#	Comment
1	An Important two themes were no taken into consideration in AR5: 1st. the impact of climate change on the global security, as this is very clearly witnessed and indicated in lots of scientific work on national, regional and international level. The latest unrest seen all over the world by some way or another have a link with climate change. UN Security Council consideration of Climate Change as a global security concern is a very clear signal on tht regard. concluding, I propose to indicate to this by any appropriate mean or attachments or annexes on AR5 in order not to understand that there is no connection between Climate Change and Security.2nd: The cost of climate change was not covered in any part of AR5. The direct cost of climate related disasters will give a very clear idea on its direct cost. Indirect cost of climate change on other ecosystem services and other services will be a very important added value, which make it very clear for desicio makers to recognize the cost their respected countries will pay in case where no actions were taken. (Katbeh-Bader, Nedal , Ministry of Environmental Affairs Environment Quality Authority (EQA))
2	In terms of global comments and observations, one can say that apart from the usual observed and projected impacts - in all chapters, the situation is just worsening and there is no real proposal in terms of options for decisive actions. It is becoming clear than future IPCC AR Reports should review their approach and be more pro-active (in the absence of today's leadership!). Otherwise, the BAU scenarios will continue with an under-estimation of possible future changes, without no real preventive measures, in particular with no political measures/committement, implying a lack of leadership and responsibility from Developed as well as from Emerging Economies and Developing Countries - while the reality of the worsening situation is still present since AR4 with even new evidence. (Diop, Salif, UNEP - SAB - DEWA)
3	I have no further comments related to economic issues - my area of expertise. All of my previous points have been addressed. The Second Order Draft has come together well; is much tighter than the previous draft and has dispensed with much peripheral material. Well done. (Stroombergen, Adolf, Infometrics)
4	It will be effective to address existing Environmental Impact Assessment (EIA) (and ESIA - Environmental and Social Impact Assessment; or sometimes called SEIA), tool as the possible tool for CCIAV (chapter 1 primarely,but In others at proper place). It is alredy Guedelines by European Commision" Guidelines for Integrating Climate Change and Biodiversity in Environmental Impact Assessment", http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf (Mihajlov, Andjelka, Faculty of Technical Sciences University of Novi Sad / Environmental Ambassadors for Sustainable Development)
5	It will be effective to address existing Environmental Impact Assessment (EIA) (and ESIA - Environmental and Social Impact Assessment; or sometimes called SEIA), tool as the possible tool for CCIAV (chapter 1 primarely,but In others at proper place). It is alredy Guedelines by European Commision" Guidelines for Integrating Climate Change and Biodiversity in Environmental Impact Assessment", http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf (Mihajlov, Andjelka, Faculty of Technical Sciences University of Novi Sad / Environmental Ambassadors for Sustainable Development)
6	The draft of chapter 11 is of high scientific value with very few comments. (Saad-Hussein, Amal, National Research Center)
7	I found the three Chapters I looked at (Chapters 6, 28 and 30) to be very poorly written. There were lots of grammatical errors, typos, inappropriate word usage and the punctuation was dreadful. I know that we were not supposed to concern ourselves with this sort of thing too much, but sometimes when I'd seen error after error, I'd break down and make some corrections, as will be seen in my comments below. These only reflect a few of the errors, however: there are plenty more. In addition, there was a fair amount of repetition of material, both within Chapters and between Chapters and sometimes whole sentences, or paragraphs, and sometimes words within sentences. There were also, occasionally, contradictory statements. I understand the difficulty of writing by "committee", but if I were an author I would not be very proud of these Chapters (Head, Erica, Fisheries and Oceans Canada)
8	Exceptionally well written and illustrated. Appears very pessimistic especially for a general reader - but this is possibly unavoidable. Excellent FAQ section in TS. (Donnelly, Alison, Trinity College Dublin)
9	Speaking about SRM and CDR geoengineering methods the authors of the chapters concentrate their attention on shortcomings of the methods and possible risks of the implementation. It is imbalanced approach. “Pro and contra” should be considered jointly. (Ryaboshapko, Alexey, Institute of Global Climate and Ecology)

#	Comment
10	This report is 2700 pages. It should be deleted by about 1900 pages. (ZHAO, ZONG-CI, National Climate Center)
11	Greater indigenous and other participant observations of local scale changes should be brought into the information gathering and assessment process in a robust manner. Adaptation decision-making could be greatly enhanced through coordinated communication (Burleson, Elizabeth , Pace University School of Law)
12	While the ingredients are there, the report does not emphasize the potentially large impact of a substantial increase in flooding incidence and severity, particularly in developing countries. The report does mention a potentially substantial drop in flood return periods. It also mentions infrastructure vulnerability, particularly to unpaved roads. However, it does not draw these strands together.\nRepeated flooding events can be a major driver of economic losses because capital that could have been allocated to growth has to be allocated to repairing damage or to protective investment. Ceterus paribus, the economic growth impacts can be quite large.\nChinowsky, P and C. Arndt. "Climate Change and Roads: A Dynamic Stressor-Response Model." Review of Development Economics. 16(3)(2012): 448–462.\nArndt, C., P. Chinowsky, K. Strzepek, and J. Thurlow. "Climate Change, Growth and Infrastructure: The Case of Mozambique." Review of Development Economics. 16(3)(2012): 463–475.\nArndt, C., K. Strzepek, F. Tarp, J. Thurlow, C. Fant, L. Wright. "Adapting to Climate Change: An Integrated Biophysical and Economic Assessment for Mozambique." Sustainability Science. 6(1) (2011): 7-20. (Arndt, Channing, University of Copenhagen)
13	Model names should be followed in a Table in Chapter 9 of AR5 WGI through the entire the this report. (Nakaegawa, Toshiyuki, Meteorological Research Institute)
14	Overall it is observed that the micro- small and medium businesses are not considered at all in this report. From all the sectors in the economy these enterprises are the most vulnerable of all. Normally and very often in the developing world these enterprises are located in the family houses, in case of a disaster the household and the livelihood is lost. It is very difficult for these enterprises to access to credit, there is no financial credit for adaptation. Insurances are also very difficult to sustain. Many of these businesses are located in rural areas. In Summary despite I do not know the global statistics, for example in Colombia 96% of enterprises are micro, and neither the regional adaptation strategies, nor the national adaptation plans or multilateral agencies plans include adaptation or research on these enterprises. (Lacambra Segura, Carmen, Grupo La era)
15	[This comment does not refer to the substance of the chaper but to the IPCC procedures]\n\nI found it very disturbing that the Second-Order Draft files do not allow any use of reviewing/annotating tools on the pdf. Comments on the pdf were not allowed also in the first draft, but at least the latter allowed copy and paste, which enabled some indirect use of reviewing tools. The Second-Order Draft has disabled even copy-paste, so if a reviewer wishes to refer to a phrase in the Draft, he must retype it. Certainly, this discourages reviewing more than in the first draft. I hope that in any next phase these restrictions be removed so that a reviewer can inserts his comments in his personal draft when reading it, before he organizes them in Excel format. (Koutsoyiannis, Demetris, National Technical University of Athens)
16	Role of Standards in Adaptation to Climate Change\nThe WGII contribution to IPCC AR5 is intended to provide information on how risks can be reduced through mitigation and adaptation, yet it gives only oblique mention (Table 14.2) to standards/norms, which are an essential link between scientific knowledge and a sustainable and resilient built environment. While standards are not a popular subject in the literature of climate and social sciences, they can not be overlooked in achieving mitigation of and adaptation to climate change.\n\nThe built environment (buildings, communications, energy, industrial facilities, transportation, waste, water and associated natural features) consists of constructed facilities that shelter and support most human activities. The built environment has an important role in reduction of greenhouse gas emissions and in measures to help society adapt economically, environmentally and socially to climate change. Decisions affecting the built environment take substantial time to make and to implement and their consequences endure for the long life time of the specific facility. (Wright, Richard, Retired, U.S. National Institute of Standards and Technology)
17	Role of Standards in Adaptation to Climate Change (continued)\nThere are two paths from scientific knowledge to a built environment accomplishing mitigation of and/or adaptation to global change:\n1. For voluntary actions of the owners/proponents: Knowledge>Standards>Built Environment\n2. For regulated actions: Knowledge>Standards>Model Codes>Regulations>Enforcement>Built Environment (Wright, Richard, Retired, U.S. National Institute of Standards and Technology)

