

**INFORMATION PAPER**  
**Research**

*July 2017*

This information paper provides an easy-access informal compilation of relevant text on research.

It provides references to the Convention and the Paris Agreement.

It provides all relevant decisions of the conference of the Parties (COP) and conclusions adopted by the COP and the Subsidiary Body for Scientific and Technological Advice (SBSTA), provided in chronological order.

# Contents

Page

## Contents 2

The Convention .....	3
Article 4 Commitments .....	3
Article 5 Research and Systematic Observation .....	3
The Paris Agreement .....	3
1/CP.21, 2015 .....	3
Adoption of the Paris Agreement FCCC/CP/2015/10/Add.1 .....	3
Decisions of the COP .....	4
Decision 9/CP.11, 2005 Research needs relating to the Convention .....	4
Decision 16/CP.17, 2011 Research dialogue on developments in research activities relevant to the needs of the Convention .....	5
Decision 19/CP.22, 2016 Implementation of the global observing system for climate .....	6
Conclusions adopted by the COP .....	7
COP 18, 2012 .....	7
Conclusions adopted by the SBSTA .....	8
SBSTA 12, 2000 .....	8
SBSTA 14, 2001 .....	9
SBSTA 17, 2002 .....	9
SBSTA 18, 2003 .....	11
SBSTA 19, 2003 .....	12
SBSTA 20, 2004 .....	12
SBSTA 21, 2004 .....	14
SBSTA 22, 2005 .....	15
SBSTA 23, 2005 .....	16
SBSTA 24, 2006 .....	17
SBSTA 26, 2007 .....	19
SBSTA 28, 2008 .....	20
SBSTA 30, 2009 .....	21
SBSTA 32, 2010 .....	24
SBSTA 33, 2010 .....	25
SBSTA 34, 2011 .....	27
SBSTA 35, 2011 .....	29
SBSTA 36, 2012 .....	30
SBSTA 37, 2012 .....	32
SBSTA 38, 2013 .....	34
SBSTA 39, 2013 .....	35
SBSTA 40, 2014 .....	36
SBSTA 42, 2015 .....	37
SBSTA 44, 2016 .....	38
SBSTA 46, 2017 .....	39

## **The Convention**

### **Article 4 Commitments**

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

[...]

(g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies;

[...]

### **Article 5 Research and Systematic Observation**

1. In carrying out their commitments under Article 4, paragraph 1(g), the Parties shall:

(a) Support and further develop, as appropriate, international and intergovernmental programmes and networks or organizations aimed at defining, conducting, assessing and financing research, data collection and systematic observation, taking into account the need to minimize duplication of effort;

(b) Support international and intergovernmental efforts to strengthen systematic observation and national scientific and technical research capacities and capabilities, particularly in developing countries, and to promote access to, and the exchange of, data and analyses thereof obtained from areas beyond national jurisdiction; and

(c) Take into account the particular concerns and needs of developing countries and cooperate in improving their endogenous capacities and capabilities to participate in the efforts referred to in subparagraphs (a) and (b) above.

For full text of the Convention see <http://unfccc.int/6036>

## **The Paris Agreement**

**1/CP.21, 2015**

**Adoption of the Paris Agreement  
FCCC/CP/2015/10/Add.1**

For full text of the Paris Agreement and the decision adopting the Paris Agreement see <http://unfccc.int/9485>

## Decisions of the COP

### Decision 9/CP.11, 2005

#### Research needs relating to the Convention

*The Conference of the Parties,*

*Recalling* Article 5 of the Convention,

*Also recalling* Articles 2, 3 and 4 of the Convention,

*Recalling further* its decisions 14/CP.4, 1/CP.7, 2/CP.7 and 1/CP.10,

*Recognizing* the importance of scientific research, including in the social and natural sciences and the interaction between the two, in meeting the needs of the Convention,

*Recognizing also* the importance of the pre-eminent and independent role of the Intergovernmental Panel on Climate Change in conducting regular assessments of published scientific information on climate change, and in communicating these assessments to the Subsidiary Body for Scientific and Technological Advice,

*Recognizing further* the need for stronger links between national, regional and international climate change research programmes, and the need to enhance the contribution of developing countries to climate change research efforts, including by building the capacity of these countries to contribute to and participate in climate change research,

*Noting* the endorsement of the 10-year Implementation Plan at the third Earth Observation Summit in February 2005 which establishes the Global Earth Observation System of Systems as an important development in systematic observation to contribute to the enhancement of climate change research, as well as the continuing contribution of the Global Climate Observing System to this process,

1. *Requests* Parties to identify research needs and priorities to support the implementation of the Convention as well as national efforts to cope with climate change;
2. *Urges* Parties included in Annex I to the Convention to continue and further strengthen the engagement of national and regional research institutions from developing countries in cooperative climate change research activities;
3. *Urges* Parties to support and further develop regional and international programmes that assist and coordinate climate change research;
4. *Invites* national, regional and international research programmes and organizations engaged in climate change research to further promote a multidisciplinary approach to address research on cross-cutting issues;
5. *Requests* the Subsidiary Body for Scientific and Technological Advice to regularly consider research needs and systematic observation relating to the Convention in order to inform Parties about ongoing and planned activities of regional and international climate change research programmes, and to communicate Parties' views on research needs and priorities to the scientific community, as necessary;
6. *Invites* national, regional and international climate change research programmes and organizations to consider research needs, as viewed by the Parties and communicated to the scientific community by the Subsidiary Body for Scientific and Technological Advice, and to communicate to the Subsidiary Body for Scientific and Technological Advice how these programmes and organizations are addressing the research needs of the Convention.

**Decision 16/CP.17, 2011**

**Research dialogue on developments in research activities relevant to the needs of the Convention**

*The Conference of the Parties,*

*Recalling* Article 2, Article 4, paragraph 1(g) and (h), and Article 5 of the Convention,

*Also recalling* decisions 9/CP.11 and 14/CP.4,

*Having considered* the conclusions of the Subsidiary Body for Scientific and Technological Advice on the research dialogue at its thirty-fourth<sup>1</sup> and thirty-fifth<sup>2</sup> sessions,

*Recognizing* the progress made in the implementation of decision 9/CP.11,

*Also recognizing* the success of the activities undertaken under the Subsidiary Body for Scientific and Technological Advice research dialogue on developments in research activities relevant to the needs of the Convention,

*Further recognizing* the continuing importance of the Intergovernmental Panel on Climate Change in conducting regular assessments of published scientific information on climate change, and in communicating these assessments to the Convention,

1. *Expresses its appreciation* to the regional and international research programmes and organizations active in climate change research, as well as to the Intergovernmental Panel on Climate Change, for their participation in the research dialogue and for their continued provision of information on developments in research activities relevant to the needs of the Convention;
2. *Decides* that the research dialogue should continue;
3. *Urges* Parties, in particular developing country Parties, and invites regional and international research programmes and organizations active in climate change research to utilize the research dialogue as a forum for:
  - (a) Discussing needs for climate change research and research-related capacity-building, particularly those of developing countries, to support the work of the Convention;
  - (b) Conveying research findings and lessons learned from activities undertaken by regional and international research programmes and organizations of relevance to the Convention.

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<sup>1</sup> SBSTA/2011/2, paragraphs 42–56.

<sup>2</sup> SBSTA/2011/5, paragraphs 34–49.

**Decision 19/CP.22, 2016**  
**Implementation of the global observing system for climate**

*The Conference of the Parties,*

*Recalling* Article 4, paragraph 1(g) and (h), and Article 5 of the Convention,

*Also recalling* decisions 8/CP.3, 14/CP.4, 5/CP.5, 11/CP.9, 5/CP.10, 9/CP.15,

*Further recalling* Article 7 of the Paris Agreement,

*Noting* the important role of the Global Climate Observing System in meeting the need for climate observation and climate services under the Convention,

*Recognizing* the importance of and continued need for capacity-building to support systematic observation,

1. *Welcomes* the 2016 implementation plan of the Global Climate Observing System, *The Global Observing System for Climate: Implementation Needs* (hereinafter referred to as the implementation plan),<sup>1</sup> submitted by the secretariat of the Global Climate Observing System and prepared under the guidance of the Global Climate Observing System Steering Committee;
2. *Also welcomes* the contributions by organizations and experts to the implementation plan;
3. *Notes* that the Global Climate Observing System considered the outcomes of the twenty-first session of the Conference of the Parties when preparing the implementation plan;<sup>2</sup>
4. *Notes with appreciation* the assessment of climate-related observations that the implementation plan provides for multiple uses;
5. *Notes* the introduction of new essential climate variables<sup>3</sup> and the plan's wider consideration of atmospheric, oceanic and terrestrial observation requirements and their connection to mitigation and adaptation, particularly early warning systems, including the relationship of the essential climate variables to the Earth's water, carbon and energy cycles;
6. *Encourages* Parties to work towards the full implementation of the implementation plan and to consider what actions they can take to contribute towards its implementation;
7. *Invites* United Nations agencies and international organizations to support the full implementation of the implementation plan, as appropriate;
8. *Emphasizes*, with regard to the implementation plan, the need to maintain, strengthen and build capacities for climate observations, monitoring and data management, including data rescue, digitization, analysis, archiving and sharing;
9. *Also emphasizes* the need to build capacity in developing countries through existing relevant mechanisms, including the Global Climate Observing System Cooperation Mechanism.

*9<sup>th</sup> plenary meeting*  
*17 November 2016*

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<sup>1</sup> Available at [http://unfccc.int/files/science/workstreams/systematic\\_observation/application/pdf/gcos\\_ip\\_10oct2016.pdf](http://unfccc.int/files/science/workstreams/systematic_observation/application/pdf/gcos_ip_10oct2016.pdf) and <http://gcos.wmo.int>.

<sup>2</sup> See document FCCC/SBSTA/2015/5, paragraph 28.

<sup>3</sup> The new essential climate variables identified in the implementation plan are: lightning, ocean surface stress, ocean surface heat flux, nitrous oxide, marine habitat properties, land surface temperature and greenhouse gas fluxes. The full list of essential climate variables is contained in table 1 of the implementation plan.

## Conclusions adopted by the COP

**COP 18, 2012**

**(FCCC/CP/2012/8)**

### **Report of the Subsidiary Body for Scientific and Technological Advice**

(Agenda item 3(a))

48. The COP had before it the report of the SBSTA on its thirty-sixth session, held in Bonn, Germany, from 14 to 25 May 2012.<sup>1</sup>

49. At the 9<sup>th</sup> meeting the Chair of the SBSTA, Mr. Richard Muyungi (United Republic of Tanzania), introduced the draft report of the SBSTA on its thirty-seventh session<sup>2</sup> and gave an oral report on the results of its session. The SBSTA,<sup>3</sup> at its thirty-seventh session, recommended two draft decisions to the COP for adoption.

50. The Chair of the SBSTA also reported that the SBSTA had recommended at its thirty-seventh session draft conclusions<sup>4</sup> on research and systematic observation for adoption by the COP.

51. The SBSTA Chair also informed the President that the SBSTA<sup>5</sup> had forwarded a draft decision on agenda sub-item 11(a), “Work programme on a common tabular format for the “UNFCCC biennial reporting guidelines for developed country Parties””, for further consideration by the COP.

52. The SBSTA Chair also informed the President that, regarding COP agenda sub-item 9(a), “Report of the Technology Executive Committee”, the SBSTA<sup>6</sup> had forwarded a draft decision for further consideration by the COP.

53. At the same meeting, on a proposal by the President, the COP took note of the report of the thirty-sixth session of the SBSTA, the draft report of the thirty-seventh session of the SBSTA and the oral report of the Chair, and expressed its appreciation to Mr. Muyungi for his diligence in guiding the work of the SBSTA.

54. The COP, acting upon a recommendation by the SBSTA,<sup>7</sup> adopted decision 22/CP.18, entitled “Activities implemented jointly under the pilot phase”.

55. The COP, acting upon a recommendation by the SBSTA,<sup>8</sup> adopted, conclusions on research and systematic observation, as follows, “The Conference of the Parties noted with appreciation the outcome of the Extraordinary Session of the World Meteorological Congress, held in Geneva, Switzerland, from 29 to 31 October 2012, regarding the further implementation of the Global Framework for Climate Services,<sup>9</sup> which aims to strengthen the production, availability, delivery and application of science-based climate prediction and services”.

56. At the resumed 9<sup>th</sup> meeting, the President recalled that a draft decision<sup>10</sup> on the work programme on a common tabular format for electronic reporting of information in accordance with the “UNFCCC biennial reporting guidelines for developed country Parties” was recommended by the SBSTA for further consideration by the COP (see para. 51 above). The President informed the COP that he had requested the Chair of the SBSTA to continue consultations and had also invited two ministers to conduct ministerial outreach on this issue.

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<sup>1</sup> FCCC/SBSTA/2012/2.

<sup>2</sup> FCCC/SBSTA/2012/L.20.

<sup>3</sup> FCCC/SBSTA/2012/L.27 and see paragraph 54 below. FCCC/SBSTA/2012/L.22–FCCC/SBI/2012/L.33 and see paragraph 96 below.

<sup>4</sup> FCCC/SBSTA/2012/L.25/Add.1 and see paragraph 55 below.

<sup>5</sup> FCCC/SBSTA/2012/L.33 and see paragraph 56 below.

<sup>6</sup> FCCC/SBSTA/2012/L.32 and see paragraph 98 below.

<sup>7</sup> FCCC/SBSTA/2012/L.27.

<sup>8</sup> FCCC/SBSTA/2012/L.25/Add.1.

<sup>9</sup> See [http://www.wmo.int/pages/gfcs/index\\_en.php](http://www.wmo.int/pages/gfcs/index_en.php).

<sup>10</sup> FCCC/SBSTA/2012/L.33.

On a proposal by the President,<sup>1</sup> the COP adopted decision 19/CP.18, entitled “Common tabular format for “UNFCCC biennial reporting guidelines for developed country Parties””.

## **Conclusions adopted by the SBSTA**

### **SBSTA 12, 2000**

(FCCC/SBSTA/2000/5)

59. At its 7th meeting, on 16 June, having considered a proposal by the Chairman, the SBSTA adopted the following conclusions:

(a) The SBSTA welcomed the statement made by the Chairman of the IPCC on the status of preparation of the Third Assessment Report and key conclusions from the special report on emission scenarios. It noted the progress made in the preparation of the Third Assessment Report, and expressed appreciation to the IPCC for organizing a number of informative side events and presentations of special reports, as well as for its valuable contribution to the official SBSTA meetings;

(b) The SBSTA urged Parties and organizations in a position to do so to continue their financial support to the IPCC, to enable it to complete the Third Assessment Report in a timely manner. It also urged Parties to ensure the scientific integrity of the IPCC process;

(c) The SBSTA welcomed the report made by the Director of the GCOS secretariat, on behalf of the agencies participating in the Climate Agenda, on progress in responding to decision 5/CP.5 and on recent developments in the global observing systems;

(d) The SBSTA noted the efforts already made by the GCOS secretariat to organize regional workshops in the South Pacific and Africa to identify priority capacity-building needs of developing countries related to their participation in systematic observation. The SBSTA expressed appreciation to those Parties and organizations which provided support to the workshops;

(e) The SBSTA welcomed the information provided by the GCOS secretariat in response to the invitation contained in decision 5/CP.5, to consider the need for an intergovernmental process for global observing systems. It noted the recommendation that no new intergovernmental mechanism is needed at this time, but that the existing intergovernmental mechanisms, including those available to GCOS and its partners, should be used more efficiently;

(f) The SBSTA invited the GCOS secretariat to report periodically on its activities related to decision 5/CP.5, as well as on developments in the global observing systems for climate at its further sessions. It noted the appeal for additional resources by the GCOS secretariat. The SBSTA urged Parties to contribute financial support to the work of the GCOS secretariat to enable it to continue its activities, in response to decision 5/CP.5;

(g) The SBSTA welcomed the cooperation between the secretariat and United Nations bodies and other conventions. It noted with appreciation the reports by representatives of the WHO, the Ramsar Convention, and the UNDP;

(h) The SBSTA requested the secretariat to continue to explore areas of cooperation on substantive matters with these and other United Nations agencies and conventions, and to inform it at subsequent sessions of progress achieved.

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<sup>1</sup> FCCC/CP/2012/L.12.

## **SBSTA 14, 2001**

**(FCCC/SBSTA/2001/2)**

### Cooperation with scientific organizations

(i) The SBSTA took note of the completion of the IPCC Third Assessment Report (TAR) and commended the IPCC on the high quality of its scientific work. It also expressed its appreciation for the special presentations on the findings of the TAR made during the resumed sixth session of the COP. It requested the secretariat to put the TAR and the IPCC synthesis report on the agenda of the fifteenth session of the SBSTA;

(j) The SBSTA took note of the report made by the Director of the Global Climate Observing System (GCOS) Secretariat, on behalf of the agencies participating in the Climate Agenda, on activities relating to decision 5/CP.5.<sup>1</sup> It noted that support is needed for GCOS workshops that are planned for the Caribbean and Central America and Asia regions in 2002. The SBSTA took note of the prospectus provided by the GCOS secretariat on a second assessment of the adequacy of the global climate observing system;

## **SBSTA 17, 2002**

**(FCCC/SBSTA/2002/13)**

45. At its 6<sup>th</sup> meeting, on 29 October, having considered a proposal by the Chair, the SBSTA adopted the following conclusions:

(a) The SBSTA took note of the information provided in document FCCC/SBSTA/2002/INF.17 and of submissions from Parties contained in document FCCC/SBSTA/2002/MISC.15 and Add.1;

(b) The SBSTA noted the statement made by the Global Climate Observing System (GCOS) secretariat and the progress being made on activities relating to decision 5/CP.5;

(c) The SBSTA welcomed the statements made by the representatives of the World Climate Research Programme, the International Geosphere–Biosphere Programme and the International Human Dimensions Programme on Global Environmental Change, and by the Chair of the IPCC, on the current activities of their organizations. The SBSTA also took note with appreciation of the presentations made by the representatives of these organizations, the International Group of Funding Agencies and the IEA, and by IPCC experts, at the special side event;

(d) The SBSTA welcomed the exchange of views during the special side event. The following main issues were recognized as being important in the context of a dialogue among the IPCC, the international research programmes represented at the meeting, and the SBSTA:

(i) The independence of the IPCC and those international research programmes, and their willingness to respond to the scientific challenges posed by the Convention and the Third Assessment Report (TAR);

(ii) The role of the IPCC in conducting regular assessments of climate change knowledge, and in providing the results of these to the SBSTA;

(iii) The increased collaboration among international research programmes;

(iv) The needs for stronger links between international and regional research programmes, and to enhance the contribution of developing country scientists to research efforts;

(v) The timeline for new research in the context of the Fourth Assessment Report of the IPCC, notably the aim to make the report available in 2007;

(e) The SBSTA noted that the special side event demonstrated that considerable research was being undertaken by the international research community to address the research recommendations of the IPCC TAR. However, the special side event highlighted that a more coordinated and multidisciplinary approach was needed to address research on cross-cutting issues such as the relationship between climate change, sustainable development and equity,

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<sup>1</sup> For the full text of the decision adopted by the Conference of the Parties at its fifth session see document FCCC/CP/1999/6/Add.1.

stabilization of atmospheric greenhouse gas concentrations, and uncertainty, noting that Parties have raised other important research issues as reported in document FCCC/SBSTA/2002/MISC.15 and Add.1, and synthesized in document FCCC/SBSTA/2002/INF.17;

(f) The SBSTA noted the importance of an integrated international effort on research and systematic observation and of assessments by the IPCC to provide information for the ongoing work of the Convention. The SBSTA agreed on the need to engage developing country scientists more actively in climate change research efforts. The SBSTA noted, and decided to consider at future sessions, the need to support endogenous capacity-building for research and systematic observation in developing countries. It invited the SBI to take note of, and consider at future sessions, such needs, particularly in the context of decision 2/CP.7;

(g) The SBSTA decided to regularly consider issues related to research on climate change at its future sessions in order:

(i) To inform Parties about on-going and planned activities of the international and intergovernmental research programmes through periodic briefings;

(ii) To provide a forum for consideration of research needs and priorities and ways and means for addressing them;

(iii) To communicate these research needs and priorities to the scientific community. As a first step, the SBSTA requested the secretariat to forward documents FCCC/SBSTA/2002/INF.17, and FCCC/SBSTA/2002/MISC.15 and Add.1 to the international, intergovernmental and regional research programmes and the IPCC for their information and consideration, and to invite their views;

(h) The SBSTA welcomed the first compilation and synthesis of the national reports on global observing systems for climate from Annex I Parties, provided in document FCCC/SBSTA/2002/INF.15. It encouraged Parties which have not done so to submit their national reports as soon as possible;

(i) The SBSTA requested the secretariat to organize intersessional consultations, immediately before SBSTA 18, on the second report on the adequacy of the global climate observing systems under preparation by the GCOS secretariat. These consultations should facilitate the exchange of views on the use of this report, together with the national reports, for identifying gaps and priorities for actions to improve global observing systems for climate. It also requested the secretariat to report on the results of the consultations at its eighteenth session. The SBSTA recalled its conclusions at its fifteenth session to have substantive consideration of the adequacy report at the ninth session of the COP;

(j) The SBSTA noted that regional workshops organized by the GCOS secretariat on the implementation of decision 5/CP.5 are leading to specific proposals to address the deficiencies in global observing systems for climate in developing countries. It invited the SBI to take note of the need to fund those aspects of the proposals relating to the global system and to consider at future sessions possible financial implications of such needs, including in its guidance to the financial mechanism of the Convention;

(k) The SBSTA took note of a proposal from Australia for a voluntary GCOS fund to support high priority needs relating to global observing systems for climate. It noted that many of these needs are in developing countries. The SBSTA encouraged the GCOS steering committee to explore this proposal at its future sessions.

## SBSTA 18, 2003

### (FCCC/SBSTA/2003/10)

39. At its 5<sup>th</sup> meeting, on 12 June, having considered a proposal by the Chair, the SBSTA adopted the following conclusions:<sup>1</sup>

(a) The SBSTA welcomed the second adequacy report prepared under the guidance of the GCOS steering committee, and acknowledged the work of those involved in its preparation;

(b) The SBSTA took note of document FCCC/SBSTA/2003/9 and welcomed the oral report of the Chair of the SBSTA on the exchange of views and the presentations given at the pre-session consultations organized by the secretariat;

(c) The SBSTA noted that the second adequacy report provides an opportunity to build momentum among governments to improve the global observing systems for climate, but that work remains to be done to identify priorities for actions, to remedy deficiencies within the domain-based networks, and to estimate the cost implications. It noted that approaches to establishing these priorities should involve a wide range of user communities, and that the GCOS provides the global-scale context for regional and national activities;

(d) The SBSTA noted that the GCOS steering committee report<sup>2</sup> to the SBSTA at its eighteenth session identified four overarching and equally high-priority recommendations relating to observing standards and data exchange, integrated global climate-quality products, capacity-building and systems improvements, and the issue of reporting by Parties, and agreed to consider these recommendations in its further work;

(e) The SBSTA noted that there have been improvements and progress in implementing global observing systems for climate, especially in the use of satellite information and in the provision of some ocean observations. Many components of the global terrestrial networks are, however, still not fully implemented, the global ocean networks lack full coverage and commitment to sustained operation, and the global atmospheric networks are not operating with the required global coverage and quality;

(f) The SBSTA noted that the generation and exchange of high-quality data and products are essential to meeting the needs of the Convention. It urged Parties to address, as a high priority, the following two types of problem that affect the availability of data, as identified in the second adequacy report:

(i) Many data are not being collected or, if collected at the national level, are not being received by global data centres;

(ii) Valuable historical data sets exist, but have not been digitized and quality-controlled;

(g) To better understand the barriers to improving the receipt, at global data centres, of data from atmospheric and hydrological networks, the SBSTA invited the GCOS secretariat to prepare, in consultation with the World Meteorological Organization (WMO), an analysis of specific problems and of options to remedy them, for consideration by the SBSTA at its twentieth session. The SBSTA further invited the GCOS secretariat to comment, in its report, on the accessibility of data from global data centres;

(h) The SBSTA also noted that the global observing systems for climate are not designed to meet all of the needs of the community concerned with climate change impacts. To address this and related issues, future planning activities by Parties and intergovernmental organizations should examine the potential to enhance links with, or establish, specialized networks in regions vulnerable to climate change;

(i) The SBSTA requested Parties to submit to the secretariat, by 15 September 2003, views on the priorities for actions arising from the second adequacy report, with particular reference to the above-mentioned GCOS steering committee report to the SBSTA at its eighteenth session, as a further step towards the development by the GCOS secretariat of an implementation plan for integrated global observations for

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<sup>1</sup> Adopted as FCCC/SBSTA/2003/L.4.

<sup>2</sup> *Report to SBSTA 18 from the GCOS steering committee regarding the Second Report on the Adequacy of the Global Observing Systems for Climate*, available at <http://www.wmo.ch/web/gcos/gcoshome.html>.

climate, and requested the secretariat to compile these submissions. The SBSTA also requested the GCOS secretariat to prepare a synthesis of these submissions and to forward this synthesis to the secretariat for consideration by the SBSTA at its nineteenth session;

(ii) The SBSTA agreed to consider, at its nineteenth session, a draft decision,<sup>1</sup> with the aim of forwarding it for adoption by the COP at its ninth session;

(iii) The SBSTA recalled its conclusions at its seventeenth session (FCCC/SBSTA/2002/13, para. 45 (g) (iii)) to invite views from the scientific community on activities relating to the research priorities identified in documents FCCC/SBSTA/2002/INF.17 and FCCC/SBSTA/2002/MISC.15 and Add.1. It requested the secretariat to contact relevant organizations and invite them to provide the requested information to the SBSTA at its nineteenth session.<sup>2</sup>

## **SBSTA 19, 2003**

### **(FCCC/SBSTA/2003/15)**

40. At its 5<sup>th</sup> meeting, on 9 December, having considered a proposal by the Chair, the SBSTA adopted the following conclusions:<sup>3</sup>

(a) The SBSTA took note of document FCCC/SBSTA/2003/MISC.10 and Add.1, containing submissions from Parties on priorities for actions arising from *The Second Report on the Adequacy of the Global Observing Systems for Climate in Support of the UNFCCC* (second adequacy report)<sup>4</sup> and the related GCOS steering committee report<sup>5</sup> to the SBSTA at its eighteenth session;

(b) The SBSTA also took note of the synthesis of the above-mentioned submissions prepared by the GCOS secretariat and contained in document FCCC/SBSTA/2003/MISC.12;

(c) The SBSTA requested the secretariat to organize, at the twentieth session of the SBSTA, a side event, similar to that held at the seventeenth session of the SBSTA, on ongoing and planned research initiatives to address the research recommendations of the Third Assessment Report (TAR) of the IPCC. It requested the secretariat to invite active participation of representatives of the IPCC and international research programmes and bodies, such as the World Climate Research Programme (WCRP), the International Geosphere–Biosphere Programme (IGBP) and the International Human Dimensions Programme (IHDP);

(d) Recalling the conclusions of its seventeenth session, the SBSTA invited the Subsidiary Body for Implementation (SBI), in considering funding options, including its guidance to the financial mechanism of the Convention, to give appropriate consideration to addressing the priority needs identified in the regional action plans in relation to global observing systems for climate;

(e) The SBSTA recommended a draft decision on this subject (FCCC/SBSTA/2003/L.17/Add.1) for adoption by the COP at its ninth session.<sup>6</sup>

## **SBSTA 20, 2004**

### **(FCCC/SBSTA/2004/6)**

96. The SBSTA recognized with appreciation the progress made by the Global Climate Observing System (GCOS) secretariat, under the guidance of the GCOS steering committee, in the development of the 5- to 10-year implementation plan for the integrated global observing

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<sup>1</sup> Adopted as FCCC/SBSTA/2003/L.4/Add.1 as amended orally at the 5<sup>th</sup> meeting. For final text see FCCC/SBSTA/2003/10/Add.1.

<sup>2</sup> During the closing plenary, upon a request by the Chair, this paragraph, which was forwarded by the contact group under agenda item 3, was included in the conclusions of this item.

<sup>3</sup> Adopted as FCCC/SBSTA/2003/L.17.

<sup>4</sup> Available as report no. GCOS-82 at <http://www.wmo.ch/web/gcos/gcoshome.html>

<sup>5</sup> *Report to SBSTA-18 from the GCOS Steering Committee regarding the Second Report on the Adequacy of the Global Observing Systems for Climate*, available at <http://www.wmo.ch/web/gcos/gcoshome.html>

<sup>6</sup> For the text as adopted, see document FCCC/CP/2003/6/Add.1, decision 11/CP.9.

systems for climate,<sup>1</sup> in particular the publication of the draft implementation plan for open review.<sup>2</sup> It urged the GCOS secretariat, in finalizing this plan, to clearly identify priorities for actions, taking into account the views expressed by Parties and relevant international programmes and bodies.

97. The SBSTA noted the progress made by the ad hoc Group on Earth Observations (GEO) to develop a 10-year implementation plan for a global Earth observation system of systems (GEOSS). It welcomed the collaboration between GCOS and GEO in developing their respective implementation plans and urged both bodies to integrate them to the extent possible. The SBSTA emphasized the need to treat global climate monitoring as a priority within GEOSS.

98. The SBSTA welcomed the progress made in the regional workshop programme run by the GCOS secretariat. It encouraged Parties to continue to pursue the implementation of elements of the regional action plans developed under this programme.

99. The SBSTA invited the GCOS secretariat to report on progress made in implementing the regional action plans in relation to global observing systems for climate, including support from the financial mechanism of the Convention and other bilateral and multilateral agencies and mechanisms, for consideration by the SBSTA at its twenty-first session and subsequent sessions as appropriate.

100. The SBSTA noted the ongoing development of the GCOS Cooperation Mechanism to address priority needs for improvements in global observing systems for climate in developing countries, in particular the plans to develop an inventory of donor activities relating to global observing systems for climate.

101. The SBSTA noted the preliminary report on data exchange problems provided by the GCOS secretariat.<sup>3</sup> Reinforcing its conclusions at its eighteenth session, the SBSTA invited the GCOS secretariat, in consultation with the World Meteorological Organization (WMO), to provide the full report on this issue for consideration by the SBSTA at its twenty-second session. The SBSTA particularly encouraged the inclusion of options to remedy existing data exchange problems and advice on problems associated with the accessibility of data by and from global data centres.

102. The SBSTA welcomed the exchange of views among representatives of government research programmes and international programmes and bodies during the event requested by the SBSTA,<sup>4</sup> and held at the twentieth session of the SBSTA, on research in response to the recommendations of the Third Assessment Report of the IPCC. The following were noted as requiring further consideration:

(a) The need to assess the adequacy of research activities and their international coordination to meet the needs of the Convention

(b) The importance of social as well as natural sciences, and the interaction between the two, in responding to the research needs arising from the assessment reports of the IPCC

(c) The enhancement of the capacity of developing countries to contribute to and participate in global climate change research efforts, such as those coordinated by the World Climate Research Programme (WCRP), the International Geosphere–Biosphere Programme (IGBP), the International Human Dimensions Programme (IHDP) and DIVERSITAS.

103. The SBSTA requested Parties to submit to the secretariat, by 15 September 2004, their views on how to adequately address the main issues arising from the event requested by the SBSTA,<sup>5</sup> in particular those mentioned in paragraph 102 above, for consideration by the SBSTA at its twenty-first session. The SBSTA requested Parties to submit to the secretariat additional views on this subject by 24 January 2005 for consideration by the SBSTA at its twenty-second session. It requested the secretariat to compile both sets of submissions into

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<sup>1</sup> See decision 11/CP.9.

<sup>2</sup> The draft *Implementation Plan for the Global Observing Systems for Climate* is available from the web site of the GCOS secretariat at <http://www.wmo.ch/web/gcos/gcoshome.html>.

<sup>3</sup> The preliminary summary report *Analysis of Data Exchange Problems in Global Atmospheric and Hydrological Networks* is available from the web site of the GCOS secretariat at <http://www.wmo.ch/web/gcos/gcoshome.html>.

<sup>4</sup> See document FCCC/SBSTA/2003/15, paragraph 40 (c).

<sup>5</sup> See document FCCC/SBSTA/2003/15, paragraph 40 (c).

miscellaneous documents and to prepare a synthesis of all the views of Parties for consideration by the SBSTA at its twenty-second session.

## **SBSTA 21, 2004**

### **(FCCC/SBSTA/2004/13)**

100. The SBSTA took note of document FCCC/SBSTA/2004/MISC.14 containing views from Parties on issues from the research event at the twentieth session of the SBSTA. The SBSTA agreed to consider in depth at its twenty-second session (May 2005) the issues relating to the research needs of the Convention.

101. The SBSTA welcomed document FCCC/SBSTA/2004/MISC.16 containing the executive summary of the *Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC* (hereinafter referred to as the implementation plan) prepared by the Global Climate Observing System (GCOS) secretariat under the guidance of the GCOS steering committee.<sup>1</sup> According to this plan, priority for climate should be given to the following actions:

- (a) Improving in situ and key satellite observation networks
- (b) Generating integrated global climate products for atmospheric, oceanic and terrestrial domains
- (c) Enhancing the participation of the least developed countries and small island developing States
- (d) Improving access by all Parties to global climate data for essential climate variables and climate products
- (e) Strengthening national, regional and international infrastructure relating to global observing systems for climate.

102. The SBSTA stressed that effective implementation of this plan, including the full consideration of the needs of developing countries to enhance their capacity to effectively use observation data and climate products, can provide relevant information on climate variability and climate change that would contribute to developing adaptation and mitigation responses. It emphasized that coordinated and concentrated efforts by governments and relevant international organizations are required to fully implement this plan.

103. The SBSTA invited the GCOS secretariat, in conjunction with the GCOS sponsoring agencies,<sup>2</sup> to report to the SBSTA at its twenty-third session (November 2005) and, as required, at subsequent sessions, on how the actions identified in the implementation plan have been incorporated in the agencies' own plans and actions. It also invited the GCOS secretariat to prepare a synthesis report on this matter by the twenty-fourth session of the SBSTA (May 2006).

104. The SBSTA encouraged Parties to incorporate actions supporting the implementation of the implementation plan in their national plans and actions relating to global climate observing systems.

105. The SBSTA invited all Parties to report on their activities as specified in paragraph 104 above, including those in relation to the priorities referred to in paragraph 101 above, in their detailed reports on systematic observation, in accordance with the guidelines contained in document FCCC/CP/1999/7, and pursuant to decision 5/CP.5. It also encouraged Parties to provide additional information in accordance with the supplementary reporting format.<sup>3</sup>

106. The SBSTA welcomed the emphasis given by the implementation plan to enhancing the participation of developing countries in the global observing systems for climate. It noted that this is consistent with actions identified in decision 5/CP.7 in relation to the adverse effects of climate change.

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<sup>1</sup> Available as report no. GCOS-92 at: <http://www.wmo.ch/web/gcos/gcoshome.html>.

<sup>2</sup> The World Meteorological Organization, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, UNEP and the International Council for Science.

<sup>3</sup> The supplementary reporting format can be found at: <http://www.wmo.ch/web/gcos/Supp-Guidance-2000.pdf>.

107. The SBSTA welcomed the progress made in the programme of the GCOS regional workshops. It encouraged Parties to continue to pursue the implementation of priority elements of the regional action plans developed under this programme, taking into account priorities identified in the implementation plan, and referred to in decision 4/CP.9.

108. The SBSTA welcomed the progress made by the ad hoc Group on Earth Observations (GEO) to develop a 10-year implementation plan for a Global Earth Observation System of Systems (GEOSS); it appreciated the collaboration and encouraged the continuation of the essential coordination between GCOS and GEO. It noted that governments and international organizations involved in GEO have recognized the need to give coordinated attention to the needs and capacity of developing countries to access earth observation data and products. The SBSTA invited GEO, in cooperation with the GCOS secretariat, to incorporate the relevant actions in the implementation plan into the GEOSS 10-year implementation plan. The SBSTA noted that participation in GEO is open to all Parties.

109. The SBSTA decided to forward a draft decision on the implementation of the global observing system for climate (FCCC/SBSTA/2004/L.24/Add.1) for adoption by the COP at its tenth session.<sup>1</sup>

## **SBSTA 22, 2005**

### **(FCCC/SBSTA/2005/4)**

74. The SBSTA took note of documents FCCC/SBSTA/2004/MISC.14 and FCCC/SBSTA/2005/MISC.1 containing views on issues from the research event at the twentieth session of the SBSTA, and document FCCC/SBSTA/2005/3 containing a synthesis of these views.

75. The SBSTA welcomed efforts of the national, regional and international global change research programmes to further promote and coordinate research in response to the needs of the Convention, and invited them to provide periodic updates on their scientific activities. In this respect, the SBSTA also welcomed the establishment of the Earth System Science Partnership by the International Geosphere–Biosphere Programme, the International Human Dimensions Programme on Global Environmental Change, the World Climate Research Programme and DIVERSITAS, and the efforts of these programmes and of regional institutions and networks including, but not limited to, the Asia–Pacific Network for Global Change Research and the Inter American Institute for Global Change Research.

76. The SBSTA also welcomed the endorsement of the 10-year Implementation Plan at the third Earth Observation Summit in February 2005 which established the Global Earth Observation System of Systems as an important development in systematic observation to contribute to the enhancement of climate change research, as well as the continuing contribution of the Global Climate Observing System (GCOS) to this process.

77. The SBSTA invited Parties to submit to the secretariat, by 15 January 2006, information on identified research needs and priorities relating to the Convention, including information relating to the enhancement of the capacity of developing countries to contribute to and participate in climate change research.

78. The SBSTA requested the secretariat to prepare a synthesis report of the research needs and priorities relating to the Convention, identified in documents FCCC/SBSTA/2002/INF.17 and FCCC/SBSTA/2005/3, in submissions by Parties referred to in paragraph 77 above, in national communications, and in the Third Assessment Report of the IPCC and to make this synthesis report available to Parties and to relevant regional and international climate change research programmes before the twenty-fourth session of the SBSTA (May 2006).

79. The SBSTA agreed to consider the synthesis report referred to in paragraph 78 above at its twenty-fourth session.

80. The SBSTA requested the secretariat to organize a special side event during its twenty-fourth session with the objective of enhancing communication between climate change research organizations and the SBSTA. It requested the secretariat to invite Parties and relevant climate change research programmes and institutions to the special side event to inform participants on their activities relating to addressing the research needs of the Convention,

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<sup>1</sup> For the text as adopted, see document FCCC/CP/2004/10/Add.1, decision 5/CP.10.

including activities to enhance the participation of developing countries in climate change research.

81. The SBSTA stressed the need to continue to work towards enhancing the research capacity of developing countries and hence their contribution to national, regional and international climate change research efforts. The SBSTA welcomed activities by governments, including those undertaken on a bilateral basis, and by organizations, aimed at enhancing the contributions by experts from developing countries to international climate change research, and called for furthering such efforts.

82. The SBSTA noted that improved scientific understanding of climate change can inform the development of technologies for mitigation and adaptation being addressed by the SBSTA as part of its consideration of matters relating to technology development and transfer and elsewhere under the Convention.

83. The SBSTA decided to recommend a draft decision<sup>1</sup> on research needs relating to the Convention for adoption by the COP at its eleventh session (December 2005).

## **SBSTA 23, 2005**

### **(FCCC/SBSTA/2005/10)**

87. The SBSTA took note of the submissions from Parties on the report on progress made towards implementing the initial ocean climate observing system, and on the final report on the analysis of data exchange issues in global atmospheric and hydrological networks, contained in document FCCC/SBSTA/2005/MISC.15 and Add.1.

88. The SBSTA welcomed with appreciation the report from the Global Climate Observing System (GCOS) secretariat on progress with the *Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC* (hereinafter referred to as the GCOS implementation plan) contained in document FCCC/SBSTA/2005/MISC.14; the report from the Committee on Earth Observation Satellites (CEOS) on preparing a coordinated response from space agencies involved in global observations to the needs expressed in the GCOS implementation plan, contained in document FCCC/SBSTA/2005/MISC.17/Rev.1; and a progress report on developing a framework for the preparation of guidance materials, standards and reporting guidelines for terrestrial observing systems for climate, prepared by the Global Terrestrial Observing System (GTOS) secretariat and contained in document FCCC/SBSTA/2005/MISC.16.

89. The SBSTA noted that there is now an excellent foundation upon which to improve the global observing systems for climate. It urged Parties to further implement the GCOS implementation plan, including the capacity-building elements.

90. The SBSTA urged those Parties that have not already done so to designate GCOS national coordinators and GCOS national focal points.

91. The SBSTA welcomed the information in document FCCC/SBSTA/2005/MISC.14, that almost all of the international agencies identified in the GCOS implementation plan have formally or informally acknowledged their roles in the GCOS implementation plan and are actively engaged in developing and/or refining their specific work plans. This commitment to action represents a substantial degree of international consensus and support for the GCOS implementation plan.

92. The SBSTA welcomed and accepted the offer from the CEOS, on behalf of the Parties supporting space agencies involved in global observations, to provide a detailed report on a coordinated response to the needs expressed in the GCOS implementation plan at SBSTA 25 (November 2006).

93. The SBSTA welcomed the efforts by the GTOS secretariat to develop a framework for the preparation of guidance materials, standards and reporting guidelines for terrestrial observing systems for climate and encouraged the GTOS to continue its work. It also called on the GTOS secretariat to assess the status of the development of standards for each of the essential climate variables in the terrestrial domain. The SBSTA invited the GTOS secretariat to report on its progress by SBSTA 26 (May 2007).

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<sup>1</sup> FCCC/SBSTA/2005/L.6/Add.1. For the final text see FCCC/SBSTA/2005/4/Add.1, pages 32–33.

94. The SBSTA requested the GCOS secretariat to provide a comprehensive report at its thirtieth session (June 2009) on progress with the GCOS implementation plan, in addition to the regular reporting requested by the COP in decision 5/CP.10.

95. The SBSTA noted that the report referred to in paragraph 94 would be heavily dependent upon obtaining timely information on national implementation activities. Therefore, the SBSTA invited Parties to submit to the secretariat, by 15 September 2008, additional information on their national activities with respect to implementing the plan.

96. The SBSTA welcomed the ongoing efforts of the Group on Earth Observations (GEO) and invited the GCOS and the GEO to continue to coordinate closely on the implementation of the GCOS implementation plan and the Global Earth Observation System of Systems (GEOSS) 10-year implementation plan. The SBSTA encouraged Parties included in Annex I to the Convention (Annex I Parties) to facilitate the participation of developing country Parties in implementation activities wherever possible.

97. The SBSTA agreed to revise the “UNFCCC reporting guidelines on global climate change observing systems”<sup>1</sup> in order to reflect priorities of the GCOS implementation plan and incorporate the reporting on essential climate variables. Parties also noted the need to revise the more comprehensive supplementary reporting format.<sup>2</sup> The SBSTA agreed to consider this issue at its twenty-fifth session. It invited the GCOS secretariat to submit to the SBSTA, by September 2006, a proposal on ways and means to address these needs.

98. The SBSTA noted the importance of the oceanic observations in contributing to meeting the needs of the Convention. The SBSTA requested Parties in a position to do so to address the need for continued, sustained and enhanced support for the implementation of the global ocean observing system for climate. It noted in particular the need for sustained support to operationalize the system and need for the collection and archiving of marine data and metadata.

99. The SBSTA reiterated that data exchange is fundamental to the needs of the Convention. It noted with concern that many of the problems of data exchange, as referred to in the final report on the analysis of data exchange issues in global atmospheric and hydrological networks,<sup>3</sup> still remain. The SBSTA urged Parties to implement the possible remedy options identified in that report.

100. The SBSTA urged Parties and invited relevant intergovernmental organizations and international bodies, such as the World Meteorological Organization and the International Council for Science, to provide active support to international data centres in their efforts to obtain permission from countries for the release of the data and the rescue of historical climate records.

101. The SBSTA noted that the regional workshop programme will be completed in early 2006. It invited the GCOS secretariat, in cooperation with the Regional Workshop Advisory Committee, to report on the results of the programme at its twenty-fifth session.

102. The SBSTA reiterated the need to strengthen capacities in the field of climate observations, data analysis and data management. The SBSTA also reiterated the importance of, and continued need for, capacity-building, including through the GEO, the GCOS cooperation mechanism, and regional activities, to enable developing countries to apply climate observations, inter alia, for impact assessment and preparation for adaptation.

## **SBSTA 24, 2006**

### **(FCCC/SBSTA/2006/5)**

38. The SBSTA took note of document FCCC/SBSTA/2006/MISC.3 and Add.1 containing views from Parties on identified research needs and priorities relating to the Convention, including information relating to the enhancement of the capacity of developing countries to contribute to and participate in climate change research. It also took note of document FCCC/SBSTA/2006/INF.2 containing a synthesis on research needs and priorities relating to

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<sup>1</sup> FCCC/CP/1999/7, chapter III.

<sup>2</sup> FCCC/SBSTA/2000/14, paragraph 59. The supplementary reporting format can be found at <http://www.wmo.ch/web/gcos/Supp-Guidance-2000.pdf>.

<sup>3</sup> Available as document GCOS-96 (WMO/TD No.1255) at <http://www.wmo.int/web/gcos/gcoshome.html>.

the Convention identified in the above-mentioned document, in documents FCCC/SBSTA/2002/INF.17 and FCCC/SBSTA/2005/3, in national communications, and in the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

39. The SBSTA expressed its appreciation to the regional and international climate change research programmes for the information provided during the special side event on research needs relating to the Convention held during its twenty-fourth session.

40. The SBSTA noted the information provided<sup>1</sup> by these programmes on their current activities to address the research needs of the Convention, including ongoing efforts to enhance the capacity and participation of developing countries in climate change research.

41. In this regard, and as reflected in decision 9/CP.11, the SBSTA invited these programmes to provide, together or separately, to the SBSTA, before its twenty-fifth session (November 2006), a short summary report or reports drawing on the above-mentioned special side event, including identification of any gaps in their research programmes with respect to the research needs of the Convention, as viewed by Parties, for example in document FCCC/SBSTA/2006/INF.2, and considering options for addressing these needs.

42. Recognizing the important role that regional networks can play, and are playing, in the Americas and the Asia–Pacific in strengthening engagement of developing countries in climate change research, the SBSTA noted with appreciation the ongoing efforts to establish a regional climate change research network for Africa, and encouraged Parties to support and further develop these regional networks.

43. The SBSTA recognized the importance of improving the quality, availability and exchange of data from systematic observation and their integration into data sets appropriate for research activities. The SBSTA recalled the need for all Parties to continue supporting and strengthening systematic observation.

44. The SBSTA noted the continued need to improve communication of scientific information on climate change to policymakers and the general public.

45. The SBSTA also noted the need for enhancing two-way communication and cooperation between the Parties and regional and international research programmes to meet the research needs of the Convention.

46. The SBSTA agreed to explore how it might facilitate a more effective dialogue between Parties and the regional and international climate change research programmes, in the context of decision 9/CP.11. The SBSTA invited Parties and these programmes to submit to the secretariat, by 23 February 2007, their views on this subject, for consideration by the SBSTA at its twenty-sixth session (May 2007). To further facilitate the development of the dialogue, the SBSTA asked the secretariat to organize a meeting for an informal discussion among Parties at the twenty-sixth session of the SBSTA and to invite the representatives of these programmes and the IPCC to participate. The SBSTA noted that consideration should be given, inter alia, to holding a workshop by or during the twenty-eighth session of the SBSTA (June 2008) to facilitate an in-depth exchange of views on the research needs of the Convention.

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<sup>1</sup> The presentations provided by the regional and international research programmes can be found on the UNFCCC website at: [http://unfccc.int/methods\\_and\\_science/research\\_and\\_systematic\\_observation/items/3461.php](http://unfccc.int/methods_and_science/research_and_systematic_observation/items/3461.php).

## **SBSTA 26, 2007**

### **(FCCC/SBSTA/2007/4)**

42. The SBSTA took note of the views from Parties on how the SBSTA might facilitate a more effective dialogue between Parties and regional and international climate change research programmes in the context of decision 9/CP.11 (FCCC/SBSTA/2007/MISC.7). It expressed its appreciation to the regional and international climate change research programmes and organizations for their views on this subject (FCCC/SBSTA/2007/MISC.8) and for the summary reports provided in response to the invitation of the SBSTA (FCCC/SBSTA/2006/5, para. 41), drawing on the special side event on research needs relating to the Convention that was held during the twenty-fourth session of the SBSTA (FCCC/SBSTA/2006/MISC.15) and on the synthesis report on research needs and priorities, which includes views by Parties on this matter (FCCC/SBSTA/2006/INF.2).

43. The SBSTA welcomed the exchange of views among Parties, the representatives of regional and international climate change research programmes and organizations<sup>1</sup> and the IPCC during the informal meeting held on 8 May 2007 in Bonn, Germany, on how the SBSTA might facilitate a more effective dialogue between Parties and regional and international climate change research programmes and organizations (hereinafter referred to as research programmes and organizations) in the context of decision 9/CP.11. The SBSTA re-emphasized that the IPCC remains the primary provider of scientific, technical and socio-economic information to the Convention through its full range of reports.

44. The SBSTA agreed to develop and maintain the dialogue between Parties and research programmes and organizations, in the context of decision 9/CP.11. The SBSTA would welcome the continued participation by the Earth System Science Partnership and its member programmes, and by regional climate change research programmes and organizations in this dialogue.

45. The SBSTA further agreed that its role in this context should be facilitative and not prescriptive. In this regard, the SBSTA acknowledged the independence of research programmes and organizations in setting their research priorities. It also agreed that various approaches, within and outside the UNFCCC process (e.g. informal events, workshops, side events), could be used to ensure the effectiveness and flexibility of this dialogue.

46. The SBSTA noted the importance of this dialogue also to identify research gaps and research capacity constraints in developing countries and to consider possible opportunities to address these gaps and capacity constraints in order to enable developing countries to play a more active role in regional and international climate change research.

47. The SBSTA invited relevant research programmes and organizations to regularly inform the SBSTA of developments in research activities relevant to the needs of the Convention, including:

- (a) Emerging scientific findings;
- (b) Research planning activities, including those undertaken in response to key uncertainties and research needs identified by the IPCC or raised by Parties;
- (c) Research priorities, and gaps in the implementation of these priorities;
- (d) Research capacity-building activities, particularly in developing countries;
- (e) Regional climate change research networks;
- (f) Relevant communication issues.

The SBSTA requested the secretariat to invite these research programmes and organizations to consider these issues in an informal discussion at the twenty-eighth session of the SBSTA (June 2008).

48. The SBSTA again urged Parties to further strengthen the activities of research programmes and organizations, and encouraged Parties to consider the research priorities as identified by research programmes and organizations in developing their national programmes.

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<sup>1</sup> Earth System Science Partnership, World Climate Research Programme, International Geosphere–Biosphere Programme, International Human Dimensions Programme on Global Environmental Change, START (Global Change System for Analysis, Research and Training), Inter-American Institute for Global Change Research and Asia–Pacific Network for Global Change Research.

49. The SBSTA noted the importance of research activities that contribute to the work of the Convention, including activities undertaken as part of the Nairobi work programme, such as the in-session workshop on climate modelling, scenarios and downscaling to be held at the twenty-eighth session of the SBSTA.

50. The SBSTA welcomed the oral statement delivered on behalf of the GTOS secretariat and the progress reports by the GTOS secretariat on the development of a framework for the preparation of guidance materials, standards and reporting guidelines for terrestrial observing systems for climate, and on the assessment of the status of development of standards for each of the essential climate variables in the terrestrial domain (FCCC/SBSTA/2007/MISC.6). The SBSTA agreed to consider these reports, as well as any updates received by the GTOS secretariat, at its twenty-seventh session when it considers issues relating to systematic observation.<sup>1</sup>

## **SBSTA 28, 2008**

### **(FCCC/SBSTA/2008/6)**

100. The SBSTA noted with appreciation the information provided, in response to the invitation by the SBSTA at its twenty-sixth session,<sup>2</sup> by regional and international climate change research programmes and organizations (hereinafter referred to as research programmes and organizations) on developments in research activities relevant to the needs of the Convention.<sup>3</sup>

101. The SBSTA expressed its appreciation for the valuable information, in particular on emerging scientific findings, provided by the representatives of research programmes and organizations<sup>4</sup> and the IPCC during the informal discussion on developments in research activities relevant to the needs of the Convention,<sup>5</sup> which took place as part of the dialogue between Parties and research programmes and organizations in the context of decision 9/CP.11.

102. The SBSTA emphasized the usefulness of continuing and further enhancing this dialogue, including through broadening the participation of relevant regional research organizations. To this end, the SBSTA requested the secretariat to prepare, prior to SBSTA 30, a list of international and regional programmes and organizations active in areas of research relevant to climate change, and to post this list on the UNFCCC website.

103. The SBSTA agreed that meetings under this dialogue during future sessions of the SBSTA should allow further in-depth consideration to be given to developments in the activities outlined in document FCCC/SBSTA/2007/4, paragraph 47 (a–f), and invited the research programmes and organizations to continue to provide information pertaining to these activities at the thirtieth and subsequent sessions of the SBSTA. It also requested the secretariat to inform Parties about the presentations of emerging scientific findings provided by the research programmes and organizations during sessions of the SBSTA. The SBSTA noted that these research programmes and organizations could further facilitate the dialogue through additional informal discussions with Parties and make use of the opportunities afforded by planned meetings outside the UNFCCC process. The SBSTA invited the research programmes and organizations to notify the secretariat of any such additional informal discussions and requested the secretariat to make such notifications available on the UNFCCC website.

104. The SBSTA recognized the substantial challenges in the areas of research and related observations emerging from the IPCC AR4, the UNFCCC workshops and expert meetings on

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<sup>1</sup> In line with the recommendations by the Subsidiary Body for Implementation at its twenty-fourth session (FCCC/SBI/2006/11, para. 109 (a)), the topics under the research and systematic observation item are differentiated and considered by the SBSTA on an alternating basis.

<sup>2</sup> FCCC/SBSTA/2007/4, paragraph 47.

<sup>3</sup> FCCC/SBSTA/2008/MISC.8 and Add.1.

<sup>4</sup> Earth System Science Partnership, World Climate Research Programme, International Geosphere–Biosphere Programme, International Human Dimensions Programme on Global Environmental Change, DIVERSITAS, Inter-American Institute for Global Change Research and Asia-Pacific Network for Global Change Research.

<sup>5</sup> The informal discussion was held on 5 June 2008 and chaired by the Chair of the SBSTA. The agenda, the presentations by the research programmes and organizations, and the summary by the Chair are available at: <http://unfccc.int/4422.php>.

the AR4 and the Nairobi work programme, and the ongoing research dialogue in the context of decision 9/CP.11. The SBSTA encouraged Parties and the research programmes and organizations to further strengthen their efforts to address these challenges.

105. The SBSTA stressed the need to enhance research and related institutional capacity, in particular in developing countries, through individual, bilateral and multilateral actions and/or through the research programmes and organizations. The SBSTA emphasized the need to enhance research activities aimed at supporting adaptation efforts, as identified by the ongoing work under the Nairobi work programme (see paragraphs 10–74 above).

## **SBSTA 30, 2009**

### **(FCCC/SBSTA/2009/3)**

47. The SBSTA expressed its appreciation to the regional and international climate change research programmes and organizations (hereinafter referred to as research programmes and organizations) and to the IPCC for the valuable updated information on developments in research activities and on emerging scientific findings relevant to the Convention. This information was provided during the meeting that took place during SBSTA 30 as part of the research dialogue in the context of decision 9/CP.11<sup>1</sup> and in the submissions compiled in document FCCC/SBSTA/2009/MISC.5. The SBSTA took note of a list prepared by the secretariat of international and regional programmes and organizations active in areas of research relevant to climate change.<sup>2</sup>

48. The SBSTA affirmed the valuable role of the research dialogue in providing new scientific information that emerges from climate change research in between publication of the IPCC Assessment Reports. It also noted the importance of such information for informing deliberations within the UNFCCC process. The SBSTA invited the research programmes and organizations to continue to provide, as part of the research dialogue, information on developments in the research activities outlined in document FCCC/SBSTA/2007/4, paragraph 47 (a–f). It requested the secretariat to make the presentations that are given as part of the dialogue available on the UNFCCC website in such a way that they can be reached by a wide audience.

49. The SBSTA agreed that meetings under this dialogue should be continued, during the thirty-second and subsequent sessions of the SBSTA, and organized in such a way that more time is devoted both to in-depth consideration by Parties of new scientific findings and developments in research activities and to presentations by Parties. The SBSTA requested the secretariat to make arrangements accordingly when organizing meetings under the dialogue.

50. The SBSTA invited Parties to provide to the secretariat, by 22 March 2010, their views on topics to be discussed at the dialogue meeting to take place during SBSTA 32, taking into account developments in research activities outlined in document FCCC/SBSTA/2007/4, paragraph 47 (a–f).

51. The SBSTA welcomed the information from the IPCC regarding its plans for the Fifth Assessment Report (AR5). It recalled its conclusions from its twenty-ninth session, which noted that Parties may provide information on scientific and technical questions that they wish to be considered in the AR5 process through their IPCC focal points.<sup>3</sup>

52. The SBSTA encouraged the research programmes and organizations to continue to undertake further studies to enhance the understanding of climate change and to address key uncertainties identified in the Fourth Assessment Report of the IPCC, and to enhance their efforts towards greater integration of climate-related research across all disciplines. It also

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<sup>1</sup> Alongside the IPCC, the following research programmes and organizations were represented at the meeting: the Earth System Science Partnership, the World Climate Research Programme, the International Geosphere-Biosphere Programme, the International Human Dimensions Programme on Global Environmental Change, DIVERSITAS, the International Alliance of Research Universities, START (Global Change System for Analysis, Research and Training), the Inter-American Institute for Global Change Research, the Asia-Pacific Network for Global Change Research and the Seventh Framework Programme of the European Community and associated countries. Further information and presentations are available at <http://unfccc.int/3461.php>.

<sup>2</sup> Available at <http://unfccc.int/3461.php>.

<sup>3</sup> FCCC/SBSTA/2008/13, paragraph 85.

encouraged the research programmes and organizations to further enhance their activities relating to developing countries.

53. The SBSTA encouraged Parties and research programmes and organizations to enhance their existing efforts to build capacity for research in developing countries, in particular those aimed at supporting adaptation efforts such as those identified as part of the ongoing activities of the Nairobi work programme.

54. The SBSTA expressed its appreciation for the report on progress with the *Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC* (hereinafter referred to as the GCOS implementation plan) prepared by the secretariat of GCOS under the guidance of the GCOS Steering Committee, and for the synthesis report on national information on systematic observations for climate.<sup>1</sup> It noted the significant progress made in the implementation of the various observing systems relevant to the Convention, but also noted that limited progress has been made in filling gaps in in-situ observing systems in developing countries and that the funding available for many important systems is small in relation to what is needed. The SBSTA noted that according to the GCOS progress report, priority should be given over the next five years to the following:

(a) The urgent need for funding support for implementation of the GCOS regional action plans developed during 2001–2006;

(b) Immediate attention to the design and implementation of the national and local-scale networks needed for impact assessment and adaptation to climate change;

(c) The appointment of GCOS national coordinators in many more than the present 14 countries that have well-established national coordination arrangements for climate observations;

(d) Much stronger and higher-level commitment of Parties to the GCOS cooperation mechanism for supporting GCOS implementation in developing countries;

(e) Finding new mechanisms for ensuring sustained long-term operation of essential in situ networks, especially for the oceanic and terrestrial domains, that are presently supported by project-timescale research funding;

(f) Strong support for the further development and promulgation of observational standards for the full range of terrestrial climate variables;

(g) Continued encouragement for the coordinated implementation and long-term continuity of the cross-cutting space-based component of GCOS;

(h) Strong support for the observational and research-based “Global Framework for Climate Services” proposed for endorsement by World Climate Conference-3;

(i) Reaffirmation of the value of detailed national reports on systematic observations under the UNFCCC as a mechanism for fostering, focusing and guiding GCOS implementation at the national level.

55. The SBSTA urged Parties and invited relevant United Nations agencies and international organizations to take steps to address the priorities and gaps identified in the GCOS progress report, in particular the implementation of the GCOS regional action plans, and ensuring a sustained long-term operation of in situ networks, especially for the oceanic and terrestrial domains.

56. The SBSTA stressed that addressing these priorities would help countries to adapt to climate change on a basis of sound data and information.

57. The SBSTA noted that an updated GCOS implementation plan that takes into account emerging priorities, such as the need for data for adaptation, may assist in continuing progress with GCOS implementation. It therefore invited the GCOS secretariat to prepare, under the guidance of the GCOS Steering Committee, an update of the GCOS implementation plan before its thirty-third session.

58. The SBSTA invited the GCOS secretariat to include, in this updated GCOS implementation plan, a breakdown of costs involved. The costs should be broken down by region, observing system and between developed and developing countries. The SBSTA invited the GCOS secretariat to provide a provisional updated implementation plan in

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<sup>1</sup> FCCC/SBSTA/2009/MISC.7 and Add.1.

conjunction with a provisional estimation of costs, before COP 15, and requested the secretariat to make this information available as a miscellaneous document.

59. The SBSTA welcomed the support given to the GCOS secretariat. The SBSTA noted the overall expected increase in workload for the GCOS secretariat that would emerge from addressing the priorities and gaps identified in the GCOS progress report. It therefore invited all of the GCOS sponsoring agencies<sup>1</sup> to consider ways to provide adequate resources for supporting this work.

60. The SBSTA expressed its appreciation for the updated progress report by the secretariat of GTOS on progress made in assessing the status of the development of standards for each of the essential climate variables (ECVs) in the terrestrial domain and on the framework for the preparation of guidance materials, standards and reporting guidelines for terrestrial observing systems for climate<sup>2</sup> which was further developed following the guidance of the SBSTA at its twenty-seventh session.<sup>3</sup>

61. The SBSTA welcomed the proposal contained in the updated progress report for a joint terrestrial framework mechanism between relevant agencies of the United Nations and the International Organization for Standardization, and encouraged the GTOS secretariat and the GTOS sponsoring agencies to implement the framework. The SBSTA also invited the GTOS secretariat and the GTOS sponsoring agencies to elaborate a work plan for developing observational standards and protocols for the 13 terrestrial ECVs assessed. It invited the GTOS secretariat to report on the results of the implementation of the framework and its elaboration of the work plan at SBSTA 33.

62. The SBSTA expressed its appreciation for the updated report provided by CEOS, on behalf of Parties that support space agencies involved in global observations, to the SBSTA at its twenty-ninth session.<sup>4</sup> It welcomed the progress made by those agencies in responding to the GCOS implementation plan and the support of CEOS to the space-based observations of GCOS. The SBSTA further welcomed the commitment by CEOS member agencies to work towards improved availability of current and future data for forest carbon monitoring, as expressed in a statement delivered by a representative of CEOS.

63. The SBSTA encouraged coordinated implementation of the cross-cutting space-based components of GCOS to continue over the long term, including the continued coordinated response to the needs identified in the GCOS implementation plan through CEOS. It also encouraged CEOS and the Parties that support space agencies involved in global observations to continue and if possible accelerate development of methodologies, and validation and inter-comparison of satellite-based applications for the terrestrial domain. The SBSTA invited CEOS to report at its thirty-third session on progress made in its efforts to meet the relevant needs of the Convention.

64. The SBSTA invited the participants of the forthcoming World Climate Conference-3, to be held in Geneva, Switzerland, from 31 August to 4 September 2009, to take note of the needs of the Convention, in particular with respect to research and systematic observation. It invited WMO to provide information on the outcome of the conference to inform the work under the Convention.

65. The SBSTA invited the AWG-LCA to note the importance of research and systematic observation in underpinning the implementation of the Convention. The SBSTA also invited the AWG-LCA to note that such research and systematic observation needs to be strengthened, particularly in developing countries. The SBSTA emphasized that any enhanced action on adaptation should take into account the need to strengthen adaptation-related research and systematic observation. The AWG-LCA is invited to take into account such needs in its deliberations.

66. The SBSTA agreed to recommend a draft decision on this matter for adoption by the COP at its fifteenth session.<sup>5</sup>

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<sup>1</sup> WMO, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the United Nations Environment Programme and the International Council for Science.

<sup>2</sup> FCCC/SBSTA/2009/MISC.8, which supersedes FCCC/SBSTA/2008/MISC.12.

<sup>3</sup> FCCC/SBSTA/2007/16, paragraph 40.

<sup>4</sup> FCCC/SBSTA/2008/MISC.11.

<sup>5</sup> FCCC/SBSTA/2009/L.6/Add.1. For the final text see FCCC/SBSTA/2009/3/Add.1.

## SBSTA 32, 2010

### (FCCC/SBSTA/2010/6)

45. The SBSTA took note of the views submitted by Parties on topics for discussion at the research dialogue meeting convened during SBSTA 32<sup>1</sup> and expressed its appreciation to Parties for providing, during that dialogue meeting, their views on research needs and priorities, in particular those related to reducing uncertainties and gaps in scientific knowledge relevant to the needs of the Convention.

46. The SBSTA welcomed the updated information on developments in research activities and emerging scientific findings relevant to the needs of the Convention provided by the regional and international climate change research programmes and organizations (hereinafter referred to as research programmes and organizations), as well as the information provided by the IPCC on its activities, in particular on the process leading to the IPCC Fifth Assessment Report (AR5) and its Synthesis Report.<sup>2</sup>

47. The SBSTA recalled the valuable role that the research dialogue is playing in informing deliberations within the UNFCCC process, and agreed that it should be continued at SBSTA 34 and beyond. It encouraged research programmes and organizations to continue to provide, for consideration under the research dialogue in the future, information on developments in research activities outlined in document FCCC/SBSTA/2007/4, paragraph 47 (a–f), taking into account views expressed by Parties, priorities emerging within the UNFCCC process and activities undertaken in support of the IPCC towards the preparation of the AR5.

48. The SBSTA noted the need to further enhance interaction between the science and policy communities by strengthening the research dialogue. Possible ways to enhance the effectiveness of the dialogue in the future may include:

- (a) Better identification and communication of research themes and topics of interest to policymakers;
- (b) Greater opportunities for developing countries to present research results and related capacity-building activities;
- (c) Further activities to share information;
- (d) Identification of additional ways to communicate research outcomes and findings to Parties.

49. In this regard, the SBSTA requested the secretariat to:

- (a) Organize a workshop, in conjunction with its thirty-fourth session, subject to the availability of resources and under the guidance of the Chair of the SBSTA, to allow further in-depth consideration to be given to issues addressed in the research dialogue, and to prepare a report on the workshop to be made available for consideration by the SBSTA at its thirty-fourth session;
- (b) Consider ways to make available on its website information from the research programmes and organizations.

50. The SBSTA invited Parties to provide to the secretariat, by 20 September 2010, their views on the issues referred to in paragraphs 48 (a–d) and 49 (a) and (b) above, and requested the secretariat to make these available as a miscellaneous document by SBSTA 33. It further requested the secretariat to provide information to Parties prior to SBSTA 34 on the themes to

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<sup>1</sup> FCCC/SBSTA/2010/MISC.4.

<sup>2</sup> This information was provided in submissions contained in document FCCC/SBSTA/2010/MISC.6, as well as in the presentations given during the research dialogue meeting. The IPCC and the following research programmes and organizations were represented at the meeting: the Earth System Science Partnership, the World Climate Research Programme, the International Geosphere–Biosphere Programme, the International Human Dimensions Programme on Global Environmental Change, START (Global Change System for Analysis, Research and Training), the Asia-Pacific Network for Global Change Research and the Seventh Framework Programme of the European Union and associated countries. Presentations and further information are available at <http://unfccc.int/items/5609.php>.

be presented at the research dialogue meeting and at the workshop referred to in paragraph 49 (a) above.

51. The SBSTA invited research programmes and organizations to provide updated information on emerging scientific findings and research outcomes at SBSTA 33.

52. The SBSTA noted the challenges of communicating research results, including indication of level of confidence and uncertainty, effectively to end-users and to a wider audience, including the media and the public. In this regard, the SBSTA welcomed the progress made in the development of the Global Framework for Climate Services (GFCS) under WMO and its partner organizations. It invited WMO to report, under the research dialogue, on progress made in the development of the GFCS.

53. The SBSTA recognized the need to engage observation programmes in the research dialogue.

54. The SBSTA encouraged the enhancement of existing efforts by Parties and research programmes and organizations to build research capacity in developing countries, including by strengthening research at regional climate centres.

### **SBSTA 33, 2010**

#### **(FCCC/SBSTA/2010/13)**

38. The SBSTA noted with appreciation the statements delivered by representatives of the GCOS, GTOS and GOOS, as well as the statement delivered by Brazil on behalf of CEOS.

39. The SBSTA welcomed the *Update of the Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC* (hereinafter referred to as the 2010 updated GCOS implementation plan),<sup>1</sup> submitted by the secretariat of GCOS and prepared under the guidance of the GCOS Steering Committee.<sup>2</sup>

40. The SBSTA noted the sound assessment of requirements for climate-related observations that this plan provides and its enhanced focus on adaptation, in particular the identification of needs for improving land and coastal networks for observations relevant to vulnerability assessments and adaptation, with specific emphasis on developing countries.

41. The SBSTA urged Parties to work towards full implementation of the 2010 updated GCOS implementation plan and to consider, within the context of their national capabilities, what actions they can take at the national, regional and international levels to contribute to the implementation of the plan.

42. The SBSTA further encouraged Parties to increase consideration of GCOS-related implementation in relevant national and regional activities, such as those undertaken by regional centres and national meteorological and hydrological, terrestrial and oceanographic services and those undertaken in the context of adaptation. In this regard, the SBSTA encouraged Parties and relevant organizations to increase coordination of relevant activities and to build upon and enhance existing national and regional centres with the aim of facilitating implementation of the GCOS regional action plans and strengthening observation networks.

43. The SBSTA further noted the importance of historical observations as the basis for analysis and reanalysis and encouraged Parties and relevant organizations to increase their data rescue and digitization of historical observations and to establish and strengthen international coordination initiatives for these activities.

44. The SBSTA encouraged Parties, when providing information related to systematic observation in their detailed technical reports on systematic observations provided in conjunction with their national communications and in line with relevant reporting guidelines,<sup>3</sup> to take into consideration the new requirements identified in the 2010 updated GCOS

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<sup>1</sup> A summary of this updated plan is contained in document FCCC/SBSTA/2010/MISC.9. The full report is available at <http://unfccc.int/items/3462.php>.

<sup>2</sup> See decision 9/CP.15 and the conclusions of the SBSTA at its thirtieth session (FCCC/SBSTA/2009/3, paras. 57 and 58).

<sup>3</sup> Decision 11/CP.13, which adopted the revised “UNFCCC reporting guidelines on global climate observing systems”.

implementation plan, in particular the new essential climate variables (ECVs). The SBSTA noted that any future revision of relevant UNFCCC reporting guidelines, in particular those on global climate change observing systems, should take into account the new elements identified in that plan.

45. The SBSTA invited the GCOS secretariat to report on progress made in the implementation of the 2010 updated GCOS implementation plan on a regular basis, at subsequent sessions of the SBSTA, as appropriate. In this regard it encouraged the GCOS to review, in broad consultation with relevant partners, the adequacy of observing systems for climate, such as by updating the *Second Report on the Adequacy of the Global Observing Systems for Climate in Support of the UNFCCC*.<sup>1</sup> It noted the usefulness of updating the GCOS implementation plan on a regular basis, so as to take into consideration developments under the Convention and their related observational needs. The SBSTA agreed to consider, at its thirty-fifth session, issues related to the timing of GCOS contributions to the SBSTA.

46. The SBSTA noted the relevance of global climate observations for climate research, prediction and services. In this regard, the SBSTA recalled the outcome of World Climate Conference-3, inter alia the call for major strengthening of the GCOS and all its components and associated activities, as one of the essential elements of the Global Framework for Climate Services.

47. The SBSTA welcomed the report by the GTOS<sup>2</sup> on the framework for climate-related terrestrial observations and the workplan on the development of standards and protocols for the terrestrial ECVs assessed. It encouraged the GTOS to continue coordinating the development of methodologies for climate-related terrestrial observations and to continue working with its sponsors<sup>3</sup> and the International Organization for Standardization, and in broad consultation with relevant partners, towards implementation of that workplan, including through mobilization of the necessary resources.

48. The SBSTA encouraged Parties, in close cooperation with the GTOS, to support and facilitate the development of terrestrial standards and to improve their terrestrial networks.

49. The SBSTA also noted the increased usefulness of the terrestrial ECVs beyond observations of climate change, such as for biodiversity and desertification, and encouraged the GTOS to increase synergy with ongoing relevant initiatives.

50. The SBSTA invited the GTOS to report at the thirty-fifth session of the SBSTA on progress made on the matters referred to in paragraphs 47–49 above.

51. The SBSTA noted that the future workplan of GOOS includes emerging ECVs on ocean chemistry and ecosystems and noted the relevance of these variables in tracking the impacts of climate change and acidification on ocean ecosystems.

52. The SBSTA welcomed the coordinated response by the CEOS<sup>4</sup> to the relevant needs of the GCOS implementation plan and those of the Convention, and the progress and commitment by space agencies involved in climate observations to address the space-based component of the GCOS and improve climate monitoring capabilities from space on a sustained basis.

53. The SBSTA encouraged Parties that support space agencies involved in global observations to continue, through CEOS, cooperation with and support to the GCOS and to respond to the relevant needs identified in the 2010 updated GCOS implementation plan. It invited the CEOS to provide, by SBSTA 37, an updated report on progress made on major achievements in relevant areas.

54. The SBSTA emphasized the important role of high-quality climate observations in underpinning climate change research, modelling and strengthening the robustness of the scientific knowledge, including that of assessments by the Intergovernmental Panel on Climate

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<sup>1</sup> Available at <http://www.wmo.int/pages/prog/gcos/index.php?name=Publications>.

<sup>2</sup> A summary of this report is contained in document FCCC/SBSTA/2010/MISC.10. The full report is available at <http://unfccc.int/items/3462.php>.

<sup>3</sup> These are FAO, the International Council for Science, the United Nations Environment Programme, the United Nations Educational, Scientific and Cultural Organization and the World Meteorological Organization.

<sup>4</sup> A summary of this report is contained in document FCCC/SBSTA/2010/MISC.11. The full report is available at <http://unfccc.int/items/3462.php>.

Change (IPCC). It noted the critical importance of such information for supporting decision-making on climate change policies, including in the context of long-term cooperative action on climate change and the review of the adequacy of the long-term goal currently under consideration under the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA).

55. The SBSTA emphasized the urgent need to secure funding to meet the essential needs for global climate observations under the Convention on a long-term basis. In this regard the SBSTA noted the information related to additional funding requirements identified in the updated 2010 GCOS implementation plan.

56. The SBSTA further urged Parties in a position to do so, and invited relevant organizations, to provide the support needed to strengthen observation networks and capabilities in developing countries, especially the LDCs and SIDS.

57. The SBSTA invited the SBI to consider the funding needs referred to in paragraphs 55 and 56 above at its thirty-fourth session under relevant agenda items, as appropriate.

58. The SBSTA also invited the AWG-LCA to consider the funding needs referred to in paragraph 55 above in its deliberations with the aim that adequate financial resources are made available on a long-term basis in the future financial architecture.

59. The SBSTA noted with appreciation the updated information on emerging scientific findings and research outcomes provided by regional and international climate change research programmes and organizations.<sup>1</sup> It also took note of the views submitted by Parties on issues related to the research dialogue, including the workshop to be held in conjunction with SBSTA 34.<sup>2</sup> It invited Parties to provide additional views on these matters by 31 January 2011, and requested the secretariat to make these available as a miscellaneous document prior to SBSTA 34.

## **SBSTA 34, 2011**

### **(FCCC/SBSTA/2011/2)**

44. The SBSTA noted the information provided prior to its thirty-fourth session in preparation for the meeting under the SBSTA dialogue on developments in research activities relevant to the needs of the Convention being held in the context of decision 9/CP.11 (hereinafter referred to as the research dialogue) and for the related workshop (FCCC/SBSTA/2010/MISC.12, FCCC/SBSTA/2011/MISC.1, FCCC/SBSTA/2011/MISC.4 and FCCC/SBSTA/2011/INF.1) on recent climate change research findings and uncertainty management, communicating climate change science and building capacity for research in developing countries.

45. The SBSTA noted the progress made in the implementation of decision 9/CP.11 through the establishment and maintenance of the research dialogue under the SBSTA, as initiated at its twenty-sixth session.<sup>3</sup>

46. The SBSTA welcomed the continuation of the research dialogue held during the thirty-fourth session of the SBSTA and the related workshop on research referred to in paragraph 44 above, which was organized by the secretariat, under the guidance of the Chair of the SBSTA, from 2 to 3 June 2011 in Bonn, Germany, and expressed its appreciation to the governments that provided financial support for the workshop.

47. The SBSTA conveyed its appreciation to the regional and international programmes and organizations engaged in climate change research (hereinafter referred to as research programmes and organizations), the IPCC, United Nations agencies and organizations, and scientific experts for their active participation and contributions during the workshop and the research dialogue,<sup>4</sup> and for sharing their knowledge and results emerging from their research activities. The SBSTA also expressed its appreciation to Parties for sharing their views on their

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<sup>1</sup> FCCC/SBSTA/2010/MISC.15.

<sup>2</sup> FCCC/SBSTA/2010/MISC.12.

<sup>3</sup> FCCC/SBSTA/2007/4, paragraph 44.

<sup>4</sup> For the list of research programmes and organizations, and United Nations agencies and organizations that participated in the workshop and in the research dialogue, see <http://unfccc.int/3461.php>.

research needs and priorities for policy-relevant scientific information, as well as on communication and research-related capacity-building needs.

48. The SBSTA noted with appreciation the broadened participation of other organizations, programmes and agencies active in climate change research. It also noted that the workshop strengthened the research dialogue between Parties and research programmes and organizations. It further noted with appreciation that both events, especially the workshop, contributed to an enhanced communication between the science and policy communities, and to an enhanced consideration and understanding by Parties of emerging scientific findings and related issues on communication and research-related capacity-building in developing countries and other issues addressed under the research dialogue.

49. The SBSTA welcomed the report on the workshop,<sup>1</sup> which included information on research findings, research needs and ongoing activities in international and regional climate change research. The SBSTA noted that this information included significant emerging research outcomes, since the publication of the IPCC Fourth Assessment Report, of relevance to the UNFCCC, including on ocean acidification, changes to the cryosphere, sea level rise and emissions scenarios.

50. The SBSTA noted that the workshop report:

(a) Included information from some Parties on policy-relevant research needs, including for interdisciplinary research, as well as on the need for improved and sustained observations to support further research, especially in areas where data are scarce, as well as for enhanced and sustained ground-based observation networks for the validation of satellite data;

(b) Considered good practices, challenges and needs, and lessons learned in communicating climate change science, including linkages with local knowledge and the use of local languages, to the user community, the general public, stakeholders, including the most vulnerable groups, and policymakers;

(c) Highlighted lessons learned and future needs in building capacity for research and related activities in developing countries and the need to enhance developing country participation in climate change research.

51. The SBSTA emphasized the need for improved communication and interaction between the scientific community and users of climate information in order to support adaptation and mitigation planning and activities.

52. The SBSTA also emphasized the need to further enhance the relevance of the research dialogue and linkages with other activities under the UNFCCC process. In this regard, the SBSTA invited the research programmes and organizations to continue to provide information on developments in research activities relevant to the needs of the Convention.<sup>2</sup>

53. The SBSTA further emphasized the value of promoting the outputs of research through activities undertaken under Article 6 of the Convention, particularly in developing countries.

54. The SBSTA stressed the need to enhance the availability of research findings from developing countries. It encouraged the research programmes and organizations to include information on the participation of scientists from developing countries in climate change research when reporting information in the context of the research dialogue.

55. The SBSTA requested the secretariat, subject to the availability of resources, to continue to support the research dialogue, including:

(a) Organizing further workshops, as appropriate, in periodic consultation with the research programmes and organizations, and to be agreed by the SBSTA;

(b) Enhancing the visibility of scientific information of relevance to the Convention on its website, including the provision of a calendar of key science-policy meetings in collaboration with research programmes and organizations and the IPCC.

56. The SBSTA invited Parties to provide, by 19 September 2011, their views on the research dialogue, including ongoing activities, associated modalities and ways to enhance the

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<sup>1</sup> FCCC/SBSTA/2011/INF.6. For further information on the workshop, including the presentations made, see <http://unfccc.int/6032.php>.

<sup>2</sup> FCCC/SBSTA/2007/4, paragraph 47(a-f).

dialogue. The SBSTA requested the secretariat to compile these submissions into a miscellaneous document for consideration by the SBSTA at its thirty-fifth session. The SBSTA agreed to defer its consideration of matters related to systematic observation, including issues related to the timing of the contributions of the Global Climate Observing System to the SBSTA, to its thirty-sixth session.

## **SBSTA 35, 2011**

### **(FCCC/SBSTA/2011/5)**

36. The SBSTA considered the views submitted by Parties on the research dialogue, including ongoing activities, associated modalities and possible ways to enhance the dialogue.<sup>1</sup>

37. In the light of the progress made in the implementation of decision 9/CP.11, and the success of the activities undertaken under the SBSTA research dialogue on developments in research activities relevant to the needs of the Convention, including the related workshop held in conjunction with the thirty-fourth session of the SBSTA, the SBSTA agreed that the research dialogue should continue, on a regular basis, at SBSTA 36 and beyond.

38. The SBSTA encouraged Parties, in particular developing country Parties, and invited regional and international research programmes and organizations active in climate change research to utilize the research dialogue as a forum for:

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

(b) Conveying research findings and lessons learned from activities undertaken by regional and international research programmes and organizations of relevance to the Convention.

39. The SBSTA invited Parties to submit, prior to a SBSTA session during which a research dialogue would be held, their views on specific themes to be addressed at the research dialogue meeting.<sup>2</sup> In this regard, the SBSTA invited Parties to submit, by 5 March 2012, their views for the upcoming research dialogue to be held in conjunction with the thirty-sixth session of the SBSTA.

40. The SBSTA invited relevant regional and international research programmes and organizations active in climate change research to provide, in the context of the research dialogue, submissions with information on developments in their research activities relevant to the Convention, including with respect to the long-term global goal referred to in decision 1/CP.16, paragraph 4, as appropriate.

41. The SBSTA recalled its conclusions at its thirty-fourth session, at which the SBSTA requested the secretariat, subject to the availability of resources, to continue to support the research dialogue, including organizing further workshops, as appropriate, in periodic consultation with the relevant research programmes and organizations and as agreed by the SBSTA. The objective of such workshops is to facilitate the in-depth consideration of issues considered under the research dialogue, with a view to providing information in support of the UNFCCC process.

42. The SBSTA requested the secretariat, taking into consideration information from relevant research programmes and organizations and the IPCC, to further enhance the availability and visibility of scientific information relevant to the Convention on the UNFCCC website, including through webcasts of the proceedings of any workshops under the research dialogue.

43. The SBSTA invited Parties and regional and international research programmes and organizations active in climate change research, including marine research, to provide information on the technical and scientific aspects of emissions by sources, removals by sinks, and reservoirs of all greenhouse gases, including emissions and removals from coastal and marine ecosystems such as mangroves, tidal salt marshes, wetlands and seagrass meadows, with a view to identifying and quantifying the impact of human activities. This information

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<sup>1</sup> FCCC/SBSTA/2011/MISC.8 and Add.1.

<sup>2</sup> In line with the timeline for submissions from Parties for inclusion into a miscellaneous document of that respective session.

would be considered as a theme for the next research dialogue, also taking into account the submissions received in accordance with paragraph 39 above. At its thirty-sixth session, the SBSTA may consider the need for a workshop to give in-depth consideration to the themes considered in the research dialogue. The SBSTA noted the views of Parties regarding the importance of other ecosystems with high-carbon reservoirs, in particular terrestrial ecosystems, for example steppe, tundra and peatlands.

44. The SBSTA took note of the information provided by the secretariat of the Global Terrestrial Observing System (GTOS)<sup>1</sup> and agreed to consider this information, in conjunction with any updates received from GTOS on this matter, as well as matters related to the Global Climate Observing System, at its thirty-sixth session when considering matters related to systematic observation, in line with the conclusions of the SBSTA at its thirty-fourth session.<sup>2</sup>

45. The SBSTA noted with appreciation the statement provided by WMO on the progress towards the implementation of the Global Framework for Climate Services (GFCS). The SBSTA recognized that the GFCS is an important initiative to underpin science-based adaptation and to support countries in meeting the challenges of climate variability and change.

46. The SBSTA invited WMO to provide, at the thirty-seventh session of the SBSTA, information on the outcome of the Extraordinary Session of the WMO Congress in October 2012 with respect to GFCS implementation. The SBSTA also invited WMO to provide information, when appropriate, on the progress in the implementation of the GFCS at future sessions in order to inform the work under the Convention.

47. The SBSTA welcomed the IPCC *Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, noting the importance of the underlying research and systematic observations enabling the production of that report.

48. The SBSTA took note of the estimated budgetary implications of implementing the provisions contained in these conclusions, as provided by the secretariat. The SBSTA requested that the actions of the secretariat called for in these conclusions be undertaken subject to the availability of financial resources.

49. The SBSTA decided to recommend a draft decision<sup>3</sup> on the research dialogue for adoption by the COP at its seventeenth session (for the text of the decision, see FCCC/SBSTA/2011/L.27/Add.1).

## **SBSTA 36, 2012**

### **(FCCC/SBSTA/2012/2)**

38. The SBSTA took note of the views of Parties and of the progress made in developing draft conclusions under this agenda item.

39. The SBSTA agreed to continue its consideration of this agenda item at its thirty-seventh session on the basis of the draft text contained in annex II.

## **Annex II**

### **Draft text on research and systematic observation**

1. [The Subsidiary Body for Scientific and Technological Advice (SBSTA) noted with appreciation the statements delivered by representatives of the World Meteorological Organization (WMO), the Global Climate Observing System (GCOS) and the Intergovernmental Panel on Climate Change (IPCC).

2. The SBSTA welcomed the plan of the GCOS Steering Committee and secretariat to prepare, in broad consultation with relevant partners, by early 2015, a third report on the adequacy of the global observing systems for climate<sup>4</sup> and, by 2016, a new implementation

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<sup>1</sup> FCCC/SBSTA/2011/MISC.14.

<sup>2</sup> FCCC/SBSTA/2011/2, paragraph 56.

<sup>3</sup> For the text as adopted, see decision 16/CP.17.

<sup>4</sup> A report on the adequacy of the climate observing systems was prepared in 1998, followed by a second such report in 2003, both of which are available at <http://www.wmo.int/pages/prog/gcos/index.php?name=Publications>.

plan for the global observing system for climate, which would, inter alia, support the Convention.<sup>1</sup> The SBSTA invited the GCOS secretariat to provide the final implementation plan to the SBSTA in 2016 by its [45th] session, and the third adequacy report to the SBSTA by 2015 at its [43rd] session. The SBSTA encouraged the GCOS to provide a draft of the implementation plan to the SBSTA by its [43rd] session in 2015.

3. [The SBSTA noted that the GCOS secretariat would consider, inter alia, [emerging observational needs for adaptation and for the provision of climate services, and] the findings of the Fifth Assessment Report of the IPCC, in the development of the third adequacy report.]

4. The SBSTA welcomed the activities undertaken by the GCOS secretariat to support efforts to address the needs for climate observations, including the preparation of an update of the Satellite Supplement<sup>2</sup> to the 2010 updated GCOS implementation plan. The SBSTA invited the Committee on Earth Observation Satellites (CEOS) to respond to this new supplement when reporting to the thirty-seventh session of the SBSTA on progress made.<sup>3</sup>

5. The SBSTA further welcomed the regional initiatives of the GCOS secretariat<sup>4</sup> in supporting the development of and improvements to climate observation capacities. The SBSTA invited the GCOS secretariat to further expand such initiatives<sup>5</sup> and encouraged Parties, in a position to do so, to support these efforts.

6. The SBSTA noted that the report on progress by the Global Terrestrial Observing System (GTOS) secretariat was not submitted to the SBSTA by its thirty-sixth session,<sup>6</sup> and encouraged the GTOS secretariat to submit that report to the SBSTA by its xxth session. The SBSTA highlighted the importance of such reports for the work of the SBSTA.

7. The SBSTA expressed its appreciation to the GCOS sponsors<sup>7</sup> for the support provided to the GCOS programme for the past 20 years, and encouraged them to continue to provide such support. The SBSTA also welcomed the initiative by the GCOS sponsors to undertake a review of GCOS, and invited the GCOS sponsors, through WMO, to inform the SBSTA on the outcome of this review.

8. The SBSTA noted with appreciation the information by WMO on progress made towards implementation of the Global Framework for Climate Services (GFCS), including on the draft GFCS Implementation Plan. The SBSTA invited WMO to keep the SBSTA informed on the developments of the GFCS.

9. The SBSTA noted the importance of systematic observation for vulnerability assessments and adaptation, with specific emphasis on developing countries. The SBSTA encouraged Parties to contribute to the identification of emerging needs for systematic observation in the context of the Convention, in support of the activities mentioned in paragraph 2 above.

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<sup>1</sup> For the summary of the GCOS *Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC*, prepared in 2004, see document FCCC/SBSTA/2004/MISC.16. For the summary of the 2010 update of the plan see document FCCC/SBSTA/2010/MISC.9.

<sup>2</sup> Full title of the Satellite Supplement: *Systematic Observation Requirements for Satellite-based Products for Climate*. This report provides supplemental details to the satellite-based component of the 2010 update of the GCOS implementation plan. The full report is available at <http://www.wmo.int/pages/prog/gcos/Publications/gcos-154.pdf>.

<sup>3</sup> At its thirty-third session, the SBSTA invited CEOS to provide, by the thirty-seventh session of the SBSTA, an updated report on progress made on major achievements in relevant areas (FCCC/SBSTA/2010/13, para. 53).

<sup>4</sup> Recent regional initiatives of the GCOS secretariat have focused on Africa and South America, as indicated by the GCOS secretariat in its submission to the SBSTA (see FCCC/SBSTA/2012/MISC.4).

<sup>5</sup> For example, to the Asia-Pacific region and the Caribbean.

<sup>6</sup> At its thirty-third session, the SBSTA invited the secretariat of the GTOS to report to the SBSTA at its thirty-fifth session on progress made on a number of matters relating to climate-related terrestrial observations (see FCCC/SBSTA/2010/13, paras. 47–50). At the thirty-fifth session of the SBSTA, the GTOS secretariat provided a summary of progress (FCCC/SBSTA/2011/MISC. 14), indicating that the report invited by the SBSTA at its thirty-third session would be submitted to the SBSTA at its thirty-sixth session.

<sup>7</sup> The sponsors of GCOS are the following: WMO, the **Intergovernmental Oceanographic Commission** of the United Nations Educational, Scientific and Cultural Organization, the United Nations Environment Programme and the International Council for Science.

10. [The SBSTA noted the potential of systematic observation for carbon monitoring, such as for monitoring carbon fluxes in ecosystems [, and invited GCOS to consider enhancing its activities in this regard.]]
11. [The SBSTA agreed to continue its consideration of systematic observation at its thirty-seventh session, and then revert to its customary practice of focusing on research during the first sessional period of a year and on systematic observation during the second sessional period of a year.]
12. [The SBSTA welcomed the continuation of the research dialogue held during the thirty-sixth session of the SBSTA. It also conveyed its appreciation to the regional and international programs and organizations [footnote on participants] engaged in climate change research, the IPCC and scientific experts for their active participations and contribution to the research dialogue. The SBSTA also expressed its appreciation to Parties for sharing their views on their research needs and priorities.]
13. [SBSTA agreed to focus the next Research Dialogue at SBSTA 38. The SBSTA invited Parties to provide, by 31 January 2013, their views on the research dialogue, including on-going activities, associated modalities and ways to enhance the dialogue. The SBSTA requested the secretariat to compile these submissions to a miscellaneous document for consideration by the SBSTA at its 38th session.]
14. [SBSTA agreed to focus the next research dialogue at SBSTA 38th session on socio-economic and scientific aspects of climate change. SBSTA invited Parties to submit their views on this theme by [date] with the view to organize a workshop before SBSTA 38 to allow in-depth consideration of this theme.]]

### **SBSTA 37. 2012**

**(FCCC/SBSTA/2012/5)**

36. The SBSTA noted with appreciation the statements delivered at its thirty-sixth session by representatives of WMO, the Global Climate Observing System (GCOS) and the Intergovernmental Panel on Climate Change (IPCC), and at its thirty-seventh session by representatives of WMO and CEOS.
37. The SBSTA welcomed the plan of the GCOS Steering Committee and secretariat to prepare, in broad consultation with relevant partners, by early 2015, a third report on the adequacy of the global observing systems for climate<sup>1</sup> and, by 2016, a new implementation plan for the global observing system for climate, which would, inter alia, support the Convention.<sup>2</sup> The SBSTA invited the GCOS secretariat to provide the third adequacy report to the SBSTA in 2015 by its forty-third session, and the final implementation plan to the SBSTA in 2016 by its forty-fifth session. The SBSTA encouraged the GCOS secretariat to provide a draft of the new implementation plan to the SBSTA by its forty-third session in 2015.
38. The SBSTA noted that the GCOS secretariat would consider, inter alia, the findings of the Fifth Assessment Report of the IPCC, in the development of the third adequacy report.
39. The SBSTA noted the importance of systematic observation for vulnerability assessments and adaptation, with a specific emphasis on developing countries. It encouraged Parties to contribute to the identification of emerging needs for systematic observation in the context of the Convention, in support of the activities mentioned in paragraph 37 above.
40. The SBSTA welcomed the activities undertaken by the GCOS secretariat to support efforts to address the needs for climate observations, including the preparation of an update of the Satellite Supplement<sup>3</sup> to the 2010 updated GCOS implementation plan.

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<sup>1</sup> A report on the adequacy of the global climate observing systems was prepared in 1998, followed by a second such report in 2003; they are available at

<http://www.wmo.int/pages/prog/gcos/Publications/gcos-48.pdf> and  
[http://www.wmo.int/pages/prog/gcos/Publications/gcos-82\\_2AR.pdf](http://www.wmo.int/pages/prog/gcos/Publications/gcos-82_2AR.pdf).

<sup>2</sup> For the summary of the GCOS *Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC*, prepared in 2004, see document FCCC/SBSTA/2004/MISC.16. For the summary of the 2010 update of the plan, see document FCCC/SBSTA/2010/MISC.9.

<sup>3</sup> Full title of the Satellite Supplement: *Systematic Observation Requirements for Satellite-based Data*

41. The SBSTA expressed its appreciation to CEOS for its update on progress made by space agencies providing global observations in their coordinated response to relevant needs of the Convention.<sup>1</sup> It noted the importance of continuing and sustaining satellite observations on a long-term basis, and the role of CEOS in promoting full and open data sharing, in order to support the work under the Convention. It invited CEOS to provide, by SBSTA 41, an updated report on progress made by space agencies providing global observations in their coordinated response to relevant needs of the Convention.

42. The SBSTA welcomed the regional initiatives of the GCOS secretariat<sup>2</sup> in supporting the development of and improvements to climate observation capacities. It invited the GCOS secretariat to further expand such initiatives and encouraged Parties in a position to do so to support these efforts.

43. The SBSTA took note of the report on progress in the development of methodologies, standards and protocols for climate-related terrestrial observations and related matters, which was provided by the GCOS secretariat on behalf of the Global Terrestrial Observing System.<sup>3</sup> The SBSTA highlighted the importance of such reports for its work.

44. The SBSTA expressed its appreciation to the GCOS sponsors<sup>4</sup> for the support provided by them to the GCOS programme for the past 20 years, and encouraged them to continue to provide such support. It welcomed the initiative of the GCOS sponsors to undertake a review of GCOS, and invited the sponsors, through WMO, to inform the SBSTA on the outcome of that review.

45. The SBSTA noted with appreciation the information from WMO<sup>5</sup> on the outcome of the Extraordinary Session of the World Meteorological Congress, held in Geneva, Switzerland, from 29 to 31 October 2012, with respect to the implementation of the Global Framework for Climate Services.<sup>6</sup> It invited WMO to provide, at SBSTA 39, information on the outcome of the first session of the Intergovernmental Board on Climate Services, to be held in July 2013. The SBSTA recommended draft conclusions<sup>7</sup> on this matter for adoption by the COP at its eighteenth session.<sup>8</sup>

46. The SBSTA recalled the conclusions of the SBI at its twenty-fourth session<sup>9</sup> and concluded that it would continue to focus its consideration on research during the first sessional period of a year and on systematic observation during the second sessional period of a year.

47. The SBSTA welcomed the continuation of the research dialogue during SBSTA 36. It expressed its appreciation to the representatives of regional and international research programmes and organizations active in climate change research, and to the IPCC, for their contributions to the dialogue.<sup>10</sup> It also expressed its appreciation to Parties for sharing their views on their research needs and priorities in the context of the dialogue.<sup>11</sup>

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*Products for Climate.* This report provides supplemental details to the satellite-based component of the 2010 update of the GCOS implementation plan. The full report is available at <http://www.wmo.int/pages/prog/gcos/Publications/gcos-154.pdf>.

<sup>1</sup> FCCC/SBSTA/2012/MISC.14.

<sup>2</sup> Recent regional initiatives of the GCOS secretariat have focused on Africa and South America, as indicated by the GCOS secretariat in its submission to the SBSTA (FCCC/SBSTA/2012/MISC.4). FCCC/SBSTA/2012/MISC.15

<sup>3</sup> FCCC/SBSTA/2012/MISC.15.

<sup>4</sup> The sponsors of the GCOS are the following WMO, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the United Nations Environment Programme and the International Council for Science

<sup>5</sup> FCCC/SBSTA/2012/MISC.21.

<sup>6</sup> See [http://www.wmo.int/pages/gfcs/index\\_en.php](http://www.wmo.int/pages/gfcs/index_en.php).

<sup>7</sup> Adopted as document FCCC/SBSTA/2012/L.25/Add.1.

<sup>8</sup> For the text as adopted, see FCCC/CP/2012/8, paragraph 55.

<sup>9</sup> FCCC/SBI/2006/11, paragraph 109(a).

<sup>10</sup> This information was provided in the submissions contained in document FCCC/SBSTA/2012/MISC.3 and in the presentations given during the research dialogue. For information on research programmes and organizations that contributed to the research dialogue, see <http://unfccc.int/6896.php>.

<sup>11</sup> This information was provided in the submissions contained in document FCCC/SBSTA/2012/MISC.2 and Add.1 and 2 and in the presentations given during the research dialogue, see <http://unfccc.int/6896.php>.

48. The SBSTA invited Parties to submit to the secretariat, by 25 March 2013, their views on possible items for consideration as part of the research dialogue during SBSTA 38 and requested the secretariat to compile these submissions into a miscellaneous document.

49. The SBSTA noted the views submitted by Parties contained in document FCCC/SBSTA/2012/MISC.2 and Add.1 and 2.

50. The SBSTA requested the secretariat to organize a workshop, subject to the availability of financial resources, to be held by SBSTA 39, to consider information on the technical and scientific aspects of ecosystems with high-carbon reservoirs not covered by other agenda items under the Convention, such as coastal marine ecosystems, in the context of wider mitigation and adaptation efforts.

51. The SBSTA invited Parties to submit to the secretariat, by 25 March 2013, their views on the content of that workshop and requested the secretariat to compile these submissions into a miscellaneous document.

52. The SBSTA invited Parties and regional and international research programmes and organizations active in climate change research to provide information on the technical and scientific aspects of emissions by sources, removals by sinks, and reservoirs of all greenhouse gases (GHGs), including emissions and removals from terrestrial ecosystems such as steppe, savannah, tundra and peatlands, with a view to identifying and quantifying the impact of human activities. This information would be considered as a theme for the next research dialogue, also taking into account the submissions received in accordance with paragraph 48 above.

53. The SBSTA took note of the estimated budgetary implications of the activities to be undertaken by the secretariat pursuant to the provisions contained in paragraph 50 above.

54. The SBSTA requested that the actions of the secretariat called for in paragraph 50 above be undertaken subject to the availability of financial resources.

### **SBSTA 38, 2013**

#### **(FCCC/SBSTA/2013/3)**

64. The SBSTA noted with appreciation the statement delivered by the representative of the IPCC. It also took note of the information submitted by Parties<sup>1</sup> and by regional and international research programmes and organizations active in climate change research<sup>2</sup> (hereinafter referred to as research programmes and organizations) in preparation for the research dialogue during SBSTA 38.

65. The SBSTA welcomed the research dialogue<sup>3</sup> referred to in paragraph 64 above, and expressed its appreciation to the research programmes and organizations and to the IPCC for their contributions to the research dialogue. The SBSTA also expressed its appreciation to Parties for sharing information and for their views on research needs and priorities in the context of the research dialogue.

66. The SBSTA noted the advances made in research presented by research programmes and organizations and welcomed the progress made in broadening participation at the regional level in these research activities. The SBSTA stressed the important role of capacity-building activities in developing countries, and encouraged that increased efforts be made towards a higher level of participation by scientists from developing countries in climate change research and dissemination of climate science information. The SBSTA also took note of the need for detailed climate data and information at the local and regional levels, in particular in developing countries, in support of understanding climate change and of the practical implementation of adaptation and mitigation efforts.

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<sup>1</sup> FCCC/SBSTA/2013/MISC.4.

<sup>2</sup> FCCC/SBSTA/2013/MISC.5 and Add.1.

<sup>3</sup> The agenda, presentations and information on the research programmes and organizations that contributed to the research dialogue are available at <http://unfccc.int/7663.php>.

67. The SBSTA noted that by SBSTA 40 the IPCC will have released the contributions of Working Groups I, II and III to the IPCC Fifth Assessment Report and that these could contribute relevant information to the research dialogue to be held during SBSTA 40.

68. The SBSTA invited Parties to submit to the secretariat, by 26 March 2014, their views on possible topics for consideration as part of the research dialogue to be held during SBSTA 40, and requested the secretariat to make them available on the UNFCCC website.

69. The SBSTA recalled its conclusions from SBSTA 32, 34 and 35<sup>1</sup> and noted that the availability and visibility of scientific information relevant to the Convention on the UNFCCC website has been enhanced. The SBSTA requested the secretariat to provide a summary report on this work and to make it available for consideration at SBSTA 40.

70. The SBSTA recalled its conclusions from SBSTA 37 regarding the organization of a workshop, subject to the availability of financial resources, to be held by SBSTA 39, to consider information on the technical and scientific aspects of ecosystems with high-carbon reservoirs not covered by other agenda items under the Convention, such as coastal marine ecosystems, in the context of wider mitigation and adaptation efforts.<sup>2</sup> The SBSTA took note of the views of Parties on the content of the workshop<sup>3</sup> and requested the secretariat, in organizing the workshop, under the guidance of the Chair of the SBSTA, to take these views into account. It further requested the secretariat to prepare a report on the workshop, to be made available before SBSTA 40.

### **SBSTA 39, 2013**

#### **(FCCC/SBSTA/2013/5)**

42. The SBSTA noted with appreciation the statements delivered by the representatives of the IPCC, WMO and GCOS.<sup>4</sup>

43. The SBSTA also noted with appreciation the information provided by WMO on the developments regarding the implementation of the Global Framework for Climate Services (GFCS) and the outcome of the first session of the Intergovernmental Board on Climate Services (IBCS).<sup>5</sup> The SBSTA invited WMO to provide, at SBSTA 41, information on the outcome of the second session of the IBCS, to be held in November 2014.

44. The SBSTA also noted with appreciation the information provided by GCOS on its recent and planned activities<sup>6</sup> and the role of GCOS, its sponsors<sup>7</sup> and partners in strengthening observation networks and the provision of high-quality climate information and data, including in the implementation of the GFCS.

45. The SBSTA emphasized the continued need to secure funding to meet the essential needs for global climate observations under the Convention on a long-term basis.<sup>8</sup>

46. The SBSTA welcomed the contribution of Working Group I to the Fifth Assessment Report (AR5) of the IPCC. The SBSTA noted that the IPCC will have released the contributions of Working Groups II and III to the AR5 by SBSTA 40 and the AR5 Synthesis Report by SBSTA 41. It further noted the continued key importance of research and systematic observation to the work of the IPCC.

47. The SBSTA emphasized the importance of systematic observation for the UNFCCC process at large, including for advancing climate modelling at all scales and for decision-

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<sup>1</sup> FCCC/SBSTA/2010/6, paragraph 49(b), FCCC/SBSTA/2011/2, paragraph 55(b), and FCCC/SBSTA/2011/5, paragraph 42.

<sup>2</sup> FCCC/SBSTA/2012/5, paragraph 50.

<sup>3</sup> FCCC/SBSTA/2013/MISC.6 and Add.1 and 2.

<sup>4</sup> The statements are available on the UNFCCC website at <http://unfccc.int/7950.php>.

<sup>5</sup> The submission by WMO to SBSTA 39 is available on the UNFCCC website at <http://unfccc.int/7482.php>.

<sup>6</sup> The submission by GCOS to SBSTA 39 is available on the UNFCCC website at <http://unfccc.int/7482.php>.

<sup>7</sup> The sponsors of GCOS are WMO, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, the United Nations Environment Programme and the International Council for Science.

<sup>8</sup> See also document FCCC/SBSTA/2010/13, paragraph 55.

making on adaptation. It noted that there are still gaps in critical observational data, inter alia for the oceans, and in the networks in some parts of the world, especially in developing countries. The SBSTA affirmed the importance of historical data records, the need to enhance data rescue and digitization efforts and climate monitoring. It therefore urged Parties and relevant organizations to enhance capacity, collaboration and coordination in this area.

48. The SBSTA also noted that a workshop on systematic observation, organized in close collaboration with GCOS and its sponsors, could help to identify ways to strengthen systematic observation and to enhance related capacity in developing countries, in particular in support of adaptation planning.

#### **SBSTA 40, 2014**

##### **(FCCC/SBSTA/2014/2)**

56. The SBSTA took note of the information submitted by Parties<sup>1</sup> and by the regional and international research programmes and organizations active in climate change research (hereinafter referred to as the research programmes and organizations)<sup>2</sup> for the research dialogue<sup>3</sup> held at this session of the SBSTA.

57. The SBSTA welcomed the research dialogue referred to in paragraph 56 above, and expressed its appreciation to Parties for sharing information and for their views on research needs and priorities. The SBSTA also expressed its appreciation to the IPCC and to the research programmes and organizations for their contributions to the research dialogue.

58. The SBSTA invited Parties and the research programmes and organizations to provide information, by 25 March 2015, on lessons learned and good practices for knowledge and research capacity-building, in particular in developing countries, considering information presented at past research dialogues and workshops, and the findings of the IPCC Fifth Assessment Report (AR5).<sup>4</sup> The SBSTA requested the secretariat to make this information available on the UNFCCC website. This information would be considered as a topic for the next research dialogue also taking into account the submissions received in accordance with paragraph 60 below. SBSTA 42 will consider the need for a workshop in regard to the themes from the research dialogue.

59. The SBSTA invited Parties to submit to the secretariat, by 25 March 2015, their views on possible topics for consideration as part of the research dialogue to be held during SBSTA 42 and beyond, taking into account the findings of the AR5, and requested the secretariat to make them available on the UNFCCC website.

60. The SBSTA noted with appreciation the release by the IPCC of the contributions of Working Groups II<sup>5</sup> and III<sup>6</sup> to its AR5, and the statements delivered by the representatives of the IPCC and the WMO at SBSTA 40. The SBSTA noted the importance of the AR5 for the UNFCCC process.

61. The SBSTA noted that, as requested at SBSTA 37,<sup>7</sup> the secretariat organized a workshop to consider information on the technical and scientific aspects of ecosystems with high-carbon reservoirs not covered by other agenda items under the Convention, such as coastal marine ecosystems, in the context of wider mitigation and adaptation efforts, in October 2013.<sup>8</sup> The SBSTA expressed its appreciation to the Governments of Spain and the United Kingdom of Great Britain and Northern Ireland for providing financial resources for this workshop.

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<sup>1</sup> Parties' submissions to SBSTA are available at <http://unfccc.int/5901.php>.

<sup>2</sup> The submissions of observer organizations are available at <http://unfccc.int/7482.php>.

<sup>3</sup> As footnote 3 above.

<sup>4</sup> Parties are encouraged to make a consolidated submission containing their views on information referred to in paragraphs 58 and 59.

<sup>5</sup> *Climate Change 2014: Impacts, Adaptation and Vulnerability*. Available at <http://ipcc-wg2.gov/AR5>.

<sup>6</sup> *Climate Change 2014: Mitigation of Climate Change*. Available at <http://mitigation2014.org>.

<sup>7</sup> FCCC/SBSTA/2012/5, paragraph 50.

<sup>8</sup> Information on the workshop, including submissions received and presentations made, is available at <http://unfccc.int/7797.php>.

62. The SBSTA took note of the report on the workshop<sup>1</sup> referred to in paragraph 61 above and of the methodological report adopted by the IPCC in 2013 on Wetlands.<sup>2</sup>
63. The SBSTA noted that the outcomes of the workshop referred to in paragraph 61 above may be relevant to the work of Parties on both mitigation and adaptation within other processes under the Convention, such as the Nairobi work programme on impacts, vulnerability and adaptation to climate change, and the CTCN.
64. The SBSTA encouraged the research programmes and organizations to continue sharing experiences, knowledge and views, inter alia, on ecosystems with high-carbon reservoirs, including on capacity-building elements, as appropriate, in particular in developing countries.
65. The SBSTA also encouraged efforts to pursue dialogue between Parties and the research programmes and organizations, inter alia, in relation to paragraphs 61–64 above.
66. The SBSTA invited the IPCC to take note of the work of the SBSTA on research and systematic observation in matters related to ecosystems with high-carbon reservoirs in the consideration, by the IPCC, of future work.
67. The SBSTA noted that, as requested at SBSTA 37,<sup>3</sup> the secretariat prepared a summary report on the enhanced availability and visibility of scientific information relevant to the Convention on the UNFCCC website.<sup>4</sup> The SBSTA considered the information contained in that report and requested the secretariat to further enhance the availability and visibility of scientific information, including through social media, the UNFCCC E-Newsletter and the climate-science calendar, and by integrating scientific information available on the Internet from the IPCC and other relevant stakeholders. The SBSTA invited the secretariat to report on progress made in that regard to SBSTA 42.
68. The SBSTA took note of the estimated budgetary implications of the activities to be undertaken by the secretariat referred to in paragraph 67 above. It requested that the actions of the secretariat called for in these conclusions be undertaken subject to the availability of financial resources.

## **SBSTA 42, 2015**

### **(FCCC/SBSTA/2015/2)**

29. The SBSTA noted with appreciation the statements delivered by the representatives of the IPCC, WMO and UN-Oceans. It noted the importance of the IPCC Fifth Assessment Report (AR5) for the UNFCCC process and welcomed the outreach efforts made by the IPCC to disseminate its findings.
30. The SBSTA took note of the information submitted by Parties<sup>5</sup> and by the regional and international research programmes and organizations active in climate change research (hereinafter referred to as the research programmes and organizations)<sup>6</sup> for the seventh meeting of the research dialogue,<sup>7</sup> held on 4 June 2015. The information note on that meeting prepared by the Chair of the SBSTA was welcomed by Parties.<sup>8</sup>
31. The SBSTA welcomed the research dialogue and expressed its appreciation to Parties for sharing information and for their views on: addressing data and information gaps; and lessons learned and good practices in relation to knowledge and research capacity-building, in particular in developing countries. The SBSTA also expressed its appreciation to the IPCC and to the research programmes and organizations for their contributions to the research dialogue.

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<sup>1</sup> FCCC/SBSTA/2014/INF.1.

<sup>2</sup> *2013 Supplement to the 2006 Guidelines for National Greenhouse Gas Inventories: Wetlands*. Available at <http://www.ipcc-nggip.iges.or.jp/public/wetlands/index.html>.

<sup>3</sup> FCCC/SBSTA/2013/3, paragraph 69.

<sup>4</sup> FCCC/SBSTA/2014/INF.5.

<sup>5</sup> The submissions from Parties to the SBSTA are available at <http://unfccc.int/5900.php>.

<sup>6</sup> The submissions from observer organizations to the SBSTA are available at <http://unfccc.int/7482.php>.

<sup>7</sup> The meeting agenda and presentations and other relevant information on the research dialogue are available at <http://unfccc.int/6793.php>.

<sup>8</sup> Available at [http://unfccc.int/files/science/workstreams/research/application/pdf/rd7\\_infnote.pdf](http://unfccc.int/files/science/workstreams/research/application/pdf/rd7_infnote.pdf).

32. The SBSTA thanked the secretariat for the summary report,<sup>1</sup> requested at SBSTA 40,<sup>2</sup> on the progress made in further enhancing the availability and visibility of scientific information relevant to the Convention on the UNFCCC website. The SBSTA requested the secretariat to continue its efforts to enhance the availability and visibility of such scientific information, including in order to disseminate the findings of the AR5, and to report on progress made at a future session of the SBSTA, as appropriate.

33. The SBSTA encouraged the scientific community to address information and research gaps identified during the 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.

34. The SBSTA invited Parties to submit their views on possible topics for consideration at the research dialogue to be held at SBSTA 44 (May 2016) and beyond, taking into account the information note referred to in paragraph 30 above, via the submission portal<sup>3</sup> by 9 March 2016.

35. The SBSTA also invited Parties to submit their views on themes for a possible research workshop to be held in conjunction with SBSTA 46 (May 2017) via the submission portal by 9 March 2016 for consideration at SBSTA 44.

### **SBSTA 44, 2016**

#### **(FCCC/SBSTA/2016/2)**

30. The SBSTA noted with appreciation the statements delivered by the representatives of GCOS, the IPCC and WCRP.

31. The SBSTA took note of the information submitted by Parties<sup>4</sup> for the eighth meeting of the research dialogue,<sup>5</sup> held on 19 May 2016, and on themes for a possible research workshop in conjunction with SBSTA 46 (May 2017). It also noted the information note on the eighth meeting of the research dialogue prepared by the SBSTA Chair<sup>6</sup> and the letter to the SBSTA Chair from the Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts.<sup>7</sup>

32. The SBSTA welcomed the information that the IPCC, in response to an invitation from the Conference of the Parties,<sup>8</sup> will produce a special report in 2018 on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas (GHG) emission pathways. It also welcomed the decision of the IPCC to produce two other special reports – one on climate change, desertification, land degradation, sustainable land management, food security and GHG fluxes in terrestrial ecosystems and the other on climate change and oceans and the cryosphere – and a methodology report on greenhouse gas inventories.

33. The SBSTA welcomed the eighth meeting of the research dialogue. It expressed its appreciation to Parties, GCOS, the IPCC, WCRP, the World Meteorological Organization and all participating research programmes and organizations for their contributions. It noted the usefulness of a poster session and invited the SBSTA Chair to continue to use this modality. It requested the SBSTA Chair to produce a summary report on the meeting, to be made available before SBSTA 45 (November 2016).

34. The SBSTA noted the importance of addressing regional climate research and data needs. It encouraged relevant research programmes and organizations to present their efforts, including activities they are undertaking such as regional workshops, to identify relevant

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<sup>1</sup> FCCC/SBSTA/2015/INF.1.

<sup>2</sup> FCCC/SBSTA/2014/2, paragraph 67.

<sup>3</sup> <http://www.unfccc.int/5900>.

<sup>4</sup> Available at <http://unfccc.int/5900>.

<sup>5</sup> Information on the research dialogue is available at <http://unfccc.int/6793>.

<sup>6</sup> See <http://unfccc.int/files/science/workstreams/research/application/pdf/researchdialogue.2016.1.informationnote.pdf>

<sup>7</sup> See [http://unfccc.int/files/adaptation/groups\\_committees/loss\\_and\\_damage\\_executive\\_committee/application/pdf/excom\\_letter\\_to\\_sbsta\\_chair\\_on\\_researchdialogue.pdf](http://unfccc.int/files/adaptation/groups_committees/loss_and_damage_executive_committee/application/pdf/excom_letter_to_sbsta_chair_on_researchdialogue.pdf).

<sup>8</sup> Decision 1/CP.21, paragraph 21.

climate research and data information and gaps at the research dialogue meeting to be held at SBSTA 46 (May 2017).

35. The SBSTA invited Parties to submit by 10 April 2017 their views on possible topics for consideration at the research dialogue to be held at SBSTA 46 and beyond, taking into account the themes and presentations already addressed at previous research dialogue meetings and the themes suggested for future meetings, as identified in annex I to the information note referred to in paragraph 31 above, as well as the encouragement referred to in paragraph 34 above.<sup>1</sup>

36. The SBSTA took note of the estimated budgetary implications of the activities to be undertaken by the secretariat referred to in paragraph 34 above. It requested that the actions of the secretariat called for in these conclusions be undertaken subject to the availability of financial resources.

## **SBSTA 46, 2017**

### **(FCCC/SBSTA/2017/4)**

42. The SBSTA noted with appreciation the statements from the representatives of the Global Climate Observing System, the Intergovernmental Panel on Climate Change (IPCC), the World Climate Research Programme and the World Meteorological Organization for the opening meeting of the session.<sup>2</sup>

43. The SBSTA welcomed the summary report on the eighth meeting of the research dialogue prepared by the SBSTA Chair.<sup>3</sup>

44. The SBSTA noted the views submitted by Parties<sup>4</sup> on possible topics for consideration at the ninth meeting of the research dialogue (RD9),<sup>5</sup> held on 10 May 2017. It also noted the information note on RD9 prepared by the SBSTA Chair.<sup>6</sup>

45. The SBSTA welcomed RD9 and its two themes: regional climate research data and information, and gaps; and scientific aspects relating to taking stock and assessing progress on mitigation. It expressed its appreciation to Parties and all participating research programmes and organizations and their representatives for their contributions. It noted the added value of the opportunity for discussion during the poster session and after the presentations.

46. The SBSTA also welcomed the work of the IPCC, including on the special reports on “Global Warming of 1.5 °C”, “Oceans and Cryosphere in a Changing Climate” and “Climate Change and Land”; and the “2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories”.<sup>7</sup>

47. The SBSTA noted the importance of the work of the scientific community and the IPCC in support of strengthening the global response to climate change, including:

(a) Considering the human dimension, and indigenous peoples’ and traditional knowledge;

(b) Sustained funding for climate research and climate-relevant data, and advancing open access to climate-relevant public data, also noting the work of the Global Framework for Climate Services and other relevant organizations, particularly on capacity-building;

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<sup>1</sup> Parties should submit their views via the submissions portal at <http://www.unfccc.int/5900f>.

<sup>2</sup> Available at <http://www4.unfccc.int/submissions/SitePages/sessions.aspx?focalBodies=SBSTA&years=2017>.

<sup>3</sup> [http://unfccc.int/files/science/workstreams/research/application/pdf/researchdialogue\\_2016\\_2\\_summaryreport.pdf](http://unfccc.int/files/science/workstreams/research/application/pdf/researchdialogue_2016_2_summaryreport.pdf).

<sup>4</sup> Available at <http://www4.unfccc.int/submissions/SitePages/sessions.aspx?focalBodies=SBSTA&years=2017&themes=Science%20and%20Research>.

<sup>5</sup> The agenda, presentations and other relevant information on RD9 are available at <http://unfccc.int/10154>.

<sup>6</sup> <http://unfccc.int/files/science/workstreams/research/application/pdf/researchdialogue.2017.1.informationnote.pdf>.

<sup>7</sup> Available at <http://www.ipcc.ch/activities/activities.shtml>.

(c) Continued research on Earth system modelling in an effort to contribute to reducing projection uncertainty in support of the Paris Agreement;

(d) