unless 'more or less reliable' extremes are explicitly specified. The phrase 'either more reliable (e.g., for temperature extremes) or less reliable (e.g., for droughts)' as written in the ES of Chapter 3 (Page 3) should be adopted instead of 'more or less reliable'. (JAPAN)
337	SPM	3	27	3	28	replace "...may be more or less reliable than some regional-scale trends, depending on the geographical uniformity..." by "...are more reliable if there is geographical uniformity..." (SWITZERLAND)
338	SPM	3	28	3	28	Suggest replacing "uniformity" with "pattern". A spatially organized pattern of trends that reflects a physical phenomenon known to have occurred in the region would engender confidence. For example, a pattern of changes in extreme wind speeds with increases in some areas and decreases in others that correspond to an observed poleward shift in storm tracks would engender confidence in the observed changes in extremes. (CANADA)
339	SPM	3	31	0	0	Preface sentence with "Since 1950..." as done in summary paragraph at the end of 3.3.1; otherwise it's a statement with no reference. (USA)
340	SPM	3	31	3	31	We propose that the first sentence is put in bold (NORWAY)
341	SPM	3	31	3	32	Changes in # of cold/warm days/nights: how is this linked to "extreme events"? (GERMANY)
342	SPM	3	31	3	32	A technical point, but one I didn't see defined anywhere: how are "cold" and "warm" days and nights defined? Awfully subjective, otherwise. (USA)
343	SPM	3	31	3	37	The distinction between heat waves and warm spells will not be apparent to the average reader. Suggest explaining further or footnoting the definition. (CANADA)
344	SPM	3	31	3	37	It is useful to explicitly mention what is new since AR4 to reflect the insight tendency. This is something policy makers would like to know. This should be done for most of the scientific findings. Or -if this is too much work - we suggest to limit this addition to findings that has significantly changed our insights since AR4. (NETHERLANDS)
345	SPM	3	31	3	37	This paragraph deals with warm days/nights, and cold days/nights, which are not necessarily extreme. There is no statement about extreme temperatures, such as major, destructive heatwaves or disruptive cold spells. Thus this paragraph is not particularly informative on extreme events. (FRANCE)
346	SPM	3	31	3	37	I have not found in the complete report the exact definition of "cold days, nights, hot days", etc. A rather standard definition of number of hot days is number of days above 90th quantile (taking into account the seasonal cycle). (FRANCE)
347	SPM	3	31	3	39	Terms such as "cold days and nights", "warm days and nights", "warm spells", "cold spells" are used here without any definition. It would be useful if a definition could be provided in the text, via a footnote, or else by directing readers to the glossary. (NEW ZEALAND)
348	SPM	3	31	4	3	We suggest adding shorts subtitles to increase the readability: "Temperature/Precipitation/Cyclone/Drought/Floods" (BELGIUM)
349	SPM	3	31	4	11	Section 'Climate extremes and impacts': several qualifiers on confidence and uncertainty changed since AR4 - in particular with comparison to AR4 WGI table SPM2. Please explain those changes, as the AR4 qualifiers were well-known to policy-makers. For some specific impacts, the period covered by the trend discussed is not given (ex: heavy precipitation). Please provide that information for each trend. (BELGIUM)
350	SPM	3	34	0	0	Specify that there is "medium confidence of a warming trend in daily temperature extremes..." as stated on p. 27 of Ch. 3; as 3rd sentence of 3.1: "It is important to distinguish between daily mean, maximum (i.e., daytime), and minimum (nighttime) temperature, as well as between cold and warm extremes, due to their differing impacts." it may even be worth highlighting this point in the SPM? (USA)
351	SPM	3	36	3	41	We suggest to include some examples (BELGIUM)
352	SPM	3	37	3	37	We propose to end the paragraph on temperature by including some regional statements with high confidence from table 3.2 such as Tmax (WD and CD), Tmin (WN and CN), Heat waves and Warm spells. (NORWAY)

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353	SPM	3	39	3	39	It feels slightly odd to say that 'it is likely that have been statistically significant increases' this is a probabalistic assessment of a probabalistic assessment, the former conferring a lower level of certainty than the latter. Maybe better to either leave out 'statistically significant or say 'Available data suggest there have been' instead of 'it is likely' (UK)
354	SPM	3	39	3	40	The "statistically significant" may be superfluous here. The combination of "likely" and "increases" would seem to express the sentiment. Adding attributes may become confusing. (SWEDEN)
355	SPM	3	39	3	40	"likely", "high/medium/low confidence" are defined p. 11; likely and statistically significant are thus redundant (FRANCE)
356	SPM	3	39	3	41	This statement is awkwardly worded and could be revised for readability. Also, the part of the sentence that appears after the comma ("but there are strong regional and sub-regional variations in the trends") is not central to the statement and could be deleted. (CANADA)
357	SPM	3	39	3	41	The whole paragraph is very important but difficult to grasp at once, needs to be read twice, thus better wording, may be, starting by the end: "though there are strong regional and sub regional variations, it is likely that there have been more regions with statistical significant increases in the number of heavy precipitation events than regions with statistical significant decreases" (SPAIN)
358	SPM	3	39	3	41	We propose that the sentence is put in bold (NORWAY)
359	SPM	3	40	3	40	Please quantify what is meant by "statistically significant" by at least giving a confidence level (e.g. statistically significant at the 95% confidence level ...). (NEW ZEALAND)
360	SPM	3	41	3	41	We propose to include a condensed version of this sentence from SREX Chapter 3 page 87. "The change in the pattern of global precipitation in the observations and in model simulations is also consistent with theoretical understanding of hydrological response to global warming that wet regions become overall wetter and dry regions drier in a warming world, though some regions also display shifts in climate regimes. [3.5.1]" (NORWAY)
361	SPM	3	41	3	41	Consider to add at to end the paragraph on precipitation some regional statements with high confidence from table 3.2 regarding Heavy Precipitation. (NORWAY)
362	SPM	3	42	0	0	Suggest inserting here a statement about observed changes in storm tracks from Chapter 3, page 52, lines 1-3: 'In summary it is likely that there has been a poleward shift in the main northern and southern hemisphere stormtracks, during the last 50 years. There is medium confidence in an anthropogenic influence on this observed poleward shift.' This is an interesting finding and one that policymakers should be aware of. (UK)
363	SPM	3	43	0	0	Please define cyclone activity by an inclusion of a parenthetical statement "(i.e., frequency, intensity, spatial scale, & duration)". (USA)
364	SPM	3	43	0	0	Recommend that this finding should be expanded. Consider using the next sentence in the summary in section 3.4.4 (p. 48 of chapter 3). (USA)
365	SPM	3	43	0	0	A minor wording point-- a 40-year trend in some Atlantic tropical cyclone metrics (i.e., hurricane counts over the period 1971-2010) would still be robust, but such trends become increasing less reliable as we go further back in time, particularly into the earlier parts of the satellite era and then on into the pre-satellite era. (USA)
366	SPM	3	43	3	43	This statement seems a bit one-sided. Do we have greater confidence on "any observed long-term" decreases? Perhaps "any" should be deleted. (CANADA)
367	SPM	3	43	3	43	this is a poor use of the "confidence" terminology (IRELAND)
368	SPM	3	43	3	44	Tropical cyclone activity is undefined. While this may be done in 3.4.4, it is insufficient for the SPM. (ICELAND)
369	SPM	3	43	3	44	According to AR4 it is "likely" that intense tropical cyclone activity had increased since 1970 in some regions. Explicit reference to tropical cyclone intensity should also be made in this context of SPM SREX to avoid confusion. (CUBA)
370	SPM	3	43	3	44	This is a key statement that needs an extra supporting sentence or two from chapter 3. For example "Much like other weather and climate observations, tropical cyclone observations are taken to support short-term forecasting needs. Improvements in observing techniques are often implemented without any overlap or calibration against existing methods to document the impact of the changes on the climate record. Additionally, advances in technology have enabled better and more complete observations." (NEW ZEALAND)
371	SPM	3	43	3	44	This is typically an example for the importance to add what is new since AR4. The tendency is clearly towards less clear connection between warming and frequency and intensity of cyclones. This should be added here. (NETHERLANDS)
372	SPM	3	43	3	44	"low confidence that increases are robust": does that mean that there is no robust evidence and therefore low confidence? please give evidence & agreement levels. It should be added that the likelihood for increased intensity is - based on physical reasons and observations - far stronger than for an increase in the numbers. (GERMANY)
373	SPM	3	43	3	44	This sentence seems to be much more general than the corresponding statement in AR4, suggesting that that "very little is known about past changes in tropical cyclones"; is this really true for all regions? Please clarify. A related sentence from AR4 WGI table SPM2 stated: "intense tropical cyclone activity increases :Likely in some regions since 1970". If it does still reflect current knowledge, please include; if not, please explain. (BELGIUM)
374	SPM	3	43	3	44	Talking about strength, frequency, or both? (UK)
375	SPM	3	46	3	47	"East Africa" should be added to list of regions that that have experienced more intense longer droughts since 1950s. The drought of mid 1998 to 2001 was the severest and longest in the history of the region. Currently, even the drought that started in late 2010 has not come to an end (KENYA)

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376	SPM	3	46	3	48	With the wording of this statement, it is not clear whether the "medium confidence" designation applies also to the last part of the paragraph (e.g., with respect to drought frequency in North America and northwestern Australia). (CANADA)
377	SPM	3	46	3	48	This is useful information, but is the message only that the changes are contrasted (depending on region), or is there a general tendency towards increasing of the area affected by drought ? (this may have been concluded from the AR4 WGI table SPM2: "Area affected by droughts increases : Likely in many regions since 1970s" - can we say if it is still be valid ?) (BELGIUM)
378	SPM	3	46	3	48	We suggest that this sentence is split in two after "West Africa" and that the first part is put in bold. Furthermore we suggest that the confidence level is put in the end of the para in parentheses. (NORWAY)
379	SPM	3	47	3	47	It is suggested that the current wording 'and West Africa' should read ', West Africa and East Asia', because the situation of aggravated drought severity is also likely to occur in East Asia region, and this point is explicitly stated in the Table 3.2 as a "medium confidence" in the underlying report. (CHINA)
380	SPM	3	47	3	47	Since there exist many definitions of droughts, is the statement valid for all types of droughts (meteorological droughts, hydrological droughts, or agricultural droughts that are defined for certain crops, etc. ...)? (BELGIUM)
381	SPM	3	48	3	48	"Central North America" would naturally be interpreted to mean the continental interior, including southern Canada. But Ch. 3 section 3.5.1 (page 55) reports a recent regional trend towards MORE severe drought conditions in southern and western Canada. If Central North America has a technical definition, then this should be included as a footnote. Alternatively, a better descriptor of the region in question should be used. (CANADA)
382	SPM	3	50	3	50	what is meaning of the term "evidence" in this sentence. "Data" may be a more appropriate term. (IRELAND)
383	SPM	3	50	3	54	It would be useful to connect the information on the lack of direct information about floods to the information on increasing precipitation in the next paragraph. Otherwise readers may incorrectly conclude that there is very little reason to think that flood events got worse. In addition, does the "low confidence" regarding the sign of change at the global scale result from lack of data or also from mixed regional changes with + and - areas? (if there is more confidence that flooding increased in some regions, please clarify) (BELGIUM)
384	SPM	3	50	3	54	We suggest that you start the para with a new sentence in bold explaining the key finding on observed changes in floods. (NORWAY)
385	SPM	3	53	3	53	The assignment of a confidence rating for global flooding trends is inappropriate. Flood events are by their nature local or regional, aggregation to global scales is problematic. Where there is low confidence in the quality of observation data and its suitability in the detection of change, no further statement can be made on the confidence of whether changes have actually occurred, and no statements can be made with regard to attribution. (IRELAND)
386	SPM	4	0	0	0	Section C: Please add the statement "The case studies demonstrate that current disaster risk management (DRM) and CCA policies and measures have not been sufficient to avoid, fully prepare for and respond to extreme weather and climate events but these examples demonstrate progress." from Chapter 9, page 2. (GERMANY)
387	SPM	4	0	0	0	Section C: Please add statements on early warning systems, improving international co-operation and investments in forecasting, that it is better to invest in preventative-based DRR plans, strategies and tools for adaptation than in response to extreme events; the value of investments in knowledge and information, including observational and monitoring systems, for cyclones, floods, droughts, heat waves and other events from early warnings to clearer understanding of health and livelihood impacts." from Chapter 9, page 2. (GERMANY)
388	SPM	4	0	0	0	Section C: Please add the statement "Sustainable land management is an effective disaster risk reduction tool (high agreement, robust evidence)." from Chapter 5, page 2. (GERMANY)
389	SPM	4	0	0	0	Section C: Please add the statement "One lesson from disaster risk reduction to climate change adaptation is that stronger efforts at the international level do not necessarily lead to substantive and rapid results on the ground and at the local level. There is room for improved integration across scales from international to local (high confidence)." from Chapter 7, page 4. (GERMANY)
390	SPM	4	1	4	2	The sentence comes from the "executive summary" not from 3.5.3 (FRANCE)
391	SPM	4	1	4	13	We propose to add a new conclusion around lines 1-13, page 4. Since the SPM is more directed to policymakers than to climate specialists, we find the following conclusion very important. The background of this conclusion is given on page 78 of Chapter 3 of SREX: FAQ 3.2. We propose the following text: "It is very difficult to attribute the occurrence of one extreme event or disaster to climate change (high confidence). A changing climate can be expected to lead to changes in climate and weather extremes. But it is challenging to associate a single extreme event or disaster with a specific cause such as increasing greenhouse gases because a wide range of extreme events could occur even in an unchanging climate, and because extreme events are usually caused by a combination of factors. Despite this, it may be possible to make an attribution statement about a specific weather event by attributing the changed probability of its occurrence to a particular cause. For example, it has been estimated that human influences have more than doubled the probability of a very hot European summer like that of 2003. However, the occurrence of this heat wave as such cannot be attributed to climate change. [FAQ 3.2]" Why is this conclusion important to mention in the SPM? The popular media is packed with numerous suggestions between extreme events and disasters on the one hand and climate change on the other hand. For example, if one types in Google: 'flooding Pakistan 2010 climate change' Google will show 8.7 million hits! This conclusion has also been drawn by Visser and Petersen, 2011 in CPD. See the link http://www.clim-past-discuss.net/7/2893/2011/cpd-7-2893-2011.pdf , Section 6, pages 24-25. (NETHERLANDS)

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392	SPM	4	2	4	2	The term "extreme coastal high water events" is not a term that will be widely understood and requires further explanation. It also appears to be used only in the summary of the report - the term used more frequently in Chapter 3 is "extreme high water"; variations in this terminology also exist in Table SPM 1. (CANADA)
393	SPM	4	2	4	2	We propose that the word "trends" is replaced by "increase" and that the whole sentence is put in bold. (NORWAY)
394	SPM	4	5	4	6	Insert "in varying degrees" after "There is evidence". Delete ", including increases in atmospheric concentrations of greenhouse gases" because this special report has not assessed the atmospheric concentrations of greenhouse gases. (CHINA)
395	SPM	4	5	4	6	There is evidence that some extremes have changed as a result of anthropogenic influences, including increases in atmospheric concentrations of greenhouse gases.' The value of the information has been lost, the statement itself has been made so weak that it can easily be attributed 100% confidence. Besides this, some extremes have for sure changed as a result of anthropogenic influences. Think about modifications of climate in cities. (NETHERLANDS)
396	SPM	4	5	4	11	It would seem that the changes in extremes referred to in this paragraph would be predominantly driven by the increases in atmospheric concentrations of greenhouse gases", of various anthropogenic influences. Land-use change may of course influence e.g. maximum temperatures, but the first sentence of the paragraph would seem to be a bit "off". (SWEDEN)
397	SPM	4	5	4	11	Suggest to move earlier in the paragraph on climate extremes. This is what the policy makers are most interested in (GERMANY)
398	SPM	4	5	4	11	The confidence statements here are unclear, as they often aggregate two factors for which a confidence statement should be made - for example, "It is likely that anthropogenic influences have led to warming of extreme daily minimum and maximum temperatures on the global scale" aggregates both uncertainty (however limited) about anthropogenic climate change and uncertainty about the effects of that change on temperatures. It might make sense to disaggregate so the policy-maker can understand what parts of those statements are contentious, and which are not. This problem can be resolved by deleting the paragraph and integrating attribution into discussion of each phenomena under "observations of exposure, vulnerability, climate extremes, impacts, and disaster losses." (USA)
399	SPM	4	5	4	11	This section is silent on floods and droughts. When integrating attribution into statements on "observed trends" include attribution statements on floods and droughts. (USA)
400	SPM	4	5	4	11	"In the SREX on pp 140-141 there are two conseq. paragraphs: the first one is a long list of changes in some extremes ("There is evidence from observations gathered since 1950 .."), the next one is a shorter one on a few extremes but in this case directly linking these changes to anthropogenic influences. These are repeated also in the draft SPM (but the former para from the SREX is subdivided in smaller para-s). Such a differentiation is absolutely illogical, moreover, at least here, it is not indicated how in the latter paragraph this cause-effect relation was derived (vs the careful deduction within the 2007 AR). It is a sensitive issue, and it would be important to rethink either the wording of the latter paragraph or merging it with former one and introducing a more careful reference to role of the anthrop. influences which contributed to the changes (in line with the recent AR)." (HUNGARY)
401	SPM	4	7	0	0	""increasing"" instead of ""warming"", i.e: to increasing of extreme daily .." (HUNGARY)
402	SPM	4	7	4	10	We propose to rephrase the last part of the sentence after ".. extreme sea levels.." to "..due to increase in mean sea level." (NORWAY)
403	SPM	4	8	4	10	This sentence is difficult to read. Please clarify. We suggest "It is likely that human activities contributed to increase extreme sea levels, at least due to mean sea level rise". In addition, please check that "likely" is the appropriate wording - is there substantial doubt that mean sea level rise had an anthropogenic contribution or that this contributed to larger extremes, given that if anything, storms could only increase this effect ? Shouldn't this be a "high confidence" statement, as there is both evidence and agreement, but little data on a probability? (BELGIUM)
404	SPM	4	9	4	9	It would be helpful to explain or define "extreme sea level" and its distinction with the term "extreme coastal high water events" (used in the previous paragraph). (CANADA)
405	SPM	4	10	4	10	There can be no assignment of confidence in attribution of the cause of change where is no "low confidence" in the observation of change in the first place (IRELAND)
406	SPM	4	10	4	11	Suggest the authors consider replacing "low confidence" with "very low confidence" in this attribution sentence. If we have low confidence in observed long-term trends, it may not be appropriate to make any kind of attribution statement at all, or if you do make an attribution statement, then it should presumably be at a lower level of confidence than the confidence that you have in the data, since the attribution process brings in additional information which is also affected by uncertainties of various kinds. (CANADA)
407	SPM	4	14	0	0	Within the paragraphs on DISASTER LOSSES (page 4, lines 14 ff.) there is one statement that we have another view about: Lines 18ff reads: "Annual accumulated estimates have ranged from a few billion to about 200 billion USD (in 2010 dollars), with the highest value for 2005 (the year of Hurricane Katrina)." In our global loss database, which is used in scientific peer reviewed papers, we registered direct economic losses of the year 2005 that sum up to more than USD 240bn. Unfortunately, right now I do not have the time to check the sources the authors have used for their statement. (GERMANY)
408	SPM	4	14	4	14	Suggest adding "Human Impacts and" before "Disaster Losses" to be consistent with the section title on page 8. (CANADA)
409	SPM	4	14	4	14	A paragraph mentioning the impacts of extremes on biodiversity and on ecosystems should be added somewhere, e.g. Under disaster losses (The impacts are complex but cannot be ignored by the SPM; tipping points could also be mentioned in this paragraph.) (FRANCE)
410	SPM	4	14	4	16	The section called "Diaster Losses" on page 4 is the same on page 8. This can be misleading (TRINIDAD AND TOBAGO)

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411	SPM	4	14	4	43	Section "Disaster losses": The degree of abstraction of this section is extremely high. It would however be useful to also address structural (e.g. size of business) or sectoral issues to make it more useful to policy makers. (GERMANY)
412	SPM	4	14	4	43	We propose that you make these paragraphs more balanced with regard to the different categories of disaster losses (e.g. human, economic and environmental losses). As it is today we think there is too much emphasis on economic losses. We propose that the second paragraph (from line 26) starts with a boldfaced sentence that deals with human losses, and that a new paragraph (from line 36) that deals with environmental losses caused by climate extremes are introduced. (NORWAY)
413	SPM	4	14	4	44	Overall the economic section is the first section where more concrete information is available. Some of the examples used could be politically misinterpreted: For example in line 20 - In the period 2000-2008, Asia experienced the highest number of weather- and climate events - this does not mean that over the centuries Asia is more affected. It might made clear that while all regions, areas can be affected data are more available for Asia during the last decade (GERMANY)
414	SPM	4	16	4	16	Are losses from disasters meant here, or from all types of weather events? Definition of disaster is quite narrow, according to the Glossary, as large events only with widespread impacts (NETHERLANDS)
415	SPM	4	16	4	17	We suggest to change this text into: "Global economic losses from weather- and climate-related disasters have been increasing, but with large interannual variability (medium confidence)" Explanation: - Addition of the word 'global': It is unclear from the text if the statement is valid for all regions but they are visible on a global scale in Figure 4-8, page 89 of Chapter 4. - Changing the verb 'are' to 'have been': The text now suggests that these losses are currently increasing. Figure 4-8 on page 89 of Chapter 4 of SREX and its statistical analysis do not justify that. It would be equally valid to state that global economic losses etc are stabilizing. Visser and Petersen (2011, Inferences on weather extremes and weather-related disasters: a review of statistical methods, Figure 7, page 42, Climate of the Past Discussions, http://www.clim-past-discuss.net/7/2893/2011/cpd-7-2893-2011.pdf) show that very different trend patterns fit the same global loss data. The only conclusion that can be drawn from the data is that losses have indeed increased over de period 1980 -2009. - Changing 'high confidence' to 'medium confidence'. We believe that this statement is not a case of 'high evidence', 'high agreement' allowing a 'high confidence' as described by the IPCC uncertainty guidelines. We have two arguments: 1. Katrina: This was a single event highly influencing the global trend calculations. Without it the global economic losses would have decreased over the period 2001-2010. 2. The References in chapter 4 on which the statement is based are in our opinion not convincing. We checked the references in Chapter 4, Sections 4.5.3 and 4.5.4 , page 44: are given in the text (middle of the page): There is high confidence that economic losses from weather- and climate-related disasters are increasing (Cutter and Emrich, 2005; Mechler and Kundzewicz, 2010; Munich Re 2011; Peduzzi et al. 2009; Peduzzi et al. 2011; Swiss Re 2010; UN-ISDR, 2009). o The article of Cutter and Emrich are on disaster losses in the U.S.A, not global, and up to 2003 only .Their study is on natural hazards and disasters (including geophysical events), and data are up to the year 2003. o The article of Mechler and Kundzewicz is an editorial on adaptation in Europe, and thus not global.. o The reference to Munich Re (2011) is grey literature from a stakeholder with (potential) commercial interests. o Peduzzi et al. (2009) use global loss data from another source, the EMDAT database from CRED, but we are not sure whether this is really a fully independent source. Their data correlate very highly with he Munich Re data (R = 0.94) and CRED cooperates with Munich Re. o Swiss Re (2010) shows loss data in their Figure 3, page 5. Their graph shows a rising trend for insured losses, not total losses. Also Swiss Re is a stakeholder with (potential) commercial interests, o UN-ISDR (2009) is a reference to the website of the GAR 2009 report but this reference doubles with the reference Peduzzi (2009). (NETHERLANDS)
416	SPM	4	16	4	17	Biggest variability spatial or temporal (globally)? (NETHERLANDS)
417	SPM	4	16	4	17	Insert "Monetized" (economic losses) at the beginning; replace "but with large interannual variability" by "but with large spatial and interannual variability" (SWITZERLAND)
418	SPM	4	16	4	24	The supporting paragraph to this bolded finding includes many relevant statistics, but does not actually provide evidence of an increasing trend in economic losses - please review. (CANADA)
419	SPM	4	16	4	24	We appreciate that figures on estimated costs of losses from disasters have been added in the SREX. However, we would also appreciate the inclusion of estimates of how much is spent on DRR globally and annually (ranges, if estimates are available) to be able to compare these figures. Furthermore, we suggest adding figures of estimated costs of DRR/CCA from the numerous studies published the past years (based on expected needs), which are also interesting for comparison. (NORWAY)
420	SPM	4	16	4	43	It is difficult to get an overall sense of how much of the recent increase in losses from disasters is due to a changing climate vs. a change in vulnerability or exposure of society, natural systems and assets. Lines 37 to 43 are particularly unclear. It makes the statement that changes cannot be attributed to climate change, but is more down to changing exposure. It then goes on to list a large number of caveats, which suggest that not too much confidence should be placed in the statement in bold. Strongly suggest clarifying how the balance is represented in the literature, (UK)
421	SPM	4	18	0	0	"unequally distributed in space and time"? Please clarify (USA)
422	SPM	4	18	4	18	Please clarify whether "and are unequally distributed" is referring to space or time here. If it's time, then this phrase could be deleted since the bolded statement makes this point already. (CANADA)
423	SPM	4	18	4	18	Please clarify what is meant by "unequally distributed" - ie is this an unequal distribution in time, in space, by country, by sector, or by all of these ? (NEW ZEALAND)
424	SPM	4	18	4	18	... unequally GEOGRAPHICALLY distributed. (NETHERLANDS)
425	SPM	4	18	4	18	Annual accumulated estimates OF MONETIZED DIRECT DAMAGES TO ASSETS... (NETHERLANDS)
426	SPM	4	18	4	19	For what time period are the "annual accumulated estimates"?(USA)
427	SPM	4	19	4	19	Are these losses from disasters, or also small events? (NETHERLANDS)
428	SPM	4	20	4	20	Again, are these events in Asia from disasters, or also small events? (NETHERLANDS)