#	Comment
18	Role of Standards in Adaptation to Climate Change (continued)\nThe term "building community" describes the participants and stakeholders responsible for or concerned with the economic, environmental and social effects, functionality, safety and resilience of constructed facilities through their whole life cycle.\n• Professionals (architects, engineers, geologists, landscape architects, planners, etc.) licensed to protect the public health, safety and welfare in design, construction, assessment and renovation of constructed facilities.\n• Owners, private and public\n• Investors and insurers\n• Facilities managers and maintainers\n• Contractors who build and renovate facilities\n• Manufacturers and suppliers of building materials and products.\n• Regulators responsible for health, safety, environmental quality, welfare, etc.\n• Stakeholders served or affected by constructed facilities (all of us.)\nAll of the members of the building community may participate in the development of standards and in decisions and actions to adapt (or not adapt) the built environment to mitigate and/or adapt to climate change. (Wright, Richard, Retired, U.S. National Institute of Standards and Technology)
19	Role of Standards in Adaptation to Climate Change (continued)\nU.S. examples of the hundreds of important standards are:\n• The American Society of Civil Engineers (ASCE) Standard 7, Minimum Design Loads on Buildings and Other Structures. (http://www.asce.org/codes-standards/ASCE7-10/)\n• The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Standard 169, Weather Data for Building Design Standards. (http://www.techstreet.com/ashrae/searches/377978)\n• The International Code Council (ICC) International Building Code (a model building code which references the above standards and is adopted by state and local governments as the basis for their legal building codes) (http://shop.iccsafe.org/codes/2012-international-codes.html).\n• The National Fire Protection Association NFPA 1144: Standard for Reducing Structure Ignition Hazards from Wildland Fire (NFPA 2013) a model code which is adopted by state and local governments as the basis for protection from wind driven conflagrations and wildfire. (http://www.nfpa.org/aboutthecodes/aboutthecodes.asp?docnum=1144)\n• The International Organization for Standardization (www.iso.org) and other national standards organizations similarly address aspects of adaptation to climate change. (Wright, Richard, Retired, U.S. National Institute of Standards and Technology)
20	Role of Standards in Adaptation to Climate Change (continued)\nClimate/weather, ecological and social sciences need to be participants with the building community in research for and development of standards. Many stakeholders will be concerned with safety, health, and economic and social consequences.\n• The process for development of standards and model codes requires openness to participation of all stakeholders, balloting of proposed provisions and explicit response to all negative votes.\n• The adoption of standards and/or model codes in regulations is a public policy process in which all stakeholders can present their concerns for safety, health, and economic and social costs and benefits.\n• Climate/weather scientists, engineers and other professionals need to demonstrate scientifically and technically sound, risk-based rationales for proposed standards, model codes and regulations.\n• Engineers and social sciences must define the economic and social costs and benefits for proposed standards, model codes and regulations. \nThe development of recognized, consensus standards is a crucial step in gaining credibility for criteria for adaptation to climate change. The private sector role in the development of standards is described at www.standards.gov. Federal policy recognizes this path. Circular A-119 of the United States Office of Management and Budget www.standards.gov/standards-gov/a119.cfm#1 directs agencies to use voluntary consensus standards in lieu of government-unique standards except where inconsistent with law or otherwise impractical.\nSpivak, S. M., and Brenner, F. C. _2001_. Standardization—Principles and Practice, Marcel Dekker, New York. (Wright, Richard, Retired, U.S. National Institute of Standards and Technology)
21	Changes in river dynamics and fluvial geomorphology are not reflected in the document and should be included as an object of study in both mitigation and adaptation. It is important to note that although these fluvial processes that are naturally occurring (scour and aggradation), have been intensified by the action and the effects of anthropogenic climate change. As an example, we observe the dynamics of the rivers have changed dramatically due to intensive urbanization processes and channeling of some rivers in developing countries. All these fluvial changes have been motivated by anthropogenic factor which could be associated to climate change regimes and climate variability. An increase in the occurrence of landslides on slopes due to scour the riverbed has been evidenced in the tropics. (Velez, Jorge Julian, Universidad Nacional de Colombia Sede Manizales)
22	Wilderness ecosystems also not reflected in the policies and strategies of mitigation and adaptation to climate change (Velez, Jorge Julian, Universidad Nacional de Colombia Sede Manizales)

#	Comment
23	Having conceded the vagueness of most of the concepts it uses, the Report procedes to conclusions. But if the premises are vague and non-defined, the conclusion can not be true or false. Is is submitted that the whole WGII Report is based on this wide logical gap. In that sense, the WGII Report should be regarded as highly speculative.\n\nBesides, most of the concepts used in the WGII Report can not be defined without value-judgements. If these value judgements can of course be studied by science, the choice between concurring values is not the province of science.\n\nPrinciples governing IPPC Work state: "The role of the IPCC is to assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation. IPCC reports should be neutral with respect to policy, although they may need to deal objectively with scientific, technical and socio-economic factors relevant to the application of particular policies."\n\nTo deal objectively with the value jugmentes that any socio-economic factor whatsoever implies, it is recommended that the WGII Report should formulate systematically the value judgments on which it is builded. It is only then that the WGII Report could pretend to the neutrality that the Principles governing IPPC Work require.\n\nBesides, this value openness would avoid some conceptual improperties. For instance: chapter 12 defines "human security" in a way which is objectively not conciliable with many indigenous, and not only indigenous, cultures (see below).\n (Godefridi, Drieu, Cogito)
24	The whole volume could be substantially more concise. Its structure leads inevitably to overlaps. For instance, chapter 10 could be just an introduction to chapters 22-28, for illustrating the most vulnerable sectors. (Danae Diakoulaki, Chemical Engineering, NTUA, Greece) (GREECE)
25	A list of abbreviations (which are used throughout the report) would help readers. (Despoina Vokou, Department of Ecology, School of Biology, Aristotle University of Thessaloniki, Greece) (GREECE)
26	General Comment 1: A proposed summary statement for the Synthesis Report (SR).\n\nThe AR4 included an excellent section about large scale singular events, and the draft AR5 includes a similar one. The following summary statement is included in the TS on page 53, lines 34 and 35, and in the SPM on page 16, lines 33 and 34:\n\nThe risk associated with large-scale singular events such as at least partial deglaciation of the Greenland ice sheet remains comparable to that assessed in AR4. [19.6.3]\n\nThe AR4 concluded that partial deglaciation would occur over a period of time ranging from "centuries to millennia" for a global average temperature increase of 1-40C (relative to 1990-2000). The AR5 TS and SPM references to the AR4 conclusion, and the phrase "such as," implies that information about stability of all ice sheets has not changed since the 2007 publication of AR4.\n\nI reviewed also the AR5 WGI report about physical driving forces. The WGI summarized in part that:\nThere have been exceptional changes in Greenland since 2007 marked by record-setting high air temperatures, ice loss by melting, and marine-terminating glacier area loss (Mernild et al., 2012; Hanna et al., 2012; Section 4.4.4).\n\n(WGI FOD Chapter 10 about Detection and Attribution of Climate Change—from Global to Regional, Section 10.5.2.1, p. 10-4, lines 40-42; other WGI summary statements about observed melting of ice-on-land are copied in the appendix) (Newbury, Thomas Dunning, U.S. Department of the Interior (retired))
27	General Comment 2: There is an apparent discrepancy between WGI and II about changes in the Greenland Ice Sheet. Any change would be important because of sea-level implications. The consequences seem too great for an apparent discrepancy about large-scale singular events (i.e., about tipping points, or irreversible changes).\n\nOne solution might be that the conclusions about the stability of the ice sheets could be synthesized further by the lead authors for the WGI Chapter 4 about Observations: Cryosphere, WGI Chapter 10 about Detection and Attribution of Climate Change—from Global to Regional, WGI Chapter 13 about Sea-level Change, WGII Chapter 19 about Emergent Risks and Key Vulnerabilities, and WGII Chapter 28 about Polar Regions. \n\nBased primarily on my review of the WGI report, I suggest the following slight modification of the AR5 conclusion about ice sheets. The WGII Section 19.6.3.6 refers to not only to the Greenland Ice Sheet, but also to the Antarctic Ice Sheet (page 45, line 43), and specifically to the western portion of the Antarctic Ice Sheet (i.e., the West Antarctic Ice Sheet or WAIS) on the West Antarctic Peninsula (i.e., the WAP) (page 45, line 39). The WGI report describes major changes in the Greenland Ice Sheet and the WAIS, but only minor ones in the huge East Antarctic Ice Sheet. So, I suggest that the AR5 conclusion about consistency with AR4 should refer to the East Antarctic Ice Sheet rather than to the WAIS or the Greenland Ice Sheet. Specifically, I suggest the following conclusion for Chapter 19, Section 19.6.3.6, page 46, lines 37-38:\n\nBased on the weight of the above evidence, we judge that the risk from large-scale singular events, such as large-scale irreversible deglaciation, of the East Antarctica Ice Sheet, remains comparable to that assessed in AR4, as indicated by Smith et al. (2009) and Figure 19-5). (Newbury, Thomas Dunning, U.S. Department of the Interior (retired))

#	Comment
28	General Comment 3: The similar conclusion could be repeated in the Chapter 19 Executive Summary (Chapter 19, page 5, lines 25 and 26); i.e.;\n\nThe risk associated with large-scale irreversible deglaciation, of the East Antarctica Ice Sheet remains comparable to that assessed in AR4 (19.6.3.6). \n\nIn contrast, the WGII Technical Summary and Summary for Policymakers should summarize both Chapter 19 and Chapter 28 about the Polar Regions. The latter chapter contains summaries of ecosystem changes, such as “rapid colonization of ice-free ground” (Chapter 28, page 25, lines 35-38). So, the overall TS could conclude that (WGII, TS, page 53, lines 34 and 35):\n\nThe risk associated with large-scale irreversible deglaciation, of East Antarctica Ice Sheet remains comparable to that assessed in AR4 (19.6.3). However, rapid changes have been reported in the terrestrial ecosystems of Greenland (28.2.3.7).\n\nA similar conclusion could be reported in the WGII SPM (WGII, SPM, page 16, lines 33 and 34)\n\nI have submitted the above suggestions also as WGII page-specific comments. However, the following suggestions are about the overall Synthesis Report rather than just the WGII report, and have not been submitted elsewhere. If the above conclusions are included in the overall Synthesis Report (SR), the conclusion should be combined with information from WGI. Some of the WGI information about abrupt changes in the ice sheets is copied above. An appropriate conclusion for the SR might be:\n\nThe risk associated with large-scale singular events, such as deglaciation of the East Antarctica Ice Sheet remains comparable to that assessed in AR4. However, the Greenland and West Antarctic Ice Sheets have been melting at record-setting rates, and the rates appear to be accelerating, so partial deglaciation might occur sooner than predicted in AR4 [WGI Sec. 10.5.2.1, WGII Sec. 19.6.3] (Newbury, Thomas Dunning, U.S. Department of the Interior (retired))
29	The references to the WGI Atlas Figures throughout the report do not align with the Figures in the WGI Atlas. For example, Australian rainfall projections refer to Atlas Figure 81, however in the WGI Atlas there is no Figure 81. (AUSTRALIA)
30	I think the document is written with appropriate clarity and conciseness that is adequte for the target audience - the policy makers. (Adewopo, Julius, University of Florida)
31	I went through chapters 3, 21 and 23. Some chapters of the report in its present form (from the previous ones, mainly chapter 3 and e.g. 3.2) are difficult to read. In fact, they are long sequences of statements and citations with few or little interconnection among them. Sometimes it is impossible to understand if the effects of the climate change stressed in the text result from scenarios or from observations. During the enumeration of previous studies it is common to mix in a same sentence results from a region of the earth (e.g. Asia) with those from a totally different region (Europe or Asia) in a continuous process where all the effects, antagonistic or not, coexist. For example: sometimes the report discusses the effects of increasing river flows as if they were the only ones, while a few pages before of after it discusses the effects of decreasing river flows exactly in the same perspective. In Chapters 3, the sub chapters 3.5 and 3.6 a much more comprehensive approach was adopted resulting in a much more clear and sequential text which much more useful content. (Portela, Maria Manuela, Instituto Superior Tecnico (IST))
32	The chapters should be extensively reviewed because some of them (e.g. chapter 3) are extensive lists of references insusceptible of being summarized and of providing clear conclusions. (Portela, Maria Manuela, Instituto Superior Tecnico (IST))
33	The references also include a huge number of local results that are not discussed at their scale and that are presented as if they had global meaning and consequences. (Portela, Maria Manuela, Instituto Superior Tecnico (IST))
34	The IPCC has already a considerable experience, of more then 20 years. Also, according to the experience of IPCC the world should already have noticed the effects of the climate change. So, I think it was reasonable to include some sentences comparing "signs", effects or consequences of the climate change stressed by the IPCC in the previous reports (based on “old” scenarios) with what effectively occur or with the present vision, based on new scenarios and approaches. In fact, the gap of time already allows some reflection about such issue. Also, it would improve the confidence on the “forecasts” provided by the IPCC. (Portela, Maria Manuela, Instituto Superior Tecnico (IST))
35	The IPCC has already a considerable experience, with more then 20 years. Also, according to the experience of IPCC the world should already have noticed the effects of the climate change. So, I think it was reasonable to include an initial chapter comparing signs, effects or consequences of the climate change stressed by the IPCC in old reports (based on “old” scenarios) with what effectively occur or with the present vision, based on new scenarios and approaches. In fact, the gap of time already allows some reflection about such issue. Also, it would improve the confidence on the “forecasts” provided by the IPCC. (Portela, Maria Manuela, Instituto Superior Tecnico (IST))

