Information on the eighth meeting of the research dialogue

Note by the Chair of the SBSTA

20 April 2016

I. Introduction

1. As requested by the Subsidiary Body for Scientific and Technological Advice (SBSTA) at their twenty sixth session, the secretariat will organize regular research dialogues in collaboration with invited research programmes and organizations to inform the SBSTA of developments in research activities relevant to the needs of the Convention.[1]

2. At their forty second meeting (SBSTA 42), the SBSTA invited Parties, taking into account the information note on the seventh meeting of the research dialogue,[2] to submit to the secretariat their views on possible topics for consideration at the research dialogue to be held during SBSTA 44 (May 2016) and beyond.

3. The SBSTA also invited Parties to submit their views on themes for a possible research workshop to be held in conjunction with SBSTA 46 (in May 2017).

4. Submissions were received from the Maldives on behalf of AOSIS,[3] the Netherlands and the European Commission on behalf of the European Union and its Member States,[4] Japan,[5] the Russian Federation[6] and the United States of America.[7]

5. At SBSTA 42, the SBSTA encouraged the scientific community to address information and research gaps identified during the seventh research dialogue, including scenarios that limit warming in 2100 to below 1.5 °C relative to pre-industrial levels, and the range of impacts at the regional and local levels associated with these scenarios.[8]

6. This encouragement was reconfirmed at the twenty-first session of the Conference of the Parties (COP 21). The COP encouraged the scientific community to address information and research gaps identified during the structured expert dialogue,[9] including scenarios that limit warming to below 1.5 °C relative to pre-industrial levels by 2100 and the range of impacts at the regional and local scales associated with those scenarios.[10] The COP invited the Intergovernmental Panel on Climate Change (IPCC) to provide a special report in 2018 on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways. The IPCC have since responded positively to this invitation.[11]

7. Further relevant events since the last research dialogue include:

(a) The IPCC workshop on regional climate projections and their use in impacts and risk analysis studies (September 2015, Brazil),[12] which identifies recommendations on the use of regional climate modelling in the IPCC sixth assessment report, in particular to linking the work of working groups I and II;

[1] FCCC/SBSTA/2007/4, paragraph 47.

[2] <http://unfccc.int/files/science/workstreams/research/application/pdf/rd7_infnote.pdf>.

[3] See <http://www4.unfccc.int/submissions/Lists/OSPSubmissionUpload/167_143_131021165604973702-AOSIS%20Research%20Dialogue%20revised%20draft%20March4_FINAL.docx>.

[4] See <http://www4.unfccc.int/submissions/Lists/OSPSubmissionUpload/75_143_131021626866168945-NL-03-11-EU%20Science%20research%20dialogue.pdf>.

[5] See <http://www4.unfccc.int/submissions/Lists/OSPSubmissionUpload/112_143_131027965169223349-JAPAN_RESEARCH_DIALOGUE_POSSIBLE_THEMES.pdf>.

[6] See < http://www4.unfccc.int/submissions/Lists/OSPSubmissionUpload/433_143_131030381468256257-Russian%20Federation_Submisison_Dialologue%20SBSTA%2044_ENG.pdf>.

[7] See <http://www4.unfccc.int/submissions/Lists/OSPSubmissionUpload/54_143_131025350616086936-Submission%20USA%20Research%20Dialogue%20Mar2016%20Final.pdf>.

[8] FCCC/SBSTA/2015/2, paragraph 33.

[9] See <http://www.unfccc.int/7521>.

[10] Decision 10/CP.21, paragraph 8.

[11] At the forty-third session of the IPCC, Kenya, 11–13 April 2016, the IPCC agreed to provide a special report in 2018 on the impacts of global warming of 1.5 ºC above pre-industrial levels and related global greenhouse gas emission pathways <http://www.ipcc.ch/news_and_events/pdf/press/160414_PR_P43.pdf>.