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429	SPM	4	20	4	20	The US (not uniquely) doesn't have a full cost accounting of loss or damage from these events, so these estimates are expected to be low. Although impossible to quantify, some mention of this low bias in all these estimates seems appropriate. Passim. (USA)
430	SPM	4	20	4	21	"Asia experienced the highest number of weather- and climate- related disasters". Compared to where - other continents? Also, Asia is a huge area, other parts of the SPM reference more precise geographic areas eg northeast Brazil or Southern Africa. The statement is not very meaningful for policy unless it is normalised in some way - e.g. largest number of ... disasters per head of population, or per unit area, or per \$ of GDP ? (NEW ZEALAND)
431	SPM	4	20	4	21	'Asia in the period 2000-2008'. This text is out of place (i) it is on the number of disasters not on the total losses, and (ii) it is not an evolution over time (it is a spatial comparison of the number of disasters). The Americas had the highest losses over 2000-2008. And why mentioning Asia and not other regions? (NETHERLANDS)
432	SPM	4	20	4	21	"In 2000-2008, Asia experienced the highest ..." in comparison to other periods or to other regions? (GERMANY)
433	SPM	4	20	4	21	"In the period 2000-2008, Asia experienced the highest number of weather – and climate related disaster." Complete the idea adding that also other extreme meteorological events occurred at global level affecting others regions. (VENEZUELA)
434	SPM	4	20	4	21	The sentence "In the period 2000-2008, disasters." needs a temporal reference. It could end "..... disasters since the 1960s, when the collective registration and reporting of such events started." (NORWAY)
435	SPM	4	21	4	21	We propose that "health and environmental impacts" is included between "human lives," and "cultural heritage". Rationale: We believe that not only the losses mentioned are not estimated in monetary terms, also health and environmental impacts following disasters are not estimated in monetary terms. (NORWAY)
436	SPM	4	21	4	24	The last two sentences in this paragraph deliver important messages on limitations in our ability to quantify losses in human lives, cultural heritage and ecosystem services. The authors should consider highlighting these sentences in a separate paragraph in order to avoid underemphasizing these losses compared to economic losses. (CANADA)
437	SPM	4	21	4	24	There should be a reference to the difficulty of quantifying such losses to fuzzy values (heritage, culture, eco-systemic services and informal economy), taking into consideration those methodologies that suggest to assess the potential loss of such assets in the estimation of the vulnerability. And also have to be reflected the human impact caused by emerging diseases associated with climate change. (VENEZUELA)
438	SPM	4	21	4	24	Need to qualify that this is about economic impacts and economic losses as it doesn't currently read quite right, suggesting that loss of human life isn't easy to measure. (UK)
439	SPM	4	22	4	22	"Many impacts, such as loss of human lives...are difficult to measure". It needs to be clarified that these impacts are difficult to measure in "economic terms" (NEW ZEALAND)
440	SPM	4	22	4	22	delete "or bought and sold", as this is clear from the previous part of the sentence (GERMANY)
441	SPM	4	22	4	23	Proposed text: "are not normally measured by monetary values or difficult to measure..." (FRANCE)
442	SPM	4	23	4	24	Last sentence is important and should be a new paragraph. (SWITZERLAND)
443	SPM	4	26	0	0	Measured economic and insured losses from disasters are largest in developed countries. Fatality rates and economic losses as a proportion of GDP are higher in developing countries (high confidence). Accurate determination of losses from disasters in developing countries may not be as obvious as stated here. (VENEZUELA)
444	SPM	4	26	4	27	Why do you use the superlative ("largest") in the first sentence and comparative ("higher") in the second? Are fatality rates and economic losses as a proportion of GDP sometimes higher in industrialized countries? Could you say "are highest in developing countries, particularly middle-income countries"? (CANADA)
445	SPM	4	26	4	27	"Measured economic and insured losses from disasters are largest in developed countries. Fatality rates and economic losses as a proportion of GDP are higher in developing countries (high confidence)." should be changed as "Fatality rates and economic losses in proportion of GDP are higher in developing countries (high confidence), while measured economic and insured losses from disasters are larger in developed countries (4.5.2). "Because the original sentence is "While the countries with high income account for most of the total economic and insured losses from disasters (Swiss Re, 2010), in developing countries there are higher fatality rates and the impacts consume a greater proportion of GDP." (CHINA)
446	SPM	4	26	4	35	Contradiction? "Losses are higher in developing countries" - but - "middle income countries have borne the largest burden" (GERMANY)
447	SPM	4	26	4	35	It is not clear, whether the losses mentioned in this paragraph refer to climate-related disasters or to disasters in general. This should be clarified. (GERMANY)
448	SPM	4	26	4	35	I SUGGEST AN EXAMPLE FOR DEVELOPED COUNTRIES SHOULD ALSO BE GIVEN (TANZANIA)
449	SPM	4	26	4	35	Not only should be expressed the economic indicator (GDP) for the losses, also it has to be compared with the Human Development Indicators of countries. (VENEZUELA)
450	SPM	4	26	4	35	It would be helpful to provide a number or estimate for "measured economic and insured losses in developed countries to provide balance to the other numbers and focus on percentage of GDP elsewhere in this paragraph. Suggestion: Provide a specific example to depict the first bold sentence (see Chapter 4, page 40). (USA)
451	SPM	4	26	4	35	It is misleading if the disasters here incl. those stemming from non-weather, non-climate extremes (e.g. tsunami, earthquake). (HUNGARY)
452	SPM	4	27	4	29	Natural disasters is a term which is not always related to climate change. It could e.g. include earthquakes and volcanoes. (SWEDEN)

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453	SPM	4	27	4	35	The paragraph does not provide detail to substantiate the finding that monetized and insured losses are greatest in industrialized countries. (CANADA)
454	SPM	4	28	4	28	Is this 95% of deaths in developing countries from disasters, or from all weather events? (NETHERLANDS)
455	SPM	4	28	4	28	I PROPOSE THE INSERTION OF THE WORD CLIMATE BETWEEN THE WORD NATURAL AND DISASTERS (TANZANIA)
456	SPM	4	28	4	28	Proposed test: "...deaths from weather and climatic disasters" (comment: Does the statistic include others natural disasters? Does it include impacts of droughts?) (FRANCE)
457	SPM	4	29	4	29	(cf percentage of 80% in the whole world population)" should be added after "developing countries." (95% doesn't mean anything without this indication. Or alternatively provide a figure consistent with the other parts of the report".) (FRANCE)
458	SPM	4	29	4	30	Cut, repetition of line 27 (NETHERLANDS)
459	SPM	4	30	0	0	Inserting the following (from 4.5.2) after the period in this line would add clarity and value to this paragraph: "This, in turn, imposes a greater burden on government and individuals in developing countries." (USA)
460	SPM	4	30	4	30	Need to define or provide a reference or example as to what "middle income countries" are compared to developing and developed. (NEW ZEALAND)
461	SPM	4	30	4	34	This text cannot be found in 4.5.2. It is in 4.5.4.1., 4.5.4.2 (USA)
462	SPM	4	30	4	35	Could you, please, check if more recent information than from the time period 2001-2006 has become available. (FINLAND)
463	SPM	4	32	4	32	"(this last figure not really significant for this category of country with non monetized economies)" should be added after "0.3% of GDP for low income countries" (FRANCE)
464	SPM	4	33	4	33	What quantity is used for "wealth losses"? (NETHERLANDS)
465	SPM	4	33	4	35	The information damage losses percentage of GDP by region is not contained in section 4.5.2, and reference needs to be added to section 4.5.4.1. (CANADA)
466	SPM	4	34	4	34	It is not clear what averaging period is being discussed. Suggest mentioning the averaging period, and then stating that this period includes both types of years. (CANADA)
467	SPM	4	37	4	37	At the end of the line, « changes » might be replaced by « rise » or « increase » (FRANCE)
468	SPM	4	37	4	37	"is" should be replaced by "has been" (Projections in the future will be treated in C and D sections.) (FRANCE)
469	SPM	4	37	4	37	Would it be more correct to replace "changes" with "increase". (NORWAY)
470	SPM	4	37	4	38	mainly in developing countries (CUBA)
471	SPM	4	37	4	43	The sentence mentions "cyclones and floods" and later states that "most studies focus on cyclones," but no explanation (ICELAND)
472	SPM	4	38	4	38	"normalized"? A lay person cannot understand, please avoid scientific jargon. (GERMANY)
473	SPM	4	38	4	38	Use of the phrase "cannot be" suggests attribution will always be an impossibility. But none of the reasons given in the next sentence are insurmountable given time. Is "have not been" a more accurate description? (UK)
474	SPM	4	38	4	39	Not only can these long-term trends not be reliably attributed, they simply have been shown to be not related to anthropogenic climate change, cf. Chapter 4, Section 4.5 and literature referred therein. The current wording seems to suggest that long-term trends can be attributed, but not reliably. This is nonsense. (NETHERLANDS)
475	SPM	4	38	4	40	"Long-term trends in normalized economic disaster losses cannot be reliably attributed to natural or anthropogenic climate change" This nuance is so vital for this SR . Please sustain this sentence as written in FD. (JAPAN)
476	SPM	4	38	4	40	Please clarify this sentence and check if it is fully appropriate for a "high agreement" statement. It seems somewhat odd that the sentence begins with "cannot be attributed" and continues with "particularly for cyclones...": if it is "particularly for cyclones", does it mean that some other losses can perhaps be somewhat attributed? What is the meaning of "cyclones" here? (some readers may think that it is "tropical cyclones" - would you also mean mid-latitude storms, or depressions?).Finally, we are not sure that all experts and papers would agree that "nothing can be said" on the link between economic losses and climate, with any degree of probability. The expression "cannot be reliably attributed" would benefit from clarification. This is an important issue since it may be compared to AR4, that was criticized on this topic. (BELGIUM)
477	SPM	4	38	4	43	The authors should consider better explaining the concept "normalized economic disaster loss" as it may not be widely understood. (CANADA)
478	SPM	4	39	4	39	It is unclear how to interpret "particularly for cyclones and floods". This could mean that there is more evidence to support the statement for those phenomena (in which case, that should be said directly), or it could mean that there is stronger evidence for attribution for other types of disaster losses. If the latter, what are they, and what is the supporting evidence? (CANADA)
479	SPM	4	39	4	40	This is an example of where it is not clear why agreement/evidence language is used for one bolded statement and not for the three preceding ones, which are also 'high confidence' statements. (CANADA)
480	SPM	4	40	4	43	The non-bold text of this paragraph is unlike that of any other paragraph, and does not help understanding of the key point. It appears to highlight factors that should be considered in the development of the confidence statements. If the point is that there is limited data to assess long-term trends, then state that clearly. (CANADA)
481	SPM	4	42	4	42	a repeat of the low confidence attribution where there is low confidence in the observation in this case associated with cyclones. (IRELAND)

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482	SPM	4	42	4	43	Point iii: this point should be deleted, as it is not supported by Chapter 4. Same issues holds for the ES of Chapter 4. The relevant paragraph of Section 4.5.3.3 is not supported by any literature whatsoever. Rather, the literature that exists on loss normalisation indicates that studies generally agree on methods and suitable data for loss normalisation, and arrive at similar conclusions. The authors should present peer-reviewed literature that highlights conflicts or problems associated with processes used to normalise these data, that are so important that they could undermine the main conclusion on loss attribution, or else cut these statements from the SPM and Chapter 4. (NETHERLANDS)
483	SPM	4	43	4	43	'the processes used to normalize loss data over time'. This statement is not clear. Which processes in this context? (FRANCE)
484	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "Extreme events will have greater impacts on sectors with close links to climate, such as water, agriculture and food security, health, and tourism" (from Executive Summary of chapter 4). (GERMANY)
485	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "Local level institutions and self-organization are critical for social learning, innovations and action: all are essential elements for local risk management and adaptation" (from Executive Summary chapter 5) (GERMANY)
486	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "The main challenge for local adaptation to climate extremes is to apply a balanced portfolio of approaches as a one-size fits all strategy may prove limiting for some places and stakeholders" (Executive Summary, chapter 5). (GERMANY)
487	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "One lesson from disaster risk reduction to climate change adaptation is that stronger efforts at the international level do not necessarily lead to substantive and rapid results on the ground and at the local level. There is room for improved integration across scales from international to local. (from Executive Summary chapter 7) (GERMANY)
488	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "Developing strategies for disaster risk management in the context of climate change requires a range of approaches, informed by and customized to specific local circumstances" (from Executive Summary of chapter 5). (AUSTRIA)
489	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "Sustainable land management is an effective disaster risk reduction tool" (from Executive Summary of Chapter 5). (AUSTRIA)
490	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "Local level institutions and self-organization are critical for social learning, innovations and action: all are essential elements for local risk management and adaptation" (from Executive Summary chapter 5) (AUSTRIA)
491	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "The main challenge for local adaptation to climate extremes is to apply a balanced portfolio of approaches as a one-size fits all strategy may prove limiting for some places and stakeholders" (Executive Summary, chapter 5). (AUSTRIA)
492	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "National systems are at the core of countries' capacity to meet the challenges of observed and projected trends in exposure, vulnerability and weather and climate extremes" (from Executive Summary chapter 6). (AUSTRIA)
493	SPM	4	46	0	0	Section C: It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "One lesson from disaster risk reduction to climate change adaptation is that stronger efforts at the international level do not necessarily lead to substantive and rapid results on the ground and at the local level. There is room for improved integration across scales from international to local. (from Executive Summary chapter 7) (AUSTRIA)
494	SPM	4	46	0	0	Section C: In this section there is little reference to individuals and local community's capacities to cope and adapt to extreme events. It is mainly about structural causes, policies, plans, rebuilding, reconstruction, development, and less about the capacity of those affected which is an important part of local resilience. It is important to get across to the reader that individuals' and communities' abilities to cope with and adapt to change is vital to reducing risks. Generally, the SPM has little reference to these dimensions (one exception is the mentioning of the need for linking local knowledge with scientific knowledge on page 9, line 29-35). (NORWAY)
495	SPM	4	46	6	4	This section would benefit from a reduction in the number of key findings. There is an opportunity here to do some more synthesis, grouping together findings that are related. Some specific suggestions are included in other comments (CANADA)
496	SPM	4	47	0	0	"Extreme climate" should be change by "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
497	SPM	4	48	5	48	Change "For instance" to "For example". (CANADA)
498	SPM	4	49	0	0	Section C: We suggest adding text about the Hyogo Framework for Action in the first paragraph. Rationale: We believe the Hyogo Framework for Action is very relevant in the context of past experience with DRR and CCA. The Hyogo Framework for Action should also be explained by a short sentence. (NORWAY)
499	SPM	4	49	4	49	The question of whether extreme weather and climate extreme are to read synonymously arises here. (IRELAND)
500	SPM	4	52	0	0	Drivers vs. Determinants... only one should be used. (VENEZUELA)

#	Ch	From Page	From Line	To Page	To Line	Comment
501	SPM	4	52	0	0	This text has been slightly changed from that in Chapter 2 (p. 13, paragraph 2); in doing so the meaning/implication changes. Consider revising to chapter text that reads: "Changes in vulnerability... changes in disaster losses." (Changes not trends; losses not risk) (USA)
502	SPM	4	52	4	0	"Trends in vulnerability and exposure are major drivers of changes in disaster risk (high confidence)". The question is: How are these trends considered major drivers of those changes in disaster risk? The answer to this question is not clear in the corresponding subsequent lines of the same paragraph. (MOROCCO)
503	SPM	4	52	4	52	The sentence "Trends in vulnerability and exposure are major drivers of changes in disaster risk " is incomplete. It should be related to the socio-economic trends / context. (CUBA)
504	SPM	4	52	4	52	This conclusion is almost similar to the first and third conclusion on page 2. Suggestion to merge these three conclusions into one. (NETHERLANDS)
505	SPM	4	52	4	53	"exposure" should be placed before "vulnerability" (FRANCE)
506	SPM	4	52	5	2	The first part of this paragraph appears to be a reiteration of the bolded statement on page 2 "Exposure and Vulnerability are key determinants of disaster risk" with an added temporal component. These should be combined into a single point and/or deleted here. Retaining reference to vulnerability reduction being a core common element of CCA and DRR would be useful. (CANADA)
507	SPM	4	52	5	2	This paragraph is self-evident, i.e. redundant, and should be moved to the definition section. (GERMANY)
508	SPM	4	53	4	54	Suggestion to write "...contribute to turning natural hazards into disasters", as this makes link between vulnerability and hazards/disasters clearer (GERMANY)
509	SPM	4	53	5	2	This paragraph is very important and we suggest adding more specific information on findings related to who are vulnerable, e.g in AR4 SPM it was concluded that poor people, children and elderly were the most vulnerable groups. (NORWAY)
510	SPM	4	54	0	0	"Extreme climate" should be change by "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
511	SPM	5	1	5	1	Suggest replacing "a core common element of" with "a core element that is commonly a part of" (CANADA)
512	SPM	5	4	0	0	Increasing global interconnectivity, population and economic growth, and the mutual interdependence of economic and ecological systems can serve both to reduce vulnerability and to amplify disaster risk (high confidence). The given explanation does not achieves to describe the tedious dynamics of a globalized system. (VENEZUELA)
513	SPM	5	4	5	4	The bolded statement is ambiguous and confusing. It is easy to have high confidence in a statement which allows nearly diametric conclusions. (IRELAND)
514	SPM	5	4	5	5	This very concise sentence is confusing. The reader could understand that the increase of population could reduce vulnerability, which is difficult to accept as such. Suggestion to split the sentence in two parts: one concerning vulnerability reduction, one concerning the risk increase. (FRANCE)
515	SPM	5	4	5	6	This is the only key finding on this page that uses confidence language and not agreement/evidence. It is not clear to the reader what to make of this distinction. (CANADA)
516	SPM	5	4	5	6	This statement is confusing. The reference to 7.2.1 is not adequate (FRANCE)
517	SPM	5	4	5	11	References to "global interconnectivity" and "the mutual interdependence of economic and ecological systems" are included in the bolded statement but not referred to in the supporting paragraph. It is not clear why or how these factors influence the reduction of vulnerability or amplification of disaster risk. Please revise. (CANADA)
518	SPM	5	4	5	11	There is a lack of an example given to describe why the global interconnectiveness increases or reduces risks (GERMANY)
519	SPM	5	4	5	11	the whole paragraph must be rewritten or suppressed. (Confusing and somewhat redundant with l. 24-31 page 10.) (FRANCE)
520	SPM	5	5	5	11	The text indicating that the factors identified "...serve both to reduce vulnerability and to amplify disaster risk" is not clear. This might be interpreted to mean that the factors described must somehow increase exposure (thereby amplifying disaster risk, despite reduced vulnerability). Is that the intent? If not, perhaps the text should read "....serve both to reduce or amplify disaster risk." The supporting paragraph also does not seem to directly support the bold text. Providing an example might help the explanation. (CANADA)
521	SPM	5	5	5	11	The rest of the paragraph appears to be unrelated to the bolded statement, or at least the connection is not explicit. (IRELAND)
522	SPM	5	6	5	6	It is not clear what is meant by 'outcome' (BELGIUM)
523	SPM	5	6	5	6	"outcomes" of what? Difficult to understand this sentence (full report is obscure as well as regard to this statement) (FRANCE)
524	SPM	5	7	5	5	Add ".. Some.." before "...development..", and eliminate "... such as those...". The sentence would become: "... the outcome of some development processes associated with...", (SPAIN)
525	SPM	5	7	5	7	Suggest replacing "such as those associated with" with "that contribute to" (CANADA)
526	SPM	5	7	5	8	Two further important factors which could be added here are quality of building stock, and, undue reliance on hazard-protection measures (NEW ZEALAND)
527	SPM	5	7	5	8	We propose that the sentence is changed to: "... are generally the outcome of some development processes" (NORWAY)
528	SPM	5	7	5	9	This is awkwardly written: clearly high vulnerability and exposure are NOT generally the outcome of development. Revise as per the underlying chapter (2.2.2). (USA)
529	SPM	5	8	0	0	... rapid and unplanned urbanization, industrial or agricultural development in hazardous areas (HUNGARY)
530	SPM	5	8	5	8	Suggest inserting the phrase 'demographic changes' to be consistent with this paragraph as it exists on page 2 of the Chapter 2 Executive Summary. This slight omission would otherwise raise questions about why this particular factor was omitted in this case. (CANADA)
531	SPM	5	9	5	11	We propose the following reformulation: "Effective and sustainable national development and sector plans...". Rationale: The reference to "effective plans" might give the impression that we are here talking exclusively about cost-efficiency criteria. (NORWAY)