#	Comment
36	The perspective adopted to address the different aspects that may be related to the climate change is often very biased. In fact, all the fears and threats of mankind are presented as results from the climate change, even if those threats have opposite signals (if a region experienced a very hot period or a very cold period both are presented in the perspective of the climate change: it is only a matter to conduct our point of view towards the envisaged direction. Another example of the biased perspective is given by chapter 23, page 37, lines 5-7: "A series of approaches to disaster risk management are employed in Europe, in response to national and European policy developments to assess and reduce natural hazard risks. New developments since the AR4 include assessment and protection efforts in accordance with the EU Floods Directive (EC, 2007…". I think it is not reasonable any link between the AR4 and the flood directive that resulted from increased exposure to flood risk due to the increasing occupation of the flood plain. This increased exposure is even mentioned in chapter 23 page 13. (Portela, Maria Manuela, Instituto Superior Tecnico (IST))
37	Very frequently there is not a clear distinction among observed evidences and results from scenarios which makes difficult to distinguish between facts and predictions. (Portela, Maria Manuela, Instituto Superior Tecnico (IST))
38	The use of the term "variability," and alternative phases to describe synonymous concerns, appear be used inconsistently across chapters or even within the glossary. In some places, variability is meant to simply indicate the variance as in "mean and the variability" (in the TS), to indicate the change in the variance over time ("changes in variability" – Chapter 3),or to note changes in the spatial or temporal patterns of variation (Chapter 15, 22, and 31), as in the context of changing volatility or oscillation modal changes (Chapter 5). It might be good to have some standard text that describes what is meant. Those wordings that avoid the term "variability," for example "changes in frequency, intensity, and duration" seem to provide the most unambiguous interpretation... and implications. (Backus, George, Sandia National Laboratories)
39	Throughout the report we have detected a tendency to integrate climate change impacts, vulnerability and adaptation with other challenges for human societies. Moving from the primary link of climate change with the specific vulnerability it casues to a general concept of "vulnerability", wherever the root of the problem might be, can be misguiding. The need to deal wtih climate change in an integrated manner with other challenges should not lead the IPCC to miss the focus on climate, climate services, climate stressors, etc. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)
40	These are general remarks which hold for a variety of chapters. The shape of the chapters are quite different. Sometimes the quotations are not sufficient, i.e. The author consortia are spiining around their on community, sometimes consortia are just collecting articles which they not really interprete in terms of a synthesis. The overall WGII report misses coherence. Sometimes RCPs are used sometimes the old SRES scenarios. Moreover is is desirable to have more cross-links to WGI and WGIII. In certain chapters pages are written with a lot of quotations, but at the end nothing follows from this listing of literature. A reader would ask, so what, is there something that we can learn from such document - in several cases the answer will be 'no'. An important issues is related to the comparability of the case studies. The is no general strategy which really makes a step towards this urgent challenge (we need to know whether in UK or Burkina Faso the impacts are more thrilling). How to know were we should act, when we do not know this? A strategy what can be expected by 1, 2,3,4 degrees change in certain regions would be desirable. Sometimes a reader would ask what's new in this chapter, because literature starts already in the 80ties and end up in 2008, 2009, 2010. Here more detailed literature surveys are demanded. (Kentarchos, Anastasios, European Union DG Research, Directorate Environment Climate Change & Environmental Risks Unit)

#	Comment
41	In the text, there given many comparative discussions on impacts and adaptations in the two temperature rise cases, 2 and 4 degrees C. However, there are little discussions on those for other temperature rise cases, 3 or 2.5 degrees C for example. From the mitigation viewpoints, there are big differences in terms of mitigation efforts between 2 and 3 degrees C and even between 2 and 2.5 degrees C. The implicit logic of this draft report is, simply said, that, in comparison of 2 degrees and 4 degrees,4 degrees C is dangerous, which I agree, and therefore, that the achievement of the level below 2 degrees C rise is required. However, the logic of the latter part is very weak because there are only very limited assessments for 3 and 2.5 degrees C and it is not certain whether these two temperature rises are unacceptable or not. Therefore, this report seems to be misleading for readers and policy makers. More assessments for 3 and 2.5 degrees C should be added. If such assessments are limited at present and the argument of appropriate limit of temperature rise is difficult from the viewpoint of warming impacts, you should acknowledge so instead of implying that the level below 2 degrees C rise is required. LAs in WG2 should humbly accept the limitations of the present knowledge level and describe them in the report in order to avoid the misleading/misunderstanding. (Akimoto, Keigo, Research Institute of Innovative Technology for the Earth (RITE))
42	Please consider re-phrasing sentences bracketted with "limited evidence", especially those with "high/medium confidence/agreement", because the term "limited evidence" itself already sounds unconvincing. (Lee, Sai-ming, Hong Kong Observatory)
43	As so many references are made to the report of WGI, which has not yet been published, it is sometimes difficult to make judgements about accuracy and content. (Sjostrom, Asa, Swedish Meteorological and Hydrological Institute)
44	It my be more useful to prepare regional reports, rather than one golbal one, to allow for more indepth analysis and better accuracy. (Sjostrom, Asa, Swedish Meteorological and Hydrological Institute)
45	It is important that the numbers on estimated future sea-level rise are internally consistent within the chapter, and are in agreement with the corresponding material from WGI. In the second order draft of WG II different estimates can be found for example on page 4, line 29, on page 15, line 18 and in Table 5-1. (Sjostrom, Asa, Swedish Meteorological and Hydrological Institute)
46	It is important that the numbers on estimated future sea-level rise are internally consistent within the chapter and are in agreement with the corresponding material from WG I. In the second order draft of WG II different estimates can be found for example on page 4, line 29, on page 15, line 18 and in Table 5-1. (Sjostrom, Asa, Swedish Meteorological and Hydrological Institute)
47	Please add levels of confidence (evidence, agreement) to all major findings. (GERMANY)
48	Please add information on the period a change or an impact is simulated to occur. Is it on the short term (next decades) or on the long term (end of the 21st century)? This may be relevant for decision makers. In the present draft information on the timing of changes is only partly given. See for example comments on chapter 23, page 9, line 36-38 (GERMANY)
49	Peer reviewed scientific journals are indeed an important source of information and add innovative aspects to the scene. These papers often go deeply into a detail, but only rarely cover different geographical areas, thematic aspects or multiple climate or climate impact models. There is, however, a growing number of public documents from application oriented research projects which offer these information. These documents are also used for example in river commissions as a basis for adaptation planning. I suggest to add these documents in the current or a future IPCC process. Some current examples from the water sector in Europe that could be used in Ch.23 are:\n- CCHydro (Switzerland): http://www.bafu.admin.ch/publikationen/publikation/01670/index.html?lang=de\n- AdaptAlp (Greater Alpine area): www.adaptalp.org\n- reclip:century (Austria): http://reclip.ait.ac.at/reclip_century/fileadmin/user_upload/reclip_century_files/\nreclip_century%201_ACRP_Bericht_Homepage.pdf\n- EXPLORE2070 (France): http://www.solutionsforwater.org/wp-content/uploads/2012/01/Fiche-solution_Explore-2070_hydrology_EN.doc\n- Rheinblick2050 (Rhine catchment): http://www.chr-khr.org/files/CHR_I-23.pdf \n- ICPR (Rhine catchment): http://www.iksr.org/fileadmin/user_upload/Dokumente_en/Reports/188_e.pdf \n- ECCONET (Rhine, Danube): http://www.ecconet.eu/deliverables/ECCONET_D1.4_final.pdf\n- ICPDR (Danube): http://www.icpdr.org/main/sites/default/files/nodes/documents/icpdr_climate-adaptation-strategy.pdf\n- KNMI06 (Netherlands): http://www.knmi.nl/klimaatscenarios/knmi06/WR23mei2006.pdf (GERMANY)

#	Comment
50	There is a discrepancy between the goal of the report to offer the knowledge achieved after AR4 (i.e. after 2006/2007) and the publication date of several papers (older than 2007). In cases more than 10 years have passed since the publication (e.g. see e.g. Chapter 10, page 16, line 10ff.). It should be clarified why these papers are still regarded the up-to-date or why they are included regardless of the date of publication. (GERMANY)
51	In WGII and WGIII uncertainty qualifiers are mostly added to statements in parenthesis, while for the statements themselves the indicative is used with the verb in the respective tense (e.g. past for observations and future for projections. In WGI in contrast, the uncertainty is part of the statement (There is X confidence that STATEMENT). We appreciate the use of the calibrated uncertainty language across WGs, but it should be used consistently across WGs and either be part of the statement or added as an attribute in parenthesis. (GERMANY)
52	On several occasions different historical reference periods mentioned: pre industrial, early industrial, industrial; it is unclear whether this always refer to the same time period; the exact dates should be somewhere mentioned (GERMANY)
53	Displaying "risk" in figures and tables: It would be very useful to always use the same color code for risk, e.g. yellow to red as in the reasons for concern across the report, e.g. in Table TS.5 and Table TS.7. (GERMANY)
54	Providing FAQ to each chapter is appreciated. Please add FAQ to chapter 2. (GERMANY)
55	IPCC should refrain from providing any recommendations, according to its mandate it should be policy relevant, but not policy prescriptive. Recommendations are given for example in Ch 7, P 40 L 51 or Ch 11, P 37 L 15. Please modify. (GERMANY)
56	Many chapters, as well as the SPM and the TS, use the term "loss and damage", frequently in different contexts. I would request the writing teams to review each place the term is used and decide whether this is the most appropriate term, or whether a term like residual impacts is more appropriate. The term "Loss and Damage" has gained prominence under the UNFCCC through the Cancun Adaptation Framework. In that sense it is a political term, not a scientific one, and it is a term that has not been defined. Until a clear understanding of the term emerges from the policy process, it may be preferable to the IPCC to use accepted scientific terms and avoid creating further confusion in the UNFCCC process. (Lemmen, Don, Canada National Study)
57	In discussions of adaptation throughout the report it would be useful to distinguish between barriers - which are things that can and should be broken down - and challenges - which are things that might make adaptation more difficult to advance, but that exist for important reasons and should not be broken down. It is common in this report for the two terms to be used interchangeably. One example is Box 26.1 that identifies different governance structures as a barrier to effective cooperation and collaboration. In the case where you are dealing with two sovereign nations, this is a challenge for adaptation, but it is not a barrier in the sense that we should be promoting common governance. (Lemmen, Don, Canada National Study)
58	In general, the whole report reads well. However, I am of the opinion that section should be created for urban agriculture, gender, urban-rural dynamics, innovation system framework (Sanni, Maruf, National Centre for Technology Management)
59	Overall flow of write up need to be cohesive. The chapter needs to focus on the latest work undertaken, the uncertainties overcome (Dhiman, Ramesh C, National Institute of Malaria Research (ICMR))
60	please use WMO-standard conform 30 year periods (Kreienkamp, Frank, Climate & Environment Consulting Potsdam GmbH)
61	please use a fixed reference period for all pictures (and so on) like 1971-2000, if possible add a definition of a fixed period; If not results from this AR and following ARs will not be comparable due to a moving reference period. (Kreienkamp, Frank, Climate & Environment Consulting Potsdam GmbH)
62	have a look at all colour scales. Are the used colour steps (eg in fig. 23-3 5% change) representing at least half of the model internal variation? If not, does this colour step is indicating any change of information? See Power et al. (2012): Consensus on Twenty-First-Century Rainfall Projections in Climate Models More Widespread than Previously Thought. J. Climate, 25:3792-3809, DOI: 10.1175/JCLI-D-11-00354.1.; Spekat and Kreienkamp (2007): Somewhere over the rainbow - advantages and pitfalls of colourful visualizations in geosciences . Adv. Sci. Res., 1, 15-21, www.adv-sci-res.net/1/15/2007/; Kreienkamp et al. (2012): Good practice for the usage of climate model simulation results - A discussion paper. Environmental Systems Research 2012, 1:9 doi:10.1186/2193-2697-1-9 (Kreienkamp, Frank, Climate & Environment Consulting Potsdam GmbH)

#	Comment
63	In the SOD colour scales are used (eg figure rc1 and figure rc2) where even values close to no change have a colour code. It would be better to remove the colour coding for at least the first step in each direction from 0 (Kreienkamp, Frank, Climate & Environment Consulting Potsdam GmbH)
64	Excellent work. Only a few minor comments follow. (Spitttlehouse, Dave, BC Ministry Forests, Lands and Natural Resource Operations)
65	In providing the following comments, I declare a personal bias toward an 'approach' which is holistic and a 'methodology' which is (stakeholder) inclusive (Soste, Leon, Department of Primary Industries, Victoria, Australia)
66	I read the SPM and chapters 6 and 28 with some care and had a quick look over many of the other chapters. The document seems very uneven in terms of the audience to whichit appears to be directed. In some areas, it seems to be aimed at the politician or staffer who will be using this document to develop a rationale for government policy. In other areas the document seems to provide a detailed review appropriate for a refereed journal aimed at specialists in a narrow discipline. who is the intended audience and can the document be edited to reflect those it is supposed to influence? There is also considerable redundancy throughout the portions of the document that I read. I realize that the SPM will be a recap of the most important points in the chapters, and thus will repeat information in the chapter summaries and in the chapters themeselves. But, within the chapters, there seems to be considerable redundancy, including the repetition of details that do not seem to rise to the level of belonging in summary statements. (Hunt, George, University of Washington)
67	It is noted that a very relevant German research project KLIMZUG has not been mentioned in the whole WG II AR5 contribution. It is strongly reciommended to reflect this project in the report and to include some reference. (Radunsky, Klaus, Umweltbundesamt)
68	(NOTE: This review could not be matched to any of the chapter numbers, section number, or paragraphs referred to in this review. We did not get any response from the reviewers when we brought this to their attention, so these comments on heat waves is being placed in supporting materials due to its length.) (Linares Gil, Cristina, Instituto de Salud Carlos III)
69	Use of nuanced collors in graphics is confusing. For instance, lilac blends with red, dark brown with black etc. Please, choose stark collors or graphic dots, lines. (Nogueira da Silva, Milton, Climate Change Forum of Minas Gerais, Brazil)
70	Biased criticism and unfair reporting by newspapers, TVs, pundits are pervading and spoiling public opinion and decision makers. Please add a critical review of the media coverage and advise readers on how to interpret them. (Nogueira da Silva, Milton, Climate Change Forum of Minas Gerais, Brazil)
71	Language tone should cogent: sentences in the whole report were written as if for scientists and technical readers only and often in detached academic style. Indexes display unassuming neutral titles "coal emissions", while it could convincingly say "coal emits most of CO2 to the atmosphere". The best would be to write in plain but scientifically correct English, while helping decision makers, journalists, and politicians the strong points of the AR5. Here are some senior science/ technical writers that may advise on how to bring AR5 closer to the general reader: Brian Green and Edmond Weiss; the UK´s Plain English Campaign, Elizabeth Kolbert (The New Yorker magazine´s climate change writer). (Nogueira da Silva, Milton, Climate Change Forum of Minas Gerais, Brazil)
72	the terms "high agreement", "low confidence" "more than probable" may be rigorous in science writing, but are confusing and misleading to journalists, politicians, scholars in humanities, pundits, and the general public. They mean totally different things to laypeople. They should be replaced by other terms. Please see my comment on language tone, above. (Nogueira da Silva, Milton, Climate Change Forum of Minas Gerais, Brazil)
73	"Views of the World" and "Worldmapper" are collections of world maps, where countries and territories are re-sized on each map according to the subject of interest, such as population, income, CO2 emissions, or women illiteracy; there are nearly 700 maps. In an outstanding way, they could show climate change issues- energy, beef consumption, emissions, pollution impacts etc. Authors may wish to look at: http://www.worldmapper.org or http://www.viewsoftheworld.net/ (Nogueira da Silva, Milton, Climate Change Forum of Minas Gerais, Brazil)
74	if the AR5 text had hyperlinks to definitions of technical words and acronyms, reading will be much easier for decision makers, leaders, non-specialists and so on. The glossary and a list of acronyms will suffice. (Nogueira da Silva, Milton, Climate Change Forum of Minas Gerais, Brazil)

#	Comment
75	The report should have a reader´s guide. Authors may wish to look at the HDI 2013 report, of Undp. (Nogueira da Silva, Milton, Climate Change Forum of Minas Gerais, Brazil)
76	As each chapter deals with different sectors having particular terminology therefore, it is suggested that a separate list of used acronyms may be added in the beginning of each chapter separately. (ALI, GHAZANFAR, GLOBAL CHANGE IMPACT STUDIES CENTRE (GCISC))
77	According to WG1, "Projections for the end of the 21st century indicate that it is likely that the global frequency of tropical cyclones will either decrease or remain essentially unchanged, concurrent with a likely increase in both global mean tropical cyclone maximum wind speed and rainfall rates."(WG1-SOD, SPM, pg14, L20-23) This projection is accompanied by negative consequences, for example, increase in drought and flood, in the areas where water resource is dependent on precipitation by tropical cyclones. Recommend this point be added in either Chapter 3 or Chapter 24 as well as in WG2 SPM. (JAPAN)
78	The phrase "higher CO2" is found in many places throughout the AR5, e.g. SPM p4 L13, TS p13 L36, Chapter 4 p16 L14, Chapter 7 p27 L25, Chapter 18 p4 L30, Chapter 25 p24 L30. This is not an appropriate expression and thus recommend it be replaced with "higher CO2 concentration". (JAPAN)
79	The discussion on Fig.SPM7 of AR4 synthesis report is based on the temperature anomaly from "average temperature of 1980-1999". On the other hand, the goal recognized at UNFCCC COP negotiations is based on the temperature anomaly from the preindustrial temperature, which is 0.6 degree Celsius lower than "average temperature of 1980-1999". The difference between these two base years is not recognized accurately in the UNFCCC COP discussions/negotiations. Although this might not be the fault of IPCC, because the work of IPCC and UNFCCC are integrally linked, we believe that IPCC should make the best effort to avoid any misunderstandings among readers, especially in the SPM as many policy makers use this as a reference in climate related policy. It is unfortunate that IPCC has not provided clear information about key-findings relevant, if not critical to policy makers. We find this particularly so in the SPM, TS and discussions in Chapter 19, as these are topics and information that can affect the future discussions of policy makers. Therefore, please use scientifically sound and clear terminology. We also recommend that the figures be based on a common baseline. A double axis plot, as can be seen in AR5 WG1 Fig.12.40, would be useful for this aim, especially for figures in SPMs. (JAPAN)
80	Generally speaking, this report focuses on showing the negative impacts of climate change. Both the benefits and adverse impacts should be assessed equally. The lack of balance conveys an impression of IPCC bias. Recommend assessment of benefits be expanded. For example, could include benefits such as reducing management costs of roads and buildings in snowy areas, increases in crop production in certain regions, chance of discovering of new resources, development of Northern Sea route, among other potential benefits. Following the policy-prescriptive principles of IPCC, positive impacts of climate change should be discussed more in this report for more balanced decision. Furthermore, some of them should also be cited in the SPM. (JAPAN)
81	Figure SPM5: This figure compares estimated risk of climate change of +2 degree C and +4 degree C. On the other hand, the allowance for carbon emission are largely different even between 2.5 and 3 degree C, and the difficulty of mitigation depends on the amount of carbon emission. Therefore please add the climate change effects of 3.0 degree C. If the sensitivity of climate change effects are not enough for addition of 3.0 degree, please describe that the sensitivity is not enough for compare the differences among 2, 3, 4 degree C. (JAPAN)
82	The report contains much discussion of a world with an average temperature rise of 4 degrees Celsius above preindustrial levels. However, a +4-degrees Celsius world is too far away in the future in informed policy-making decisions based on sound science. It would be better to facilitate scenarios for +3 degree Celsius increase above preindustrial levels in addition to +4 degree Celsius. (JAPAN)

