

SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
25429	CCB7	0	0	0	0	Maybe wrighting something on early warning systems, with world meteorological organization, intergovernmental oceanographic commission ? Same with awarness campains and risk culture. [Boris LECLERC, France]	Accepted added below in Small Islands section
5255	CCB7	0	0	0		I suggest to deepen in the effects over sea-level rise in SIDS of melten ice in the Arctic and Antarctic and glaciers in the future because isn't enough developed. [CRISTOBAL FELIX DIAZ MOREJON, Cuba]	Accepted, top of page 3 is reworded.
15265	CCB7	0	0	0		The general narrative of Cross-Chapter Box 7 has to be revised in order to also highlight LDCs as a particularly vulnerable country group (LLIC are often LDCs). Please also provide information on the sustainable development implications for LDCs. [Government of Gambia, Gambia]	Accepted_Least developed Copuntries are now mentionned, as well as numerous examples of LDCs are used in the text.
16439	CCB7	0	0	0		In many cases, affected LLIC are part of LDCs. Please extend the general narrative of Cross-Chapter Box 7 to highlight LDCs in addition to SIDS as a particularly vulnerable country group. [Alexander Nauels, Germany]	Accepted_Least developed Copuntries are now mentionned, as well as numerous examples of LDCs are used in the text.
23381	CCB7	0	0	0		Could the box better highlight what is new since AR5? Why this box? Each section could have a conclusion (in summary, XXX) reported using IPCC calibrated confidence language. Could issues of deep uncertainty and also robust / adaptative decision making be touched in link with other chapters? What is the definition of a "climate hot spot" (not in glossary)? Where is the assessment of limits to adaptation capacities and residual risks? Could the chapter suggest how maladaptation could be dealt wth in the SPM if relevant? [Valerie Masson-Delmotte, France]	Accepted: text entirely revised and completed. Term hotspot deleted, and term maladaptation better explained.
28491	CCB7	0	0	0		This very useful Cross-Chapter synthesis includes a lot of valuable information including on limits to adaptation. However, it fails to address the associated Loss and Damage for SIDS and low lying coastal areas. [Government of Saint Lucia, Saint Lucia]	Taken into account with additional sentence in small islands section.
28493	CCB7	0	0	0		The synthesis should further discuss the implications for the inhability of low-lying Islands and coasts for multi-meter sea level rise projected post-2100 for warming levels exceeding 1.5°C (compare Clark et al. 2018, Mengel et al. 2018). [Government of Saint Lucia, Saint Lucia]	Accepted, sentence added.
31543	CCB7	0	0	0		This CCB includes almost more pages with references that pages with main text. I suggest reducing the overall amount of references and focus on the most relevant and post-AR5 ones. [Hans-Otto Poertner and WGII TSU, Germany]	Taken into consideration - While the authors paid attention during the revision to remove unecessary references, they also agreed at LAM4 on keeping a quite long list of references for this stand-alone box, and in order to reflect the increase and progress in the post-AR5 literature.
31553	CCB7	0	0	0		This Cross-Chapter Box developed nicely since the First Order Draft. The detailed numbers provided (e.g. amount of money, people, area affected, etc) makes the statements really strong. [Hans-Otto Poertner and WGII TSU, Germany]	The authors thank the reviewer for this positive feedback.
23317	CCB7	0	0	0		Could the box better highlight what is new since AR5? Why this box? Each section could have a conclusion (in summary, XXX) reported using IPCC calibrated confidence language. Could issues of deep uncertainty and also robust / adaptative decision making be touched in link with other chapters? What is the definition of a "climate hot spot" (not in glossary)? Where is the assessment of limits to adaptation capacities and residual risks? Could the chapter suggest how maladaptation could be dealt wth in the SPM if relevant? [Valerie Masson-Delmotte, France]	Accepted: text entirely revised and completed. Term hotspot deleted, and term maladaptation better explained.

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Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
34147	CCB7	0	0	0		This Cross-Chapter Box is an excellent synthesis of a broad body of science concerning the impacts of changing climate on low lying islands and coasts which are expected to be significantly impacted with continued changes in the planet's climate and oceans. It is very well-written and provides an excellent focus on the multiple climate related and non-climate related stressors affecting these important and highly vulnerable areas. It is an excellent review of the state of knowledge in this area based on extensive literature. The findings are well-documented and clearly presented with information on the level of confidence following the IPCC standards. The chapter clearly identifies that coastal areas will face major climate related changes under a range of climate change scenarios. The Chapter also provides synthesis of the growing body of information on how to reduce risks and impacts through adaptation and mitigation actions for coasts and islands. [Government of United States of America, United States of America]	Accepted with thanks
9879	CCB7	1	0	0		About this whole chapter : Is it necessary to mention that for now adaptation seems to be problematic in lots of Pacific SIDS because of their wealth issues? Shall we emphasis on the inequalities of access to the science and the human resources needed ("multiple sectors")? [Government of France, France]	Accepted_Addressed for including most island nations. See fully revised paragraph.
2617	CCB7	1	0	20		Overall the this chapter is nicely written, no more ammendments are required. [Pushp Raj Tiwari, United Kingdom (of Great Britain and Northern Ireland)]	The authors thank the reviewer for this positive feedback.
26157	CCB7	1	1	0		Too excessive cross-referencing to other chapters/sections. Makes the chapter awkward to read. endless lists of cross-references disturb the flow and don't really help. There is a table of content for readers to find things. [Regine Hock, United States of America]	Taken into consideration - An issue for the author team is that this box is supposed to be integrative across the main chapters, and therefore to cross-reference to them as much as possible (initial request to the author team). However, we agree this can make reading difficult and tried to avoid such a collateral effect.
22171	CCB7	1	1	20	20	Thank you very much to the authors of the Integrative Cross-Chapter Box for taking into account my suggested changes from the first order draft. All of the sections that I mentioned have been rewritten or removed and the whole cross-chapter box is much more readable and clear. [Inga Smith, New Zealand]	The authors thank the reviewer for this positive feedback.
26961	CCB7	1	1	20	20	Considering the whole box, there is an overall emphasis on SLR and extreme storm impacts and not even a mention of the diverse range of other ocean related impacts on SIDS. E.g. impacts on food and water security (e.g. impacts of ocean warming, OA and deoxygenation on lagoon fisheries, impacts of salinisation on water table and hence wells, impacts on coastal food gardens), loss of native biodiversity and spread and favouring of invasive species and pathogens with changing currents, winds and water temperature. [Liz Dovey, Australia]	Accepted_The entire box had been revised to better highlight the influence of non-sea level ruse drivers, and related impacts.