[12] <http://www.ipcc-wg1.unibe.ch/meetings/region/region.html>. The report from the workshop is available at <http://www.ipcc-wg1.unibe.ch/meetings/region/RPW_WorkshopReport.pdf>.

(b) The Global Climate Observing System (GCOS) conference on global climate observation: the road to the future (March 2016, Netherlands),[13] which enabled producers and users of climate observations and other stakeholders the opportunity to discuss the current monitoring of the Essential Climate Variables (ECVs) and to highlight possible new areas for ECVs in advance of the publication of the new GCOS implementation plan;[14]

(c) The Deutsches Zentrum für Luft-und Raumfahrt e.V. (DLR, German Aerospace Center) in collaboration with the United Nations Office for Outer Apace Affairs (UNOOSA) on climate change: challenges for atmospheric research (April 2016. Germany); which provided a forum for scientists, research centers, space agencies and UN entities including UNOOSA, UNFCCC, WMO and GCOS to investigate how space and atmospheric research can support the requirements of climate protection and identify tools and methods for a continuous monitoring process to support climate change agreements.[15]

8. In last year's research dialogue (RD 7), a new approach was taken to the research dialogue. An information note was prepared in advance of the meeting[16] and a detailed report was produced after the presentations and ensuing discussions between Parties and representatives from research programmes and organizations.[17] This approach deepened understanding of the issues and enabled a more productive dialogue between research programmes and organizations to support decision making. I plan to organize this year's dialogue (RD 8) in a similar manner so that the science and the scientific community can support the policy and the mandates under the Convention. Additionally, relevant gaps and needs can be identified for which Parties can provide support.

II. Eighth meeting of the research dialogue

A. Goal of and general approach to the meeting

9. The COP requested that the research dialogue be utilized as a forum for discussing needs for climate change research and research-related capacity-building, particularly the needs of developing countries, and for conveying research findings and lessons learned from activities undertaken by relevant regional and international research programmes and organizations.[18]

10. On 12 December 2015, the COP adopted the Paris Agreement by decision 1/CP.21.[19] This recognizes the need for, as stated in the preamble, "effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge." Thus, supporting and monitoring of progress on the Paris Agreement and the long-term global temperature goal depends on, *inter alia*, reliable global systematic observations; thorough scientific research and modelling at increasingly smaller scales; and effective communication of data and information to support transparent action, including on mitigation, adaptation and loss and damage associated with climate change.

11. The research dialogue has, to date, focussed on a range of themes to support the work of the Convention. Annex I provides a table of themes and presentations from all previous research dialogues, as well as themes for this year and for future research dialogues. This table is updated from the original provided in Annex I of the information note on the seventh meeting of the research dialogue.[20]

12. Furthermore, I received a letter from the Executive Committee of the Warsaw International Mechanism for Loss and Damage that suggests that slow onset events be a possible topic for the research dialogue.[21]

13. Based on submissions and mandates (paragraphs 2–5) and the information above (paragraphs 9–12), the goal of the eighth meeting of the research dialogue (RD 8) is to provide a discussion forum for conveying new scientific findings and information gaps and supporting scientific knowledge and capacity building, in the light of the Paris Agreement and will cover two thematic areas (as described in detail in section B).

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[13] <http://www.gcos-science.org>.

[14] See <http://unfccc.int/files/documentation/submissions_from_observers/application/pdf/546.pdf>.

[15] <http://www.ccc2016.net>.

[16] <http://unfccc.int/files/science/workstreams/research/application/pdf/rd7_infnote.pdf>.

[17] <http://unfccc.int/files/adaptation/application/pdf/researchdialogue.2015.2.summaryreport.pdf>.

[18] Decision 16/CP.17, FCCC/CP/2011/9/Add.2, page 47.

[19] Decision 1/CP.21, FCCC/CP/2015/10/Add.1.

[20] See Annex I, Table 1, ResearchDialogue.2015.1.InformationNote available at the RD 7 webpage <http://www.unfccc.int/9292.php>.