#	Comment
83	The Chinese government appreciates and thanks the Bureau members, lead authors and Technical Support Unit of IPCC Working Group II for their contribution to the 'Climate Change 2014: Impacts, Adaptation and Vulnerability' (hereafter referred to as 'the Report').\n\nTaking this opportunity, the Chinese government would like to make the following comments on the report with the hope that they can be adopted in the modification process in order to better characterize the objectiveness, comprehensiveness and balance of an IPCC assessment report.\n\nI. Inappropriate expressions of China's sovereignty. In many cases in the Report are found misrepresentations of China's Taiwan Province, Hong Kong Special Administrative Region and Macao Special Administrative Region and errors on China's territory and borders, all of which must be corrected.\n\nII. Improper listing of China's examples. We have noted misquotations of examples of China in chapters 1, 19 and 27 that do not agree with the prevailing conclusions of the cited literature, hence suggested to be deleted. Specific proposed changes in this connection, including, but not limited to those on each chapter, are given in the Table of Government Comments.\n\nIII. Expressions of confidence on conclusions of the assessment in the Report. At the beginning of the Fifth Assessment Report cycle, the Working Groups elaborated on a consistent description of expressions of uncertainties and confidence on conclusions of the assessment: the Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties (6-7 July 2010). It is noted, however, that the well-established expressions of 'confidence, agreement and evidence' as defined in the above-mentioned document are not observed in several chapters of the WG II report. Consequently, other divergent expressions like 'moderately high confidence', 'medium high agreement', 'medium to high confidence' and 'extremely likely' are found. It is also the case with Chapters 1, 9, 11, 18, 19 and 20 as well as with SPM. Moreover, Chapters 2 and 19 lack a confidence expression of key conclusions in their executive summaries. To facilitate readers' correct understanding of assessment conclusions, it is suggested to be consistent in expressing their confidence in various chapters.\n\nIV. Length of the report. Most chapters are longer than determined at the time when the WG II Contribution was launched, hence suggested to be shortened to be balanced with the WG I and III contributions in length as well. Furthermore, Chapters 12, 14 and 19 fail to adequately reflect their key assessment conclusions in the executive summaries,
83.2	hence suggested to be further substantiated and streamlined.\n\nV. Proposed supplements to and amendments of individual chapters\n\nChapter 10, which assesses the role of the social insurance in climate change adaptation, does not discuss its limitations in this connection, hence suggested to be supplemented with relevant information.\n\nChapters 14, 15, 16 and 17 assess climate change adaptation, an issue of great interest and concern to all countries, in particular developing ones, hence suggested that additional information on the role of finance and technology in adaptation, needs and gaps of developing countries in adaptation funding and technologies, and status of obligation performance by developed countries in helping developing countries with climate change adaptation be given to the current assessment. Chapter 17 should highlight the principle of common but differentiated responsibilities and respective capabilities while assessing the regime of shared responsibilities for adaptation. The principle of equity or fairness should be kept in mind when incentives are designed in the adaptation area. In addition, since the value of discount rate has a lot to do with the cost estimation of climate change adaptation, it is suggested that information on the comparison of discount rates between developed and developing countries be added, describing how different discount rate values make a difference to the calculation of adaptation costs.\n\nIn addition, an IPCC report should attach great importance to the citation of literature of developing and non-English-speaking countries. The Second (China) National Assessment Report on Climate Change published in August 2011, the Summary for Policymakers (English) of which has been delivered to the WG II TSU, and the Evolving Climate and Environment in China: 2012 published in December 2012, which are both based on peer-reviewed literature, put together research findings by China in the field of climate change science, adaptation and mitigation. We advise the WG II authors to quote or cite them when China is referred to. \n\nSpecific comments by the Chinese government on the Report, including its Summary for Policymakers, executive summaries and chapters, are given in the attached Table.\n (CHINA)
84	We would like to flag serious problems that the WG2 AR5 authors have with presenting the use of geoengineering options for the stabilization of contemporary climate. \n In particular, the authors consider potential quick rise of global temperature in case of abrupt cessation of SRM geoengineering after many years of its application as a danger, which creates a serious shortcoming of SRM methodologies. However, obviously, there is a possibility (if necessary) to stop the SRM application not abruptly, but gradually, step by step. (RUSSIAN FEDERATION)
85	Having a more standardised structure to each of the regional chapters would be helpful towards finding information and comparing impacts between different regions. (Caesar, John, Met Office Hadley Centre)

#	Comment
86	As a general recommendation, the whole report should be more consistent when affirming what is necessary for adapting to climate change. Some parts mention that the main point is to reduce vulnerability and exposure, but others mention that the important point is to reduce vulnerability and risk, and other parts suggest that the focus should be on increase adaptive capacity or resilience. For example: “adaptation involves reducing risk and vulnerability, while building the capacity…” (Chapter 14, page 4, line 53); “strategies and approaches to climate change adaptation include efforts to decrease vulnerability or exposure and/or increase resilience or adaptive capacity” (TS, page 24, line 4). This should be clarified because these affirmations have a general framework and understanding (see Figure TS.2. and SPM.1, and definition of vulnerability in Chapter 14): \n• the point is to reduce risk which is possible by reducing exposure and vulnerability, and for reducing vulnerability we can enhance adaptive capacity? \n• or, the point is to reduce risk which is possible by reducing vulnerability, and for reducing vulnerability we can enhance adaptive capacity and/or reduce exposure? \n (COLOMBIA)
87	There is no generic assessment of the literature on adaptation policy instruments, i.e. how to allocate scarce resources to incentivize adaptation activities. Given that this will be a major challenge in the future, there should be a dedicated section on this in either Chapter 15 or 17 that assesses the adaptation policy instruments (section 17.5 only looks at a subset of policy instruments). Proposed text for such a section could be as follows: "Agrawala and Fankhauser (2008) distinguish the following adaptation policy instrument categories relevant for key sectors: Insurance schemes (all sectors; extreme events), price signals / markets (water; ecosystems), financing schemes via Public-Private-Partnerships or private finance (flood defence, coastal zones, water), regulatory measures and incentives (infrastructure: building standards; zone planning), and research and development incentives (agriculture, health). Butzengeiger-Geyer et al. (2011) further differentiate into non-market and market mechanisms and specify ten instruments for the non-market category, and 11 instruments for the market category. [Full table from this reference could be inserted, as it provides full taxonomy and types of application]. Market mechanisms could be used for fund raising for adaptation activities, efficient allocation of funds that are available for projects aiming to avoid climate change related damages, and promotion of adaptation by various stakeholders. The different instruments are assessed according to political and technical criteria; lessons from mitigation policy instruments have been taken into account. So far, actual application of adaptation policy instruments is in its infancy." If desired, I (Axel Michaelowa) could expand such a section as contributing author. Full references: Agrawala, S. and S. Fankhauser (eds.), 2008: Economic Aspects of Adaptation to Climate Change. Costs, Benefits and Policy Instruments, Paris; Butzengeiger-Geyer, S.; Michaelowa, A.; Köhler, M.; Stadelmann, M. (2011): Policy instruments for climate change adaptation - lessons from mitigation and preconditions for introduction of market mechanisms for adaptation, paper presented at the Colorado Conference on Earth System Governance, 17–19 May, Colorado State University (Michaelowa, Axel, University of Zurich)
88	We congratulate the TSU and WG2 authors on the production of the Second Order Draft for AR5 and thank you for all the hard work. (NEW ZEALAND)
89	Thank you for the preparation of this interesting document.We appreciate the enormous work for producing this report. much pages for all the sectors as for emission trends). The introduction of the SPM mentions the emphasis on 'ethics and equity' whereas any reference to this is hard to find in the core text of the SPM. (BELGIUM)
90	Congratulations on all your hard work in preparing this very valuable draft report! (Galloway McLean, Kirsty, United Nations University - Institute of Advanced Studies)
91	The chapter is well sructured and well written. (Blazkova, Sarka D., T.G. Masaryk Water Research Institute)
92	The report introduces the terms "era of climate responsibility" and "era of climate options" in Chapter 1. They subsequently appear once in the text in Chapter 26 and in one figure of chapters 22 and 26, and are also used frequently in the SPM and TS. While there is reason to distinguish these intervals, the terms used are of concern because: 1 - they have not been broadly adopted in scientific literature (including the WGI and WGII reports of the AR5); 2 - they appear value-laden and therefore out of place in an objective analysis of the science by the IPCC; and 3 - their meaning is not intuitive (with the era of climate options perhaps suggesting that we can delay making choices on climate futures until the 2080s). We propose these terms be replaced with more objective terms such as "near-term (2030-2040)" and "longer-term (2080-2100)". (CANADA)