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Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
22603	CCB7	1	31	1	33	<p>Will this cross chapter box be included as a standalone after all the chapters? It is not clear. It could sit inside Chapter 4 due to its explicit relevance.</p> <p>Line 31-33 on page 1 states the purpose of the cross-chapter box is to focus on the societal impacts of, and adaption to climate related ocean and cryosphere changes, including discussing future habitability of LLIC. This confuses the purpose of the box. It should be more explicit in that the box's main focus is on the impacts to LLIC which includes habitability. [Government of Australia, Australia]</p>	<p>1/ The cross-chapter box is intended as a standalone box.</p> <p>2/ The sentence has been reformulated to take this point into account. However, the author team considers future habitability not only as an impact (actually, a risk), but also as a result of adaptation efforts in the coming decades to century. The authors therefore decided to keep the discussion on the habitability issue as a concluding paragraph to the cross-chapter box.</p>
34263	CCB7	2	1	0		<p>TITLE OF ESSAY: TACKLING GLOBAL CLIMATE CHANGE BY ASSESSING SIGNS AND INDICATORS (CLIMATE CHANGE AND HEALTH) AND CAUSES IN MAURITIUS ISLAND, INDIAN OCEAN</p> <p>1. Introduction:</p> <p>To investigate Climate Change, we must look at Indicators for Climate Change. Usual indicators are CO2 emissions, photosynthesis, state of Corals, abundance of sea, plant, tree/wood and food resources.</p> <p>But health is an important subset indicator for Climate Change since it is known that Climate Change drivers are a major cause of the 7 million air pollution-related deaths annually and cannot be over-looked.</p> <p>However, health indicators are not included in SDG monitoring for Climate Change. I will attempt to do so for MAURITIUS.</p> <p>2. Background:</p> <p>Climate Change is caused by harmful emission of Greenhouse gases (GHGs) in the atmosphere. Carbon emissions are only 1 indicator of 1 greenhouse gas. (Others: - CH4 &amp; N2O) Note that Mauritius is a heavy user of harmful chemicals (incl. narcotic use, esp./ Novel Psychoactive Substances, also called as, “Synthétiques” locally.) Mauritian GHG emissions from 1960 to 2014, excluding the high -level -of -engineering- and -building- construction period 2014-2018, is as follows: -</p> <p>Serial No. Country name CO2 emissions (1960) CO2 emissions (2014)</p> <p>1 MAURITIUS 0.3 3.4 (steady rise – 11.3x) 2 AUSTRALIA 8.6 15.4 3 BAHRAIN 3.5 23.4 4 CHILE 1.7 4.7 5 CHINA 1.2</p>	Rejected - Comment not related to the cross-chapter box

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2811	CCB7	2	2	2	5	The changing ocean and cryosphere already impact Low-Lying Islands and Coasts (LLIC), including Small Island Developing States, with cascading and compounding risks, and may push beyond current adaptation limits (high confidence1) ..It is recommended to delete "including Small Island Developing States," in this sentence. [Shaohong WU, China]	Rejected. We keep it to well reflect the guidance of the annotated outline of the scoping meeting of the SROCC.
32489	CCB7	2	3	2	12	The ES is vague, most of this could have been said a long time ago and does not clarify the magnitude of the risks. For example, how are the risks and adaptation limits related to climate change scenarios? [Philippe Marbaix, Belgium]	Taken into account_The ES has been revised to increase the specificity.
29765	CCB7	2	3	2	5	It is not appropriate to use the word "may" in a finding--the word is not in the IPCC lexicon (and properly so as it could mean 1 to 99%). Here, something like the following needs to be said: "It is very likely that the lowest lying states will be pushed beyond their adaptation limits by 2100 and many others will be pushed beyond their limits in the following centuries as the sea level rise that has been initiated continues on into the future even if emissions are returned to zero over the next few decades". The finding here is far too weak, especially given that some islands are already being abandoned and residents moving off of them (presumably having to abandon your home is being pushed beyond one's limits--if instead means there is not money to move and people drown instead, well, that needs to be said. [Michael MacCracken, United States of America]	Taken into account_We kept the word "may" but considerably reworked this part of the Executive Summary. It now reads: "Disproportionately higher risks are expected in the course of the 21st century. Reinforcing the findings of the IPCC SR1.5 report, vulnerable communities, especially those in coral reef environments and polar regions, may exceed adaptation limits well before the end of this century and even in a low greenhouse gas emission pathway ( <i>high confidence</i> ). Depending on the effectiveness of 21st century mitigation and adaptation pathways, most of the low-lying regions around the world may face adaptation limits beyond 2100, due the long-term commitment of sea level rise ( <i>medium confidence</i> )".
21257	CCB7	2	6	2	6	"LLIC of all latitudes are hotspots..." - hotspots of what? Need to be explicit [APECS Group Review, Germany]	Accepted-Text modified
21315	CCB7	2	8	2	8	Do you need a confidence level on this statement? Seems like a statement of fact, other than the labeling as 'hotspots', which is a somewhat subjective term anyways and I don't think necessarily merits treatment with a confidence level. [APECS Group Review, Germany]	Accepted_The sentence had been reworked and reads now (the confidence statement is more specific): "LLIC host around 11% of the global population, generate about 14% of the global Gross Domestic Product and comprise many world cultural heritage sites. LLIC already experience climate-related ocean and cryosphere changes ( <i>high confidence</i> ), and they share both commonalities in their exposure and vulnerability to climate change (e.g., low elevation, human disturbances to terrestrial and marine ecosystems), and context-specificities (e.g., variable ecosystem climate sensitivities and risk perceptions by populations)."
34099	CCB7	2	23	2	24	Could add to the list of reasons that LLIC are so vulnerable is their narrow ecological zonation. In contrast to mainland terrestrial systems, LLIC have physical gradients that are relatively narrow, particularly along rocky shores (Raffaelli et al., 1991). The intensely specialized and often crowded intertidal and adjacent coastal environments are considered more fragile than many other ecosystem types. [Government of United States of America, United States of America]	Accepted-Text modified
21259	CCB7	3	0	3		Figure CCB7.1 - very hard to see the 'delta' symbol, and some of the stars (SIDS) appear to be smaller than others, e.g. around Indonesia [APECS Group Review, Germany]	Accepted_The figure had been completely reworked

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9865	CCB7	3	2	3	2	The area where we can found the most of the threatened islands and coast appears to be the Pacific: is it possible not to cut it in the middle but instead to figure all the Pacific on the map as one entire area? It would make things more obvious (and the acknowledgment of their state of danger easier for them). [Government of France, France]	Accepted - the map projection had been adjusted to be centred on the Pacific.
12111	CCB7	3	5	3	6	it is suggested to change "Small Island Developing States" to "Low-Lying Islands." [Government of China, China]	Rejected - the map intends to explicitly show Small Island Developing States, which have been identified as hotspots of climate change in the assessed literature. Additionally, the figure show islands below 10metres of highest elevation above sea level, in order to also include other low-lying islands.
34101	CCB7	3	6	3	7	Defintiions of megacities and the coastal zone in this cross chapter text box differ from the definitions of coasts and megacities in Chapter 1. Coasts in in Chapter 1 (page 5) are defined as areas less than 100 km from the coastline and less than 100 m above sea level. Chapter 1 defines megacities as having more than 5 million people. In the LLIC box, megacities are defined as having more than 10 million people, within 100 km from coast, and a maximum 50 m above sea level. The LECZ is distinguished from other coastal sytems but megacities are not. The same definition of megacities should be used in Chapter 1 and the LLIC Text Box and in creating the map of megacities in Figure CCB7.1. [Government of United States of America, United States of America]	Accepted_We checked consistency between the cross-chapter box and chapter 1. N.B. (1): the CCB specifically focusses on "low-lying" coastal areas (defined as <10m of elevation; references cited), hence another definition as for coasts in general (within 100 kilometres and less than 100 metres elevation). N.B.(2): now chapter 1 reads: "28% of the global population (1.9 billion people) were living in areas less than 100 km from the coastline and less than 100 m above sea level, 11 including 17 major cities which are each home to more than 5 million people" (doesn't define megacities as >5M people).
5257	CCB7	3	12	3	17	Maybe included the submarine earthquakes and volcanoes joint with tsunamis [CRISTOBAL FELIX DIAZ MOREJON, Cuba]	Rejected_This CCB focuses on climate-related changes
21261	CCB7	3	12	3	33	the 'climate-related drivers' section is simply a list of the effects of climate change on the global environment - it would be useful to provide more context to LLICs - are these areas more or less likely to be affected, and how important are the effects on LLICs at a global scale? [APECS Group Review, Germany]	Accepted_We decided to reduce this text to one general paragraph (i.e. to set the scene), and to develop a table summarizing all the parameters and related SROCC findings.
34103	CCB7	3	14	3	14	Current: "...and associated storm surges;". Suggest change to: "...and associated waves and storm surges;". Most islands have limited to no continental (or insular) shelf and thus storm surges are relatively minor contributors to coastal flooding, whereas waves are always a contributor. Thus include waves and put them first. [Government of United States of America, United States of America]	Accepted_Text profoundly modified (text shortened + development of a summarizing all the parameters and related SROCC findings).
34105	CCB7	3	16	3	16	Current: "...hypoxia, and ocean...". Suggest change to: "...hypoxia, coastal ecosystem degradation, and ocean...". Numerous paper that are cited later note the role of ecosystems (mangroves, marshes, coral reefs, etc.) in reducing coastal hazards. Climate change will negatively impact those ecosystems via processes other than those listed, thus should be included here. [Government of United States of America, United States of America]	Accepted_Text profoundly modified (text shortened + development of a summarizing all the parameters and related SROCC findings).
12883	CCB7	3	16	3	28	Sections 1.3.1 and 1.3.2 do not exist in this report. Please insert correct reference. [Government of Germany, Germany]	Accepted_Cross-referencing updated
9867	CCB7	3	19	3	21	Shall we also talk about submersion here? [Government of France, France]	Taken into account_This part had been profoundly modified (text shortened + development of a summarizing all the parameters and related SROCC findings).

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34107	CCB7	3	20	3	20	Current: "...storm surges and waves...". Suggest change to: "...waves and storm surges...". Most islands have limited to no continental (or insular) shelf and thus storm surges are relatively minor contributors to coastal flooding, whereas waves are always a contributor. Thus include waves and put them first. [Government of United States of America, United States of America]	Accepted_Text profoundly modified (text shortened + development of a summarizing all the parameters and related SROCC findings).
21263	CCB7	3	22	3	22	"Arctic sea level rise also has the potential to accelerate permafrost thawing" - ok, but how important is this for LLICs specifically, and how important would LLIC-based permafrost thawing be compared to inland, continental-scale thawing? [APECS Group Review, Germany]	Taken into account_We modified the whole paragraph to show the combining effects of multiple drivers
21317	CCB7	3	22	3	24	Might be useful to mention what emissions scenario leads to this estimate of change in return period for extreme sea levels [APECS Group Review, Germany]	Accepted_Sentence deleted
8441	CCB7	3	26	0		Replace "ocean and cryosphere physics and chemistry" with "physics and chemistry of the ocean and cryosphere" [Nina Hunter, South Africa]	Accepted_Sentence deleted
21265	CCB7	3	27	3	27	"...including transitional zones such as seagrass and mangroves" - I suggest replacing 'zones' with 'habitats'. Seagrass or mangrove is not a 'zone' [APECS Group Review, Germany]	Accepted_Sentence deleted
32491	CCB7	3	28	3	30	Why "will combine" ? When ? Some of this is already happening now, and for what may only happen in the future, it is important to be specific about a time horizon, scenario, and/or warming level. If it is about a general principle, then it should not be "will combine". [Philippe Marbaix, Belgium]	Taken into account_We tried to be more specific at the whole CCB scale, but information on time horizons and thresholds is not always available. In addition, some combinations of processes will be gradual, and so that is not always clear if thresholds have to be considered.
8443	CCB7	3	31	0		Change "on" to "for" [Nina Hunter, South Africa]	Accepted.
21267	CCB7	3	35	3	40	Why would it be expected that there would be an "absence of adequate adaptation measures"? [APECS Group Review, Germany]	Accepted_Text modified as the initial meaning was "in the case of inadequate adaptation"
21319	CCB7	3	39	3	40	This statement should have some citations to explain why it's expected that anthropogenic-driven exposure and vulnerability will increase in the future. The surrounding sentences and associated citations explain the drivers of increased vulnerability and exposure in present day, but don't necessarily make the claim that trends in these drivers project to increase this vulnerability in the future. [APECS Group Review, Germany]	Accepted_We modified the text and also added a cross-reference to chapter 4 (section discussing risks and the potential benefits of adaptation).
15883	CCB7	3	40	3	41	(Lack of) long term integrated planning/enforcement of planning regulations also to be considered a driver of exposure? [EUCE, Belgium]	Accepted_Text modified
21269	CCB7	3	42	3	42	Why have you singled out the Comoros here? In doing so, it implies this is the only place where the previously mentioned drivers of exposure and vulnerability are important [APECS Group Review, Germany]	Rejected_We specified "e.g." to show that this is just an example. We use a lot of specific examples in this CCB in order to avoid being too general and provide some real-world examples. In other sentences, we use other examples.
21271	CCB7	3	42	4	9	The IK and LK sentences may need rewording - the description about the loss of IK&LK is not as a result of climate change [APECS Group Review, Germany]	Rejected_The sentence doesn't claim that the loss of IK-LK is due to climate change, but rather that it contributes to exposure and vulnerability to climate change impacts.
9869	CCB7	4	1	4	1	To add : the lack of acknowledgment [Government of France, France]	Rejected_The author team could not address this comment as it is not understood
31541	CCB7	4	11	4	27	The mixed use of LECZ and LLIC is a bit confusing here ; I suggest providing again the definition of LECZ (which is currently only given in caption of Figure 1). [Hans-Otto Poertner and WGII TSU, Germany]	Accepted_The definition of LECZ is now also in the main text.

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8445	CCB7	4	17	0		Please expand on SSP a bit more. Is there an agreement signed? What are the issues? How is it shared? [Nina Hunter, South Africa]	Taken into account_The SSP are now expalined in a specififc ross-chapter box of the FGD. Here, we mention SSPs to refer to frame the results of the study by Jones et al (2016).
34109	CCB7	4	20	4	20	Current: "...of vegetated coastal ecosystems (e.g., mangroves and salt marshes)...". Suggest change to: "...of coastal ecosystems (e.g., mangroves, coral reefs, and salt marshes)...". Numerous papers that are cited later note the role of coral reefs ecosystems in reducing coastal hazards. Climate change will negatively impact those ecosystems. [Government of United States of America, United States of America]	Accepted_Text modified
8447	CCB7	4	21	0		Insert "as" after "such" [Nina Hunter, South Africa]	Accepted_Text modified
21273	CCB7	4	25	4	27	Why are rural LLICs increasingly exposed to braxkish and polluted grounwater? [APECS Group Review, Germany]	This sentence had been removed from the final draft.
9871	CCB7	4	27	4	27	We suggest to add « social cohesion » [Government of France, France]	This sentence had been removed from the final draft.
21275	CCB7	4	27	4	27	What are the implications of the aforementioned exposure to brackish and polluted groundwater? [APECS Group Review, Germany]	This sentence had been removed from the final draft.
27875	CCB7	4	30	6	7	Other coastal ecosystems, such as salt marshes, mangroves, sea-grass beds, mudflats, should be included as part of the geographies. [Zelina Ibrahim, Malaysia]	Rejected_The geographies considered in this section represent human system (including ecosystems), and not ecosystems per se. For specific sections on ecosystems, see chapters 4 and 5, for example.
8449	CCB7	4	32	0		Insert "coastal" before "cities"? Isnt it coastal cities that are the ones at serious risk from these climate related changes [Nina Hunter, South Africa]	Accepted_Text modified
34111	CCB7	4	32	4	32	Consider adding statistics for Hurricane Maria impacts in Puerto Rice from US Federal Emergency Management Agency (FEMA). Hurricane Maria made landfall in Puerto Rico as a Cat 4 hurricane, Sept. 20, 2017. Entire electric grid failed; water and communication systems inoperable. Unprecedented response in U.S. history: longest sustained domestic air mission of food and water response, largest disaster commodity distribution mission, largest sea-bridge operation of US federal disaster aid, one of largest disaster housing missions (166,000 homes destroyed). From other sources (to be verified), estimated 2-3,000 dead and over 100,000 left and have not returned to Puerto Rico. Some of this might fit better on page 7, beginning on line 37. [Government of United States of America, United States of America]	Rejected_Due to length limitations, we couldn't go in-depth the description of specific events. We also tried to bring multiple examples to have a wider coverage of the impacts of extreme events such as hurricanes and cyclones on small idlands.
27873	CCB7	4	32	4	33	Geomorphologically similar coastal areas, whether urbanised or not, face the same "risk", however the "impact" for highly populated areas would be different. And highly urbanised areas would face different problems compared to highly populated non-urbanised areas. To state that megacities are at serious risks tend to lead policy makers to place a lower priority important coastal agricultural areas or natural marine ecosystems which may be affected. Urban areas invariably have a higher commercial value but lower food security or ecosystem value. [Zelina Ibrahim, Malaysia]	Taken into account

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21765	CCB7	4	32	5	4	Megacities along coastal areas are vulnerable to the sea level rise and cyclones, which could result in the coastal flooding. But especially in the coastal megacities in developing countries are also suffering from the land subsidence due the extraction of underground water. Megacities in developing countries are usually in the status of deficient water resources needed for the population in the megacities. We can see some example such as in Jakarta, Indonesia. It also may cause the infiltration of salt water in the aquifer below the coastal megacities. I think the report also have to consider the subsidence due to the water extraction as well as sea level rise. [Government of Republic of Korea, Republic of Korea]	Accepted_The role of subsidence had been made clear. Chapter 4 on sea level rise also better highlighted the role of natural and human-induced subsidence in risk.
21277	CCB7	4	35	4	35	Why have you listed these cities in particular? These are not the only ones highlighted in the figure, but there is no justification provided about what's 'special' about these cities - are they the ones that are likely to be the most impacted? (this would be a useful summary list) [APECS Group Review, Germany]	Rejected_The intention is not to be exhasutive, but just to provide examples from different regions and different development levels.
8451	CCB7	4	40	0		Remove "to" before "USD" [Nina Hunter, South Africa]	Accepted.
21279	CCB7	4	40	4	40	"6 billion USD" - erroneous "to" [APECS Group Review, Germany]	The authors did not understand this comment.
21281	CCB7	4	42	4	42	Is the "assumption of no significant adaptation measures" realistic? [APECS Group Review, Germany]	It is maybe not realistic, but we mention this to reflect the basic hypotheses used in the cited literature.
21283	CCB7	4	42	4	45	"lack of" suggests "zero", which is not the case. [APECS Group Review, Germany]	Accepted_"lack" changed for "low".
8453	CCB7	4	47	0		Suggest insert "of" before "the" [Nina Hunter, South Africa]	Accepted.
8455	CCB7	4	50	0		Suggest moving "also" to after "Properties" [Nina Hunter, South Africa]	Accepted.
8457	CCB7	4	52	0		Declining also applies to business activities, therefore suggest inserting "and" after "incomes" [Nina Hunter, South Africa]	Taken into account_The sentence now reads "The economic consequences manifest in declining rental incomes, business activities and local employment", so that "declining" applies to the 3 subsequent items.
21285	CCB7	5	1	5	1	How large is "massive"? [APECS Group Review, Germany]	Accepted_"massive" changed for "important".
34113	CCB7	5	2	5	4	The logic is confusing. What type of opportunities? [Government of United States of America, United States of America]	Accepted_Text modified
8459	CCB7	5	3	0		Suggest insert "that" after "given" [Nina Hunter, South Africa]	Accepted.
21329	CCB7	5	6	5	19	This paragraph demonstrates a clear vulnerability of small islands to extreme events, but I do not think that reader gets a clear picture of the possible change in these climate related risks in the future. If at all possible, I would suggest adding a statement of the risk for increasing impact from the extreme events to the end of the first paragraph (perhaps remove one of the historical examples). Here one could refer to last full report in terms of tropical cyclone activity and strength. [APECS Group Review, Germany]	Accepted, sentence added



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26955	CCB7	5	6	5	6	The overview of impacts on small islands section essentially only covers extreme storm events and island survival/stability. There are a wide range of other impacts that are not even mentioned. Two papers I'd suggest that may be of relevance include: Weir T, Dovey L & Orcherton D (2017) Social and cultural issues raised by climate change in Pacific Island countries: an overview. Regional Environmental Change 17(4): 1017–1028, and Schmutter, K, Nash M & Dovey L (2017) Ocean acidification: assessing the vulnerability of socioeconomic systems in Small Island Developing States. Regional Environmental Change 17 (4): 973–987 [Liz Dovey, Australia]	Accepted. New topic sentence included.
9873	CCB7	5	8	5	10	Although we are not used to refer to this fact, Kiribati was also impacted by cyclone Pam in 2015. Not sure they are publications about this event. [Government of France, France]	Accepted, sentence added to include Kiribati and the other Pacific Island countries impacted: PNG, Solomon Islands, Tuvalu
2211	CCB7	5	13	0		Delete “such as Saint-Martin/Sint-Maarten” unless something specific to this island is added to the sentence. [Poh Poh Wong, Singapore]	Accepted_Text modified
12885	CCB7	5	15	5	17	The authors report numbers from a government report neither assessing the validity of that information nor explaining the difference between damages and losses. The authors are strongly encouraged to revert to peer-reviewed publications or contextualize the numbers provided. [Government of Germany, Germany]	Accepted where possible. The information is taken from the independent peer reviewed Post disaster Needs Assessments that are published by the governments. As such, they qualify as citatable literature according to IPCC guidelines, and are available for download.
21287	CCB7	5	18	5	18	How were the population of Tonga impacted? [APECS Group Review, Germany]	Accepted: 'through destruction of buildings, crops and infrastructure' added
8461	CCB7	5	19	0		It would be useful to know the % GDP for Tonga, otherwise suggest leaving the Tonga example out as it is obvious that this information is missing [Nina Hunter, South Africa]	Accepted and modified to include Tonga GDP of 461 million
21289	CCB7	5	19	5	19	Place the 165 million USD in the context of Tonga's GDP - in the previous examples, this is a powerful and easily-understandable comparison that gives wider context to the impacts [APECS Group Review, Germany]	Accepted and modified to include Tonga GDP of 461 million
34115	CCB7	5	21	5	22	Some islands are borderline uninhabitable now due to periodic flooding due to just tides. This is worth mentioning. [Government of United States of America, United States of America]	Rejected_Although we acknowledge this fact, the sentence addressess island nations as a whole, and is not at the island scale. To date, no island nation as a whole has become uninhabitable to due rising sea level and climate change. This has however been clarified in the sentence.
21321	CCB7	5	21	5	41	This paragraph concludes with a statement of high confidence that atolls can accommodate modest rate of sea level rise over time. However, the preceeding sentences offered evidence of both some atolls experiencing static or increasing land mass, and others disappearing or experienceing other extreme impacts. Thus, I think the confidence assertion needs to be decreased or the statment needs to be revised to ensure that the confidence assertion points only to the fact that atolls are not "static" in size and not to the claim that they can accomodate modest SLR. [APECS Group Review, Germany]	Accepted_We have modified this sentence and made it clear that the "high confidence" statement applies to "atoll reef islands are not 'static landforms'.

SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
21333	CCB7	5	21	5	41	This paragraph describes mainly two effects that could turn small islands uninhabitable due to sea level rise: loss of freshwater resources and loss of land area. As it is written now the paragraph suggest that these two risks might be mutually exclusive (use of 'on the other hand' on line 26 suggests that the risk of losing freshwater resources is at odds with the risk of losing land area). However, as shown by Storlazzi et al (2018), this is not the case, but an island may well preserve its area, but become uninhabitable because of flooding and consequent loss of freshwater resources. I would suggest adding a clarifying statement to the end of the paragraph, along the lines of: 'While small islands appear resilient to at least moderate sea level rise in terms of their area, the uninhabitability of the small islands might be controlled by an increasing risk for loss of freshwater resources.' [APECS Group Review, Germany]	Accepted_All paragraph revised.
32495	CCB7	5	21	5	41	This appears to be a very important issue for policymakers. If it can be said with high confidence, as indicated, then it should probably appear in the SPM. It would be important to be able to document the limits of adaptation capacity : what is the rate, or the scenario above which adaptation will fail ? Does increasing size automatically mean that the land area will get less frequently flooded (than under SLR without morphological change), or not? Is the risk limited to the smallest islands, as Duvat suggests? [Philippe Marbaix, Belgium]	Taken into account_The paragraph as a whole had been revised. The limits to (island) adaptation are emphasized in the last sentence of the new paragraph, describing the potential role of multiple climate-related ocean drivers in the future. The questions raised by the reviewer are important but length limitations constrained us to provide more detaield information.
34117	CCB7	5	26	5	33	Lines 23-26 discuss how sea-level rise and climate change will increase coastal flooding. All of the papers referenced here in the following sentences ONLY describe changes in island landform area, and thus are not relevant to flooding, which is controlled by the height or elevation of the islands. As it is written, the text is comparing apples to oranges, and makes it appear that there is not consensus on the increased hazard to islands and threat to their sustainability, which is incorrect. The reference Duvat (accepted) makes this clear, as does Storlazzi et al. (2018). [Government of United States of America, United States of America]	Accepted_That is a fair and very useful comment. We reworked the whole paragraph to make it clear that on the one hand we have some modeling studies discussing the potential future of flooding (island scale), and on the other one we have studied focussing on shoreline change and land area and mainly reporting observed changes (island scale also). This is where we are in terms of science, and we still lack integrated studies/modeling to discuss the full dimensions of future habitability at the island scale, and then at the country scale. Despite this, you're right to mention that thare is consensus on the future increase in risk and associated threats to sustainability (we also added this in the paragraph).
9875	CCB7	5	26	5	41	It important to precise that sedimentation does not guarantee a fertile land for people nor a settlement land for their houses when they have been displaced. The quality of the soil is a parameter that might be important to consider. [Government of France, France]	Taken into account_That is a fair point, as habitability is not only releted to shoreline changes and flooding risks. This point is already widely discussed in section 4.3.3.4 and so we cross-referred to it (because length constrains for the cross-chapter box).
8463	CCB7	5	30	5	33	The approximation sign is now used in this section for most figures but this is not applied consistently in the rest of the Chapter Box. Suggest removing the sign for consistency. [Nina Hunter, South Africa]	Accepted_"~" removed and replaced with the precise figures provided in the literature.
22173	CCB7	5	31	5	32	There seems to be a word missing (or the wrong word used) from the sentence "In Tuvalu...". Should the word "occurred" be replaced with "increased"? [Inga Smith, New Zealand]	Accepted_Text modified

SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
26953	CCB7	5	31	5	33	The phrase 'total land area of eight out of nine atolls occurred despite' doesn't make sense in the context. Presume it should be 'nine atolls increased despite....' [Liz Dovey, Australia]	Accepted_Text modified
31545	CCB7	5	31	5	33	Something is wrong with this sentence, please check and revise. [Hans-Otto Poertner and WGII TSU, Germany]	Accepted_Text modified
32493	CCB7	5	31	5	33	"total land area of eight out of nine atolls occurred" is strange, please clarify. [Philippe Marbaix, Belgium]	Accepted_Text modified
34119	CCB7	5	31	5	33	This statement does not make sense: "In Tuvalu, for example, total land area of eight out of nine atolls occurred despite relatively rapid sea level rise." Land area occurred? [Government of United States of America, United States of America]	Accepted_Text modified
1785	CCB7	5	32	0		Sentence is missing the key word - did the area increase or decrease? [Mark Payne, Denmark]	Accepted_Text modified
8465	CCB7	5	32	0		What does the following mean: "total land area of eight out of nine atolls occurred". Please make clear. [Nina Hunter, South Africa]	Accepted_Text modified
15885	CCB7	5	32	0		Sentence is missing the key word - did the area increase or decrease? [EUCE, Belgium]	Accepted_Text modified
15887	CCB7	5	32	5	32	Unclear - verb missing? [EUCE, Belgium]	Accepted_Text modified
21291	CCB7	5	32	5	32	"...total land area of eight out of nine atolls occurred.." - this doesn't make sense, needs rewording [APECS Group Review, Germany]	Accepted_Text modified
21331	CCB7	5	32	5	32	occurred' is probably a mistake and should be 'increased' instead (i.e. land area increased, not occurred) [APECS Group Review, Germany]	Accepted_Text modified
1787	CCB7	5	37	0		The conclusion of high confidence that atom reef islands "can accommodate rising sea levels over time" does not at all appear to be supported by the previous sentences, which give plenty of examples of islands be lost in response to sea level rise. [Mark Payne, Denmark]	Accepted_Text modified. The confusion was because of the unfortunate formulation of the sentence, which has been moved up (before the various examples) and now reads: "Atoll islands are not 'static landforms' (high confidence) and they experience both erosion (Section 4.3.3.3) and accretion of land.".
15889	CCB7	5	37	0		The conclusion of high confidence that atom reef islands "can accommodate rising sea levels over time" does not at all appear to be supported by the previous sentences, which give plenty of examples of islands be lost in response to sea level rise. [EUCE, Belgium]	Accepted_Text modified. The confusion was because of the unfortunate formulation of the sentence, which has been moved up (before the various examples) and now reads: "Atoll islands are not 'static landforms' (high confidence) and they experience both erosion (Section 4.3.3.3) and accretion of land.".
21293	CCB7	5	37	5	39	How modest is "modest sea level rise" in terms of the projections? [APECS Group Review, Germany]	Accepted_Text modified
28495	CCB7	5	37	5	39	How can there be "high confidence" that atoll reef islands can accommodate sea level rise over time? This has been the case over parts of the observational record, but no studies are available that support such a statement for the increasing rate of sea level rise in the future. Additionally, as pointed out in Duvat (2018), the main producer of sediments deposited are the surrounding reefs. As these reefs are under severe threat by coral bleaching and other drivers, the long-term rate of potential sediment production might decline. A more nuanced statement is warranted here. [Government of Saint Lucia, Saint Lucia]	Accepted_Text modified. The confusion was because of the unfortunate formulation of the sentence, which has been moved up (before the various examples) and now reads: "Atoll islands are not 'static landforms' (high confidence) and they experience both erosion (Section 4.3.3.3) and accretion of land.".
34121	CCB7	5	37	5	39	Giving an example of rising sea level accommodation would be helpful. [Government of United States of America, United States of America]	Taken into account_The sentence had been completely reworked and this part on "can accommodate" has been deleted.

SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
12887	CCB7	5	39	5	39	The term 'probably' is confusing here as it is not part of the IPCC uncertainty terminology. Does this imply that there is low confidence in the statement? [Government of Germany, Germany]	Accepted_Text modified
34123	CCB7	5	41	5	41	Most of this paragraph discusses the impact of climate change on islands, but the references listed on this line just refer to climate change impacts on coral reefs, not islands. A more relevant reference linking climate change to reefs and island sustainability is: Quataert, E., et al., 2015. "The influence of coral reefs and climate change on wave-driven flooding of tropical coastlines." Geophysical Research Letters, v. 42, p. 6407-6415. [Government of United States of America, United States of America]	Accepted_Reference included.
24189	CCB7	5	46	5	48	El Niño associated floods do not intrinsically depend on sea level rise. Of course, the combination of ENSO and SLR increase the risks in low lying areas. Is the example of flooded areas in Colombia related in any way to SLR? [Sylvain Ouillon, France]	Taken into account. Topic sentence of the small island paragraph is revised. Refer to chapter 6 for further discussion.
21295	CCB7	5	49	5	50	How does the saline intrusion due to sea level rise and storm surges compare to the effect by a reduction in land-side freshwater input as a result of e.g. damming? [APECS Group Review, Germany]	The author did not understand the reviewer's expectation on this point.
21323	CCB7	6	1	6	4	Using a reference that is for a SLR scenario that is outside the likely range of the highest emissions scenario seems relatively weak. Are there other references that could be used that use more likely SLR scenarios? [APECS Group Review, Germany]	Rejected_Why is it "weak"? We specified that this is "far above the upper end of the RCP8.5 likely range (Section 4.2.3.2, Table 4.3)", but still this is the assumption made in the cited literature, and so we have to make it clear.
21297	CCB7	6	1	6	5	If the study referenced is "considerably above" the RCP projections for sealevel rise, how relevant are these results? Should they be included here? [APECS Group Review, Germany]	The authors estimate it important to also reflect views in the literature that goes beyond the assumptions made in RCPs. This is a way to encompass the diversity of possible futures, including the ones that go "far beyond" RCPs.
21299	CCB7	6	5	6	6	What has been the economic impact of the ceasing in crop growth? Place in a wider context [APECS Group Review, Germany]	Considered but we couldn't find the information, so we couldn't add it.
32485	CCB7	6	9	6	25	While there is very short mentioning of the role and changes of permafrost coasts here, the linkage to chapter 3 section 3.4.3 does not result in more details on the issue of permafrost coastal erosion. This topic is nearly completely missing from the report despite the strong observed changes along permafrost coasts and its critical importance and consequences for people, infrastructure and ecosystems as far as I can judge. Examples among many relevant studies include Jones et al 2018 Environmental Research Letters (A decade of remotely sensed observations highlight complex processes linked to coastal permafrost bluff erosion in the Arctic) or Irrgang et al 2018 JGR Earth Surface (Variability in Rates of Coastal Change Along the Yukon Coast, 1951 to 2015) or Günther et al 2013 Biogeosciences (Short and long-term thermo-erosion of ice-rich permafrost coasts in the Laptev Sea region). [Guido Grosse, Germany]	Accepted_That is a fair point and a specific mention (+ 2 references) had been added
31547	CCB7	6	9	6	34	This section is entitled «polar regions» but it seems to be exclusively about the Arctic; so maybe consider changing the title or clarifying that some of this applies to both polar regions. [Hans-Otto Poertner and WGII TSU, Germany]	Accepted_It is now entitled "Arctic coasts".

SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
34125	CCB7	6	9	6	34	Sea-level rise should be added to the list of drivers of coastal change in the "Polar Regions" section. [Government of United States of America, United States of America]	Accepted
34127	CCB7	6	13	6	13	The end of this sentence does not make sense: "dependent on their local natural capital, such as the Lofoten, Norway." Do you mean in Norway's Lofoten archipelago? [Government of United States of America, United States of America]	Accepted_Text modified
34129	CCB7	6	17	6	19	Append ", e.g., from wave action." to the end of the sentence. [Government of United States of America, United States of America]	Accepted_Text modified
34131	CCB7	6	22	6	25	Most of the latter part of this paragraph discusses the influence of decreased sea-ice on ocean waves thus erosion of the coastal shoreline, but the reference at the end discusses riverbank erosion, not coastal erosion. More relevant references are: Gibbs, A., and Richmond, B., 2017. "National Assessment of Shoreline Change: Summary statistics for updated vector shorelines and associated shoreline change data for the north coast of Alaska, U.S.-Canadian border to Icy Cape." U.S. Geological Survey Open-File Report 2017-1107, 21 p. AND Jones, B., et al., 2018. "A decade of remotely sensed observations highlight complex processes linked to coastal permafrost bluff erosion in the Arctic." Environmental Research Letter, v. 13(11), 115001. [Government of United States of America, United States of America]	Accepted_Text modified (sentence mentioning river bank erosion had been deleted) and references added.
21603	CCB7	6	24	6	24	omit "and discontinuous permafrost" as it adds no information [Stephan Gruber, Canada]	Accepted_Text modified
22175	CCB7	6	27	6	27	I was not familiar with the word "enrooted", so I needed to look it up. I don't think it is the right word to use here. I suggest rephrasing the words "enrooted in the recent decades of history" with "originating in recent decades". [Inga Smith, New Zealand]	Accepted_Text modified
21325	CCB7	6	27	6	30	I don't think that construction in near-shore areas necessarily occurred under the assumption of stable coastlines. Sometimes, construction was pushed toward these areas, even with the knowledge that the coastlines are not completely stable. Thus, I think the last clause in this sentence might not be needed and might convey an incorrect ignorance of changing coastlines. [APECS Group Review, Germany]	Accepted_Text modified
21335	CCB7	6	32	6	32	"indigenous peoples have been pushed.." by what / whom? [APECS Group Review, Germany]	Rejected_This is a quotation.
15891	CCB7	6	36	7	6	The OHRLLS report is not peer reviewed. Estimates reported are derived from single source studies, a discussion of confidence/uncertainty should be included. [EUCE, Belgium]	This sentence has been deleted
21301	CCB7	6	38	6	39	"the remaining high dependency of societies on ocean and marine ecosystems and services" - this implies a static dependency over time. Is there evidence that this dependency will change as a result of climate change? If so, this should be reworded [APECS Group Review, Germany]	The word "remaining" had been deleted
21303	CCB7	6	43	6	45	The last sentence of this paragraph would be better placed in the paragraph P5 lines 6-19 [APECS Group Review, Germany]	OK for me. And you Alex?
15893	CCB7	6	45	6	45	Which section is this referring to? [EUCE, Belgium]	This refers to a specific section in the Chapter 5 of the SROCC. Here we use the IPCC format for referencing across chapters.

SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
9877	CCB7	6	49	6	49	Is the notion of "social equalities" included in the expression "well being?" [Government of France, France]	Yes, it is.
8467	CCB7	6	51	0		Suggest remove "to" before "amount" and replace with "will" [Nina Hunter, South Africa]	Accepted - text modified.
34133	CCB7	6	52	6	54	What about relocation? Should it be included here? It is a viable option that is sometimes the right one. [Government of United States of America, United States of America]	Taken into account - The relocation issue is mainly discussed in the "Reponses" setion of the cross-chapter box (indeed as sometimes an adaptation option).
21305	CCB7	7	5	7	5	Coral reefs are not the only coastal ecosystem at risk! By menitoning only this habitat, it implies cascading effects from risks to other ecosystems are either not going to happen or not important [APECS Group Review, Germany]	Discussion has been expanded on coral fisheries
34135	CCB7	7	12	7	13	This sentence makes no sense. [Government of United States of America, United States of America]	Accepted - text modified.
34137	CCB7	7	16	7	16	Please clarify the difference between "groundwater and (sub-)surface water reservoirs". [Government of United States of America, United States of America]	Accepted - text modified (this point had been deleted)
24029	CCB7	7	21	75	23	Suggest inclusion of "traditional knowledge and/or cultural identity tied to land" after statehood. [Lagipoiva Cherele Jackson, Samoa]	Rejected_The authors couldn't figure out how to include this in this sentence.
31549	CCB7	7	30	7	30	«health diseases» sounds weird ; maybe only «diseases»? [Hans-Otto Poertner and WGII TSU, Germany]	Yes, we mean "human diseases"
16441	CCB7	7	45	9	30	Please also include discussion on limits of adaptation and adaptive capacity as well as the potential for greater adaptation options if global average temperatures are limited to 1.5C. IPCC 1.5C Special Report covers these issues in Chapter 3 and also in Chapter 5- particularly Cross-Chapter Box 12 on limits of adaptation and loss and damage. [Alexander Nauels, Germany]	Accepted_The cross-chapter box now extnsively refers to IPCC SR1.5
8469	CCB7	8	7	0		Suggest remove "to" [Nina Hunter, South Africa]	Accepted.
34139	CCB7	8	7	8	10	These two sentences are awkwardly worded: "These effects are resulting from to the typical design and placement of such coastal structures. For example, during the tropical cyclone Oli in 2010 on Tubuai Island, French Polynesia, the waves extracted many blocks from the non-consolidated coastal structures, which then acted like cannonballs and increased the damages (Etienne, 2012)." [Government of United States of America, United States of America]	Accepted_Sentence deleted.
22177	CCB7	8	7	8	7	The wording here is not grammatically correct. Suggest change "These effects are resulting from to the typical design..." to "These effects result from the typical design..." [Inga Smith, New Zealand]	Accepted_Sentence deleted.
26957	CCB7	8	7	8	8	This sentence doesn't work - 'These effects are resulting from to the typical design and placement of such coastal 8 structures.' [Liz Dovey, Australia]	Accepted_Sentence deleted.
27233	CCB7	8	9	7	25	Would be beneficial to have simple graphic displaying net loss of global land-ice and sea-ice. [Michael Schwebel, United States of America]	Rejected_The cross-chapter box had been limited to 3 display items (2 existing figures + 1 table).

SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
27235	CCB7	8	9	7	25	With polar regions would be good to at least mention in a sentence or two the idea of perceived migration or necessary migration with Arctic communities due to changing permafrost / livelihood conditions. [Michael Schwebel, United States of America]	Rejected_The authors couldn't figure out where to include this (mistake in the page and line numbers in the reviewer's comment?)
21307	CCB7	8	17	8	17	"...were found to be 70% effective for coral reefs..." - effective in what? [APECS Group Review, Germany]	Accepted_Text modified
34141	CCB7	8	18	8	18	Most of the middle portion of this paragraph discusses the influence of ecosystem-based design measures. The best example for coral reefs is not Narayan et al. (2016) but rather the more comprehensive paper it builds on: Ferrario, F., et al., 2014. "The effectiveness of coral reefs for coastal hazard risk reduction and adaptation." Nature Communications, 5:3794, DOI: 10.1038/ncomms4794. Furthermore, this reference shows that ecosystem-based (in this case, coral reefs) are just as effective and on the order of 1/10th the cost. [Government of United States of America, United States of America]	Accepted_This reference and main conclusion had been added.
22179	CCB7	8	18	8	20	"Ecosystem-based measures are usually considered low-regret...enhancing the adaptive capacity of natural ecosystems." While the word "usually" is an important qualifier here, it might be a good idea to explain (if this is what was intended) that "natural ecosystems" means "locally native ecosystems". For example, in New Zealand the introduction of the exotic grass marram ( <i>Ammophila arenaria</i> ) to stabilise dunes has led to unintended adverse consequences to the beach-dune systems. A general public explanation of what happened and the consequences is given on these web pages: <a href="https://teara.govt.nz/en/dune-lands/page-2">https://teara.govt.nz/en/dune-lands/page-2</a> <a href="https://teara.govt.nz/en/dune-lands/page-3">https://teara.govt.nz/en/dune-lands/page-3</a> For peer-reviewed literature, see: Hilton, M. J. (2006). The loss of New Zealand's active dunes and the spread of marram grass ( <i>Ammophila arenaria</i> ). <i>New Zealand Geographer</i> , 62(2), 105-120. doi: 10.1111/j.1745-7939.2006.00054.x Hilton, M., Harvey, N., Hart, A., James, K., & Arbuckle, C. (2006). The impact of exotic dune grass species on foredune development in Australia and New Zealand: A case study of <i>Ammophila arenaria</i> and <i>Thinopyrum junceiforme</i> . <i>Australian Geographer</i> , 37(3), 313-334. doi: 10.1080/00049180600954765  Hilton, M., Duncan, M., & Jul, A. (2005). Processes of <i>Ammophila arenaria</i> (Marram Grass) Invasion and indigenous species displacement, Stewart Island, New Zealand. <i>Journal of Coastal Research</i> , 21(1), 175-186. [Inga Smith, New Zealand]	Accepted_Excellent point (1 ref. added)
21309	CCB7	8	21	8	22	"Other options being considered..." - being considered to achieve what? [APECS Group Review, Germany]	Sentence deleted
27237	CCB7	8	21	8	41	Along the lines of sovereignty, perhaps it would be beneficial to discuss the fact that many LLIC islands may not have full-on / complete sovereignty to make decisions as an autonomous nation and this has implications down the line for how they are able to adapt and move forward - or not.. [Michael Schwebel, United States of America]	Taken into account_This point refers to Chapter 1 and the Cross Chapter Box #2 on governance.

SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
26173	CCB7	8	24	8	25	what does 'medium confidence' refer to. The point that it is considered seems a fact and does not need a confidence statement [Regine Hock, United States of America]	Accepted_Sentence modified and this "old" confidence statement rhad been deleted (you're right, was not necessary).
28497	CCB7	8	24	8	26	Classifying relocation as adaptation is a value judgement and might as well be classified as a response to Loss and Damage and involves losses for those relocated (McNamara et al. 2017). It shouldn't be just presented as adaptation. [Government of Saint Lucia, Saint Lucia]	Taken into account_The text had been revised. It does not say that relocation is adaptataion, but rather that relocation is considered as adaptation in some literatrure.
21767	CCB7	8	24	8	50	There are many examples of relocation in the report to adapt to the environment of high sea level. We also show that relocation and spatial planning for this also have difficulites to carry on. It could be a financial budget or claims from the residents or the householder in the original areas. We all understand that the relocation can be a fundamental solution for the coastal areas to adapt, but we also make it clear what obstacle we should prepare to deal with before considering the relocation. [Government of Republic of Korea, Republic of Korea]	Accepted_This is a very good point and we added the following sentence: "The obstacles thus extend well beyond the cost of relocation itself because of the multi-dimensional impacts on people's lives."
26959	CCB7	8	28	8	43	Albert 2016 (which is referenced elsewhere) should really be referenced again here. Lots of evidence of inundation and community moves in Solomon Islands. Should be included in the discussion and refs mentioned. [Liz Dovey, Australia]	Albert et al 2016 Now cited in the relocation discussion EAH
8471	CCB7	8	52	0		Suggest insert "of" after "regardless" [Nina Hunter, South Africa]	Accepted and changed.
21311	CCB7	9	15	9	15	the "Pacific Region" is rather large...! Can this be reworded to be more specific? [APECS Group Review, Germany]	Accepted and changed.
31551	CCB7	9	28	9	28	I think it is not necessary to introduce and use the acronym for Climate Resilient Development Pathways; the term only occurs twice in this CCB. [Hans-Otto Poertner and WGII TSU, Germany]	Accepted and changed.
21045	CCB7	9	33	97	33	There is no concrete evidence directly linking climate change to HABs has been shown in the section. So this statement is not justified. [APECS Group Review, Germany]	Rejected_This comment looks to apply to Chapter 5.
34143	CCB7	9	35	9	45	This is a helpful summary that is perhaps worthy of further highlighting or distinction to make it stand out more. [Government of United States of America, United States of America]	Thanks for this comment. We reworked the wording.
8473	CCB7	9	36	0		Suggest insert "of" after "regardless" [Nina Hunter, South Africa]	Accepted.
8475	CCB7	9	39	0		Suggest insert "through" after "local" [Nina Hunter, South Africa]	Taken into account_Text modified
15895	CCB7	9	39	9	39	as indicated also in the glossary, the use of "loss and damage" typically refers to the political debate. Suggest using instead only losses, or residual impacts [EUCE, Belgium]	Rejected_We use this terminology to refer to the annotated outline develoed during the scoping meeting of the SROCC.
8477	CCB7	9	44	0		Reunion Island is not located in France so should "France" not be removed? [Nina Hunter, South Africa]	Rejected_Reunion island is a French Overseas Territory.
21313	CCB7	10	10	10	10	The 'feedback' arrows are rather lost in this figure but are quite important - can they be integrated into the figure better? [APECS Group Review, Germany]	Taken into account_We however could not make them bigger. Note however that feedback effects are also highlighted with the circular arrows between the "continuum of solutions" and "Impacts & risks".