[21] See <http://unfccc.int/files/adaptation/groups_committees/loss_and_damage_executive_committee/application/pdf/excom_letter_to_sbsta_chair_on_researchdialogue.pdf>.

14. Experts will be invited to provide posters and focused presentations with emphasis being placed on enabling discussion between experts and Parties on the main issues within these two thematic areas, including on reflections from Parties on this matter. Participants should come prepared with focussed questions and views that they would like to express, using the guiding questions in section B to help provide focus, and be ready to engage actively in the dialogue.

15. After the dialogue, as for RD 7, I will prepare a summary report, which will be made available on the research dialogue web page before SBSTA 45.

16. I encourage Parties to use all the information referred to in this information note and in RD 8 as a basis for identifying topics at SBSTA 44 for the possible research workshop to be held in conjunction with SBSTA 46.

B. Organization of the meeting

17. In organizing the meeting, I have taken into account the request from Parties for the focus of RD 8 to be on well-defined thematic areas, the need to provide an environment to hear information from research organizations and the need to have ample time for effective discussion between experts and Parties.

18. Two main thematic areas were identified from submissions (paragraph 4) and the letter from the Executive Committee of the Warsaw International Mechanism for Loss and Damage (paragraph 12):

(a) The **first thematic area** is the scientific analysis of pathways for achievement of the "well below 2 ºC" global temperature goal and limiting the temperature increase to 1.5 ºC, including global and regional transformation pathways and related impacts.

(b) The **second thematic area** is the risks and impacts of slow-onset events[22] as a result of climate change, particularly including temperature and those that occur in the cryosphere (sea level rise and ocean acidification) and hydrological cycle (drought). This includes:

i. Latest scientific knowledge, and information gaps, in regards to impacts and impact assessment within countries and regions, particularly vulnerable countries such as Small Island Developing States (SIDS), and impacts that may occur beyond 2100, large-scale tipping points and related risks;

ii. Progress in the development and delivery of climate services to enable countries to prepare for slow-onset events, based on emerging scientific findings and capacity-building activities, such as impact assessments, monitoring networks, early warning systems, modelling of impacts under future emission scenarios, and climate data including visualization tools and downscaled information.

19. The agenda and guiding questions for the dialogue have been drawn up in consideration of the RD 8 goal and thematic areas; experience from RD 7; the Paris Agreement; relevant information from other agenda items including the SBSTA research and systematic observation agenda and the joint SBSTA–SBI agenda item on the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts; and events identified in paragraph 7.

20. The two thematic areas will be addressed during a poster session followed by short presentations and discussion in two parts: part 1 – Conveying new scientific findings and emerging needs, and part 2 – Supporting scientific knowledge and capacity-building.

Poster session

21. The research dialogue will open with a 60-minute poster session which will start half an hour in advance of the research dialogue at 14.30.

22. The poster session will provide detailed research information from Parties and relevant organizations on the two thematic areas relevant to both parts of the dialogue. Experts will be available with their posters during the session to respond to all queries and provide further information.

23. The posters will be available at the conference venue from 19–21 May. The full list of posters will be available on the RD 8 website.[23]

[22] Decision 1/CP.16, footnote 3, identifies slow onset events include sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification.

[23] <http://www.unfccc.int/9475.php>.

Part 1: Conveying new scientific findings and emerging needs

24. Part 1 will involve presentations to convey emerging scientific findings and information gaps in the light of the Paris Agreement on the the two thematic areas, linking in the information from the posters where possible. This will be followed by a discussion between the experts who provided posters and/or gave presentations and Parties. Contributors are asked to keep their presentations and interventions to 8–10 minutes in this session so that at least half of the time can be dedicated to discussion.

25. The World Climate Research Programme (WCRP) will open the session providing an update on the grand challenges,[24] CMIP6[25] and CORDEX,[26] including how the scientific community is addressing the issues outlined in paragraphs 5–6. The IPCC will provide an update on scientific findings on slow onset events,[27] since the fifth assessment report.[28] GCOS will present on outcomes from its recent conference (see paragraph 7) including on monitoring to help countries reduce the uncertainties of their national greenhouse gas inventories in regards to the global temperature goals and emerging needs for new essential climate variables, climate information and climate services. The Global Carbon Project will present on new information on the carbon cycle and carbon budget. A representative from Japan will present on long-term projection by the Earth System Model and evaluation of climate sensitivity as the basis for mitigation.

26. The guiding questions for part 1 include:

(a) How are slow onset events observed and measured, what are the emerging research findings, gaps and needs in regards to risks and impacts, and what are the implications for vulnerable countries?

(b) What are the opportunities to help countries reduce the uncertainties of their national greenhouse gas inventories to support implementation of the Paris Agreement?

(c) What climate change indicators and climate services can support action at the national level?

Part 2: Supporting scientific knowledge and capacity-building

27. Part 2 will involve presentations to support scientific knowledge and capacity-building in the light of the Paris Agreement on the two thematic areas, linking in the information from the posters where possible. This will be followed by a discussion between experts who provided posters and/or gave presentations and Parties. Contributors are asked to keep their presentations and interventions to 5–7 minutes in this session so that at least half of the time during the meeting can be dedicated to discussion.

28. Contributions will include those from the United States of America, the European Commission, the Inter-American Institute for Global Change Research (IAI), the Asia-Pacific Network for Global Change Research (APN) and the Global Framework for Climate Services (GFCS).

29. The guiding questions for part 2 include:

(a) What would be effective climate services from the international community to support international, regional, national and local climate change decision-making?

(b) How can regional and local knowledge and capacity be improved?

(c) How can south–south cooperation be promoted to support knowledge-sharing and capacity-building on slow onset events?

C. Date and venue

30. The eighth meeting of the research dialogue will take place on 19 May 2016, during SBSTA 44, 15:00–18:00, Wien 1-2, World Conference Centre, Bonn, Germany.

31. The poster session will take place in front of meeting room Wien 1-2 and will start half an hour in advance of the official start of the dialogue at 14.30, and continue for one hour until 15.30. Following the poster session, participants will be invited into the meeting room to continue the rest of the dialogue.

32. The agenda, posters, presentations and webcast will be available from the dedicated RD 8 website.[29]

[24] <http://www.wcrp-climate.org/grand-challenges>.
[25] <http://www.wcrp-climate.org/wgcm-cmip/wgcm-cmip6>.
[26] <http://www.cordex.org/>.
[27] Decision 1/CP.16, footnote 3, identifies slow onset events include sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification. See also paragraph 18b
[28] <https://www.ipcc.ch/report/ar5/>.
[29] <http://www.unfccc.int/9475.php>.

Annex I

Analysis of themes and presentations from previous research dialogues

33. The foundation for the research dialogue was given in decision 9/CP.11[30] and the focus identified at SBSTA 26, at which SBSTA invited relevant research programmes and organizations to regularly inform the SBSTA of developments in research activities relevant to the needs of the Convention.[31] In 2011, recommendations from SBSTA 35 to the COP, resulted in decision 16/CP.17,[32] which encouraged Parties, in particular developing country Parties, and regional and international research programmes and organizations active in climate change research to utilize the research dialogue as a forum for discussion and conveying research findings and lessons learned.

34. In Annex I.C of the information note to RD 7, [33] a table was provided identifying the themes and presentations from previous research dialogues and the focus of all presentations. The focus of presentations is identified according to three main categories, as identified in the above relevant mandates:

(a) **Discuss needs** for climate change research and research-related capacity-building, particularly the needs of developing countries to support the work of the Convention;

(b) **Convey research findings, emerging information and lessons learned** from activities undertaken by regional and international research programmes and organizations of relevance to the Convention;

(c) Inform on **capacity-building, communications and networking.**

35. Table 1 provides an updated table with the themes and presentations for all research dialogues including RD 7 as well as the themes for RD 8. It also includes themes suggested in submissions from Parties[34] that have not yet been covered in research dialogues due to the time constraints imposed for the dialogue.

[30] FCCC/CP/2005/5/Add.1, pages 19–20.
[31] FCCC/SBSTA/2007/4, paragraph 47.
[32] FCCC/CP/2011/9/Add.2, page 47.
[33] <http://unfccc.int/files/science/workstreams/research/application/pdf/rd7_infnote.pdf>.
[34] For all submissions see <http://unfccc.int/ 5900.php>.

Table 1
Analysis of presentations from research dialogues to date (RD 1–7)

SBSTA	RD	Description	Themes	Title	Presenter	Organization	Needs[1]	Convey updates[2]	Cross cutting[3]
30	1	Conveying emerging research findings and activities and research-related capacity building activities	Emerging scientific findings	Emerging Scientific Findings and Activities Relevant to UNFCCC	Rik Leemans	ESSP		√	
				Climate Change: global risks, challenges and decisions	Katherine Richardson	IARU		√	
				IPCC: Towards AR5	Jean-Pascal Van Ypersele	IPCC		√	
			Research-related capacity-building activities and activities in the regions	START's input to the SBSTA 30 Research Dialogue	Jon Padgham	START			√
				Climate change research and observations in the FP7: Results, planning, activities, research needs	Elisabeth Lipiatou	FP7		√	
				IPCC-WG2 - Future Research Needs	Holm Tiessen	IAI	√		
				Developments in Climate Change (16849 kB)	Andrew Matthews	APN			√
30	1	Total					1	4	2
32	2	Conveying emerging research findings and activities, research-related capacity-building activities and research needs and priorities	Emerging scientific findings	What is dangerous climate change?	Rik Leemans	ESSP		√	
				Climate information for decision making	Ghassem R. Asrar	WCRP		√	
				Ocean acidification	Sybil Seitzinger	IGBP		√	
				IPCC AR5: Innovations and cooperation among WGs	Ottmar Edenhofer	IPCC		√	
			Research-related capacity-building activities and activities in the regions	Asia-Pacific Network for Global Change Research	Andrew Matthews	APN			√
				Climate change research in the 7th Framework Programme: Results and new initiatives	Elisabeth Lipiatou	FP7		√	√
				Science-policy dialogues on climate change	Jon Padgham	START	√		√
			Overview presentations by Parties and panel discussion on climate change research needs and priorities in support of the Convention	Research needs and priorities to support UNFCCC	Ann Gordon	Belize	√		
				Science and an effective response to climate change	David Warrilow	European Union	√		√
				Challenges and needs in research	Hiroki Kondo	Japan	√		
				Needs for research and systematic observation in Africa	Birama Diarra	Mali	√		
				Perspectives from the United States	Benjamin Zaitchik	United States of America	√		√
32	2	Total					6	5	5
34	3	Conveying emerging research findings and activities, research-related capacity-building activities including developments towards AR5, and research needs and	Overview of recent key findings from regional and international climate change research	Summary of main scientific findings presented at the SBSTA workshop on research	Sergio Castellari	Italy	√		
				Emerging results from global climate change research	Guy Midgley	ESSP		√	
				Findings from UNEP/WMO Integrated Assessment of Black Carbon and Tropospheric Ozone	Drew Shindell	UNEP		√	
				Arctic Council Assessment of Regional and Global Climate Change Impacts on Snow, Water, Ice and Permafrost in the Arctic	Morten Skovgård Olsen	AMAP	√	√	
			Developments towards preparation of the AR5	IPCC, Article 2, Sea-level rise and Scenario Development	Jean-Pascal van Ypersele	IPCC		√	

SBSTA	RD	Description	Themes	Title	Presenter	Organization	Needs[1]	Convey updates[2]	Cross cutting[3]
		priorities and communication activities		New features in IPCC AR5	Renate Christ	IPCC	√	√	
			Research needs and priorities to support emerging issues under the UNFCCC: views by Parties	Needs for research and systematic observation	Birama Diarra	Mali on behalf of LDCs	√		
				AOSIS concerns and issues for consideration	Clifford Mahlung	Jamaica on behalf of AOSIS	√		
				Overview of Research Needs to address Climate Change: The case for Botswana	David Lesolle	Botswana	√		√
				Blue Carbon: Consideration in SBSTA	Federica Bietta	Papua New Guinea	√		
				Policy-making relevant questions to the socio-economic scientific community	José Romero	Switzerland	√		√
			Good practices and challenges in communicating climate change research results	Developments on the Global Framework for Climate Services: Communicating climate information	Mannava Sivakumar	WMO	√	√	√
				Communicating climate science to policy makers: A success story from the IAI collaborative research in the Americas	Ione Anderson	IAI			√
				Communicating scientific knowledge and needs for research on vulnerability, impacts and adaptation	Cynthia Rosenzweig	PROVIA	√		√
			Collaboration with and opportunities for building research capacity in developing countries	Enhanced research capacity building in developing countries in the Asia-Pacific: Success stories	Andrew Matthews	APN			√
				Capacity building for adaptation research: START's African Climate Change Adaptation Fellowship Programme	Jon Padgham	START			√
			Needs and priorities for enhanced research capacity and for enhanced science-policy dialogue: views by Parties	Enhanced science-policy dialogue and communication	Katrine Krogh Andersen	Denmark			√
34	3	Total					10	6	8
36	4	Conveying emerging research findings and activities including on: emission pathways, new scenarios and recent global and regional emission trends; coastal and marine ecosystems: greenhouse gas	Research findings: updates from recent climate change research on aspects relevant to the long-term global goal – emission pathways, new scenarios and recent global and regional emission trends	Low stabilization and new long term scenarios from the IPCC special report on renewables (SRREN)	Jan Minx	TSU Head of WGIII of the IPCC		√	
				State of the community driven scenario process: New framework for future scenario development for the AR5	Tom Kram	IPCC		√	
				Results from research by the Earth System Science Partnership (ESSP) programmes (ESSP, WCRP, IGBP, IHDP, DIVERSITAS) of relevance to the long term global goal	Rik Leemans	ESSP		√	
				Some results from the WCRP on climate modelling	Adrian Simmons	WCRP		√	
				Impacts and costs of climate change under different	Luca Perez	FP7		√	

SBSTA	RD	Description	Themes	Title	Presenter	Organization	Needs[1]	Convey updates[2]	Cross cutting[3]
		sources, sinks and reservoirs; and capacity building		scenarios: results from selected FP7 projects (ClimateCost, IMPACT2C, etc.)					
			Research findings: Coastal and marine ecosystems: Greenhouse gas sources, sinks and reservoirs	Technical and scientific aspects of sources, sinks and reservoirs of all GHGs for coastal and marine ecosystems (mangroves, tidal salt marshes, wetlands and sea grass meadows)	Boone Kauffman	Coalition for Rainforest Nations	√	√	
				Development of marine sciences in South America: Ocean, climate and fisheries - the Patagonia Shelf case	Alberto Piola	IAI		√	
				Results from research by the ESSP and its partner programmes (ESSP, WCRP, IGBP, IHDP, DIVERSITAS) on coastal and marine ecosystems - related research	Rik Leemans	ESSP		√	
			Updates from recent climate change research: Other areas of relevance to the Convention, including research-related capacity building	Overview of recent results from research by the ESSP and its partner programmes (ESSP, WCRP, IGBP, IHDP, DIVERSITAS and START)	Rik Leemans	ESSP		√	√
				New Climate Change Synthesis Report for policy makers in Asia-Pacific Region and initiatives for capacity development	Andrew Matthews	APN		√	√
				Observed changes in the climate system. Global sea-level rise and permafrost thawing: results from Ice2Sea and outlook to PAGE21	Luca Perez	FP7		√	
				GHG monitoring from outer space: current outcome and future perspective	Tatsuya Yokota	Japan		√	√
				Atmospheric measurements for emission estimation: real-world emission verification of halogenated greenhouse gases	Brigitte Buchmann	Switzerland		√	√
				Needs for research on slow onset events, e.g. sea level rise	Malia Talakai	Nauru, on behalf of AOSIS	√		
				Priorities for vulnerability, impacts and adaptation research	Cynthia Rosenzweig	PROVIA	√		√
36	4	Total					3	13	5
38	5	Conveying research findings and emerging information including on: IPCC; ecosystems and GHG emissions and removals from sources, sinks and reservoirs, including	Science updates: Recent developments in global climate information	Towards the Fifth Assessment report of the IPCC	Jean-Pascal van Ypersele, Vice Chair	IPCC		√	
				Global science updates from international research programmes and organizations - Including on global carbon budget, regional temperature timelines, sea-level rise, climate predictions, black carbon	Sybil Seitzinger	IGBP and WCRP		√	
			Emerging scientific findings: ecosystems and GHG emissions and removals from	Management of different terrestrial ecosystems under a changing climate	Dmitry Zamolodchikov and Andrey Sirin	Russian Federation	√	√	

SBSTA	RD	Description	Themes	Title	Presenter	Organization	Needs[1]	Convey updates[2]	Cross cutting[3]
		terrestrial ecosystems; and needs for climate change research and developments in research-related capacity-building	sources, sinks and reservoirs, including terrestrial ecosystems	Estimation of carbon and their fluxes in tropical peatlands: Results from a Japan-Indonesia joint project	Mitsuru Osaki	Japan		√	
				Overview of findings and results from international research programmes and organizations, including on terrestrial and coastal and marine ecosystems - Including on seagrass habitats and their decline; integration of biodiversity and ecosystems into climate change modelling	Sybil Seitzinger	IGBP, IHDP, DIVERSITAS		√	
				Carbon fluxes in tropical dry forests and savannahs: Human, ecological and biophysical dimensions	Arturo Sanchez-Azofeifa	IAI	√	√	
			Needs for climate change research and developments in research-related capacity-building	Regional capacity development, new opportunities on adaptation	Andrew Matthews	APN	√		√
				Regional capacity development and use of regional climate information - Including on downscaling (CORDEX, Africa), use of climate information for agriculture; START capacity-building workshops and activities	Sybil Seitzinger	IGBP, WCRP and START	√		√
				Research priorities for vulnerability, impacts and adaptation	Cynthia Rosenzweig	PROVIA	√		√
38	5	Total					5	6	3
40	6	Conveying research findings and emerging information including on: global climate information and scientific findings in the polar regions; and needs for climate change research and developments in research-related capacity building	Science updates: recent developments in global climate information	Tropical Dry Forest Resilience and Water Use Efficiency	Arturo Sanchez-Azofeifa,	IAI	√	√	
				Emerging research findings: Extreme events	Sybil Seitzinger/ Vladimir Ryabinin	IGBP / WCRP		√	√
				Report from the Joint GCOS/ Global Observation for Forest Cover and Land Dynamics (GOFC/GOLD) Workshop on 'Observations for Climate Change Mitigation'	Carolin Richter	GCOS	√	√	
				New approaches in climate prediction for better adaptation: near-term prediction and high-resolution ensembles	Masahide Kimoto	Japan	√	√	
			Emerging scientific findings: the polar regions	IPCC WGI findings on the polar regions: warming and polar amplification, permafrost, and sea ice changes	Paul Hezel	IPCC		√	
				IPCC WGII findings on the polar regions: ecosystem impacts of ocean warming and acidification	Hans-Otto Pörtner	IPCC		√	
				Arctic Change: A need for multi-sector collaboration	Jeremy Wilkinson	British Antarctic Survey	√	√	√
				Integrated biodiversity and climate scenarios	Sybil Seitzinger	DIVERSITAS		√	
			Needs for climate change	Knowledge gaps identified in AR5	Renate Christ	IPCC	√		

SBSTA	RD	Description	Themes	Title	Presenter	Organization	Needs[1]	Convey updates[2]	Cross cutting[3]
			research and developments in research-related capacity building	Caribbean Regional Climate Centre	Carlos Fuller	CCCCC	√		√
				Climate change research & innovation in the Horizon 2020 programme	Serena Pontoglio	EC, DG Research & Innovation	√		√
				New capacity building programme for APN	Andrew Matthews	APN	√		√
40	6	Total					8	8	5
42	7	Addressing data and information gaps, including from the IPCC	(a) What is the role of the ocean in the climate system and climate change? This includes timely science on oceanic climate change, climate change impacts on the ocean, ocean ecosystems and human food chains. (b) What are the links between climate change and desertification? (c) What experience has been gained from global and regional initiatives to support regional assessment of climate change, its risks and impacts, including to support effective adaptation responses?	Efforts undertaken to address the information gaps in AR5	Thomas Stocker	IPCC	√	√	
				Confronting Urgent Climate Challenges	David Carlson	WCRP and on behalf of Future Earth partners DIVERSITAS, IGBP and IHDP	√	√	
				Linkages between Climate Change and Land Degradation	Sergio Zelaya	UNCCD	√	√	
				Human influence on extreme events: new approach by Probabilistic Event Attribution	Masato Mori	Japan		√	
				Downscaling of CMIP6 for regional climate modeling: experiences from CORDEX	Claas Teichmann	EURO-CORDEX		√	
				The KNMI Climate Explorer and International Climate Assessment & Dataset	Gé Verver	KNMI		√	
		Lessons learned and good practices for knowledge and research capacity building, in particular in developing countries	(a) How can access to scientific data and information be improved to enhance research and innovation capacity? (b) How can regional and local capacity be improved to support decision making? (c) What are the opportunities for delivering consistent data and model outputs to support decision making?	Climate knowledge and innovation – research strategies in support of climate policy	Vera Stercken	Germany			√
				Addressing global societal challenges through EU research funding	Peter Horvath	EC			√
				Some research-related messages from evaluation of the status of the Global Observing System for Climate	Adrian Simmons	GCOS	√		√
				Capacity Development in Developing States in the Asia-Pacific Region: Some of the Issues	Andrew Matthews	APN	√		√
				Climate Modelling in the Caribbean	Carlos Fuller	CCCCC	√		√
42	7	Total:					6	6	5
44	8	Conveying new scientific findings and research information in the	Scientific analysis of pathways for achievement of the “well below 2 ºC” global temperature goal and limiting						

SBSTA	RD	Description	Themes	Title	Presenter	Organization	Needs[1]	Convey updates[2]	Cross cutting[3]
		light of the Paris Agreement	the temperature increase to 1.5 ºC, including global and regional transformation pathways and related impacts and top-down, independent verification of carbon sinks and sources						
			Impacts of slow onset events as a result of climate change						
		Supporting scientific knowledge and capacity building in the light of the Paris Agreement	Progress in the development and delivery of climate services						
44	8	Total:							
Themes suggested for future dialogues		Regional coverage of observational climate data for research and addressing gaps in regional historical climate data in Africa, Polar regions and oceans.							
		Possibilities, challenges and role of cities and regions in climate mitigation and adaptation efforts, including climate proofing urban and regional development.							
		Economic aspects of addressing climate change (cost estimates of climate change impacts, mitigation and adaptation, and related costing uncertainties).							
		The role of the ocean in the climate system and climate change, such as: ocean heat content change and its significance for climate change trends; factors contributing to sea level rise, including marine ice sheet instability and regional sea level rise; ocean acidification and other drivers of impacts on marine ecosystems.							