#	Ch	From Page	From Line	To Page	To Line	Comment
532	SPM	5	13	5	14	This is the first time the agreement and evidence ratings have been used without an overall confidence assessment. It would be better to always state the confidence based on agreement and evidence (for example as in page 8 line 34 "z confidence based on x agreement and y evidence) (NEW ZEALAND)
533	SPM	5	13	5	17	The non-bold sentence does not seem to link to the subject of the bold statement. The bold statement flags "data on disasters" and "disaster risk reduction". Does this include databases of disasters and related impacts, databases containing what DRR mechanisms are in place and how effective they are? The supporting paragraph suggests that socioeconomic scenario data are also lacking, in addition to projected changes in climate extremes. Further precision would be helpful. Also, the bolded statement refers to "local levels" whereas the supporting paragraph refers only to national level systems. (CANADA)
534	SPM	5	13	5	17	In this section (and throughout the SPM), some of the more nuanced analysis in Ch7 about knowledge systems, indigenous and official, informal, and ICT-based, could be reflected better. The emphasis in the SPM is heavily focused on data. Information more generally, in the right form and at the right time, is very powerful as a factor in DRR and CC adaptation, especially in integrating the two at all levels. One quote from Ch7 worth reflecting: 'Resources to generate and supply information and experience in a usable form for each unique case so as to translate this to knowledge and action are a critical dimension in risk reduction'. Or, for a more specific quote: 'Wider investments in better knowledge management (7.4.5), around technology transfer for adaptation (7.4.3), more effective use of ICT (7.4.5.2), and better use of traditional knowledge systems, can help strengthen the links between DRR and CCA.' (UK)
535	SPM	5	13	5	17	We are unsure that data on disaster risk reduction are especially lacking in developing countries. There are counterexamples in South East Asia (e.g. Indonesia, Philippines, Sri Lanka) where much data are available. On the contrary, such data are still missing in many developed countries. (FRANCE)
536	SPM	5	13	5	17	Although specific data on disasters and disaster risk might be lacking we think that the rather good availability of general weather and climate data is relevant in this context. This is particularly important for the most vulnerable areas and should be mentioned here. (NORWAY)
537	SPM	5	14	0	0	Resilience has become a rather popular term although it is probably not familiar to most policy-makers. Hence a clarification/explanation is needed. (SWEDEN)
538	SPM	5	14	5	14	The value of the information has been lost, the statement itself has been made so weak that it can easily be attributed 100% confidence. (NETHERLANDS)
539	SPM	5	14	5	14	Again, it is difficult to understand for non-experts why here you talk about resilience, while before vulnerability was the important term (GERMANY)
540	SPM	5	14	5	17	We think that the readability of this sentence could be improved by starting the sentence with a clearer main message. The corresponding uncertainty ("limited evidence") should be dealt with later in the text. (NORWAY)
541	SPM	5	15	5	15	"Medium evidence" and "limited evidence" do not seem to be consistent. It might be better to state "There are a limited number of examples of national disaster risk climate extremes." (IRELAND)
542	SPM	5	16	0	0	Page 5, Lines 16, 23, 28 and 29: "Extreme climate" have to be refer as "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
543	SPM	5	17	5	17	Although in many developing countries there are at least risk management systems for short-term extreme events, such as early warning systems based on weather forecasts (COSTA RICA)
544	SPM	5	19	5	20	Please clarify: Does the presence of inequalities influence local coping and adaptive capacity or is it the proportion of people in lower 'strata' that influence these things? (CANADA)
545	SPM	5	19	5	24	The bold statement refers to local capacity, implying it is examining inequalities at the national / subnational scale. The final sentence of this paragraph does not seem to fit, as it is discussing differences between countries (and seems to be self-evident anyways). (CANADA)
546	SPM	5	19	5	24	Inequalities on which scale? within a country or among countries? The two aspects mentioned in this paragraph do not fit together; first you talk about LOCAL inequalities, and then you mention differences between COUNTRIES; or you have to include a sentence how both levels are linked. (GERMANY)
547	SPM	5	19	5	29	Suggest merging the two key findings in these paragraphs. The key finding on lines 26-29 seems linked to the finding on lines 19-24. The first one describes factors that could make disaster risk management unsuccessful and the second one describes the role that humanitarian relief can play in such cases. (CANADA)
548	SPM	5	20	5	21	These inequalities reflect socioeconomic, demographic, and health, moreover scientific (monitoring and research) capacities related differences and ... (HUNGARY)
549	SPM	5	21	5	21	You cannot have "access to livelihoods"; what about "access to livelihood strategies"? (GERMANY)
550	SPM	5	21	5	24	"Developed countries are often better equipped financially and institutionally to adopt explicit measures to effectively respond and adapt to projected changes in exposure, vulnerability, and climate extremes than developing countries, although all countries face challenges in assessing, understanding, and acting on projections." You may add that although some developing countries are equipped only institutionally, this is not enough in most cases to cope effectively with climate extremes-related consequences. (MOROCCO)
551	SPM	5	21	5	24	The sentence is quite long. Perhaps it could be divided in two. "Developed countries are often better equipped financially and institutionally to adopt explicit measures to effectively respond and adapt to projected changes in exposure, vulnerability, and climate extremes than developing countries. Nonetheless, all countries face challenges in assessing, understanding, and acting on projections. (FINLAND)
552	SPM	5	21	5	24	This text can be more accurately attributed to 6.6.2 and 6.6.4, rather than 6.6 (USA)
553	SPM	5	23	5	23	replace "although" by "while" (SWITZERLAND)
554	SPM	5	24	5	24	The problems of developing countries is that adaptation is a matter of self-help, as the incremental risks generated by climate change are a burden to societies affected by poverty and vulnerability (COSTA RICA)

#	Ch	From Page	From Line	To Page	To Line	Comment
555	SPM	5	24	5	24	We suggest to replace the term "acting on" with "responding to". Rationale: There are sometimes good reasons for not directly acting on projections. (NORWAY)
556	SPM	5	26	0	0	For clarity: ... required when national disaster risk reduction measures are absent (HUNGARY)
557	SPM	5	26	5	26	Would it not be more correct to simply state that "humanitarian relief is often required when disasters occur"? Does the occurrence of a disaster necessarily indicate that DRR measures were unsuccessful? They may have proven inadequate for the scale of eventual event that triggered the disaster, but still could have achieved what they were designed for. As noted on page 1, risks cannot be fully eliminated. (CANADA)
558	SPM	5	26	5	26	Reformulate the sentence, it is not clear. (NETHERLANDS)
559	SPM	5	26	5	29	It would have been nice to find here a quantified example of humanitarian assistance - e.g. it increased from X billion to Y over the last 30 years (GERMANY)
560	SPM	5	27	5	27	"In particular, smaller or less diversified countries face critical challenges..." should be changed into "Developing countries, in particular, smaller, less developed, or less diversified countries face critical challenges...". (CHINA)
561	SPM	5	28	5	28	Are only "climate extremes" meant, or should this read "weather and climate extremes"? (SWEDEN)
562	SPM	5	29	5	29	Replace "assistance" by "means" (Countries include public and private sectors) (FRANCE)
563	SPM	5	31	0	0	"... for reducing weather and climate related disaster", climate should be deleted. Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
564	SPM	5	31	5	31	Delete "may", as the statement is of high confidence. (GERMANY)
565	SPM	5	31	5	32	Delete the word "critical" as there is no evidence presented to support its use - there are other opportunities to reduce disaster risk and build capacity. (CANADA)
566	SPM	5	31	5	35	Suggest that the key finding on lines 31-35 could be merged with that on lines 45-50 as both address the issue of short-term vs long-term decision-making to improve resilience. (CANADA)
567	SPM	5	31	5	35	This paragraph should be re-written to better express the ideas of "opportunity" presented in the bolded statement. One suggestion would be to revised the second sentence as follows: "When re-building, the focus should be on enhancing adaptive capacity for the long run rather than allowing the urgency for rapid rebuilds to override the need to avoid recovering..." (CANADA)
568	SPM	5	31	5	35	The support sentence should include opportunities. (NETHERLANDS)
569	SPM	5	31	5	35	Could be appropriated to introduce in this paragraph. the term "maladaptation", when talking on recovery actions that could have opposite consequences in terms of climate change adaptation (SPAIN)
570	SPM	5	31	5	35	Suggest to add a sentence on long term prevention consideration e.g. line 34) - and planning for the next event (GERMANY)
571	SPM	5	31	5	35	proposed text to be inserted after the first sentence, in line 32 : « Priority should be given to long-term planning although there is an emphasis etc ... » (FRANCE)
572	SPM	5	31	5	35	This is a very useful insight. It provides actionable information that could inform the way post-disaster recovery is undertaken. (USA)
573	SPM	5	33	5	33	Delete "at the local level"; naturally livelihoods are rehabilitated at the local level, no need to mention this; or you want to express that there is strong activity after an event at the local level, while national planning and coordination are neglected, but in this case this has to be mentioned explicitly. (GERMANY)
574	SPM	5	33	5	34	Quite complex sentence. How about formulation: "This urgency often leads to recovering in ways that recreate or even increase existing vulnerabilities." (FINLAND)
575	SPM	5	33	5	35	"This urgency often overrides the need to avoid recovering in ways that recreate or even increase existing vulnerabilities. [5.2.3]" should be changed in a more positive way as "Efforts should be made to avoid this urgency which often overrides the need to avoid recovering in ways that recreate or even increase existing vulnerabilities. [5.2.3]". (CHINA)
576	SPM	5	33	5	35	We suggest to rephrase the sentence so that it reads "However, there is typically an emphasis on..." (NORWAY)
577	SPM	5	34	5	34	This sentence could be more direct (IRELAND)
578	SPM	5	35	0	0	Lines 35, 43, and 50: I think it does not read very nice and incomplete to be referred to text in the case studies further on - it leaves the concepts incomplete. (GERMANY)
579	SPM	5	35	5	35	This situation is a reality for developing countries with limited financial, technological and human capacities to responde to respond to risk and improve their adaptability. (COSTA RICA)
580	SPM	5	35	5	35	Here and in many other places there are statements advising the reader to "See also ...". The SPM should give readers a clear, concise, summary of the assessment. It is not helpful to suggest by inserting "See also..." that there are important elements of the assessment that have not been captured in the SPM. This practice also makes it unclear where the boundaries of the SPM lie (e.g., do the "See also..." references also then lie within the SPM?). Suggest that all "See also..." sentences be deleted, and that references and text be altered to make the summary more complete if the information in the "See also..." sections is sufficiently important to be elevated to the SPM. (CANADA)
581	SPM	5	37	5	38	Replace "international" with "regional" to be consistent with language used with such risk sharing mechanisms. Section 7.4.4.2.5 highlights the CCRIF as one of the very few examples of insurance mechanisms at this scale, and utilizes heading "Regional risk pools". (CANADA)

#	Ch	From Page	From Line	To Page	To Line	Comment
582	SPM	5	37	5	39	There are several "warnings" to be found in the scientific literature as to the frugality of insurance, in particular micro-insurance schemes for natural hazard management. These "warnings" do not only relate to the ubiquitous problem of moral hazard (Line 42-43; page 5), but relate to transaction costs, problems of equity, limits of insurability etc.. It is advisable to be very cautious in giving advise to use micro-insurance schemes for NatHaz-Riskmanagement (NHRM). Experiences with microinsurance and especially index based microinsurance are rather mixed. This should be strengthened in the formulation at the end of the paragraph in line 42/43. (GERMANY)
583	SPM	5	37	5	39	Given the policy relevance of insurance it is suggested to also highlight the shortcomings and problems that have been identified, in particular with respect to introduce micro-insurance schemes for natural hazard management. These go beyond the already mentioned problem of moral hazard (Line 42-43; page 5), but relate also to transaction costs, lack of data, lack of regulation, issues of equity, limits of insurability etc. It seems to be important to provide a balanced information with respect to those experiences. (AUSTRIA)
584	SPM	5	37	5	43	Suggest further elaboration of the last sentence in this paragraph - what kind of conditions and what kind of disincentives? (CANADA)
585	SPM	5	37	5	43	Although the confidence on this finding may seem obvious, for conformity with the other findings, a confidence statement in the used uncertainty language should be added. (SWEDEN)
586	SPM	5	37	5	43	It would be useful if this section could better reflect issues around the potential roles of public and private sectors, and the importance of understanding market mechanisms, including what actions might be possible (in general terms) to address market failures in risk sharing and transfer mechanisms (such as experiences with public-private partnerships. The section on technology (in Ch7) also has a good discussion about market failures and the role of different actors. Suggest adding to the end of this paragraph "It is important to understand market failures for such tools, and devise incentive frameworks to specifically address those. In some cases, private-public sector partnerships will be able to better estimate price risk and develop appropriate products for the markets in question (6.5.3)." (UK)
587	SPM	5	37	5	43	The points under this section do not have any confidence statements - this stands out because all other points do. (USA)
588	SPM	5	37	5	43	We would note that there are risk sharing mechanisms to showcase other than insurance, i.e.- informal risk sharing. This an opportunity to highlight actions taken by vulnerable populations to manage their own risk. (USA)
589	SPM	5	38	0	0	There is no example in chapter 7 about mechanisms at the international scale. Delete in SPM. (USA)
590	SPM	5	42	5	42	Please check reference: Report ends with section 9.3, there is no section 9.3.3 (GERMANY)
591	SPM	5	42	5	42	Need to clarify the conditions under which risk sharing and transfer mechanisms might fail to address rick reduction requirements. Otherwise the statements are confusing. (IRELAND)
592	SPM	5	42	5	43	We think that the inclusion of an example would clarify the point regarding disincentives further. (NORWAY)
593	SPM	5	43	0	0	Suggest emphasising the importance of linking understanding to national and international DRR strategies. Suggest adding the following to the end of the paragraph 'This can be helped by an understanding of national and international systems for managing disaster risk and adapting to CC (Fig 6-1, 6.2.1, 2, 3, 4 and 5, section 7.4)' (UK)
594	SPM	5	43	5	43	Can the "see also" reference (9.2.13) not be included with the first set of references? (CANADA)
595	SPM	5	43	5	43	"at the local level": moral hazard can manifest itself at local as well as global level, depending on the situations and risk sharing mechanisms considered; the fact that local examples are provided in case study 9.2.13 does not mean that disincentives to reduce risk can only materialize at local level. (UK)
596	SPM	5	45	0	0	Adaptation to climate change is, by definition, always longterm, since it takes climate into account. Hence the use of adaptation here is strange. It says "...Attention to the temporal and spatial dynamics of vulnerability and exposure is particularly important given that the design and implementation of adaptation and disaster risk management strategies and policies can reduce risk in the short term, but may increase vulnerability and exposure over the longer term". This is somewhat tricky to understand - if one should follow the definition used for adaptation. In that definition is says "the process of adjustment to actual or expected climate and its effects", which means that adaptation does take the longterm perspective into account. However, in the earlier sentence it might be misread as if there is adaptation done for shortterm things... but then it is not adaptation as in the definition, since it there takes the longterm into account (in the word climate - which definately is longterm) . This might be considered as a meta-discussion - but is crucial in the everyday discussion between DRR-people and Climate people trying to understand each others words to work forward in these questions. So, based on this I would prefer to cut out the word adaptation in the first sentence, to make it correct. Adaptation is never short term. (SWEDEN)
597	SPM	5	45	5	46	Suggest deleting the first part of the sentence "Attention to the temporal ...important given that" and rephrasing the remaining sentence to be: "The design of adaptation and disaster risk management strategies must recognize that some measures can reduce in the short term, but increase vulnerability over the longer term." The helps to remove some of the technical language and text that could be interpreted as a recommendation rather than an assessment. (CANADA)
598	SPM	5	46	0	0	What is the difference between "risk management strategies" and "risk management policies". Clarify or use only one term. (SWEDEN)
599	SPM	5	47	5	48	It is suggested that the latter part of the sentence should read: "... (high agreement, medium evidence) in some circumstances". (CHINA)
600	SPM	5	48	0	0	Usage of dykes in what context? Presumably flooding, but the text should be less ambiguous. (UK)

#	Ch	From Page	From Line	To Page	To Line	Comment
601	SPM	5	49	5	50	Can the "see also" reference (1.4.3, 5.3.2, and 8.3.1) not be included with the first set of references? (CANADA)
602	SPM	5	50	5	50	Adaptation strategies require the strengthening of infrastructure to address climate change, however, requires an assessment of the risks of climate change in all aspects of public policy planning. (COSTA RICA)
603	SPM	5	52	5	54	The supporting paragraph to this bold statement does not clarify or elaborate on what the benefits will be at all scales. (CANADA)
604	SPM	5	52	5	54	The report could suggest how the adaptive management could be facilitated. It could propose how existing formal and informal institutions could support the process or suggest that such supports need to be created. Legal mechanisms may need to be modified to incorporate such an approach (IRELAND)
605	SPM	5	52	6	4	In addition to the multi-hazards approach which is mentioned here, we suggest adding findings related to the importance of national disaster risk reduction and climate change adaptation strategies and the need for cross-sectoral integrated approaches, e.g: National systems are at the core of countries' capacity to meet the challenges of observed and projected trends in exposure, vulnerability and weather and climate extremes (high agreement, robust evidence) [taken from Executive Summary, Chapter 6] (NORWAY)
606	SPM	5	52	6	5	Please put different levels of response measures into context and give respective relevance of local, national, regional and international levels for climate change adaptation and disaster risk management. (GERMANY)
607	SPM	5	53	5	53	Suggest replacing "will provide" with "would provide" since closer integration is not a certainty. (CANADA)
608	SPM	6	0	6	0	The figures on the return periods are not useful. The sketches are too small, the message is not straight forward. I cannot image that this will be used as key figures to show the interested public, but this is what is needed in an SPM for policymakers. (GERMANY)
609	SPM	6	0	7	0	We suggest adding shorts subtitles to increase the readability: "Temperature/Precipitation/Cyclone/Drought/Floods" (BELGIUM)
610	SPM	6	0	8	0	Section D: for all statements on future projections corresponding statements on the same parameters should be added for past and current observations. (GERMANY)
611	SPM	6	1	6	4	The report could suggest how the adaptive management could be facilitated. It could propose how existing formal and informal institutions could support the process or suggest that such supports need to be created. Legal mechanisms may need to be modified to incorporate such an approach (IRELAND)
612	SPM	6	2	0	0	Page 6, Lines 2, 7, 9, 10, 14, 16 and 22: "Extreme climate" should be change by "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
613	SPM	6	4	0	0	Suggest inserting here from page 25 of chapter 3 ' a one-in 20 year annual extreme hot day is likely to become a one-in-two year annual extreme by the end of the 21st century in most regions, except in the high latitudes of the northern hemisphere where it is likely to become a one-in-five year annual extreme' . This is a significant result and would be of interest to policy makers (note that projected changes in return periods have been included for extreme rainfall, so this would also improve consistency. (UK)
614	SPM	6	5	6	5	The situation of disaster risk management and adaptation cooperation as well as related mechanism on international scale is very important information for policymakers. So it is suggested to add a short paragraph at the end of section C, after line 4 of page 6, based on the Executive Summary of Chapter 7. (CHINA)
615	SPM	6	7	0	0	Section D: Please add information on the SRES scenarios used, that can be understood by a lay person - without being familiar with AR4 (GERMANY)
616	SPM	6	7	0	0	General comment on section D. "Future climate extremes": GCMs are built for simulating general circulation, they are only weakly capable of describing extreme-related phenomena. Thus, their outputs might not be appropriate to count extreme indices. This fact should be mentioned in the SPM as well as the necessity of RCMs in order to obtain more detailed and precise results. (HUNGARY)
617	SPM	6	7	6	7	The readability will greatly improve if this section is merged with section B describing the same, but based on observations. This is actually true for most sections. The current division seems to be proposed with a view from the scientific world, rather than from the target reader. (NETHERLANDS)
618	SPM	6	7	6	7	Improvements in forecasting technologies is not mentioned in the SPM as having potential to reduce risk. Early warning systems are mentioned in table SPM.1 but forecasting underpins these. (IRELAND)
619	SPM	6	9	6	9	"climate AND WEATHER extremes" (GERMANY)
620	SPM	6	9	6	9	The sentence could be made more general by removing 'anthropogenic' before 'climate change' (BELGIUM)
621	SPM	6	9	6	10	"Future changes in exposure resulting from ... natural climate variability" could be read to imply that natural climate variability is projected to change as a result of external forcing. Rather, the authors likely have in mind that climate can vary on multidecadal time scales due to low frequency natural climate variability. The incorrect interpretation is possible because of the juxtaposition of ideas (since anthropogenic climate change is mentioned before natural variability). Therefore, suggest rewording this as "Future changes in exposure resulting from natural variations in climate on multi-decadal time scales, anthropogenic climate change, and socioeconomic ...". (CANADA)
622	SPM	6	9	6	11	The use of the terms "anthropogenic climate change" and "natural climate variability" is not logical: it should be ["anthropogenic climate change" and "natural climate change"] or better "climate change due to natural variability and anthropogenic activities". The current wording offers great potential for lengthy discussions in the approval session. (GERMANY)
623	SPM	6	10	6	10	"climate AND WEATHER extremes" (GERMANY)
624	SPM	6	10	6	10	"development" should be replaced by "transformation". (Some transformations are not development, and sustainable development should not have negative impacts.) (FRANCE)

#	Ch	From Page	From Line	To Page	To Line	Comment
625	SPM	6	16	0	0	This text is very important - states that confidence depends on many factors. But a conclusion is missing, a "therefore it is important to reflect on all these factors when producing information for decisions.." Or something like that (SWEDEN)
626	SPM	6	16	6	18	To underline the importance of the reliability of their simulation in modles, the end of the sentence, that is "the reliability of their simulation in modles" should be placed before ", the amount and quality of observatrional data". Thus the sentence should read as: "....The region and season, the reliability of their simulation in modles, the amount and quality of observatrional data....." (SPAIN)
627	SPM	6	16	6	18	"Projecting in changes" and "quality of observational data" are not related to each other, except when absolute values (observed past and changes in models are on common ground) are shown for future, as well. Observations for the whole globe do not exist, moreover, it is very poor in most areas. (HUNGARY)
628	SPM	6	16	8	13	A range of different metrics are used throughout the report, but mainly in this section (for temperature: warm daily temperature extreme, cold extremes, warm spells (heat waves); return period of 20 year value of annual max of daily max) (for precip: frequency of heavy precip or proportion of rainfall from heavy falls; 20 year return values - annual maximum 24 hour precipitation rates). Suggest having an explanation of what these different metrics mean relative to one another, or a summary table of what they all are and how they are measured. Otherwise this could be confusing to the lay person. (UK)
629	SPM	6	16	8	13	Statements on projections for climate change and impacts are quite generic and generally don't give sufficiently detailed information to the policy maker on the range of the severity, location and timing of change. Suggest pulling more numbers from the underlying report. This could be summarised in a table or map of the key impacts. Line 23-24 page 8 state 'other sectors with links to climate include, for example agriculture, and food security...'. This seems like a serious understatement. Suggest re-writing this to make it clear which sectors are most linked to climate and give some examples. (UK)
630	SPM	6	17	0	0	The word 'amount' is suggested to be replaced by 'quantity' (PAKISTAN)
631	SPM	6	18	6	18	replace "simulation" by "representation" or delete "their simulation in" (SWITZERLAND)
632	SPM	6	19	0	20	Current sentence seems a bit weak. Suggest changing 'Neither implies nor excludes the possibility of changes in this extreme' to 'means there is currently insufficient evidence to conclude if a change will occur' (UK)
633	SPM	6	19	6	20	Repetition from page 3, line 25-27. General statement that should be moved to Box SPM.2 on uncertainty concepts. (GERMANY)
634	SPM	6	19	6	20	Since this point is rather general, we could suggest to move the sentence at the end of the figure caption Box SPM.2 Figure 1 where the grading of confidence is explained. (FRANCE)
635	SPM	6	20	6	25	The implications of this paragraph will not be clear to the non-specialist. It states that the following assessments use projections "to the end of the 21st century", but subsequent paragraphs refer to projections "through the 21st century". Further, the second last sentence is very technical and needs further explanation/simplification with regard to how the results should be interpreted. (CANADA)
636	SPM	6	21	6	21	Please give concrete years here; what means "end of the 21th century"? 2099? Or 2090-2099? (GERMANY)
637	SPM	6	21	6	21	Delete "in the sign". It is unnecessary. (IRELAND)
638	SPM	6	21	6	23	The wording here is a bit awkward. I suggest the following changes: on line 22, replace "because climate" with "because projected climate"; on line 23, delete "expected to be"; and on line 23, insert "for that time period" at the end of the sentence. The point is that we know much more about what is projected than about what to expect (since we don't know what that actual emissions pathwav will be). (CANADA)
639	SPM	6	21	6	23	The phrase: "Uncertainty in the sign of projected changes in climate extremes over the coming two to three decades is relatively large because climate change signals are expected to be relatively small compared to natural climate variability" is very confusing, taking into account the present and future trends of climate change and its implications in terms of more frequent and severe extreme events, such as severe droughts, floods, etc., as assessed in AR4. (CUBA)
640	SPM	6	21	6	23	Natural variability is only one term of the entire uncertainty range. Further important uncertainty of the climate change signals is derived from the model uncertainty, which is more dominant in the projections for the next 2-3 decades. On the other hand, uncertainty assessment depends on the chosen region. Although, the statement is generally true for the whole globe, it should be reformulated in more precise way. (HUNGARY)
641	SPM	6	21	7	2	And also elsewhere, every time unspecific dates such as the end of 21 century, mid-21 century, late 20 century and so on, should be more specific as there are several other periods of time perfectly delimited (SPAIN)
642	SPM	6	22	6	24	The sentence "uncertainty in [...] climate extremes over the coming two to three decades is relatively large because climate change signals are expected to be relatively small compared to natural climate variability." - This statement not only describes the next 2-3 decades, but may apply in general to any period of 2-3 decades length. (ICELAND)
643	SPM	6	23	6	23	Is the meaning here to refer to climate change signals in extremes, or to overall climate change signals? If the former applies, suggest stating explicitly "in extremes". (SWEDEN)
644	SPM	6	24	6	25	The methodological problem, that we don't look at different temperature increase scenarios, leads to strange results - as the level of risk depends to a very large degree on these scenarios:. "For projected changes by the end of the 21st century, either model uncertainty or uncertainties associated with emissions scenarios used becomes dominant, depending on the extreme." Only the decision not to use different temperature increase scenarios leads to a situation where the uncertainties associated with emissions scenarios become dominant. The results would be very different, if for the end of the century a two, a four and a five degrees world would be compared. (GERMANY)

#	Ch	From Page	From Line	To Page	To Line	Comment
645	SPM	6	24	6	25	Do model uncertainty or emission scenario uncertainty always become dominant by 2100? Is this true for every variable and type of extreme? The statement probably needs some qualifier for certain types of extremes where the internal variability could be very large compared to the forced signal. (USA)
646	SPM	6	25	6	25	"depending on the extreme" : what does it mean ? The wording could « the considered extreme » or « the extreme considered » (FRANCE)
647	SPM	6	25	6	27	From its construction it is unclear what effect crossing the threshold will have on probability. Re-phrase: "Given the transient and complex nature of the climate system, low-probability, high-impact changes cannot be excluded." (USA)
648	SPM	6	26	0	0	Should "thresholds" here be interpreted in accordance with Box 10.1 in Chapter 10 of WG1 AR4 (Meehle et al., p. 775)? If so, perhaps it would be good to refer to "abrupt climate change" and the definition of this. (SWEDEN)
649	SPM	6	26	6	26	We suggest that you consider to concretize this statement by including examples of thresholds that are poorly understood. (NORWAY)
650	SPM	6	29	0	0	Footnote 1: It would be a good idea to comment the particular choice of emissions scenarios somewhere in the SPM. How extreme are the chosen scenarios? How are these scenarios related to current emissions levels (given the fact that the SRES scenarios are more than 10 years old). (SWEDEN)
651	SPM	6	29	6	32	There is no explanation in the report as to why this particular set of emission scenarios was chosen for use in the report. Consider adding a very short description of the SRES Marker Scenarios and of these 3 from that set (provide a URL or reference). (USA)
652	SPM	6	31	6	32	Scenarios definitely INCLUDE climate change and mitigation policies, even if they are not using policies that are explicitly addressing climate change, since governmental decisions are impossible to be projected. Therefore, last comment is recommended to be deleted. (HUNGARY)
653	SPM	6	34	0	0	Dealing with projections valid ONLY for the end of the 21st century is not enough. Governments are concerned about the coming decades, as well. The paragraph mixes notes on two time horizons. (HUNGARY)
654	SPM	6	34	6	34	Some parts of this description should be integrated into the caption of Fig. 3.A for a better understanding of the graphs. (GERMANY)
655	SPM	6	34	6	34	Please define "temperature extreme" (GERMANY)
656	SPM	6	34	6	35	In chapter C almost all sections start with a sentence (bold face) with a statement including some judgement of the degree of uncertainty. Here however, this logic is reversed and the statement comes as the second sentence, i.e. "It is virtually certain that increases...". Perhaps one could change place of the first and second sentence in this section. (SWEDEN)
657	SPM	6	34	6	40	It should be made clear at the outset that these assessments assume B1, A1B or A2 scenarios. Without such a qualification right at the outset, the assessments could be read to implicitly include an assessment that stabilization at relatively low CO2 concentrations has been judged to be exceptionally unlikely. (CANADA)
658	SPM	6	34	6	40	As for Figure SPM.3A, more detailed explanation, such as the regional characteristics and the difference between the scenarios shall be inserted. (JAPAN)
659	SPM	6	34	6	40	We do not understand how the regional data was "synthesized" in the quantitative figures, especially the 2-5 °C for the end of the century. The use of "likely" normally implies that there is a 66-100% chance. What has 66% chances here, knowing that for some regions, the "central 50% intermodel range" on figure SPM3.A is above 8°C, and some regions have a median value around 6°C ? The definition of the provided ranges must be clarified, and it must be so that regional values AND uncertainties are both shown in a clear way. (BELGIUM)
660	SPM	6	35	6	35	Are "warm" and "cold" the right terms here? maybe "high" and "low" would be better (GERMANY)
661	SPM	6	36	6	37	This conclusion is in contrast to the findings of the observed trends in heat waves. It says that they will continue to increase, while there is medium confidence about heat wave trends based on observations (see earlier section). So the word 'continue' should be skipped. (NETHERLANDS)
662	SPM	6	37	0	0	"Continue to" implies that it's already happening (which is not necessarily very likely) and this is not in the chapter text on ch 4, p. 4, paragraph 3 (USA)
663	SPM	6	37	6	37	"And/or" appears to add unnecessary ambiguity. We recommend that the discussion here be expanded and strengthened to better reflect the summary statements on this topic in Chapter 3, page 27. If a suitable change can be reached, we also recommend that this statement be similarly revisited in chapter 3 on page 27 and on page 125 (table 3.1, 5th column). (USA)
664	SPM	6	37	6	40	Suggest replacing "depending on the region and emissions scenario" with " with higher emissions scenarios leading to larger projected changes in most regions". (CANADA)
665	SPM	6	37	6	40	It could be argued that changes in return periods are easier to grasp than changes in return values. Figure SPM 3A presents changes in return values and contains information of use to the adaptation community, so the text should reflect that. Still, we would recommend including also in the main text the results on changes in return periods from page 27 of Ch. 3. ("For the SRES A2 and A1B scenarios, a one-in-20 year annual hottest day is likely to become a one-in-two year annual extreme by the end of the 21st century in most regions..."). (CANADA)
666	SPM	6	37	6	40	This sentence should relate to a base period (late 20-th). (SWEDEN)

#	Ch	From Page	From Line	To Page	To Line	Comment
667	SPM	6	37	6	40	"In terms of absolute values, 20-year extreme annual daily maximum temperature (i.e, return value) will likely increase..." is difficult to understand. Please change to something easier like "The daily maximum temperature per year that only occurs once during a period of 20 years (i.e, return value) will likely increase..." Or add sentence from the underlying chapter 3: "For the SRES A2 and A1B emission scenarios, a one-in-20 year annual hottest day is likely to become a one-in-two year annual extreme by the end of the 21st century in most regions, except in the high latitudes of the northern hemisphere where it is likely to become a one-in-five year annual extreme." This information is more consistent with the previous sentence that refers to the frequency of the extreme events. In addition, the first words of the next sentence "In terms of absolute values,..." make only sense with this sentence. (GERMANY)
668	SPM	6	38	6	38	Return values of the annual-maxima-approach are apparently used. However, the return periods of the annual maxima's are nearly the same as those of the peaks-over-threshold (POT) approach, especially for larger return periods (>10 year). In conclusion, one can simplify the wording and write "20-year extreme daily maximum temperature". (BELGIUM)
669	SPM	6	38	6	39	While a reference is made later in the text that comparisons are made according to the late 20th century, it could be helpful to also include the reference here as well. (BELGIUM)
670	SPM	6	38	6	39	Unless we only take medians into account statements are fairly correct, but when using upper and lower quartiles as sufficient projections, then changes are recommended to be corrected to "1oC to 4 oC" and "2oC to 8 oC" instead "1oC to 3oC" and "2oC to 5oC", respectively. (HUNGARY)
671	SPM	6	40	0	0	We propose to add the sentence of Chapter 3, paragraph 3.3.1, page 27, in the summary, on the change of return period for temperature : "For the SRES A2 and A1B emission scenarios a one-in-20 year annual hottest day is likely to become a one-in-two year annual extreme by the end of the 21st century in most regions, except in the high latitudes of the northern hemisphere where it is likely to become a one-in-five year annual extreme." as this is an important conclusion for policy makers. (FRANCE)
672	SPM	6	40	6	40	While the B1, A1B and A2 scenarios are probably well explained elsewhere, it may not be common knowledge to all readers. We think it would therefore be useful to add a brief explanation including • why these scenarios are selected (pragmatic: available data) and • that the 3 most used scenarios do not cover the full range of socio-economic scenarios assessed in the SRES which results in an underestimation of the uncertainty range. We will insist on this, as it is very important for policy-makers. • how they relate to the full range (large emissions such as A1FI are missing, and as the lowest emissions considered (B1) are still higher than required for the current 2°C policy objective) • that the choice is not based on socio-economic reasoning, but rather depends on the limited availability of detailed climate change simulations for other scenarios (improvement is expected for AR5, based on the RCP process) (BELGIUM)
673	SPM	6	40	6	40	We propose to include a condensed version of this sentence, taken from SREX executive summary chapter 3; "For the SRES A2 and A1B emission scenarios, a one-in-twenty year annual hottest day is likely to become a one-in-two year annual extreme by the end of the 21st century in most regions, except in the high latitudes of the northern hemisphere where it is likely to become a one-in-five year annual extreme." (NORWAY)
674	SPM	6	42	6	42	We understand the definition of "return period" is "A value that IS REACHED OR EXCEEDED on average only once in a given period of time". (NEW ZEALAND)
675	SPM	6	42	6	42	I suggest to include the term return period into the glossary of terms used here in the SPM (GERMANY)
676	SPM	6	42	6	43	Footnote 2: at the beginning of the text, one could add the words « Under stationary conditions, a value that occurs ... » (FRANCE)
677	SPM	6	43	6	43	There is an extra bracket after "years" that should be removed. (CANADA)
678	SPM	6	45	0	0	Figure: It is generally accepted to consider 30 years when talking about climate time horizons and climate change. Please give the definition of "late-20th-century". Same for Page 7, Line 11. (HUNGARY)
679	SPM	6	45	7	19	Figure SPM 3 & 4: These figures still remain somewhat complex to interpret for a policy maker. We appreciate what the authors did to improve Fig. 3.3 in Chapter 3, where they clarified the point with simple captions above the panels. Perhaps something like that could be added to Fig. SPM 3A and B just to help the proverbial policy "glancers" to quickly get a sense of what the figure shows. Another suggestion: enlarge the two panels showing the "Globe" response in SPM figures 3A and 3B so that policy makers can quickly see that on average annual max T's get larger towards the end of the century and that return periods get much lower than 20 yrs. towards the end of the century (without having to study every individual tiny panel on the figure). (USA)
680	SPM	6	46	0	0	Which timeperiod is used for the 20-year return values? Is it the same period for all cases? Is it only modelled values, or is the return value based on observations? It says in the figure text "Projected changes (°C) in 20-year return values of annual maximum of the daily maximum temperature. That is, the projected changes in a daily temperature value that occurs on average only once during a 20 year period." add "period, during the late 20th century" (or even better add the years used as reference period) (SWEDEN)
681	SPM	6	46	6	47	Figure SPM.3A caption: Replace "return values of annual maximum of the daily maximum temperature" with "returns values of the annual maximum of daily maximum temperature" (the article is in the wrong place). (CANADA)
682	SPM	6	46	6	48	Figure SPM.3A caption: It may be simpler to merge these first two sentences into just one sentence as follows: "Projected changes in daily maximum temperature occurring on average only once during a 20 year period." (CANADA)

#	Ch	From Page	From Line	To Page	To Line	Comment
683	SPM	6	46	7	19	Figure SPM.3 A&B captions: These Figures will be difficult for many readers to interpret as the metrics used are not intuitive to those outside the scientific community. It is therefore important that the figure captions thoroughly explain what is portrayed in the figure. One way to improve this may be for the caption to walk readers through the results for one region. For example, text such as this might prove helpful in Figure caption 3A: "For example, the results for Western Asia show that by the middle of the century, projections with all three emission scenarios show a roughly similar increase (of about 2-3 degrees C) in the daily maximum temperature associated with a one-in-20 year event. Towards the end of the century, greater changes in the daily maximum temperature associated with a one-in-20 year event are projected for scenarios with higher emissions (A2) than those with lower emissions (B1). The small size of the coloured bars and the short length of the 'whiskers' on the bars both indicate close agreement among the 12 models in the amount of projected change." (CANADA)
684	SPM	6	47	6	48	The sentence 'That is, the projected changes in a daily temperature value that occurs on average only once during a 20 year period.' is not necessary to be mentioned, because this sentence does not appear in the main report and 'daily temperature' confuses with 'daily mean temperature'. (JAPAN)
685	SPM	6	50	0	0	Not too many policy-makers know what GCM and CMIP3 stand for. (SWEDEN)
686	SPM	6	50	6	50	GCM and CMIP3 should be coupled with (Global Climate Models) and CMIP3(third phase of Coupled Model Intercomparison Project) respectively. (JAPAN)
687	SPM	6	50	6	50	regarding acronyms such as GCMs and CMIP3, in this line and elsewhere, should be, not only specify what they stand for (the first time they appear, but also explain clearly what they mean. The CMIP3 needs explanations to be evaluated by Policy Makers as they are not experts, it should be stated, for instance, that this model feeds the AR4 for instance. (SPAIN)
688	SPM	6	50	6	52	Terms '(Fig. 3.5)' and '(Fig. 3.1)' should be removed from the caption. Reader may mistake '(Fig. 3.5)' for a link to an explanation of 'GCMs'. Figure 3.1 is the same map with 'inset map' and is unnecessary to be referred here. Only the links in the square blankets at the bottom of the caption are necessary and enough. (JAPAN)
689	SPM	7	1	0	0	It is likely that the frequency of heavy precipitation or the proportion of total rainfall 1 from heavy falls will increase in the 21st century over many areas of the globe. It is necessary at this point to mention if this scenario will also affect the mean annual precipitation. That is, if due to this climate change, regions will also be more wet (or dry). (VENEZUELA)
690	SPM	7	1	0	0	Heavy precipitation could mean either RR20 (daily R>20 mm), RR10 (daily R>10 mm) or R95 (95th percentile). It is recommended to define it since in some areas especially in summer RR10 does not increase, while RR20 does. ""... the proportion of total rainfall 1 from heavy falls"": it is clear for experts, but may not be so evident for the SPM, moreover, there is no info on this aspect within the body text of that paragraph (or only a very indirect one: ""increases in heavy precipitation will occur despite projected decreases of total precipitation""). " (HUNGARY)
691	SPM	7	1	7	1	Suggest the authors consider whether the "or" in this bolded statement should be replaced with "and". As written the statement is weak since it only says that one or the other quantity will increase over "many regions" of the globe. If changes in both quantities were random and independent, increases in at least one of these quantities would be expected in 75% of the globe, which might count as "many regions". Therefore suggest that "and" may be meant here. (CANADA)
692	SPM	7	1	7	1	Please write "heavy precipitation events". (GERMANY)
693	SPM	7	1	7	2	The highlighted (bold) conclusion does not properly cover the outcome. The main tekst does not support this conclusion, but underlines the strong variability and that there are many regions with not even negative trends. The conclusion in the SPM should be changed accordingly. (NETHERLANDS)
694	SPM	7	1	7	2	The qualifier in this text is 'likely'. It was 'very likely' in AR4. Policymakers know that. It was a key message. There is a need to explain why the qualifier changed. The relevant figure, SPM 3B (or Fig. 3.7), suggests that "many" regions show a decrease of the return period of maximum precipitation rates. How can the statement, as currently written, then only have a 66% probability? (BELGIUM)
695	SPM	7	1	7	2	The "or" should be a "and" because both are true (FRANCE)
696	SPM	7	3	7	4	For SPM 3A and 3B, consider placing "globe land only" somewhere else. For example, put it near the key or the definition of the regions. (USA)
697	SPM	7	3	7	4	The statement beginning with "Heavy rainfalls..." is better placed in the paragraph dealing with tropical cyclones. Recommend that it be deleted here and inserted in the discussion of tropical cyclones on lines 21-26 and qualify the "heavy rainfalls" with "Heavy rainfall rates." Suggest "increased" rather than "enhanced" GHG concentrations. (USA)
698	SPM	7	4	7	4	"induced by enhanced GHG conc." an uncertainty should be assigned here, or it should be deleted. Will lead to extensive discussions in the approval session if not robust. (GERMANY)
699	SPM	7	4	7	6	In those regions, where precipitation amount is projected to decrease, and dry days to increase, increase of precipitation intensity has to be very likely that coming from the intensification of the upper tail. (HUNGARY)

#	Ch	From Page	From Line	To Page	To Line	Comment
700	SPM	7	6	7	8	In the paragraph that begins with a chapeau "It is likely that the frequency of heavy precipitation or the proportion of total rainfall from heavy falls will increase...", projected changes in the 20-year return period of daily maximum precipitation are posed in a manner seemingly more quantitative than should be. We cannot be too careful when it comes to saying something about extreme precipitation because it highly depends upon model resolution whether the atmospheric processes involved in precipitation can be sufficiently represented, as is pointed out in the section 3.3.2 of the underlying report. In light of uncertainties arising from limitations inherent in low-to-middle resolution CMIP3 models, it might be premature to lay down in SPM as quantitative a description as "a one-in-20 year annual maximum 24-hour precipitation rate is likely to become a one-in-5 to -15 year event." More qualitative language here would better reflect and communicate uncertainties that inevitably go with projections of extreme precipitation. (JAPAN)
701	SPM	7	6	7	9	For a range of emission scenarios (B1, A1B, A2), a one-in-20 year annual maximum 24-hour precipitation rate is likely to become a one in 5- to 15-year event by the end of the 21st century in many regions, and in most regions the higher emissions scenarios (A1B and A2) lead to a stronger projected decrease in return period. (See Figure SPM.3B. [3.3.2, Table 3.3, Figure 3.7]). This statement is a model result. Yet, considering the limitations of these modelling systems to represent precipitation extremes (see 3.2.3; Box 3.2), We think "likely" is not appropriate here. For example, there is some evidence that trends in precipitation extremes, and sensitivities, to temperature are underestimated in GCM (as well as regional CM) (Allan and Soden 2008, Allan et al. ERL, 2010; Min et al. 2011). Considering the scale dependency of precipitation extremes it is also hard to judge here what the significance of this statement is; many impacts occur at much smaller scales than the GCM grid point scale. Our proposal here is to explicitly mention that this is a global climate model results. It would also be good to emphasize here that increases in precipitation extremes are expected and understood from the increased moisture content of the atmosphere when the climate warms (this is the primary reason why we tend to believe the sign of the changes projected by the model results). (NETHERLANDS)
702	SPM	7	9	7	9	Add a reference to 3.4.4 (FRANCE)
703	SPM	7	11	0	0	For figure SPM 3B, consider changing the axes to "annual probability of occurrence." We suggest this because it's confusing to the reader to have increasing bars for temperature associated with more extreme conditions and decreasing bars for more extreme precipitation in the second panel. In addition, the return time metric is frequently misunderstood. (USA)
704	SPM	7	12	7	14	Figure SPM.3B caption: It may be simpler to merge these first two sentences into just one sentence as follows: "Projected new return periods for a daily precipitation event (maximum 24-hr precipitation rate) that would have occurred in the late 20th century on average once during a 20-year period." (CANADA)
705	SPM	7	13	7	14	The sentence 'That is, the projected new return periods a daily precipitation event that would previously have occurred on average only once during a 20 year period.' is not necessary to be mentioned, because this sentence does not appear in the main report and a new term 'a daily precipitation' may confuses reader. (JAPAN)
706	SPM	7	15	7	15	"info" should be written out as "information" (USA)
707	SPM	7	16	7	19	Terms '(Fig.3.7)' and '(Fig.3.1)' should be removed from the caption. Reader may mistake '(Fig.3.7)' for a link to an explanation of 'GCMs'. Fig.3.1 is the same map with 'inset map' and needs not to be referred here. Only the links in the square blankets at the bottom of the caption are necessary and enough. (JAPAN)
708	SPM	7	21	7	21	"Mean tropical cyclone maximum wind speed" - what is the "mean...maximum"? Please clarify. (CANADA)
709	SPM	7	21	7	21	It is difficult for non-specialists to understand what "mean tropical cyclone maximum wind speed" would be. Please add explanation. (mean over region, season?) (GERMANY)
710	SPM	7	21	7	21	please simplify the wording (the most important word is "maximum", this need to appear even to people reading quickly) (BELGIUM)
711	SPM	7	21	7	26	Suggest placing adding: ' models consistently find that greenhouse warming causes tropical cyclone intensity to shift toward stronger storms by the end of the 21st century (+2 to +11% increase in mean maximum wind speed globally).' From chapte 3 page 47, lines 1-4 of the special report. This is an interesting finding that policymakers should be aware of. (UK)
712	SPM	7	21	7	26	Suggest that the following (from chapter 3, page 47) should be included in the section on cyclone projections. 'When simulating 21st century warming under the A1B emission scenario (or a close analogue), the present models as a whole are consistent in projecting (1) decreases or no change in tropical cyclone frequency, (2) increases in intensity and fractional increases in number of most intense storms, and (3) increases in tropical cyclone-related rainfall rates'. This gives a more clear summary than the text currently presented for cyclones. Suggest also including, from chapter 3, page 46: it is likely that the mean maximum wind speed and near-storm rainfall rates of tropical cyclones will increase with projected 21st-century warming, and it is more likely than not that the frequency of the most intense storms will increase substantially in some basins. (UK)
713	SPM	7	21	7	26	The projected changes in terms of cyclones are discussed in wind and in frequency but nothing is said about increased precipitation rates (also noted as likely in 3.4.4) (FRANCE)
714	SPM	7	21	7	26	What about intensity of tropical cyclones (p. 46-47 of Ch 3)? And extratropical cyclones (p. 50, paragraph 3 of Ch 3)? Why aren't these addressed here? Consider qualifying "wind speed" with "wind speed intensity" or be consistent and use intensity. We're concerned that the use of intensity alone could be confused with precipitation intensity by policy makers. (USA)
715	SPM	7	21	7	26	We believe that many people associate the word "cyclone" with a tropical phenomena, therefore we propose that you consider to reintroduce "mid-latitude storms" as you used in the previous draft. (NORWAY)

#	Ch	From Page	From Line	To Page	To Line	Comment
716	SPM	7	22	0	0	AR4 stated that there is a medium confidence in the decrease of the overall number of storms, also, decrease of relatively weak storms with an increase in the numbers of the most intense tropical cyclones. Thus, the actual statement is misleading. (HUNGARY)
717	SPM	7	22	7	23	It is still a great challenge to simulate and project changes of tropical cyclones (TC). For the climate models that participated in CMIP3, due to their coarse resolutions, it is impossible for these models to provide a detailed projection of the future changes. Therefore, concerning the changes of TCs, it is inappropriate to allocate "likely" to the decreasing global TC frequency, and the conclusion of AR4 is that "there is less confidence (than likely) in projections of a global decrease in numbers of tropical cyclones". (CHINA)
718	SPM	7	23	7	25	Elsewhere the SPM uses the term "extra-tropical cyclones" rather than "mid-latitude cyclone". Suggest that "extra-tropical cyclone be used in this paragraph as well since it is the more readily accepted term. (CANADA)
719	SPM	7	23	7	26	Mid-latitude cyclone terminology is not widely used. It needs some definition. (FRANCE)
720	SPM	7	26	0	0	There is a need to add some assessments of storms, as storms are an important issue for many policy makers. From chapter 3: "low confidence in projections of changes in extreme winds (except tropical cyclones)" (FRANCE)
721	SPM	7	26	7	26	We suggest to include an explanation that changes in storm tracks can expose regions that earlier were considered to be low-risk areas. (NORWAY)
722	SPM	7	28	7	28	The bold text is too vague. Is it possible to clarify what is being referred as "some seasons and areas"? There may be medium confidence in the projection that areas which are historically susceptible to drought will experience an intensification of drought, and in the "normal" drought season. Is there evidence that drought seasons may lengthen? (IRELAND)
723	SPM	7	28	7	33	This paragraph is very important and very well resolved. It clearly gives an excellent picture of the importance of impacts in different world areas giving a sense of correlation both in size and signal by ordering the areas specifically taken into account the both the importance of the signal and the size of the area affected. (SPAIN)
724	SPM	7	29	7	30	It is suggested that the "East Asia" be added to the latter part of this sentence, because the situation of aggravated drought severity is also likely to occur in East Asia region, and this point is explicitly stated in the Table 3.2 as a "medium confidence" in the underlying report. (CHINA)
725	SPM	7	29	7	30	The Caribbean should be included (CUBA)
726	SPM	7	30	7	30	The list of regions here, for which there is evidence that droughts will intensify, is consistent with the results in Chapter 3 as presented in the summary section on page 59 but inconsistent in one respect with similar text at the bottom of page 57 in Ch. 3, where southern Mexico is listed rather than northeast Brazil. Please review. (CANADA)
727	SPM	7	30	7	30	"definitional issues" might be replaced by « poor definitions » or « lack of precise definitions » (FRANCE)
728	SPM	7	30	7	31	replace "lack of observational data" by "lack of observations" or by « lack of observation data » ? (FRANCE)
729	SPM	7	31	0	0	"... include all factors...", is this at all possible? Perhaps write "... include all relevant factors" or " most relevant factors" (SWEDEN)
730	SPM	7	33	7	33	The reference to "dryness index" is somewhat confusing. Admittedly, it may be difficult to compare studies that have assessed drought risks using different metrics. However, different drought indices could also reflect different types of droughts and thus not inconsistent projections. (SWEDEN)
731	SPM	7	35	7	36	Definition of CDD should be clarified to be "annual maximum CDD", "annual mean CDD" and so on. (JAPAN)
732	SPM	7	35	7	45	Figure SPM.4 caption: Overall, the metrics used in Figure SPM.4 (changes in consecutive dry days and soil moisture anomalies) will be difficult for readers outside the scientific community to understand. It is therefore important that the figure caption thoroughly explains these concepts and what is portrayed in the figure. (CANADA)
733	SPM	7	35	7	45	Figure SPM.4 caption: The first sentence says both indices represent annual values; however, further in the caption (line 39) there is a reference to seasonal estimates. Please clarify. (CANADA)
734	SPM	7	35	7	45	Comments on the figure: a) SMA is mostly dependent on the soil type (besides temperature and precipitation), we could conclude that it is a weak approximation since at GCM resolution soil types are not well-described. Using a complex index, e.g., SPEI would be recommended. b) It is recommended to explain why SRES A2 is used for the figure. c) Stippling tries to indicate some significant points, but it is not a real statistical approach. (HUNGARY)
735	SPM	7	37	7	37	What are "warm colors"? (GERMANY)
736	SPM	7	38	7	38	It might be very difficult for non-scientists to understand this explanation. For example, the use of scientific language (like "detrended") in a SPM is not useful. (GERMANY)
737	SPM	7	42	7	42	A term '(Fig.3.9)' should be removed from the caption. Reader may mistake '(Fig.3.9)' for a link to an explanation of 'GCMs'. Only the links in the square blankets at the bottom of the caption are necessary and enough. (JAPAN)
738	SPM	7	42	7	42	Again acronyms to be resolved if they have not been explained before. This is a general comment for elsewhere (SPAIN)
739	SPM	7	43	7	45	Figure SPM.4 caption: Suggest adding the word 'coloured' before 'shading' here to make clear that the grey shading is not included. Also, it would help to make very clear that grey shaded areas represent areas for which there is insufficient model agreement. Otherwise, it may be easy to misinterpret the grey shaded areas as areas for which there is no change. (CANADA)
740	SPM	7	43	7	45	The caption language for Figure SPM.4 uses "shading" and "stippling", but the scale of the maps makes it very difficult to see where the stippling actually occurs. Consideration might be given to reproducing the maps in the figure at a scale sufficient to make the meaning of the caption clear. In addition the wording of the caption could be improved for further clarity. Suggest "only" is deleted, and that "stippling is applied" is changed to "stippling is added" . (NEW ZEALAND)

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741	SPM	7	47	7	48	"changes in floods" should be mentioned what kind of change will be occur, its scale ,its frequency, its local characteristic or others. (JAPAN)
742	SPM	7	47	7	51	Please add information on the main sources of uncertainties as stated in section 3.5.2 of the SREX report (chap3., p62) : "It has been recently recognized that the choice of GCMs is the largest source of uncertainties in hydrological projections at the catchment/river-basin scale. The sign of the projected changes on flood regime is affected by differences in temporal downscaling and bias-correction methods". (FRANCE)
743	SPM	7	48	0	0	Some statement for flash floods besides fluvial floods is also recommended (if exists), because of their socio-economical importance. (HUNGARY)
744	SPM	7	48	7	48	Define "fluvial floods", or use a term that is more easily understood by policy makers. (CANADA)
745	SPM	7	48	7	48	The same difficultly as before with the usage of the term "limited evidence" in this context. I would say there is limited robust analysis available (or possible). (IRELAND)
746	SPM	7	48	7	49	It is not clear what kind of evidence is lacking, or why it is lacking. A few additional words of explanation (e.g., due to insufficient future hydrologic modelling studies and inadequate process knowledge) would be useful. (CANADA)
747	SPM	7	48	7	49	Projections for catchment scale are available based on regional climate model results, especially for Europe, North America, and Asia. (HUNGARY)
748	SPM	7	48	7	51	The sentence part "although there are exceptions to this statement" is not informative without further reference. As the following sentence already highlights a medium evidence of increase in local flooding for some regions, it is suggested to remove this sentence part. (FRANCE)
749	SPM	7	49	7	49	It may be helpful to include some example regions / catchments (BELGIUM)
750	SPM	7	50	7	50	Policymakers will not understand what is meant by "physical reasoning" and/or how it influences the confidence rating - this should be explained. (CANADA)
751	SPM	7	50	7	50	What is medium confidence based on physical reasoning? The glossary suggests that confidence is assessed through standard statistical techniques. (FRANCE)
752	SPM	7	51	0	0	It says "in some catchments and regions" Is it possible to name those regions? (SWEDEN)
753	SPM	7	51	7	51	We propose to include a new sentence in the end of this paragraph. "Earlier spring peak flows in snowmelt and glacier-fed rivers are very likely." (NORWAY)
754	SPM	7	53	7	53	Loose use of word "contribute" - implies that sea-level rise can explain any part (small or large) of the upwards trends in extreme sea levels, so "very likely" is an easily reached conclusion. Needs to be more precise. As we understand the state of play, it is very likely that upward trends in extreme sea levels will be at or exceed the rate of mean sea level rise (or words to that effect) (NEW ZEALAND)
755	SPM	7	53	7	53	replace "contribute to" by "is accompanied by". Reason: The mean, variance, extremes (extreme quantiles), etc. (of the same random variable) are all properties of a probability distribution function (i.e. the distribution of this random variable). Thus, it is not correct to say (although, there are many who do say this), that one of these affects the other; rather they all 'accompany' each other and the space-time changes in these properties can be different; what one can definitely say is that in these cases, i.e. if any or more such properties change, then the distribution function itself has changed. Changes in the tails of the distribution is of special interest, but again, one should not try to come up with a cause-effect type statement like the one just mentioned above. (SWITZERLAND)
756	SPM	7	53	7	53	We propose that the sentence starts with describing how extreme sea levels are expected to change in the future, instead of starting with the cause. (NORWAY)
757	SPM	7	53	7	53	What is meant by "extreme sea level", is it a reference to high sea level associated with combined impact of mean sea level rise and storm surge. This should be clarified. (IRELAND)
758	SPM	7	53	8	3	As written in the second sentence, line 54, the locations currently experiencing adverse impacts will continue to do so. But it should be said somehow that, in the future, some locations which have not yet experienced inundations will experience inundations. There may be cases where a former protection – some threshold : sea wall, dyke, for example – is unexpectedly overwhelmed, with very heavy consequences ; the inundated area is, in such a case, not a simple extension of a usual inundation area. We assume that there is scientific literature to support such a statement. (FRANCE)
759	SPM	7	54	8	1	This conclusion seems in conflict with the one given in section 3.5.5 in the main tekst (page 65 summary, see also comment no 8). (NETHERLANDS)
760	SPM	8	0	8	0	The following paragraph appears in the summary of Chapter 1, but not in the SPM. "Projected trends and uncertainty in hazards, exposure, and vulnerability associated with climate change and development make return to the status quo, coping or static resilience increasingly insufficient goals for disaster risk management and adaptation. Recent approaches to resilience of social-ecological systems expand beyond these concepts to include the ability to self-organize, learn, and adapt over time (1.1.2.1, 1.1.2.2, 1.4.1.2, 1.4.2, 1.4.4). (high confidence)". In general, as a Summary for Policy Makers, this document might usefully include some of the policy and management conclusions in the grounding report for the Summary. The grounding Report has good summaries on p3, paragraphs 3 and 5 (no lines numbers).These might go in the section at bottom of p8 in "Human Impacts and Disaster Losses." (USA)

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761	SPM	8	0	8	0	The following paragraph appears in the summary of Chapter 1, but not in the SPM. Community participation in planning, the determined use of local and community knowledge and capacities, and the decentralization of decision making, supported by and in synergy with national and international policies and actions, are critical for disaster risk reduction. The use of local level risk and context analysis methodologies, inspired by disaster risk management and now strongly accepted by many civil society and government agencies in work on adaptation at the local levels, would foster greater integration between, and greater effectiveness of both adaptation to climate change and disaster risk management. [1.1.2.2, 1.1.4.2, 1.3.3, 1.4.2] (high confidence)" In general, as a Summary for Policy Makers, this document might usefully include some of the policy and management conclusions in the grounding report for the Summary. The grounding Report has good summaries on p3, paragraphs 3 and 5 (no lines numbers). These might go in the section at bottom of p8. (USA)
762	SPM	8	1	8	1	Line 1, p. 8: Use of phrase "continue to do so" makes this a fairly weak statement. Suggest wording like: "...locations currently experiencing adverse impacts such as as coastal erosion and inundation will be increasingly affected in the future due to increasing sea levels, all other" (NEW ZEALAND)
763	SPM	8	1	8	1	Will erosion and inundation "continue to do so", or will they increase under the impacts of sea-level rise? (GERMANY)
764	SPM	8	2	8	2	replace "coupled with" by "in combination with" (SWITZERLAND)
765	SPM	8	2	8	3	This is awkwardly formulated, and also potentially slightly off the mark since the spatial pattern of projected sea level rise is quite uncertain (see Fig 10.32 in AR4 WG1, which shows the level of agreement amongst projections of the steric, or thermal, component of sea level rise). Given the uncertainty, is "very likely" an over-assessment when considered in the context of small regions (such as small island states)? (CANADA)
766	SPM	8	2	8	3	"is a specific issue for tropical small island states." What is not mentioned here is the projection of fewer tropical storms in a warmer climate, which would be an effect in the opposing sense. Also there is great uncertainty in regional details of the projected changes in TC intensity, frequency, and tracks, in addition to uncertainty in the regional distribution of sea level rise. What does it mean to be a "specific issue" and why are some factors that may contribute in an opposing sense not mentioned? The tropical cyclone part of this statement in particular leads to an unbalanced presentation. (USA)
767	SPM	8	3	8	3	"Sea level rise to increased extreme sea levels" is an issue not only for small island but also for other coastal area. It would be better this sentence is amended as "-----is an issue for tropical small island states in particular" (JAPAN)
768	SPM	8	3	8	3	We propose to include ".... states, coastal states, delta regions and other low-lying areas." (NORWAY)
769	SPM	8	5	8	6	It seems that the underlying text would support saying "increases in heat waves" rather than "changes in heat waves" here. The main drivers of the phenomena listed here are glacier retreat and permafrost degradation, so presumably decreases in heat waves would not contribute to these things. Similarly, if "increases" in heavy precipitation is supportable, then use this phrasing. Phrases that basically say 'changes in one thing may affect something else' have reduced meaning. (CANADA)
770	SPM	8	5	8	7	It is unclear why glacier retreat and/or permafrost degradation are emphasized relative to the impact of heavy precipitation as a factor in slope instability and landslides. Glaciers and permafrost are not a factor in all mountainous environments but precipitation will be. The statement should probably give equal emphasis to all three factors. Also, should it be "mountainous areas" rather than "high mountain areas" (CANADA)
771	SPM	8	5	8	7	A statement that changes will produce impacts is unenlightening. "Will affect" is so vague that it is not meaningful, if not misleading. Please consider at least identifying the sign of the change or delete. (USA)
772	SPM	8	6	8	6	Is "movements of mass" sufficiently understood? Perhaps "landslides" as used in line 7 would be better? (NEW ZEALAND)
773	SPM	8	7	8	7	Suggest considering whether paragraph should mention which regions landslides are expected to be affected in order to be consistent with other paragraphs in this section. (CANADA)
774	SPM	8	7	8	7	The value of the information has been lost, the statement itself has been made so weak that it can easily be attributed 100% confidence. (NETHERLANDS)
775	SPM	8	9	8	13	"There is low confidence in projections of changes in large-scale patterns of natural climate variability." You mentioned the ENSO phenomenon. Does this low confidence also apply to the NAO (North Atlantic Oscillation) (which is more relevant to the Mediterranean basin)? (MOROCCO)
776	SPM	8	9	8	13	This paragraph is a good example of use of the term "low confidence". (IRELAND)
777	SPM	8	10	0	0	Suggest re-ordering the sentence to make it easier to read, such that "Confidence is low in projections of changes in monsoons (rainfall, circulation), because" becomes "In projections of changes in monsoons (rainfall, circulation), confidence is low because....." (NEW ZEALAND)
778	SPM	8	10	8	10	Remove comma after bracketed text. (CANADA)
779	SPM	8	12	0	0	Consider modifying in the following way: "Model projections of the frequency, location, magnitude, duration, etc. of El Nino and La Nina events are not consistent, therefore, there is low confidence in projections of changes in these phenomena." (USA)
780	SPM	8	13	8	13	Replace "the phenomenon" with "this phenomenon". (CANADA)
781	SPM	8	18	0	0	"Extreme events will have greater impacts on sectors with close links to climate." Than what? What is the confidence associated with this statement? (USA)
782	SPM	8	18	8	18	It is unclear what the sentence: Extreme events will have greater impacts on sectors with close links to climate. Do the authors mean those sectors depending on weather and climate variability? (GERMANY)
783	SPM	8	18	8	18	"...close links to climate and weather" (IRELAND)
784	SPM	8	18	8	19	Projections for catchment scale are available based on regional climate model results, especially for Europe, North America, and Asia. (HUNGARY)

#	Ch	From Page	From Line	To Page	To Line	Comment
785	SPM	8	18	8	21	It is difficult to draw the link between the first (bold) sentence and the following two sentences, as they talk about different things than the first; e.g. the second deals with differences in projections on different levels, while the first talks about different sectors. (GERMANY)
786	SPM	8	18	8	24	This is the sole paragraph in the SPM discussing impacts of climate extremes on major sectors of economies with close links to climate. It is therefore puzzling why, from section 4.3 of Ch. 4, it references only sections 4.3.2 (water) and 4.3.5 (Settlements, Infrastructure and Tourism) of Ch. 4, omitting section 4.3.4, Agriculture and food security, which is a sector with very close links to climate. Suggest that finding for the agriculture sector could be integrated into this paragraph. Suggest also that lines 23-24 be revised as they do not really provide any meaningful results. (CANADA)
787	SPM	8	18	8	24	The bolded statement (which is self evident) would be more appropriate for inclusion in Section B (deleting "will"), and possibly mirrored in this section. It is more convincing to tell decision makers that a relationship has been observed historically, and will continue in future, than it is to only talk about the future. (CANADA)
788	SPM	8	18	8	24	The meaning of sectors with "links to climate" is not fully clear and could be better explained. (CANADA)
789	SPM	8	18	8	24	Please add a statement on the impact on food security. (GERMANY)
790	SPM	8	18	8	24	It is suggested to include the following additional information in this section because of its very high relevance for the policy level: "Sectors with close links to climate are e.g. water, agriculture and food security, health, and tourism" (from Executive Summary of chapter 4). (AUSTRIA)
791	SPM	8	18	8	24	This paragraph is important and would deserve more information. (FRANCE)
792	SPM	8	19	8	19	The text affirms that "...it is not possible to project specific changes at the catchment scale". This is not exactly correct: there are large river basin (some of them of several thousand of squared kilometres...) where many projects and researchs have experimented at this scale, and they provide future projections of water availability, according to the different climate change scenarios (regional or global) used in the hydrological modelling (SPAIN)
793	SPM	8	20	0	0	It would be good to add some assessment for agriculture as well since it is an important sector very sensitive to climate (from chapter 4). (FRANCE)
794	SPM	8	20	8	21	This sentence relating to climate being only one of the drivers of change is an important concept, but is buried within the sentences before and after it. Suggest that it could be better integrated into bolded statement or into the paragraph in lines 33-38. (CANADA)
795	SPM	8	21	0	0	Page 8, Lines 21, 22, 33, 40, 48, 51: "Extreme climate" should be change by "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
796	SPM	8	22	8	24	climate related extremes do produce large impacts already at present, therefore the wording could be changed to ".. will continue to ..." (BELGIUM)
797	SPM	8	23	8	23	If the word 'other sectors' means the sectors without detailed analysis, there is incoherence between the SPM and the main report. The 'other sectors' includes tourism in the SPM, but in the main report tourism is one of the sectors with detailed analysis (Page 17 of Chapter 4). Examples of countries, infrastructure types and sectors with detailed analysis should be indicated as in the main report for better understanding. (JAPAN)
798	SPM	8	23	8	24	Lines 23-24 are not formulated in a way that provides meaningful results and should be revised. (CANADA)
799	SPM	8	24	8	24	Could add "renewable energy" to this list (NEW ZEALAND)
800	SPM	8	26	8	26	Is this assessment contingent upon an assumption concerning future tropical cyclone numbers and intensity? If so, those assumptions should be consistent with the assessment of projected frequency and intensity changes. (CANADA)
801	SPM	8	26	8	26	Please replace "will" by "are projected to increase" (NETHERLANDS)
802	SPM	8	26	8	27	"... losses from tropical cyclones will increase ... (high confidence)". This needs an explanation (exposure changes?) since the increase in tropical cyclone wind intensity is given as as "likely" on page 7 line 21-26. It may actually help to move the paragraph now on page 8, lines 33 to 38) before the paragraph on lines 26 to 31. (BELGIUM)
803	SPM	8	26	8	28	Losses from tropical cyclones will with high confidence increase: Please clarify, if is this due to increased exposure or increased severe cyclones. Role of increasing exposure should be mentioned as one reason. (GERMANY)
804	SPM	8	26	8	28	This appears to be one of those statements that is perhaps true as written, but is also misleading because of the way it is presented (i.e., the large uncertainty in the role of TC changes and the dominant role of population/development change is not explicitly stated). The paragraph seems to focus on exposure when the real issue appears to be sensitivity. Concerning the climate change contribution, we do not even know the sign of the influence of climate change alone on the economic losses from TCs. This should be stated as well. (USA)
805	SPM	8	26	8	31	The bolded statement is unrelated to sentences in the paragraph below. Here, the bolded sentence refers to tropical cyclones. None of the supporting text refers to tropical cyclones, instead bringing in the issues of extra-tropical cyclones and floods. It would therefore be better if the bolded sentence were more general, referring to economic losses from extreme events generally, with supporting text providing results for specific types of extreme events. (CANADA)
806	SPM	8	26	8	38	These two bold statements in these two paragraphs seem to be related, and if so they should be combined. The first only addresses cyclones, and is silent on the issue of drivers (which is out of step with the rest of the SPM). The second refers to "some extremes", but is silent on whether cyclones are included in that list. A combined statement might be "Direct economic losses from tropical cyclones and some other climate extremes will increase in the absence of additional adaptation measures, with the main drivers of the increased economic losses being socioeconomic in nature." (CANADA)
807	SPM	8	27	8	27	Again, please replace "will" by "are projected to increase" (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
808	SPM	8	27	8	27	delete "also" : Alternative text: "Losses due to extra-tropical cyclones will increase in some areas, but with possible decreases or no change in other regions (medium confidence)". However, this is a very vague conclusion. Need some geographic constraints on the regions where increased losses are expected. (IRELAND)
809	SPM	8	27	8	28	The wording about extra-tropical cyclones is rather self-contradictory. For clarification we suggest something like: "Losses due to extra-tropical cyclones are also expected to increase when summed over the whole extra-tropical region of the globe, but with possible decreases or no change in some specific areas". (NEW ZEALAND)
810	SPM	8	28	8	28	Again, please replace "will" by "are projected to increase" (NETHERLANDS)
811	SPM	8	29	8	29	The "estimated change"? Unclear statement: Does this refer to the change in the physics or the impact? then it should be moved to the previous section EXTREME EVENTS AND IMPACTS (GERMANY)
812	SPM	8	33	8	33	This statement is difficult to read and is so vague that it will be difficult for policymakers to interpret. Please revise. Suggest that the phrase "For some climate extremes in many regions..." could be replaced with "In many cases..." to help simplify. (CANADA)
813	SPM	8	33	8	33	Please explain here which type of extremes are "some climate extremes". (NETHERLANDS)
814	SPM	8	33	8	33	Please replace "will" by "is projected to be". (NETHERLANDS)
815	SPM	8	33	8	34	We propose that you consider an alternative wording: "For some climate extremes in many regions, socioeconomic factors will be the main driver of future increases in disaster losses". (NORWAY)
816	SPM	8	35	8	35	Add the word 'disaster' before 'risk' (i.e. "...are only one factor that affects disaster risks". (CANADA)
817	SPM	8	40	8	44	This bolded finding should be rewritten with plainer language as the relatively simple message here has gotten convoluted by overly technical language. Is it the intent of the authors to highlight that extreme events can affect the ability of people to migrate or that they increase the likelihood of having to relocate? Reading the supporting text in section 5.2.2 it seems the main message is that climate change and extreme climate events can lead to temporary relocation of local people and that an increasing frequency of disasters would make more such relocations permanent. (CANADA)
818	SPM	8	40	8	44	Chapter 5 pays much greater attention to security issues than is represented here in the SPM; suggest the authors consider expanding upon this. (CANADA)
819	SPM	8	41	8	41	The word "if" at the beginning of this sentence is challenging to readers, as they are expecting this report to be able to say something more definitive on changes frequency and magnitude. Consider using the word "where" instead. (CANADA)
820	SPM	8	41	8	42	It may not be only "If disasters occur more frequently ...": we suggest to write something like "In some regions, the increased risk of disasters will render local areas increasingly..." (then a confidence statement may be added, but it seems evident that some increase in risk will occur in some area, it is not just "if disaster occur") (BELGIUM)
821	SPM	8	43	8	43	Please include "and displacement": "In such cases, migration and displacement becomes permanent..." Rationale: When the movement is considered forced, the term "displacement" is often preferred. (NORWAY)
822	SPM	8	43	8	44	Insert "arid Africa and Asia inner land" after "atolls,". Change [5.2.2] to [5.2.2, 5.5.1, 8.4.3,9.2.3] More supportive information about the climate disaster-driven migration can be found in 5.2.2, 5.5.1, 8.4.3, and 9.2.3 of the underlying report. (CHINA)
823	SPM	8	44	8	44	The Impact of climate extreme depends not only on its intensity, but the topography and distribution of human settlements (COSTA RICA)
824	SPM	8	47	0	0	Section E: We suggest using well-known terms like "mainstreaming", "win-win-options" in order to increase usability of the report. (GERMANY)
825	SPM	8	47	0	0	Section E: Please add the statement "Climate change will pose added challenges for the appropriate allocation of efforts to manage disaster risk. The potential for changes in all characteristics of climate will complicate the evaluation, communication, and management of the resulting risk. (high confidence)" from Chapter 1, page 2. (GERMANY)
826	SPM	8	47	0	0	Section E: Please add the statement "Given shortcomings of past disaster risk management and the new dimension of climate change, greatly improved and strengthened disaster risk management and adaption will be needed, as part of development processes, in order to reduce future risk." from Chapter 1, page 3. (GERMANY)
827	SPM	8	47	0	0	Section D, Human Impacts and Disaster LOSSES: Please add the statement "In much of the developed world, societies are aging and hence can be more vulnerable to climate extremes, such as heatwaves." from Chapter 4, page 3. (GERMANY)
828	SPM	8	47	0	0	Section E: Please add the statement "While structural measures provide some protection from disasters, they may also create a false sense of safety (high agreement, robust evidence). Such measures result in increased property development, heightened population density and more disaster exposure. Current regulations and design levels for structural measures may be inadequate under conditions of climate change." from Chapter 5, page 2. (GERMANY)
829	SPM	8	47	0	0	Section E: Please change title, so that it becomes clear that this section is on future strategies, whereas section C is on past experience (GERMANY)
830	SPM	8	47	0	0	Section SPM.E: We propose to include a paragraph that highlights the potential for synergies between disaster risk management and adaptation to climate change. (NORWAY)
831	SPM	8	47	8	47	We note that there is very limited reference to Chapter 7 in the SPM. We encourage the authors to re-examine this given the importance of the international scale in addressing DRR and CCA. (CANADA)
832	SPM	8	47	8	48	The title should be more informative, something like "futures strategies of ..." (GERMANY)
833	SPM	8	47	9	6	Scientific studies of hazards, vulnerabilities and risks (including the impacts of events such as intense winds, intense precipitations, rising of sea level, and others) would enhance awareness of decision-makers and population / communities (CUBA)

#	Ch	From Page	From Line	To Page	To Line	Comment
834	SPM	8	47	10	6	There appear to be a number of statements in this section that do not represent the literature in a comprehensive, balanced manner. (USA)
835	SPM	8	50	10	6	This section usefully pulls out the importance of low regrets measures for addressing current disaster risk and for adaptation, but doesn't fully address the richness of the analysis in Ch6, about threshold-based approaches, scenario-based approaches to risk management and decision-making . Nor does it fully explain in which circumstances climate change projections are usually used vs. other information to help plan adaptation or DRR actions. Chapter 6 of the underlying report does address this. Suggest including from chapter 6, page 12 ' Given the various uncertainties at decision-making scales, studies suggests that adaptation actions based on information on the observed climate and its trends may be preferable in some cases while, in other cases with long-term irreversible decisions, climate change scenario-guided adaptation actions will be required (Wilby and Dessai, 2010; OECD, 2009; Auld, 2008b; Hallegatte, 2009; Krysanova et al, 2010). Climate change scenarios provide needed guidance for adaptation options when the direction of the climate change impacts are known and when the decisions involve long-term building infrastructure, development plans as well as actions to avoid catastrophic impacts from more intense extreme events (Hallegatte, 2009; Wilby and Dessai, 2010; Haasnoot et al, 2009).' (UK)
836	SPM	8	52	0	0	This is the first time "sustainable development" is mentioned in the report. There is a discussion over what this means and the term might need to be defined/explained in this context. (SWEDEN)
837	SPM	8	52	8	52	Replace "challenge" with "issue" (NORWAY)
838	SPM	9	1	0	0	We probably need a definition for "Low-regrets measures" as the "Low-regrets" term is used many times in the report. (MOROCCO)
839	SPM	9	1	0	0	Please define "low regrets" in the SPM and underlying chapter. (USA)
840	SPM	9	1	9	3	The order of the sentence should be modified: " Low regret measures (measures that have the potential to offer benefits now and lay the foundation for addressing projected changes) for managing current disaster risks are starting points for addressing projected trends in exposure, vulnerability and climate extremes". (The proposed order is easier to understand as it gives a definition of low regret measures.) (FRANCE)
841	SPM	9	1	9	3	We suggest the following change in the boldfaced sentence. "Low-regrets measures for managing current disaster risks exist and are also starting points for addressing projected trends in exposure, vulnerability and climate extremes. Early implementation of such measures offers potential benefits now and improves the foundation for further action to address projected changes." (NORWAY)
842	SPM	9	1	9	5	Implications of "low-regrets measures" and "maladaptation" is not very clear so that meanings of these words should be explained in Glossary of the SREX. (JAPAN)
843	SPM	9	1	9	5	Why should low regret measures be promoted here when earlier on only two examples are mentioned to increase if no protection measures are taken? There is a need for balance here and proper language (GERMANY)
844	SPM	9	1	9	5	It would be useful to explain "low-regret option" in a few words (i.e. an option that is not regretted if the climate change is less than expected) (BELGIUM)
845	SPM	9	1	9	11	An explanation of low-regrets measures may be required here, and a definition should also be included in the glossary. From the description of such measures on lines 4-5, it is not clear why the measures described on lines 7-9 are low regrets while those on lines 9-11 are not. The bold finding and supporting sentence also give the impression that low regrets measures are easy to implement - some specific examples may help to characterize this better. (CANADA)
846	SPM	9	1	9	46	We believe that there is too little emphasis on the need for climate data and information in this section, which is essential e.g. for reliable early warning systems; and we suggest adding relevant information in a separate paragraph (we anticipate that this information is available in the underlying report). Furthermore, reference should be made to the WMO Global Framework for Climate Services, which will be essential for future work on DRR and CCA all over the world. (NORWAY)
847	SPM	9	1	9	52	The use of confidence vs agreement/evidence language on this page is inconsistent. (CANADA)
848	SPM	9	2	0	0	Page 9, Lines 2, 14, 33, 50, 51: "Extreme climate" should be change by "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
849	SPM	9	7	0	0	We suggest re-writing this sentence as follows: "Examples of measures that can be low regrets, if implemented effectively include:" This sentiment is an important caveat and should be reflected in the underlying chapter. For example: "If the SPM wants to list "sustainable land management, including land use and zoning; and ecosystem management and restoration" as low-regret options for managing disaster risk, it should note that this is not without caveats. Underlying chapter (sections 5.3.2 and 5.3.3) might be adjusted to note that when done in a transparent, participatory manner these may be low regret options, but there is a long history of such measures resulting in the expropriation of land and resources from local populations. (USA)
850	SPM	9	7	9	7	Include risk management (COSTA RICA)
851	SPM	9	7	9	9	Delete « Examples of » at the beginning of the sentence. (FRANCE)
852	SPM	9	7	9	10	Suggest the authors consider whether conducting hazard or vulnerability assessments should be added to this list. (CANADA)
853	SPM	9	8	0	0	Is the term "sustainable land management" well-known? (SWEDEN)
854	SPM	9	8	9	8	We suggest to include spatial planning in the list, which we believe is broader than zoning. (NORWAY)
855	SPM	9	8	9	9	CAREFUL ecosystem management and restoration - I guess that care must be taken and not any management will be beneficial. (GERMANY)
856	SPM	9	9	9	11	Please specify: What is meant with "other measures"? What is the distinction to the so called "low-regret measures"? (GERMANY)

#	Ch	From Page	From Line	To Page	To Line	Comment
857	SPM	9	10	9	10	It is not just the enforcement of codes that is important but the development of appropriate codes and standards that adequately incorporate climate change, variability and extremes. (CANADA)
858	SPM	9	11	9	11	Can the "see also" references (9.2.11 and 9.2.14 and 7.4.3) not be included with the first set of references? (CANADA)
859	SPM	9	13	9	16	This paragraph should be placed at line 48 on page 9. (TRINIDAD AND TOBAGO)
860	SPM	9	13	9	16	The role of systematic risk analysis and adaptation planning, but also learning from past disasters (and their documentation) should be strengthened. (GERMANY)
861	SPM	9	13	9	16	The report could suggest how the adaptive management could be facilitated. It could propose how existing formal and informal institutions could support the process or suggest that such supports need to be created. Legal mechanisms may need to be modified to incorporate such an approach (IRELAND)
862	SPM	9	13	9	23	These two statements could effectively and usefully be combined into a single statement along lines of "Effective risk management generally involves a portfolio of actions along with an iterative process of monitoring, evaluation, learning and innovation". (CANADA)
863	SPM	9	13	9	52	In a couple of instances findings refer to "risk management" as opposed to "disaster risk management" (line 18, line 49). Is this intentional? Please review. (CANADA)
864	SPM	9	14	9	14	Define term "adaptive management" in Glossary (lacking) (GERMANY)
865	SPM	9	16	9	16	Can the "see also" reference (6.6) not be included with the first set of references? (CANADA)
866	SPM	9	18	9	18	The notion of "risk transfer" might not be familiar to all readers. Please illustrate with example. (BELGIUM)
867	SPM	9	18	9	19	Suggest the authors consider whether text should also refer to the need to develop criteria for the selection of appropriate actions when developing a portfolio of actions. (CANADA)
868	SPM	9	18	9	23	Risk management is a crucial part of the report with three chapters and we believe the key-finding from them reflected in the SPM is too general. Typical questions where we suggest the findings in the SPM should give as much information as possible are: To what extent can proper risk management actions prior to an extreme event and after (in the rebuilding fase) reduce the number of fatalities and the financial loss? Differences related to risk management at different levels (international, regional, national, local); are the current practice related to risk management actions optimal or would increased efforts be beneficial (cost of prevention vs. potential losses related to the events)? We suggest that the text is expanded on such issues. (NORWAY)
869	SPM	9	18	9	27	This paragraph should be placed before line 1 on page 0. This would be an introduction to all the approaches to prepare for climate change risks and disasters. (TRINIDAD AND TOBAGO)
870	SPM	9	20	9	20	We propose to emphasize the importance of early warning systems, increased development and human welfare by including a new sentence: "In terms of disaster risk reduction, a large number of lives have been saved over the last decade due to improved disaster early warning systems, and to increased development and human welfare." Adopted from chap. 8, page 8, line 40. (NORWAY)
871	SPM	9	21	9	21	Avoid imprecise, difficult to translate jargon like "hard" and "soft". (CANADA)
872	SPM	9	21	9	21	Suggest that this statement identify agreement/evidence for the finding (one is presented for the same statement in the Executive Summary for Chapter 6). (CANADA)
873	SPM	9	22	9	23	The last sentence that characterises 'hard' and 'soft' options for adaptation entirely omits options that are based in natural resource management/ ecosystem-based responses. This is a set of issues that is well-reflected in Chapter 6 of the underlying report. The relatively low profile it received throughout the SPM reinforces the impression that some policymakers already have that adaptation is about social capital or infrastructure only. (UK)
874	SPM	9	23	9	23	We suggest adding "and sustainable land-use planning" at the end of this sentence. (NEW ZEALAND)
875	SPM	9	24	9	24	We propose to include Fig. 6-2 from SREX here. (NORWAY)
876	SPM	9	25	9	27	Although the second sentence here provides useful information, the bolded statement does not (it is essentially saying just that risk management will reduce hazards, which is self-evident). One solution might be to bring lines 26-27 up to follow the sentence ending on line 16. Both bits of text address the need for long-term thinking that addresses the many complexities around adapting to changing extreme events. (CANADA)
877	SPM	9	27	9	27	replace "will" by "may"; replace "to other hazards" by "of other hazards" (SWITZERLAND)
878	SPM	9	29	0	0	Suggest deleting 'external' as this does not help to clarify the difference between traditional and scientific knowledge. (USA)
879	SPM	9	29	9	30	We suggest you consider the following change in the bolded text: "Integration of local knowledge with external scientific and technical knowledge and local participation can improve disaster risk reduction and climate change adaptation" Rationale: It is in our view the results of local participation which is interesting, not an improved local participation by itself. (NORWAY)
880	SPM	9	29	9	35	The bolded statement as currently worded suggests that the main reason to integrate local knowledge is to improve participation in DRR and CCA. However, section 5.4.4. of the report emphasizes the value of local knowledge as an important complement to external scientific and technical knowledge, and that this knowledge can be accessed through improved local participation. This is an important distinction and it needs to be accurately reflected in the summary. This could be achieved by reversing the wording of the statement (e.g., "Local participation in DRR and CCA allows for...") or by pulling out further info from section 5.4.4. (CANADA)
881	SPM	9	29	9	35	It is confusing to have two different confidence/uncertainty statements in the same finding. Please consider dividing this paragraph into two. (SWEDEN)

#	Ch	From Page	From Line	To Page	To Line	Comment
882	SPM	9	29	9	35	It seems that the SPM language has lost some of the meaning intended in the underlying chapter. Please consider re-wording/re-working. We feel this would better capture the wider spirit of why we would engage with local knowledge, places emphasis on local capacity (instead of local need), and properly caveats the engagement with and use of local knowledge as reflected in the literature. Recommended text is provided here: "The integration of local knowledge with external scientific and technical knowledge can bring forth alternative, locally-appropriate perspectives and approaches to adaptation and disaster risk reduction problem solving. Local populations document their experience of the changing climate, particularly extreme weather events, in many different ways. By paying attention to this self-generated knowledge, we can uncover existing capacity within the community (5.4.4). However, this integration is challenging and issues of participation and transparency are central to its success. Further, local knowledge is not unproblematic, as it is often implicated in issues such as social inequality that might hinder the long-term sustainability of livelihoods (5.5.1)." (USA)
883	SPM	9	29	9	35	It is unclear what is meant by local knowledge. The underlying chapters do little to clarify this. Please add clarifying language. (USA)
884	SPM	9	31	9	31	Suggest replacing 'locals' with 'local people'. (CANADA)
885	SPM	9	31	9	31	Substitute "local populations" for the more informal/slang "locals" (USA)
886	SPM	9	32	9	32	We propose that also the aspect to illustrate how local knowledge can identify current shortcomings within the community are included in this sentence. Suggestion; "..... capacity and important current shortcomings within the community." (NORWAY)
887	SPM	9	33	9	34	A suggestion of rewriting: "However, by improving human organization, education on prevention and more financial capital availability, the community would reach a better condition to face climate change adaptation". (VENEZUELA)
888	SPM	9	34	9	34	replace "human and financial capital" by "human resources and financial capital" (SWITZERLAND)
889	SPM	9	35	9	35	Therefore should include the assessment of the risks of climate change on public policy planning (COSTA RICA)
890	SPM	9	37	9	37	Here risk communication is described as critical, in line 7 it is identified as "low regret" measure. We suggest highlighting those low-regret measures that are critical - if possible - as this is an important information for decision making. (move para line 37-41 to line 12) (GERMANY)
891	SPM	9	37	9	41	Current research shows that various tools/instruments can (and should) be used for risk communication. Successful communication depends on whether or not the chosen instruments fit to the cultural and social factors and whether or not technical terms (and maps) are understandable and unambiguous. In fact, risk communication has to be specific for certain user/stakeholder groups. (GERMANY)
892	SPM	9	38	0	0	"high confidence". According to box SPM2 a likelihood should be assigned when there is high confidence. (SWEDEN)
893	SPM	9	38	9	38	Delete the second sentence of this paragraph ("Explicit characterization of ...") as it is not supported by section 2.6.3. The closest this sentence comes to the underlying chapter is in section 2.6.2 which states "... adaptation and risk management policies and practices will be more successful if they take the dynamic nature of vulnerability and exposure into account, including the explicit characterization of uncertainty and complexity". However, this is very different than stating uncertainty and complexity should be part of risk communication. The authors could consider integrating some other useful information in section 2.6.3 on the need for appropriate framing of the risk in ways that are relevant to particular communities. (CANADA)
894	SPM	9	38	9	38	We suggest to expand the sentence by including: "... and preparedness towards climate extremes." Rational: We believe it is important to underline the need for preventive actions before events occur. (NORWAY)
895	SPM	9	40	9	40	We propose to include a new sentence before "Among individual.....": "Particularly it is important to involve poorer communities and groups which in many cases are the most vulnerable to climate extremes." (NORWAY)
896	SPM	9	40	9	41	We propose that you include "also" between "..., perception of risk are" and "driven by ...". Rationale: As it is today the sentence suggests that perception of risk is purely driven by these "soft" factors and not specific knowledge or experience. (NORWAY)
897	SPM	9	41	9	41	Can the "see also" reference (7.4.5) not be included with the first set of references? (CANADA)
898	SPM	9	41	9	41	replace "factors" by "background" (SWITZERLAND)
899	SPM	9	41	9	41	We suggest adding information in the para on how to target the most vulnerable groups, and the importance of including these groups when designing such disaster risk reduction and climate change adaptation strategies. (NORWAY)
900	SPM	9	43	9	43	replace "guide design of" by "be used as guidelines for designing" (SWITZERLAND)
901	SPM	9	43	9	45	Are there confidence and evidence ratings for this? (USA)
902	SPM	9	43	9	46	The bold statement is very weak as anything "can" guide. Would it be more appropriate to replace "can" with "should help" guide design of risk management and". Plain language would improve the second sentence, particularly an alternate to "their magnitude and degree of certainty at the temporal and spatial scale of the risk". (CANADA)
903	SPM	9	43	9	46	Although the confidence on this finding may seem obvious, for conformity with the other findings, a confidence statement, in the used uncertainty language, should be added. (SWEDEN)
904	SPM	9	43	9	46	This special report must indicate in their final considerations proposals such as the installation (or improvement) of meteorological networks to optimize an effective spatial distribution for monitoring. (VENEZUELA)
905	SPM	9	43	9	46	We suggest the bold text say something about how the trends can guide the design. (NORWAY)

#	Ch	From Page	From Line	To Page	To Line	Comment
906	SPM	9	49	0	0	The words 'informed by' is suggested to be replaced by 'inferred from'. (PAKISTAN)
907	SPM	9	49	9	52	Table SPM.1 Caption: The caption should make clear which forcing scenarios are being assumed for assessments of projections. (CANADA)
908	SPM	10	1	0	0	Page 10, Lines 1, 4, 12, 14, 16 and 17: "Extreme climate" should be change by "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
909	SPM	10	1	10	2	Statement should be moved to section B (GERMANY)
910	SPM	10	1	10	6	This text, which is currently in the caption to Table SPM.1, would seem better suited to the main text and could be merged with the paragraph on lines 43-46 where Table SPM.1 is referenced. (CANADA)
911	SPM	10	1	10	6	Please improve understandability of the paragraph or consider discarding the whole paragraph; in my opinion, a confidence issue should not be stressed too much, since disaster management needs to be improved in many place of the world irrespective of climate change (GERMANY)
912	SPM	10	9	0	0	On implications for sustainable development, also should be linked to the difficulty of the risk of disaster and the attainment of the Millennium Development Goals. (VENEZUELA)
913	SPM	10	9	10	47	The title does not do a good job of conveying to the reader what is covered in the section. A suggestion is to clarify what sources of implications it sets out to cover (i.e., "implications of [X,Y] for sustainable development". Overall, this section could be reviewed to improve the flow/storyline across the findings and increase the relevance for policymakers. (CANADA)
914	SPM	10	9	10	47	In this section implications for sustainable development should be discussed, and sustainable development contains three parts: environmental sustainability, economic sustainability and socio-political sustainability. In the whole section the environmental sustainability is little discussed. Examples on relevant issues include: 1) The implications from mitigation on energy use (for example related to cooling requirements and changes in water supply). 2) Effect from changes in settlement patterns on local ecosystems. 3) Effects from large scale mitigation projects, such as dams and flood-barriers, on local ecosystems and settlements. 4) Implications on pollution (e.g.. the risk of large-scale environmental disasters and pollution related to extreme events such as heat waves, wild fires and storm). In particular in paragraph 2 (line 19-22) there should be focus on the holistic approach in which all parts of sustainable development are covered. (NORWAY)
915	SPM	10	11	10	17	As written, this bolded statement does not say much of significance. Suggest instead the following: "A full range of actions, from incremental steps to transformational changes.....". The final statement of the paragraph ("Vulnerability and loss are ...") should be deleted as this does not relate to the bolded sentence (actions), and the point is made more clearly in section B (page 4. lines 26-35). (CANADA)
916	SPM	10	11	10	17	It seems to be important to explain "transformational changes", e.g. by providing examples. A wording to this end might reads: "Transformational changes my address thinking, analysis, planning, approaches, strategies and actions and may involve changes to the systems themselves. Transformation is a complex process that involves changes at the personal, cultural, institutional and systems levels. Such transformations are facilitated through increased emphasis on adaptive management, learning, innovation and leadership. (AUSTRIA)
917	SPM	10	14	10	15	We suggest the sentence focus on what can be done more than the difficulties. We suggest the sentence replaced by: "Transformational changes is needed in many cases where vulnerability is high and adaptive capacity low, if systems should develop sustainably to changes in in climate extremes". (NORWAY)
918	SPM	10	14	10	17	The authors could consider adding an example here to help explain the scope and scale of a transformational change. (CANADA)
919	SPM	10	15	10	17	The amount of information in this sentence is currently rather low; an example why high income groups or countries can also be vulnerable, would be helpful (GERMANY)
920	SPM	10	15	10	17	"Vulnerability and loss are often concentrated in lower income countries or groups, although higher income countries or groups can also be vulnerable to climate extremes. [8.6, 8.7]" --> This sentence does not make sense. (GERMANY)
921	SPM	10	15	10	17	Consider rephrasing the sentence. In fact, high economic losses can occur in higher income countries, BUT: due to their great capacities they also recover faster ; lower income groups or countries may suffer longer from disasters which in turn hampers thier development and well-being. (GERMANY)
922	SPM	10	15	10	17	The following sentences are inconsistent. "Middle income countries with rapidly expanding asset bases have borne the largest burden, and during the period from 2001-2006 losses amounted to about 1% of GDP, while this ratio has been about 0.3% of GDP for low income countries and less than 0.1% of GDP for high income countries." (p.4, lines 30-31) "Vulnerability and loss are often concentrated in lower income countries or groups, although higher income countries or groups can also be vulnerable to climate extremes." (p.10, lines 15-17) In the second sentence there is no mention of middle income countries. If there is a distinction that the report is trying to make, it should be spelled out more clearly. Perhaps include the useful summary sentence from the grounding Report, p4, first full paragraph, final sentence, beginning "Thus ..." (USA)
923	SPM	10	17	10	17	Therefore should include the assessment of the risks of climate change on public policy planning (COSTA RICA)
924	SPM	10	19	10	20	This sentence should also mention that the underlying causes may threaten environmental sustainability (NORWAY)
925	SPM	10	19	10	22	The bold sentence seems off topic - it relates to sustainability but the link to the topic of the report is not clear. It may be preferable to state that "A prerequisite for disaster risk management in the context of climate change is addressing the underlying causes of vulnerability and the structural inequalities that create and sustain poverty and constrain access to resources". The second sentence could retain reference to mainstreaming and make the link to sustainability. (CANADA)

#	Ch	From Page	From Line	To Page	To Line	Comment
926	SPM	10	19	10	22	"Integrating disaster risk management in other social and economic policy domains is a key component of a comprehensive sustainability (sustainable development) approach. It is also a general point that for this purpose the ""the underlying causes of vulnerability"" should be addressed. However, the structural inequalities that create and sustain poverty and constrain access to resources is only one essential factor in this regard; the other well-known one is the unsust. patterns of cons. and prod. (unSCP) – as it was clearly elaborated (and agreed) e.g. in the JPoI. So it would be better either (i) to omit the relevant part (""A prerequisite for sustainability is addressing the underlying causes of vulnerability and the structural inequalities (medium agreement, robust evidence). This involves integrating .."") or (ii) to add the other issue (i.e. unSCP), as well. " (HUNGARY)
927	SPM	10	21	0	0	Missing word.. It says"This involves integrating disaster risk management in other social and economic policy domains..." i suggest to include adaptation "This involves integrating disaster risk management and adaptation to climate change in other social and economic policy domains" so that it is in line with earlier statements of integration between the adaptation and DRR (SWEDEN)
928	SPM	10	24	0	0	This paragraph is about short-term and long term perspectives. However, adaptation is defined as having a longterm perspektive by default, since it considers climate (which is always longterm) . Compare with page 5, line 45 - same mistake. (SWEDEN)
929	SPM	10	24	10	30	We suggest that the sentence: "The most effective adaptation and disaster risk reduction actions are those that offer development benefits in the relatively near term, as well as reductions in vulnerability in the longer-term." is moved to the start of the para as the bolded sentence. Rationale: we believe this is the key-finding. (NORWAY)
930	SPM	10	24	10	31	Most of this paragraph just states the realities of sustainable development. To provide a stronger link to the subject of the report, consider using as the lead (bold) sentence the one that states that "The most effective adaptation and disaster risk reduction actions are those that offer development benefits in the relatively near term, as well as reductions in vulnerability in the longer-term". Also suggest deleting final sentence of paragraph as it is a given - thresholds (and tipping points?) are defined as marking the limits of resilience. (CANADA)
931	SPM	10	24	10	31	This paragraph may benefit from a couple of examples to make the meaning more explicit. (CANADA)
932	SPM	10	24	10	31	This para should be streamlined and sharpened with increased focus on SD-issues as most of the information is already given in the sections before. (GERMANY)
933	SPM	10	29	10	29	"relatively near term" sounds very fuzzy (GERMANY)
934	SPM	10	30	10	31	The concept of tipping points and thresholds as a part of resilience is rather complex, further explanation is needed; probably a short addition that systems change completely (to the worse) when they exceed certain thresholds, would be already helpful (GERMANY)
935	SPM	10	30	10	31	Exemplify what is meant by social and/or natural systems exceed thresholds or tipping points (NORWAY)
936	SPM	10	31	0	0	"tipping point"; is this term well-known? (SWEDEN)
937	SPM	10	33	0	0	Here a new term is introduced, resilience. Is resilient and sustainable development something different from sustainable development? Clarify. (SWEDEN)
938	SPM	10	33	10	34	This phrase is not understandable for ordinary peoples and policy makers. Further, we are seriously afraid whether this phrase can be translated into non English language correctly. To help peoples understanding and to avoid incorrect translation, additional explanations (e.g. concrete examples) of "questioning assumptions and paradigms" and "new patterns of response" should be added. (JAPAN)
939	SPM	10	33	10	38	The linkage to the topic of the report is unclear in this paragraph. This section should be an overview of why the findings of this report are relevant to sustainable development, not why sustainable development is relevant to CCA and DRR. Consider using some formulation of the final sentence of this paragraph and the subsequent paragraph as the lead (bold) statement, as they highlight specific actions and how that relate to disaster risk management. (CANADA)
940	SPM	10	33	10	38	The first sentence in this paragraph is policy prescriptive and not particularly germane to the topic of this report. It seems that important concepts include adaptive management, participation, etc. and the executive summary, particularly the second bolded paragraph in chapter 8, better describes this. There are lots of concepts that seem lost between the SPM and Chapter 8. (USA)
941	SPM	10	33	10	38	The report could suggest how the adaptive management could be facilitated. It could propose how existing formal and informal institutions could support the process or suggest that such supports need to be created. Legal mechanisms may need to be modified to incorporate such an approach (IRELAND)
942	SPM	10	35	10	36	We suggest adding more specific information from the relevant chapter in the underlying report on the possible need for transformational changes (what changes may be needed, and on what levels?); if possible. We suggest adding some examples in the text or in a table. (NORWAY)
943	SPM	10	40	10	42	We propose that you move and bold the second sentence to the top of the para. In a slightly modified version: "The interactions and synergies among climate change mitigation, adaptation....." (NORWAY)
944	SPM	10	42	10	43	The phrase "Tradeoffs ... between the goals of mitigation and adaptation" is inappropriate. As the IPCC and others have stated many times, adaptation and mitigation are complementary and both are needed to address the challenges presented by climate change. While the two are clearly related, as actions taken to address one have consequences for the other, these cannot be characterized as trade-offs. It may be appropriate to say something like "The impacts that result from actions taken to address mitigation and adaptation in particular will play out locally, but have global consequences." (CANADA)
945	SPM	11	1	0	0	The readability of the SPM would be considerably improved if the definitions in Box SPM 2 (Treatment of Uncertainty, now on p. 11) would be included in Box SPM 1 (Definitions Central to the SREX, now on pages 1-2). In the present form these important definitions come after the reader has scrolled almost to the end of the text, without any notice where the terms are found (FINLAND)

#	Ch	From Page	From Line	To Page	To Line	Comment
946	SPM	11	6	11	6	The phrase "underlying scientific understanding" implicitly makes allusion to a previously used type of uncertainty language (level of scientific understanding). Suggest replacing this with "underlying body of evidence", which is a broader remit than evaluating scientific understanding and more appropriate for the SREX considering the scope of the report (which requires assessment across three very large communities). (CANADA)
947	SPM	11	23	11	23	Replace "likelihood" with "the calibrated likelihood language". The idea is that authors should use either the defined likelihood terms (which sets out a small set of predefined probability ranges), or they can explicitly state another probability range if they have the specific evidence needed to support that range. (CANADA)
948	SPM	11	33	0	0	Box SPM 2 on uncertainties should be moved at the end of part A on a new page 3 (FRANCE)
949	SPM	11	38	11	51	The term of "About as likely as not" is not an adequately defining likelihood term, so "Uncertain" could be a better option for the general public. It is worth adding a new term like "Very uncertain" to the likelihood with bigger band (25-75% probability) besides making "Uncertain" with lower 40-60% probability. Together with using in special needs "more likely than not", the term of "more unlikely than not" should be counted, as well. (HUNGARY)
950	SPM	12	0	0	0	Table SPM 1: Column 5, First bullet point: It is not only elderly people that are vulnerable. There are also other vulnerable groups in the society for example people with heart- and lung-diseases or with respiration problems. The vulnerability is not dependent on the age and that is important to clarify. (SWEDEN)
951	SPM	12	0	0	0	in the figure SPM.1 "Extreme climate" should be change by "Extreme meteorological events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
952	SPM	12	0	0	0	Table SPM.1: Rephrase the last bullet "Adjustments in energy generation etc ... » may be replaced by « Induced adjustments .. » or Required adjustments ... » or « Resulting adjustments ... » (FRANCE)
953	SPM	12	0	0	0	Table SPM.1, caption, first sentence in second para. We propose the following change to clarify: "The confidence in projected changes in climate extremes at local scales is often more limited than the projected regional and global changes. This limited confidence....." (NORWAY)
954	SPM	12	0	0	0	Table SPM.1 caption, second last sentence: We think that readability could be improved by the following change "..... and to increase resilience and preparedness to the risks that can never be entirely eliminated." (NORWAY)
955	SPM	12	0	0	0	Table SPM 1, Western Europe, case heading: The heading refers to "Western Europe", while the observed and projected changes refer to "Europe" - what is the correct extent of the example region? (NORWAY)
956	SPM	12	0	0	0	Table SPM.1, Western Europe, rightmost column, line 7: We propose that you standardize the column (as suggested above) and extend the second bullet point to; "Vulnerability mapping and measures addressing underlying causes for vulnerability" (NORWAY)
957	SPM	12	0	0	0	Table SPM 1, Western Europe, rightmost column, line 22, second lowermost bulletpoint: Changes in standards for cooling capacity and adjustments in energy generation might imply higher energy consumption (and, consequently, higher emissions of climate gases). We think that options related to natural cooling and behaviour should be mentioned explicitly here. (NORWAY)
958	SPM	12	0	12	0	Table SPM.1:It would be helpful if the headings for columns 2-4 highlighted the scale of information in each column in a way that was more obvious (e.g., column 2 could be titled Global Scale, column 3 Regional scale, column 4 Risk Management Scale). (CANADA)
959	SPM	12	0	12	0	Table SPM.1, heat waves, column 4: The evidence on heat islands, and on whether they contribute to trends, is rather mixed - has this been assessed? Many papers suggest that while urban areas are warmer due to the urban heat island effect, temperature trends within established urban areas are the same as those in the surrounding rural areas not affected by the urban heat island. Consequently, one might also expect similar trends in heatwaves, at least, provided that heatwaves are defined relative to the local climatology rather than in terms of fixed thresholds. (CANADA)
960	SPM	12	0	12	0	Table SPM.1, heat waves, column 5: In second bullet, suggest changing "vulnerable communities" to "vulnerable groups". (CANADA)
961	SPM	12	0	12	0	Table SPM.1, heat waves, column 5: In fourth bullet, suggest changing "vulnerable elderly" to "vulnerable groups" since both chapter 4 and chapter 9 identify other groups as vulnerable (such as ill and socially isolated persons). (CANADA)
962	SPM	12	0	12	0	Table SPM.1. row 2: As example region Western Europe is used. We think this should be All Europe, since we cannot find any statements done for Western Europe in the final draft (e.g. table 3.2). The statements however correspond well to the statements for All Europe in table 3.2 of the final draft. (NETHERLANDS)
963	SPM	12	0	12	0	Table SPM.1. row 3, column 3: What does increase in heat waves and increase in warm days and nights mean? Does it mean an increase in the number of warm days and nights (or heat waves), or does increase refer to the length of the period or the magnitude of the extreme value? (NETHERLANDS)
964	SPM	12	0	12	0	Table SPM.1: very relevant information! This table provides the information one would expect from the SREX. (GERMANY)
965	SPM	12	0	14	0	Table SPM.1: If the table is to span several pages, then the column heading should be repeated at the top of each page so that the reader doesn't need to flip back and forth. (CANADA)
966	SPM	12	0	14	0	Table SPM.1. Asia is a continent with most population and is prone to multiple hazards. Examples of Asia's extreme events should be added to the table: e.g. There is medium confidence of a warming trend in daily temperature extremes in much of Asia ([3.1.4][3.3.1]) with low to medium confidence in heavy precipitation trends in Asia [3.3.1]. In East Asia where a range of studies, based on different indices, show increasing dryness in the second half of the 20th century, leading to medium confidence (Table 3.2). [3.5.1]. (CHINA)

#	Ch	From Page	From Line	To Page	To Line	Comment
967	SPM	12	0	14	0	Table SPM.1: There are several sentences that do not carry any other message than "there is low confidence", without making an actual statement about climate change. This could likely be improved. For example, observed changes in floods at the global scale could indicate that there are some indications of increasing floods in specific regions, but low confidence in the fact that this would reflect a global or widespread tendency, due to lack of data. (BELGIUM)
968	SPM	12	0	14	0	Table SPM.1: Doesn't show an example from the Latin America or the South America region. (VENEZUELA)
969	SPM	12	0	14	0	General comment Table SPM.1, rightmost column: We propose to standardize the rightmost column for all cases. Two main categories for each case should be boldfaced, "Low-regret options:" and "Specific regional options:" (NORWAY)
970	SPM	12	0	14	0	General comment Table SPM 1: We think that the distinction between global changes and example regions could be made clearer by capitalizing "the example region" and "global" in the table heading for each of the cases. (NORWAY)
971	SPM	12	0	14	0	Table SPM1 is interesting but it would have been better to have a summary table including a more general overview of extremes and regions. (FRANCE)
972	SPM	12	7	12	8	Second paragraph, first two lines, above the table are not clear. Better formulation would be: "Regional and global changes in climate extremes imply that there is some probability that these changes occur at smaller scales as well, but confidence in projected changes at the smaller scales is often more limited". (NETHERLANDS)
973	SPM	13	0	0	0	"Table SPM.1." In the sub- heading on "flash floods in Nairobi's informal settlements" there is need to add " Kenya" at the end. This because all the sub-headings in the table represent regions or countries but this one represents a city which is the capital of the republic of Kenya (KENYA)
974	SPM	13	0	0	0	Table SPM.1, column 4; "... due to inability...": the term inability is too strong: in fact, there are examples of studies extracting the most important features (tracks, trajectories) of cyclones from stretched resolution climate models. Chauvin F., J.-F. Royer, M. Déqué, 2006 : Response of hurricane-type vortices to global warming as simulated by ARPEGE-Climat at high resolution. Climate Dynamics 27(4) , 377-399 (DOI:10.1007/s00382-006-0135-7). Using these approach, it is then possible to evaluate local impacts: there are at least some submitted articles showing this approach. Lecacheux S., R. Pedreros, G. Le Cozannet, J. Thiebot, Y. Delatorre: Determination of the extreme wave characteristics for islands exposed to different wave regimes. Case of the Reunion Island. Natural Hazard and Earth System Sciences, submitted (FRANCE)
975	SPM	13	0	0	0	"losses from hurricane" box, fourth column. "due to the inability of global models to reproduce accurate details at scales relevant to tropical cyclone genesis, track, and intensity evolution". Rather that "reproduce accurate details at scales relevant to", I would suggest " reliably project details, including future patterns of sea surface temperature and other climate factors, at scales relevant to..." (USA)
976	SPM	13	0	0	0	Table SPM 1, hurricanes in the USA and the Caribbean, middle column: The column on example region only refers to the column on global changes - are all the changes for global changes valid for hurricanes in the USA and the Caribbean? (NORWAY)
977	SPM	13	0	0	0	Table SPM.1, Flash floods in Nairobi's informal settlements, rightmost panel, line 12: We propose that you standardize the column (as suggested above) and include bulletpoints in the category that deals with "Specific regional options:" (NORWAY)
978	SPM	13	0	13	0	Table SPM.1: The example on flash floods does not seem consistent with other examples in Table SPM.1 because it is directly specifies a vulnerability in a specific country/city rather than identifying the regional vulnerability more broadly. This may imply to the reader that this location is more vulnerable than other locations in the same region. Suggest reviewing this example and considering whether the scope could be more regional to be consistent with other examples in the table. (CANADA)
979	SPM	13	0	13	0	Table SPM.1, flash floods, column 2: This column repeats the assessment of flooding projections giving "insufficient evidence" as justification. There should be some elaboration of the nature of that insufficiency. (CANADA)
980	SPM	13	0	14	0	Table SPM.1 makes several references to "risk pooling" whereas the main body of the SPM discusses "risk sharing". Please clarify the distinction. (CANADA)
981	SPM	13	0	14	0	General comment Table SPM 1: We propose to include the topmost row shown in Table SPM.1 on page 12 on page 13-14 as well due to the length of the "column titles" (NORWAY)
982	SPM	14	0	0	0	Column 5 lign 2: "In some cases, there may be a need to consider permanent evacuation... for example for atolls when storm surge may completely inundate them". The fact that atolls might be completely inundated during storm surge is not due to climate change: it has already happened in the past (e.g. in some islands in the Tuamotus in 1983) and is not a sufficient reason to evacuate them. The most efficient preparedness approach against storm surge in atolls is to build a sufficiently high shelter with a base in concrete. Dupon Jean-François. Les atolls et le risque cyclonique : le cas de Tuamotu. Cahiers des Sciences Humaines, 1987, 23 (3/4), p. 567-599. ISSN 0768-9829 (FRANCE)
983	SPM	14	0	0	0	Extreme sea levels section. Column 3. "is a specific issue for tropical small island states." What is not mentioned here is the projection of fewer tropical storms in a warmer climate, which would be an effect in the opposing sense. Also there is great uncertainty in regional details of the projected changes in TC intensity, frequency, and tracks, in addition to uncertainty in the regional distribution of sea level rise. What does it mean to be a "specific issue" and why are some factors that may contribute in an opposing sense not mentioned? The tropical cyclone part of this statement in particular leads to an unbalanced presentation. (USA)

#	Ch	From Page	From Line	To Page	To Line	Comment
984	SPM	14	0	0	0	Extreme sea levels section, Column 4: "...insufficient resolution of current climate models to represent small island states". The way this is written one would suppose that by merely increasing the resolution of the climate models, one can achieve reliable future projections of TC activity. This is too simplified a view. Both improved physics and higher resolution are needed to improve the simulation of regional scale climate changes (including SST patterns, shear, and lapse rate changes) and to more realistically project hurricane activity within those altered climate conditions. Specific wording suggestion: "Short record lengths, data homogeneity issues, and limitations of current scientific understanding and climate models (resolution and physics) are among the factors limiting confidence in future projections of tropical cyclone activity and sea level rise relevant to future extreme sea levels for tropical small island states." (USA)
985	SPM	14	0	0	0	Table SPM 1, extreme sea levels in tropical SIDS, case heading: We propose that you replace "SIDS" with "Small Island Developing States (SIDS)", and consequently use SIDS in the rest of the table. (NORWAY)
986	SPM	14	0	0	0	Table SPM 1, extreme sea levels in tropical SIDS, second leftmost column. Line 2: We propose that you use extreme sea level consequently. Replace "extreme high water" with "extreme sea level". (NORWAY)
987	SPM	14	0	0	0	Table SPM.1, Droughts and food security in West Africa, leftmost column: The first column in the Droughts and food security in West Africa case: The point here is that the agricultural practice is inefficient because the climatic/weather conditions are changing (it may have been efficient in the past). We think that the wording here could be made more neutral by substituting "inefficient agricultural practices" with "less advanced agricultural practices". Alternatively the phrase could be rewritten as follows: "The agricultural sector is particularly vulnerable to increased variability in seasonal rainfall, drought and weather extremes, leaving agricultural dependent community with higher risks. The vulnerability is further exacerbated by rapid population growth, degradation of ecosystems,..." . (NORWAY)
988	SPM	14	0	0	0	Table SPM 1 Drought and food security in West Africa, second leftmost column, last paragraph: We propose to facilitate reading, to delete "of duration and intensity". So that the edited sentence becomes: "Medium confidence in projected increase of hydrological- and soil moisture drought in some regions." (NORWAY)
989	SPM	14	0	14	0	Table SPM.1, sea level rise, column 3, observed: The wording here seems awkward as readers will infer that there are important secular changes in tides and ENSO. (CANADA)
990	SPM	15	0	0	0	Figure SPM1: On the "Development" side of the diagram we suggest adding "Resource and land-use planning" as a third category (or including it in parentheses under "disaster risk management"). In many countries land use planning is dealt with by a separate agency from disaster management, and we consider it important to expressly indicate the synergies here. (NEW ZEALAND)
991	SPM	15	0	0	0	Figure SPM 1: Nice way of picturing the relations between risk of disaster, climate change, and disaster risk management and adaptation. However, in the dark blue area it says "weather and climate events", but what about a gradual change in the mean of climate variable - such for example sea level rise - a slow process, not extreme, but which have extreme consequences. Is that type of slow event present in the figure or in the report? To the right, it says "development" - but this could be misunderstood as any type of development(even natural). Do you mean the development in society (or do you include development in natural systems - the thawing of the tundra for example)? The small grey line from the right to the left is somewhat unclear. If we do adaptation and risk management - do we produce more greenhouse gas emissions? Rather - society produce more greenhouse gas emissions if they do not take actions to reduce it, regardless of whether we make decisions in reducing risks (adaptation or DRR). Not clear what this grey line means - why is it there? Please explain it in the figure text, as well as the other small grey line. You might think about the terminology that are presented in the figure (especially Disaster Risk Management) and its connection to the well known definition of Disaster Risk Reduction (DRR) that UNISDR uses. (SWEDEN)
992	SPM	15	0	0	0	Figure SPM2: The resolution in the figure is not optimal (SWEDEN)
993	SPM	15	0	0	0	Figure SPM.2. It is not clear what the colour gradient illustrates. If there is a progression in the approaches this should be described in the caption. (DENMARK)
994	SPM	15	0	0	0	Fig. SPM.1: instead of "Climate" it should read "Climate Change" (due to "natural variability" and "anthropogenic influence") (GERMANY)
995	SPM	15	0	0	0	Fig. SPM.1: the right hand side (Climate) is not consistent with the left hand side (development): On the left, the two causes of change are mentioned, but this does not apply for the right, where 2 management foci are mentioned under the title "development". The word "development" needs precision in the caption, is it "evolution/temporal change" or does it refer to a broader social concept? I guess the latter, but then the 2 terms below do not make sense. (GERMANY)
996	SPM	15	0	0	0	Fig. SPM.2: The information of this figure is limited. There is no need for a figure. In addition the coloring from light to dark is not linked to the content and is therefore confusing. (GERMANY)
997	SPM	15	0	0	0	Fig. SPM.2: A simple listing of these approaches would be enough, as the figure does not provide any additional information that has to be presented graphically, such as, e.g., relations/linkages between the different approaches, or if they are more short-term or long-term (GERMANY)
998	SPM	15	0	0	0	Figure SPM.1: As stated before, there is an imperative need in the document to determine how much is the human activity (anthropogenic climate change) exacerbating the natural variability (or trend). (VENEZUELA)
999	SPM	15	0	0	0	Figure SPM.1: "Weather and Climate Events", deleted Climate and only refer to "Weather Events". Same comment made on "climate extremes" see on Page 1, Line 3, 8, 13, 15, 19, and 44. (VENEZUELA)
1000	SPM	15	0	0	0	Figure SPM.1, caption: We feel that the last sentence "Other important change." does not belong in the figure caption, and that the sentence should be included as text in Chapter A (e.g. Page 1, line 28). (NORWAY)

#	Ch	From Page	From Line	To Page	To Line	Comment
1001	SPM	15	0	0	0	Figure SPM.2: We propose that you make this figure more like Figure 6-3 in the SREX, but without the "Risk Acceptance Threshold" aspect. We propose that you include the most relevant and self-explanatory bulletpoints from Fig. 6-3. (NORWAY)
1002	SPM	15	0	15	0	FIGURE SPM.2: " it would be good to add into the Figure SPM 2 text more information or explanation on transformation, which type of transformation?, what is the meaning of transformation?" (CUBA)
1003	SPM	15	0	15	0	Figure SPM.2: We would suggest to add information to the figure on which measures are meant to reduce the risks and which measures are meant to manage the risks (cf. also figure 6-3 in section 6.5 in the final draft). (NETHERLANDS)
1004	SPM	15	0	15	0	Figure SPM.2. Explain scale and links to report. (NETHERLANDS)
1005	SPM	16	0	0	0	Figure SPM 3A: The figure is "coarse and blurry" . The pixels in the figure are visible, which make the map and diagrams difficult to read. The legend, the texts and numbers on the axes in the diagrams are also difficult to read. The small map that is inserted to the right is a good help in the interpretation. The map is better than in the previous version of the report but it still not good enough. (SWEDEN)
1006	SPM	16	0	0	0	Figure SPM 3A: readability should be improved, and a short discussion would help to interpret the figure (where are the largest/smallest changes?). Clarity could be improved by highlighting the 'Globe inset box', possibly on a separate page as in the full report due to space constraints, and/or drawing the separation lines on the background map (e.g. in white) when they are on continents. Reference to Fig 3.5 should be Fig. 3.5a (BELGIUM)
1007	SPM	16	0	16	0	Figure SPM.3: The explanations in the side boxes for both Figures SPM 3A and 3B would be easier to understand if the descriptions of the box plots could be simplified to say that the coloured bars represent the 25-75% range of values, and the whiskers, the lowest and highest values, from the full model range. (CANADA)
1008	SPM	16	0	16	0	Figure SPM.3: The inset "Globe" box is hard to find in the figure - suggest repositioning or reformatting this. It would also be helpful if the legend was labelled directly in the figure. (CANADA)
1009	SPM	16	0	16	0	SPM. 3A. This figure contains too much information, difficult to read (bad quality) and to interpret and too little regional variability in context of the message that this figure should give. Either show one key variable on a global map giving the same message or skip the figure. (NETHERLANDS)
1010	SPM	16	0	17	0	Regarding figures, it is advisable to add some graphs that shows how extremes behave in different regions, with less information, more simple figures, to be seen by non experts in a rapid way.. For instance figures with aggregated information on precipitation and the same with temperatures. otherwise the figures in these two pages are difficult to see and further understand for a non expert. (SPAIN)
1011	SPM	16	0	17	0	Figs SPM.3, 4 need to be explained more understandable. The graphs are very small and maybe a simple graph is better than boxplots to explain the changes in return period or changes in the maximum temperature. (GERMANY)
1012	SPM	16	0	17	0	Figs SPM.3, captions: which figures 3.1. and 3.7 are you referring to? (GERMANY)
1013	SPM	16	0	17	0	Figs SPM.3, legend: It would be easier to move the legend to the bottom of the figures, next to the region-inset-box, and to give it a title "legend"; this way it would be separated from the content. (GERMANY)
1014	SPM	16	0	17	0	Figs SPM.3: in the inset box, the line between regions 18 and 20 is missing (GERMANY)
1015	SPM	16	0	17	0	People might wonder why the number of GCMs in CMIP3 differ between Fig SPM3A and SPM 3b (12 vs. 14) : are these "all the runs for which the relevant data is available" or were there selected ? (BELGIUM)
1016	SPM	16	0	17	0	Figure SPM.3A and SPM.3B: It doesn't shows a projection of the Caribbean region with respect to emission scenarios, the region should also be represented in the aforementioned Figures. (VENEZUELA)
1017	SPM	16	0	17	0	Diagrams on return periods for max temperature and precipitation are complicated and it is difficult to see how they could be of much use to the policymaker. The figure could be significantly improved by: explaining why the return period metric is used (and maybe giving an example of what this would mean for a specific location at a specific time in the future), including information on the level of significance of changing return periods, giving some explanation of why the spread is larger over Europe (especially for temperature) and in general thinking of other ways of simplifying the diagram (for example, presenting results for fewer regions). (UK)
1018	SPM	16	0	17	0	SPM Figure 3A and 3B, caption: We suggest that you give a brief leymans statement about the interpretation of the figures, since it is complicated to understand the meaning behind e.g. 20-year return values of annual maximum of the daily max temp. It is also difficult to depict the increase in warm extremes and particularly the decrease in cold extremes from the figure. (NORWAY)
1019	SPM	16	0	17	0	In the Figures SPM.3A & 3B. The future time horizons are mentioned in the captions of the figures. It would be more appropriate if the time horizon of 1980-1999 is mentioned in the captions instead of referring to it simply as "the last 20th century". (PAKISTAN)
1020	SPM	17	0	0	0	Figure SPM 3B: The figure is "coarse and blurry".The pixels in the figure are visible which make the map and diagrams difficult to read. The legend, the texts and numbers on the axes in the diagrams are also difficult to read. The small map that are inserted to the right is a good help in the interpretation. The map is better than in the previous version of the report but it still not good enough. (SWEDEN)

#	Ch	From Page	From Line	To Page	To Line	Comment
1021	SPM	17	0	0	0	Figure SPM 3B: readability should be improved, and a short discussion would help to interpret the figure (where are the largest/smallest changes?). The 'Globe inset box' should be highlighted This figure is hard to understand for the layman. An explanation needs to be added in the caption to explain that increases in precipitation extremes are shown as decreases in the data (return period). While we agree to keep return periods, an alternative could be to use Fig 3.7a rather than 3.7b, i.e.. show return values - this would follow the same approach as in figure SPM3A (thereby reducing the risk of confusion). If the figure is not changed, the indicated reference should be Fig. 3.7b. What is the confidence in these model results? Could it be that actual changes are larger because all these general circulation models involve coarse representations of convection? (BELGIUM)
1022	SPM	17	0	17	0	Figure SPM.3B. This figure contains too much information, difficult to read (bad quality) and to interpret and too little regional variability in context of the message that this figure should give. Either show one key variable on a global map giving the same message or skip the figure. (NETHERLANDS)
1023	SPM	18	0	0	0	Figure SPM 4: The figure is "coarse and blurry". The pixels in the figure are visible which make the maps difficult to read. The legends, the texts and numbers in the maps are also difficult to read. It is preferable if the maps can be larger, which make the interpretation easier. It is also difficult to see how the projected annual changes have changed in the northern part of the maps since the chosen map projection makes it difficult. We also wonder about the chosen index :Soil moisture anomalies, SMA. It would have been interesting to see the changes of consecutive wet days also. It would have been more comparable with the index: Consecutive Dry Days (CDD). (SWEDEN)
1024	SPM	18	0	0	0	Fig. SPM.4, captions: which figures 3.9. are you referring to? (GERMANY)
1025	SPM	18	0	0	0	Fig. SPM.4: I cannot differentiate shading from stippling? (GERMANY)
1026	SPM	18	0	0	0	Fig. SPM.4: results are shown in terms of standard deviation. This is not straight forward for lay persons and, therefore, not appropriate for an SPM without further explanation. (GERMANY)
1027	SPM	18	0	0	0	On Figure SPM.4, stippling is not very visible (FRANCE)
1028	SPM	18	0	0	0	Fig. SPM.4 It is noted that previous reviewer suggestions to use alternative figures here that focus more on future drought frequency and duration (such as figures from Sheffield and Wood for example) instead of on mean drying (as in the Fig. SPM.4) were unfortunately not adopted by the authors. Our comment was aimed at providing information to readers that is more directly addressing extremes, since this is a report on extremes. (USA)
1029	SPM	18	0	0	0	SPM Figure 4, caption: We propose that you consider to simplify the caption so that the main message isn't overshadowed by technicalities. We suggest that you give a brief leymans statement about how to interpret the figure, and state the main message. (NORWAY)
1030	SPM	18	0	0	0	Box SPM.2 Figure 1: The bar depicting the confidence scale might be slightly misleading. We propose that the bar is tilted 45 degrees clockwise and transformed to an arrow from "less confident" to "more confident", and if possible, superimposed onto the main table. (NORWAY)
1031	SPM	18	0	18	0	Figure SPM.4: A few suggestions to make this Figure easier to understand: (1) Add 'change in' to the column headings (otherwise a reader will expect the scale to be shown in 'days' for example; (2) Some way to better communicate the meaning of the scale (units of standard deviation) is needed, if not here in the SPM then in Chapter 3. It may be sufficient for the SPM to just write 'increased dryness' and 'decreased dryness' directly on top of the coloured scales, but most readers will not be able to interpret the change in std. deviation in terms of how significant the projected changes are. This will be difficult to explain and therefore may be more suited to the underlying chapter. It is a concern for this Figure in the SPM that the significance of the projected changes is not at all clear; (3) The stippling described in the Figure caption cannot be seen in the Figure at all so either the Figure will need to be enlarged or some other way to indicate 90% agreement among models will need to be devised. (CANADA)
1032	SPM	18	0	18	0	Figure SPM.4: The difference between shading and stippling is not visible that well. (NETHERLANDS)
1033	SPM	18	0	18	0	Figure SPM.4. The figure is difficult to 'read' due to the bad quality. (NETHERLANDS)

#	Ch	From Page	From Line	To Page	To Line	Comment
1	SPM	0	0	0	0	The summary is largely gender-blind. Although there have been a large number of gender references in the full report, including attempts to explain gender differentials, and entire subchapters and various case studies on women's role in coping and risk management, the summary does not mention the gender aspects of disasters and in particular the response on disasters, except from the standardised sentence on differentials in vulnerability. Thus, it does not properly reflect the importance of the social dimension in general, and the gender dimension in particular. It seems to us that, instead, too much emphasis has been put on technical issues . (GenderCC - Women for Climate Justice)
2	SPM	1	14	1	14	suggestion to add after the word "exposure" the following text: of local communities and natural ecosystems. (Environment Quality Authority (EQA), Palestinian National Authority (PNA))
3	SPM	1	15	0	0	"severe alterations in the normal functioning of communities or societies" should include environment (GenderCC - Women for Climate Justice)
4	SPM	1	31	1	31	suggestion to change the text "for disasters (Risk risk)" to: for disasters and related risks. (Environment Quality Authority (EQA), Palestinian National Authority (PNA))
5	SPM	1	38	1	38	Here reference to a number 1.1.2 is made, but nowhere explained what it means (most probably the full report section 1.1.2] (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
6	SPM	1	49	2	21	Box SPM.1 Comment: We recommend adding a definition of "resilience" as it is one of the key concepts discussed in the Report. We recommend using the definition provided in the glossary: "The ability of a system and its component parts to anticipate, absorb, accommodate to, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions." (World Food Programme (WFP))
7	SPM	2	6	2	7	In box SPM1 reference is made to extreme climate events. Further the word climate extreme is used, but not explained. Where 'extreme weather' is a quite easily grasped concept, 'extreme climate' is not, and the difference may be not clear especially to policy-makers or non experts. Please improve the text so that this becomes crystal-clear. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
8	SPM	2	12	0	0	A better definition of vulnerability would be desirable (GenderCC - Women for Climate Justice)
9	SPM	2	12	2	12	This generic definition of "vulnerability" reflects the use of this term in the context of natural hazards and disaster risk management. It would be helpful to state explicitly that this definition is not completely identical to the definition of "vulnerability" (to climate change) in the glossary of the IPCC AR4 (and earlier reports). (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
10	SPM	2	24	2	24	may consider moving Box SPM2 to section A, after Box SPM1, so that these explanations are introduced earlier to facilitate reading of following sections (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
11	SPM	3	14	3	14	suggestion to add after the word "Asian" the following text: and African. (Environment Quality Authority (EQA), Palestinian National Authority (PNA))
12	SPM	3	21	4	11	Sub-section Climate extremes and impacts. Comment: The approach regarding the notation of level of evidence and confidence is different than in other sections, where the level of evidence and confidence is noted in parenthesis after the main message, making the text more easy to read. Same approach may be used in the section in question as well (also for reasons of consistency). (Climate Change Secretariat (UNFCCC))
13	SPM	3	31	3	32	It is potentially confusing to state that globally it is very likely that cold days and nights have decreased, whereas in NA, Europe, and Australia it is only likely. Given that these are the regions where probably most measurements are available, we wonder about the consistency of this statement. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
14	SPM	3	36	3	36	suggestion to delete the brackets and the text in between. (Environment Quality Authority (EQA), Palestinian National Authority (PNA))
15	SPM	3	43	3	44	Comment on evidence regarding tropical cyclone activity: Chapter 3.4.4 contains information on most recent assessments since AR4, which show it remains uncertain whether changes in tropical cyclone activity exceed variability expected through natural causes (p.44). The wording used in SPM could more clearly reflect these new findings, including compared to the assessment of AR4 in light of the new observational information. Referring to low confidence of robustness in observed increases in cyclone activity may not entirely transfer this core message. (Climate Change Secretariat (UNFCCC))
16	SPM	3	46	3	48	Here the text underlines the increase in intensity and length of droughts in southern Europe, which is OK. For West Africa we are not so sure as after the serious drought in the early 70s the trend is rather positive (keyword: "Greening of the Sahel"). However, we would assume that these statements are based on serious analysis of data. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
17	SPM	3	50	3	50	There is an inappropriate use of uncertainty language here. It was probably meant to say: 'There is limited to medium confidence in the evidence available'. If this is the case, then please rephrase. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
18	SPM	4	5	4	6	The term "There is evidence..." is unspecific and does not appear to be compatible with the IPCC uncertainty guidance for AR5 authors. Please be more specific on the amount and agreement of evidence and/or use a confidence statement if possible. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
19	SPM	4	5	4	11	Comment: As this paragraph refers to attribution of extremes to anthropogenic influences, it would make the message clearer if there was also information on natural vs. anthropogenic forcing, based on observations, to underline the message ("there is evidence..." - showing this evidence would make the message more solid). (Climate Change Secretariat (UNFCCC))
20	SPM	4	14	4	43	It is surprising that the section on "Disaster losses" refers almost exclusively to financial/economic losses from disasters. The sentence in lines 27-29 suggests that data on the number of deaths from climate-related disasters are available as a time series. It is important to state explicitly the number of deaths and any possible trends in the time series (together with possible caveats regarding the significance of the trend and/or the reliability of the data base). Even if global information on the number of deaths from climate-related disasters were not available and/or were not seen as reliable, this fact would need be stated clearly in order to encourage efforts to collect and/or disseminate relevant data. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
21	SPM	4	23	4	23	suggestion to add the following text after the word: "losses": Although, approaches and measures to reflect their monetary values are highly requested to reflect the size of these disasters. (Environment Quality Authority (EQA), Palestinian National Authority (PNA))
22	SPM	4	34	4	35	suggestion to remove the brackets and keeping the text in between. (Environment Quality Authority (EQA), Palestinian National Authority (PNA))
23	SPM	4	38	4	38	normalized for what? (need to be more clear) (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
24	SPM	4	46	0	0	Section C.: Particularly in this section, gender inequality should be part of the summary, as it is one of the main factors for vulnerability, and there is a large body of information and experience of how to address gender in disaster risk management. (GenderCC - Women for Climate Justice)
25	SPM	4	46	6	4	In Section C (Disaster Risk Management and Adaptation to Climate Change: Past Experience with Climate Extremes), we recommend highlighting the role of social protection to manage extreme weather events. Social protection is a key component of disaster risk management and has significant benefits to climate change adaptation. Suggested text: "Social protection mechanisms (including cash and asset transfers) are important components of disaster risk management and climate change adaptation. Social protection programmes can support vulnerable populations, allowing them to meet basic needs in post-disaster contexts and enhance resilience to future rapid-onset disasters and long-term environmental change." Suggested reference: Johnson, C.A. and Krishnamurthy, P.K. (2010) Dealing with displacement: Can "social protection" facilitate long-term adaptation to climate change? Global Environmental Change. 20(4): 648-655. (World Food Programme (WFP))
26	SPM	4	49	3	49	Climate extreme not defined (see also earlier comment on this issue) (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
27	SPM	6	14	8	13	Sub-section Climate extremes and impacts. Comment: The approach regarding the notation of level of evidence and confidence is different than in other sections, where the level of evidence and confidence is noted in parenthesis after the main message, making the text more easy to read. Same approach may be used in the section in question as well (also for reasons of consistency). (Climate Change Secretariat (UNFCCC))
28	SPM	7	28	7	33	Here the text underlines the tendency for intensified droughts in Mediterranean and central Europe, which is OK. We assume these would include also the region of south-Eastern Europe, as shown in Figure SPM4 (last page). It might be useful to clarify this point and provide a more explicit regional characterisation here. In fact Figure SPM4 shows a strong negative trend also for Western Europe (France, Benelux and big parts of Germany) similar to what we have seen in spring and early summer this year (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
29	SPM	8	5	8	6	This sentence is not completely clear due to the use of "and/or" in connection with a confidence statement. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
30	SPM	8	7	0	0	Comment: "high confidence that changes in heavy precipitation will affect landslides in some regions" - affect how (direction)? (Climate Change Secretariat (UNFCCC))
31	SPM	8	50	10	6	We recommend starting Section E (Preparing for and Responding to Changing Risks of Climate Extremes and Disasters) with a brief discussion on the cost-effectiveness of disaster risk reduction. Suggested additions: "Evidence of the economic efficiency of specific adaptation approaches remains limited and fragmented, but it is recognised that preventive measures are often cost-effective. Expenditure on prevention is often lower than relief spending, which rises after a disaster and remains high for several years." Suggested reference: United Nations and World Bank (2010) Natural Hazards, UnNatural Disasters: The Economics of Effective Prevention. Washington, D.C.: World Bank. (World Food Programme (WFP))
32	SPM	9	21	9	21	suggestion to add the following text after the word: "evidence" and the bracket: Territorial Approach for Climate Change (TACC) proved to be a good tool in that regard. (Environment Quality Authority (EQA), Palestinian National Authority (PNA))
33	SPM	9	33	9	33	suggestion to add the following text after the word: "adaptation": and traditional knowledge. (Environment Quality Authority (EQA), Palestinian National Authority (PNA))
34	SPM	12	0	0	0	Table SPM.1: Right-most column: "The elderly" are a population group rather than a "community". (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Ch	From Page	From Line	To Page	To Line	Comment
35	SPM	12	0	0	0	The title 'Mortality...morbidity' seems not appropriate; since they are not discussed inside the column (only warm spells/ heat waves are discussed). Either adapt the title or the contents of the column. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
36	SPM	13	0	0	0	Table SPM.1. Table SPM.1 makes statements in the rightmost column that need to be qualified by "high", "medium", or "low" confidence because the authors need to express an assessment view about whether any of the potential risk management or adoption options would actually work. While actions that are cited as "low regrets" appear sensible at first impression, it is still unclear whether the assessment that such actions are indeed "low regrets" have been supported by evidence, experience, or first principles. Not having such an assessment can mis-lead the reader that all the authors agree that the cited action should be undertaken or that all the authors believe that the action described would actually work. (International Petroleum Industry Environmental Conservation Association (IPIECA))
37	SPM	13	0	0	0	Table SPM.1. I illustrate by example why it is necessary to include an assessment of "high" "medium" "low" confidence in the actions in the right-most column. "The Nairobi Rivers Rehabilitation and Restoration Programme includes installation of riparian buffers, canals, and drainage channels and clearance of existing channels; attention to climate variability and change in the location and design of wastewater infrastructure; and environmental monitoring for flood early warning." At first impression, these actions would appear to be "low regrets." However, in reading the underlying section 6.4.2, it is very clear that the this programme was put in place without the benefit of solid data demonstrating or projecting whether all these actions have been effective. Further questions also appear as to whether more effective actions, at different costs, could have been taken. While it is apparently admirable that the government of Kenya has taken these actions, the evidentiary basis for "low regrets" actions is not well established here. If the authors all agree that such actions are indeed "low regrets," they should make clear the basis for the terminology "low regrets" and at what costs. (International Petroleum Industry Environmental Conservation Association (IPIECA))
38	SPM	13	0	14	0	May consider to edit titles (in bold) and even make separate figures, which will increase clarity; it is not handy to have a table over several pages. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
39	SPM	14	0	14	0	SIDS not defined (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
40	SPM	15	0	0	0	Please better define term 'climate event' in the caption of figure SPM.1 (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
41	SPM	15	0	15	0	Figure SPM.2: This figure is not particularly useful without further explanation due to the vagueness of some terms. The figure should either be dropped or each term should be briefly explained. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
42	SPM	16	0	16	0	SPM3A the change in return values is useful information to convey (although not always straightforward for those not familiar with extreme value theory) but will be meaningless to many if not accompanied by information on the base values. They could be numerically included in the graphs. In addition: is the 20-year return event related to a (probably easier to understand) concept of (e.g. 99th) percentile? If so, it would be interesting and very helpful to have an example of this relation in the text. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
43	SPM	17	0	0	0	SPM3A the change in return values is useful information to convey- but will be meaningless to many if not accompanied by information on the base values. They could be numerically included in the graphs. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
44	SPM	18	0	18	0	Figure SPM.4 is useful to convey a message; but it may not necessary to show both CDD and SMA maps; since they seem to convey the message, and there is no attempt in the SPM to explain why they are different. The choice to show only variable expressed as standard deviation, may not work well for the average policy makers; showing the variation in absolute values of CDD may do so. (European Commission, DG Research, Directorate Environment Climate Change & Environmental Risks Unit)