#	Comment
93	Please consider revising the term "Volunteer Chapter Scientist" which is included in the teams of most chapters. To those unfamiliar with the IPCC this may suggest that the authors (CLAs, LAs and Cass) are not volunteering their time to prepare these reports. Rather all the work to prepare these reports are voluntary and this is a central contribution to the IPCC process. The term used in Chapter 19 - "Chapter Scientist" is also not appropriate. (CANADA)
94	Advances since AR4: We appreciate that several chapters included a summary of key findings and advances since AR4. However, this should be done consistently across all chapters. Inclusion of a table at the beginning of each chapter is one way of doing this. (UNITED STATES OF AMERICA)
95	Can web-sites be used as references? For example, line 1 page 37. What about papers in press? (UNITED STATES OF AMERICA)
96	FAQ's: It is unclear what the criteria are for determining what is covered with FAQs. In this draft FAQs are presented in an inconsistent manner across chapters in terms of length, inclusion of citations, target audience, etc. For example, some are long, unreferenced and introduce new content to the document (e.g. in CHs 6 and 30). A consistent approach needs to be adopted. In AR4, for example, FAQs were taken verbatim from chapter text. (UNITED STATES OF AMERICA)
97	Figures that add value have been a tremendous asset to the AR process. However, many figures in the current draft are both difficult to understand and ultimately not informative. A small sampling includes: Box SPM.3 Figure 1; SPM.1; Box SPM.7 Figure 1; 3.1; 13.4, 17-1; most of the figures in Ch. 2. We strongly suggest that the authors pare back figures to those that truly add value by conveying something that is not also expressed in the text. For example, plots that quantify ideas expressed qualitatively in the text can be useful; cartoons that try to re-express qualitative ideas are generally less successful. Additionally, greater consistency in figure formats (shading for temperature changes, stippling to represent confidence, etc.) is needed. (UNITED STATES OF AMERICA)
98	Numerous instances are noted in the detailed comments where the authors provide lengthy reviews of the literature rather than concise assessments. Not only are these summaries dense and difficult to follow, but they also contribute to the over-limit page counts. Examples include all or large parts of Chapters 10, 24 & 28, for example). Addressing this could significantly reduce the length many chapters. (UNITED STATES OF AMERICA)
99	Rates of change and ability to adapt: the assertion that climate change will ÒoutpaceÓ adaptation (both natural and anthropogenic) if global temperature increases more than 2 degrees above pre-industrial seems to be based on a fundamental misconception. Specifically, it ignores that natural systems in particular adapt better to slow changes than to rapid ones; hence any assessment of ability to adapt should be framed in terms of rate of change rather than total amount of change. The questionable assertion appears in several places in the volume (for example in the left-most bar and the caption in the updated Burning Embers figure). (UNITED STATES OF AMERICA)
100	Representation of breadth of impacts in summary sections: An appropriately balanced representation of positive and negative impacts should be reflected in both the chapter text and in ESs, the TS, and the SPM. (UNITED STATES OF AMERICA)

#	Comment
101	The application of Detection and Attribution (D&A) methodologies to climate change impacts (as opposed to climate change itself) represents an important step forward, but presents communications, as well as technical, challenges. We urge the authors to consider the following points regarding D&A:\n1. It is important to define and use key D&A terminology consistently throughout WG2Ñthis is not the case in the SOD. In addition, terminology should be used consistently between WG1 and WG2. Specifically, in WG2 attribution means attribution to climate change, including natural variability. In WG1, however, attribution means attribution to anthropogenic climate change (only).\n2. Many readers will be interested in understanding the state of knowledge regarding detection and attribution of specific impacts of interest to them (e.g., have increases in temperature extremes in North America been attributed to anthropogenic greenhouse gas emissions?). We suggest that the authors consider adding summary tables conveying this information to all sectoral/regional chapters. Table 18-11a is an excellent example.\n3. The text should be clear regarding whether or not observed changes have been rigorously attributed to anthropogenic climate change. It is important to avoid tacitly assuming or implying that observed changes/trends are a result of anthropogenic climate change (e.g., Ch 26: p. 12, lines 45-48; p. 16, lines 3-4; p., 17, lines 45-53; p. 17 line 53 Ð p. 18, line 1).\n4. Where there is no detection and/or attribution, it is important to be clear whether this absence occurs because a conclusion cannot be reached for some reason (e.g., insufficient data) or because it is confidently concluded that there is nothing to detect or no influence of specific possible drivers (e.g., anthropogenic climate change). In other words, a clear distinction should be made between Òabsence of evidenceÓ and Òevidence of absenceÓ; this can be confusing for non-specialists. \n (UNITED STATES OF AMERICA)
102	Throughout the document "world ocean', 'world's ocean', and 'world's oceans' are all used. This should be consistent. Perhaps World's Ocean? (UNITED STATES OF AMERICA)
103	Use of jargon: The document should be as accessible as possible to informed non-experts. However, throughout the document, technical (but non-expert) reviewers found many instances of information that was dense in technical detail and jargon and therefore inaccessible. We encourage the authors to keep terminology as simple as possible. (UNITED STATES OF AMERICA)
104	We are concerned that findings with Òlimited evidence, low agreementÓ or similarly weak support sometimes appear in chapter Executive Summaries (ESs) or, worse, the Summary for Policymakers (e.g., pg. 10, lines 2-3; pg. 17, lines 11-17). The volume should state and adhere to a logical basis for selecting topics to be included in ESs. Additionally, there is inconsistency in the structure of ES bullets. Most are a single bold sentence (with confidence language) supported by a few non-bold sentences (without confidence language) and a reference to a section of the chapter. However, this format is not used consistently. Note, for example, the lack of references in Ch 30, pg 6, lines 29-36; and lack of supporting sentences in Ch 2, pg 2, lines 42-43. (UNITED STATES OF AMERICA)
105	We urge the authors and review editors to coordinate regional/sectoral/topical chapters to ensure consistency. This is particularly important for Chapters 14 through 17 where the enhanced treatment of adaptation has resulted in fragmentation and a lack of connectivity and inconsistency.\nAdditionally, we recognize and appreciate the increased emphasis on oceans in AR5. However, Chapters 6 (Ocean Systems) and 30 (The Ocean) are so interrelated and overlapping that many opportunities exist to pare their length while improving readability and reducing redundancy. Indeed, many of the redundancies can be replaced with cross-references to the other chapter. Furthermore, the chapters should be more carefully scrubbed for inconsistencies. For example, warming, acidification and hypoxia are addressed multiple times between the two chapters. The first 20 pages of Ch 30 belong in Ch 6 (and can in large part be merged with existing text in Ch 6). The focus on regional impacts in Ch 30 is lost due to repetition of technical foundation that should be in Ch 6. Both of these goals could be accomplished by having the author teams read both chapters. \n (UNITED STATES OF AMERICA)

#	Comment
106	We urge the authors to consider several issues involving the IPCCÕs calibrated uncertainty language: \n1. Foremost, uncertainty language is not applied consistently within or across chapters. Specifically, there is poor consistency regarding which statements have associated confidence ratings and which do not. In addition, there needs to be consistent practice regarding whether agreement and evidence ratings are given, as well as confidence ratings. Finally, there are instances where incorrect terminology is used (for example moderate instead of medium).\n2. The uncertainty terminology involves some subtle concepts that will be challenging to many readers. As an aid to understanding, we suggest that the summary figure explaining the relationship between evidence, agreement, and confidence, as well as the likelihood table, be included in every chapter [IPCC Uncertainty Guidance note, 2010].\n3. There are cases where high-level findings (often noted in bold) have higher confidence ratings than any of the supporting underlying findings or sentences in the same paragraph. It is not clear how this is possible.\n4. There are instances where it is not clear to what geographical domain statements apply. The report finds uncertain impacts with a high degree of confidence at a continental level when Ð in fact Ð significant sub-continental/regional variability in impacts may be likely, as was highlighted in SREX.\n5. Further, the authors should not use the phrase Òclimate change will,Ó as this conveys complete certainty. This phrase is found throughout the WG2 volume. See, for example, Ch 12, p. 3, lines 20-21, Ch 24, p. 16, lines 45-46. We strongly suggest instead that authors use Òclimate change is expected to,Ó and then qualify that result with standard IPCC uncertainty language. \n (UNITED STATES OF AMERICA)
107	We urge the IPCC to reconsider the introduction of the concepts of "Era of Climate Responsibility" and "Era of Climate Options" and "climate velocity" (Fig 4-6). Use of the actual time horizons communicates the intent far more clearly than these new terms. (UNITED STATES OF AMERICA)
108	How about considering an urban assessment that would be an IPCC sepecial report that breaks cities into groups such as to high, medium and low income cities and assesses them in this context? (UNITED STATES OF AMERICA)
109	Many of the citations in the text are not listed in the respective chapter bibliographies. Furthermore, several of the citations in the text do not have mistaken dates that match those in the bibliographies. It would be helpful to use an automatic referencing software package such as EndNote, in order to avoid such mistakes (and other redundancies). Otherwise someone will have to check each reference one-by-one. (UNITED STATES OF AMERICA)
110	There are several instances where studies using one model, and in some cases a single scenario, are cited. Given the uncertainty associated with projections, highlighting the results from a single study using a single model and scenario may give readers unfamiliar with the caveats that should be considered when interpreting these results a false sense of certainty. Auuthors are strongly encouraged to use multiple sources, wherever possible, and to use standardized confidence language. (UNITED STATES OF AMERICA)
111	There are several instances where studies using one model, and in some cases a single scenario, are cited. Given the uncertainty associated with projections, highlighting the results from a single study using a single model and scenario may give readers unfamiliar with the caveats that should be considered when interpreting these results a false sense of certainty. Auuthors are strongly encouraged to use multiple sources, wherever possible, and to use standardized confidence language. (UNITED STATES OF AMERICA)

#	Comment
112	From the AR5 SOD it appears that for IPCC to stay relevant to policy needs i.e. facilitating assessments that lead to holistic solutions to addressing the core challenge: “prevent dangerous anthropogenic interference with the climate system” (UNFCCC, Article 2) there is need for another Working Group to be established – IPCC Working Group IV - that will facilitate climate change integrated assessment. \nAR5 WGII chapters have increased from 20 (in the 4th Assessment report) to 30 Chapters - this point to tremendous growth in the scope of research and understanding of Climate Change Impacts, Adaptation and Vulnerability worldwide. WGII on its own – focusing on impacts, adaptation and vulnerability – has to deal with multi-faceted, complex inter-linkages operating at multiple scales hence the proliferation of Chapters to capture all this. Yet Chapter 20 of AR5 point to the birth of a new dimension that lies beyond the boundaries of IPCC WGII – that is the emergence of literature that seeks to address the UNFCCC Article 2 by focusing on integrating information across all IPCC three traditional working groups and fusing this with sustainable development. The realization that led to the IPCC SREX report was already a significant step pointing to the direction of the need to integrate information from different IPCC working groups (in this case WG I and II) and bring different communities together (Climate Change adaptation and Disaster management) - to seek and point out potential solutions to challenges of risks of extreme events and disasters. SREX also showed that there is now adequate evidence across IPCC working groups to conduct integrated assessment of climate change risks and solutions.\nThe chapter in AR 5 on Climate-Resilient-Pathways (Chapter 20) links with Chapter 8 of the SREX on “Towards a sustainable Resilient Future” and together they point to the need for focused effort into developing long term comprehensive solutions to climate change (not dealing with separate segments e.g. mitigation and adaptation). The ability to assess the breadth and dimension of literature on these solutions and stimulate more research in the area will be constrained under WGII because there is already an overload of areas to be covered. For IPCC to move forward into this new level of assessing literature for comprehensive solutions to complex challenges of climate change – there is need to establish a new Working Group (not a special report) – Working Group IV. What WG IV should be called can be discussed but potential title/s could be: Climate Change and sustainable Development or Climate Resilience and Sustainable Development. This working group might be the giant step that has been missing to practically guide policy towards establishing long-term solutions to the challenge of climate change.\n (Dube, Pauline, University of Botswana)
113	At the New Brunswick Climate Change Research Collaborative (NBCCRC), our general purpose is to increase adaptive capacity within the province by effectively mobilizing the resources of the academic community. This is an inherently challenging task insofar as researchers\\practitioners are simultaneously confronted by both a scarcity of locally oriented knowledge, and a deluge of highly abstract and somewhat fragmented knowledge that typically exceeds a region’s capacity for effective interpretation and application. (MacLellan, James, University of New Brunswick)
114	Overall, a well writen report. (Caffrey, Maria, National Park Service and University of Colorado, Boulder)
115	I would to commend all those who have done a good job in developing this document. There are a few areas which I would like to provide inputs. First and foremost is the usage of the name Lake Malawi in this document and maybe in other ar5 documents. I would like to request authors to use the name of the lake as Lake Nyasa instead of Lake Malawi (UNITED REPUBLIC OF TANZANIA)
116	Under Part A, Natural and Managed Resources and Systems, and Their Uses, I suggest to include a phrase indicating that due to the sensitive nature of (high) mountain ecosystems, as well as their overall importance for providing ecosystem services to a much wider population, the future report´s structure should include a sub-chapter on mountain ecosystems. - For this purpose, the FAO´s "Mountain Partnership, the Berne based "Mountain Research Initiative - MRI", and "The Mountain Institute - TMI", among others, should be contacted to (help) organize such a specialized input. (Hoffmann, Dirk, Bolivian Mountain Institute - BMI)
117	Overall the report is impressive and extensive. For the first time, it dwells in detail on how certain policies impact the biodiversity and lead to maladaptation. It is commendable that it takes different view than the UNFCCC on CDM. (Gupta, Himangana, Panjab University, Chandigarh, India)
118	The coordination between chapters 2, 10 and 17 should be improved. In comparison to the FOD chapter 17 has changed dramatically and 'lost' to other chapters (10; 2). The role of 17 (in conjunction with 10 and 2) should be thoroughly reviewed. (Perrels, Adriaan, Finnish Meteorological Institute FMI)

#	Comment
119	I am concerned with the incomplete and very uneven treatment of solar geoengineering (also known as SRM) across the whole report. It is not mentioned in most chapters then has a whole section (19.5.4) that focuses only on the potential risks. Don't get me wrong, it is correct to have a section on the potential risks from SRM as there are many of them. But such a section makes the report unbalanced without a similar section on the potential benefits of SRM. To be balanced and to present all the information readers will need to know, there appear to be two options. The first would be to add in a section on the potential benefits of SRM, and how it might reduce a large number of the projected impacts of climate change that are listed elsewhere through the report if it can stop the rise in global temperatures (eg human security caused by the effects of rising temperatures, poverty, extreme weather events). the other option would be to add text on SRM to each relevant chapter or section. So if the report is to be thorough about each issue – eg climate and conflict – there should be something in there explaining how stopping the temp from rising (with SRM) could greatly reduce the risks of climate conflict, BUT could also increase the risks of geoengineering-caused conflicts. Which risk is higher is at this moment unknown. Similarly, most of the main drivers of climate poverty in the summary of Chapter 13 (for example) would be greatly reduced if SRM stopped the temperature rising.\n (Parker, Andrew, Harvard Kennedy School)
120	Draft Glossary needs to include definition of maladaptation and this is given below: (Pinninti, Krishna Rao, Rutgers University)
121	Maladaptation is the result of inefficient choices of strategies and policies in any category of adaptation measures that eventually contribute to worsening of the adaptation potential over time and / or scale or in combination with other interventions. It is also sometimes viewed as the result of the adaptive responses made for various interdependent systems without due consideration of adverse impacts on other components (that may or may not be sufficiently influenced by climate change). Externalities of adaptation measures can lead to maladaptation, and it may be more meaningful to restate as follows: (Pinninti, Krishna Rao, Rutgers University)
122	maladaptation is a phenomenon in the category of externalities that needs to be constantly and fully taken into account in various aspects of the governance of climate change adaptation. (Pinninti, Krishna Rao, Rutgers University)
123	I find it sometimes confusing that the information given in the regional chapters, in the sectoral chapters and in the global chapters ("adaptation needs and options" etc.) are not referencing each other on a consistent basis. To take a more precise example, the idea that there is a trade-off between adaptation and mitigation issues in urban planning is explained at least in two different chapters: chapter 8 (several times in this chapter, see for example 8.5.2) and chapter 23 (23.8), but the references given are very different (Viguié, Vincent, CIRED)
124	Use of the wording "Era of climate responsibility" and "Era of climate options" :\nI think that this has the potential to be very misleading for the layman.\nThese terms, especially the "era of climate options", do not seem to have been used before (?). \nEven if there is a precise definition, many people will not know about it, and many will make a wrong interpretation : it is written in several SPM & TS sentences that "era of climate options" relates to time periods within the second half of this century. But "era of climate options" is likely to be interpreted as "era when options need to be chosen". This interpretation would obviously be wrong (action now has consequences later). \nSuggestion : either refer to time periods (next decades vs second half of the century, etc.) or use a more precise wording, for example "differentiated outcomes". \n (Marbaix, Philippe, Université catholique de Louvain)

#	Comment
125	Regarding "Cross-Chapter Box CC-CR, Coral Reefs", in TS and chapters 5, 6, 30. A uniquely statistically robust large chunk of coral reef biodiversity data is being ignored. Per FishBase version (04/2013), 30.3% of its 14,634 fully-marine species/subspecies (and hardly any are subspecies) are coral-reef associated (which it defines as "Living and feeding on or near coral reefs"). FishBase includes about 1,000 more fully/partly marine species than those in the authoritative online Catalog of Fishes. Explanation follows. There have been numerous statements in key coral reef journal articles regarding their fraction of all marine species, such as "Coral reefs are home to an estimated one-third of all described marine species" in J.E.N. Veron et al., 2009, The coral\nreef crisis: the critical importance of <350 ppm CO2, Marine Pollution Bulletin 58:1428-1436. Going to their documentation, one finds it is either based on taxa whose number of species is very unconcincingly small compared to the totality of marine species, or on "estimates" whose "many untested assumptions ... make them "guestimates" at best", quoting Nancy Knowlton et al., 2010, Coral reef biodiversity, In: McIntyre, Alasdair D., Life in the World's Oceans: Diversity, Distribution, and Abundance, Wiley-Blackwell, pp.65-77. Seemingly unknown in the coral reef scientific literature, however, is data readily available online at FishBase which is practically exhaustive for the entire class Pisces. They want FishBase itself cited as:\nFroese, R. and D. Pauly. Editors. 2013. FishBase. World Wide Web electronic publication. <www.fishbase.org>, version (04/2013). Starting on the search page there, <http://www.fishbase.org/search.php> , under "Tools" select "Fish statistics", getting one to <http://www.fishbase.org/Report/FishesUsedByHumans.php>, where the data include:\nNumber of finfish in FishBase as of 04/2013\nSpecies (including subspecies) : 32,568\nPrim. freshwater : 14,634\nPrim. marine : 14,952\nBrackish or diadromous : 2,982. Also on the search page, under "Tools", select "Species by ecosystem", then select "Reef-associated", getting one to\n<http://www.fishbase.org/TrophicEco/ResilienceFishList.php?type=Reef-associated>: \nNative Fishes for Ecosystem Type Reef-associated: [n=4534]. The Glossary on the search page defines "reef-associated" as "Living and feeding on or near coral reefs." Doing the division of reef-associated by the number of fully-marine spp. ("Prim.marine" as distinguished from diadromous) 4534 / 14,952 = 0.3032370 = 30.3%. Here the "sample size" includes nearly all described species. If, on the search page, in the sentence "Why name assessments may be different between FishBase and the independent Catalog of Fishes (Eshmeyer, 2013)" one clicks on "Why name assessments may be different", one gets to <http://www.fishbase.org/Nomenclature/FBCofFNames.php>, \n"Why there may be discrepancies in the assessment of scientific names between the Catalog of Fishes and FishBase"\nBy Nicolas Bailly, FishBase Project Manager, version no. 2 (May 6th, 2010). Here it explains that while Catalog of Fishes "is usually ahead in reporting new species", in "some cases, FB [FishBase] treats a species as valid according to a published work while CofF [Catalog of Fishes] considers it as uncertain with no current valid name indicated: CofF may have decided that the work is not complete enough to follow the author's conclusions. In contrast, we think it is better to present the biological and ecological information related to this uncertain species so the case can be more easily worked out by colleagues or FB users." FishBase actually enumerates more diversity than Catalog of Fishes, as follows. To begin with, dealing with subspecies (the FB numbers above include them) -- Bailly's writeup above notes, "On March 31st, 2010, there were 185 species with 271 valid subspecies in FB ... 271 over 31,000 valid species-group taxa!" In the landmark Nov. 2012 paper, Ward Appeltans et al., 2012., The magnitude of global marine species diversity, Current Biology 22:2189-2202 -- William Eschmeyer, the editor of Catalog of Fishes, gives a total of 16,733 accepted described Pisces (incl. Agnatha) species (which I think would be equivalent to the taxonomic category "finfish" that constitutes FishBase), and refers to William N. Eschmeyer et al., 2010, Marine fish diversity: history of knowledge and discovery (Pisces), Zootaxa 2525:19–50. That paper, "concentrates on fishes with at least some stage of their life cycle in the sea [including all the categories of diadromous fish, it says elsewhere]. The number of valid marine species, about 16,764 (Feb. 19, 2010), is about equal to that of freshwater fishes (15,170). Valid species of fishes apparently restricted to brackish water number only 108." If one is a little loose with all the above numbers for the moment, the FB fully marine (14,952), plus FB brackish/diadromous (2,982), minus CofF brackish (108), equals 17,826, which even after subtracting possibly 100 or so for subspp., is about fully 1,000 more FishBase fully/partly marine species than those in Catalog of Fishes.\n \n (Kellogg, Martin, University of California, Santa Barbara)
125.2	

#	Comment
126	Please check that all abbreviations taken from other sources are also explained here or given in full. For example, in Chapter 21 references are made to "CCSM", "MM5", "MDA8" and a plethora of other abbreviations without giving their meaning. This may be understandable in a purely scientific community, but I suggest to avoid this in work intended to be read by non-climate-modellers, too. (Rock, Joachim, Johann Heinrich von Thuenen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries)
127	Overall we feel that the report has a lot of good material but still needs a significant amount of work to focus the content and messaging towards the interests of policymakers. Key overarching issues for the UK are as follows: \n1. In places the evidence needs to be more balanced in terms of subject matter, for example there should be more of a focus on the key risks, with examples of adaptation responses, less on conceptual adaptation issues. \n2. We have concerns over robustness of findings in some places, given the amount of grey literature used in compiling some of the findings. This should all come to bear on the confidence statements associated with findings, although it isn't clear that it is. For example how does the reader know where expert judgement has been used versus a summary of grey literature? There needs to be an effort to ensure the confidence statements clearly reflect the ammout of evidence available, and that the underlying evidence is clearly reflected. Very often, the literature is listed but no summary is given of the main agreements / disagreements, and in most cases it is impossible to find out how strong and/or what the nature is of the evidence that has been referred to. This makes it very difficult for the reader to criticaly assess what the literature is saying. \n3. We feel there is quite a lot of overlap across several of the chapter. For example chapters 6 and 30 are very similar. We suggest that someone, or a small group is given the responsibility of checking content across all chapters. \n4. The whole report could benefit from a re-focussing of content towards more factual statements, particularly on observed impacts and projections and away from philospohical discussions around adaptation. For many sections of the report, there are statements which leave the reader wondering what the value is of the statements made.\n5. We were also struck at times by a Developing Country bias in the subject matter. We would have expected more scientific literature about matters related to impacts and adaptation in rich countries. .These issues are reflected in our more detailed comments on individual chapters. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
128	Many sections in this report leave me asking the question 'so what?'. Very often, the literature is listed but no summary is given of the main agreements / disagreements, and in most cases it is impossible to find out how strong and/or what the nature is of the evidence that has been referred to. This makes it very difficult for the reader to criticaly assess what the literature is saying. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
129	Impact discussions could more usefully use common date periods - i.e. impacts expected by 2020, by 2030 etc. There are a number of occasions where specific dates are used (inconsistently throughout the piece), and others where no time frame is used. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
130	Useful to maintain consistency of section presentation for impacts: observed / projected / summary (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
131	More location based data and vulnerability information throughout - at present most data is presented globally except for the stand-alone table 5-5 (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)
132	On figures 22-7 and 22-6, shown throughout the report, it would be helpful to say what the completely uncolored sections represent (no data? No ability to make a prediction?) in the figure caption. (Gutknecht, Jessica, Helmholtz Centre for Environmental Research-UFZ)
133	Regarding Chapter 4.3.4 definitions and discussion of Key Services, is there an overarching guide to where different ecosystem services are discussed? In the chapter 4 discussion "supporting services' are not included are referred to, but these interactions or indirect services could be important (for instance degradation of soil or nutrient cycles leading to less potable water). For example the discussion of freshwater systems including soil and rock (18.3.1.1) and shallow landslides (ch 3.2.6, ch 18.3.1.3,4) (Gutknecht, Jessica, Helmholtz Centre for Environmental Research-UFZ)
134	In our view it is an imbalance in the report as well as in the SPM and TS about the way mitigation options like nuclear power, REDD+ and biofuel is described. Such a balance is important since these are potential mitigation options in the WGIII part of A (NORWAY)

#	Comment
135	Need to refer to more evidence about "differentiated adaptation"--likely that relatively resilient communities and countries will experience cc impacts differently than relatively vulnerable communities. More evidence required about characteristics that make adaptation make some better off and some worse off (Warner, Koko, United Nations University - Institute for Environment and Human Security)
136	I have not reviewed all chapters of this report, but taking a look at the table of contents across several chapters and reviewing chapter 14 in particular I realize one cross cutting inconsistency and that is the definition and presentation of adaptation needs and/or options. While in the sectoral sub-chapters if explicitly included adaptation needs and options are most often used interchangably refereing to adaptation measures, in chapter 14 some broad meta-levels of adaptation needs and options that are rather institutional and social constraints are described. The whole working group needs to use one consistent definition of adaptation needs, anything else is not credible. (Hanger, Susanne, International Institute for Applied Systems Analysis)
137	This brings me to a related issue. As I said for most chapters I only looked at the tables of contents, but according to those, actual adaptation measures are not explicitly part of this report, but - I assume - integrated where appropriate in orther sub-chapters. This lead me to think that chapter 14, which in the plenary approved outline, lists a synthesis of adaptation needs and options, might actually include an overview of adaptation measures, related to different categories of impacts (or something similar). This is not the case as I mentioned above. I think such a synthesis of relevant, maybe even tested adaptation options, compared across scales/sectors or the like would be very useful, if not an essential ingredient in an assessment report. It should be included consistently in a way so one does not have to search for it in the full version flow-text of each chapter... in those cases where they are so unfortunate as to not find an indication in the table of contents. (Hanger, Susanne, International Institute for Applied Systems Analysis)
138	The document is excellently prepared with a broad, holistic approach towards climate change. The pros and cons of human activities presumably leading to climate change has been dealt objectively as far as possible. The conditions of the climate in different regions of the world have neither been ignored nor changes over emphasized. In my opinion the second draft has been prepared keeping in mind the public sentiments associated with such a sensitive subject. Each geographical region is well represented as far as the changes in ground reality are concerned. All information is based on published reports hence if there is any wrong information or exaggerated description of the changes in the environment it would be extremely difficult to assess the extent of misrepresentation. It is also not feasible to sift the quality of the information when the document size is so large. On the whole the SOD is acceptable for public dissemination. Sooner the public learns about the condition of the environment due to climate change better it would be equipped to remedy the damage already caused by human related activities to the climate. The Summary for Policymakers will help the global community if each and every nation pays due attention to the human related activities identified and actions thereupon delineated. (Bhattacharya, Shelley, Visva Bharati University)
139	These WGI TSU and Co-Chair review comments have been prepared by Thomas Stocker, Gian-Kasper Plattner, Simon Allen, Yu Xia, and Alexander Nauels. (Plattner, Gian-Kasper, IPCC WGI TSU)
140	The WGI TSU and Co-Chair review comments cover issues identified in the WGII SOD related to the WGI contribution to the AR5 with regard to consistency, missing references, and sometimes reassessments of WGI-material in the WGII contribution. We did flag a number of issues in most (but not all) of the Chapters. We do not attempt to propose alternative text etc. but simply flag the issues. In few cases, we go as far as saying that we are concerned by seeing WGI-type material assessed in WGII, but that's generally complemented by an encouragement to either ensure feedback from the relevant WGI authors, avoid duplication of assessments from WGI in the WGII report, and/or ensure consistency with the WGI AR5 contribution. In many cases we feel that providing the physical science basis context by referring to the WGI AR5 rather than doing a separate assessment would already help substantially in avoiding duplication of assessments and ensuring consistency between WGII and WGI. (Plattner, Gian-Kasper, IPCC WGI TSU)
141	Many references to WGI and/or to the IPCC SREX currently are too unspecific, i.e., lack the information of which Chapter of the report is been referred to. Often the entire report, or the SPM-only, is referred to as a whole. We suggest to be as specific as possible and to refer to the Chapters in the underlying report whenever possible. (Plattner, Gian-Kasper, IPCC WGI TSU)

#	Comment
142	Most of the report is futile. People have always coped with whatever the climate does and your advice is mainly not very original. You just seem to make it appear frantic whereas it is routine, Your obsession with supposed wrming or ocean acidification does not help.Relative sea level is not rising from the most recent observations There is some useful information on polulation and urban trends but otherwise it is overblown irrelevances (Gray, Vincent, Climate Consultant)
143	This should not only be a foci of concern for cities alone but should encompass cities and rural areas, with the understanding that these rural areas are mostly the source of the water and food. (Adewopo, Julius, University of Florida)
144	Africa is omitted in Table SPM4. This is in spite of the fact that region (Africa continent) has “high confidence” output from several studies mentioned in chapter 22 (Africa) page 18, and line 31 to 44. (Mwangi, Margaret, Pennsylvania State University)
145	Transmission season for malaria will increase some places, and decrease some places (areas which are already hot) (Lunde, Torleif Markussen, University of Bergen)