SROCC Second Order Draft Government and Expert Review Comments - Cross-Chapter Box 7							
Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
5259	CCB7	10	10	10	11	Figure CCB7.2 - Would be written the references of the Figure or if it is elaborated by the authors . [CRISTOBAL FELIX DIAZ MOREJON, Cuba]	Rejected_That is not the IPCC rule: if no source mentioned, that means that the figure had been elaborated by the authors.
12889	CCB7	10	10	10	17	It is not clear what the reader should learn from this figure. It appears conceptually flawed and its message is unclear. Is the development of the solution space based on evidence, or is it a prediction by the authors? Are the blue and red dots based on evidence or just deliberately distributed by the authors - in which case, what is their meaning/value? Unless the ecosystem based solutions always co-occur with relocation, there is a dimension missing for the solutions space. How is indigenous knowledge an anthropogenic driver of impacts? You probably mean "factors determining exposure and vulnerability?" Also "risk of impact" is kind of odd, given that the new definition of impact its "realized risk" - Please be more precise when presenting conceptual diagrams, and make sure the use of terminology is consistent within the graph and with the glossary definitions. When revising the graph, please ensure that this conceptual diagrams can not be misinterpreted as deterministic representation of causal relationships, and that its illustrative character remains clear. [Government of Germany, Germany]	Taken into account_The figure had been slightly modified and the caption had been reworked to better describe the various components of the figure and their linkages.
12891	CCB7	10	10	10	17	In Figure CCB7.2, please consider to add the conflict dimension both for column "anthropogenic drivers" and the column "risks of impacts"; please also consider to specify "risks of conflicts/ increasing needs for cooperation". [Government of Germany, Germany]	Rejected - The anthropogenic drivers that are indicated in the figure are the ones that are discussed in the text. The "Etc." line suggests that other anthropogenic drivers can come into play (e.g. conflicts).
27877	CCB7	10	10	10	17	The figure and text should be aligned. E.g., Deltas should include estuaries, as in the text. [Zelina Ibrahim, Malaysia]	Accepted_Word "estuaries" deleted.
21327	CCB7	10	11	10	11	I don't see what this figure adds to the discussion within the text. The left side of the figure, describing which Ocean/cryo hazards cause direct or indirect impacts to which class of LLIC seems to be relevant information. But the visualization of the rest of the figure does not make any clear points to me that were not illustrated just as clearly in the text. Additionally, "conceptual solutions space" in the "continuum of responses" section is a bit confusing. For instance, does the difference in length of that space visualization between SIDS and polar regions imply that there are fewer hard engineering and/or hold-the-line solutions available to polar regions? If so, why is that the case. This seems to introduce additional claims into the visualization not necessarily supported by the text. Overall, I appreciate the effort to make a conceptual figure that outlines all of the impacts and adaptation possibilities described in the text. However, I think the illustration as implemented introduces new confusion. [APECS Group Review, Germany]	This figure intends to provide a synthesis of the integrative cross-chapter box.
1789	CCB7	10	12	0		This is a really nice synthesis figure. [Mark Payne, Denmark]	Thank you.
15897	CCB7	10	12	0		This is a really nice synthesis figure. [EUCE, Belgium]	Thank you.
26159	CCB7	10	12	10	12	Why is the link between cryosph. Changes and SIDS only indirect? It is very direct. If the glaciers/ice sheets melt they may disappear. [Regine Hock, United States of America]	Accepted_Figure modified

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Comment id	Chapter	From page	From line	To page	To line	Comment	Chapter Team Response
26161	CCB7	10	12	10	12	Why is there no links between cryosph changes and all other components? If glaciers/ice sheets lose mass they are all directly affected. [Regine Hock, United States of America]	Rejected_This is to avoid a too busy figure (which needs to remain synthetic, not exhaustive)
26163	CCB7	10	12	10	12	upper left: perhaps better to replace 'hazards' by 'change' or consistent with the next column by 'drivers' [Regine Hock, United States of America]	Accepted_Figure and caption modified
26165	CCB7	10	12	10	12	2. column: why is polar regions one of the 4 domains. There is a break in logic from 3 categories (cities, deltas, islands) that are at least largely independent, to polar regions. There are other domains that are neither one of the 4 categories. Choice is unclear. [Regine Hock, United States of America]	Taken into account "Polar regions" had been renamed "Arctic coasts". The 4 bocs reflects the geographies considered in the text.
26167	CCB7	10	12	10	12	3. column is unclear. If there are 2 criteria (hold the line - relocate and second type of engineering) how can there be only one solution for the risk display below for each of the 4 domains? [Regine Hock, United States of America]	Rejected_Text says "Depending on the combinations of responses (black dots) along a continuum going from hard engineering to ecosystem-based approaches, and from securing current settings to relocation (light blue triangles), risks will increase or decrease in the coming decades. ". Note that "hold-the-line" had been changed for "Securing current settings".
26169	CCB7	10	12	10	12	3. column: overall not very clear; also why are there many dots? What does the number represent? [Regine Hock, United States of America]	This is a stylized representations of potential options and their combinations. This had been specified in the caption.
34145	CCB7	10	12	10	14	The storyline of risk for LLIC does not "explain impacts". [Government of United States of America, United States of America]	Taken into account_We reworked the figure and its caption to make this storyline clearer.
8479	CCB7	10	17	0		Suggest "while" instead of "when"; remove "rather" [Nina Hunter, South Africa]	Accepted_Caption modified
25427	CCB7	12	10	12	10	Fig. CCB7.2 - not sure to understand : Conceptual solutions' space ? These solutions have to be combined in time. I don't see this parameter. For example for SIDS, relocation may be the only short-term solution and for coastal cities, hybrid solution may be short-term. [Boris LECLERC, France]	Taken into account_The figure and its caption had been refined. Note however that the dots are stylized representations of potential options and their combinations; the time dimension is not considered here to avoid too much complexity in the figure.
12113	CCB7	18	54	18	54	"Taiwan" is changed to "Taiwan Province of China". [Government of China, China]	Accepted_The specific reference to this case had been removed due to the need for shortening the SOD version of the CCB.
24527	CCB7	20	31	20	33	The sentence which talks about total land area in tuvalu does not say whether it increased or decreased between 1971 to 2014 [Zamath Khaleel, Maldives]	Taken into account_The sentence however does not intend to provide such information at the country scale, but rather intends to highlight land area changes at the island scale. The whole paragraph had been removed to make this point clear.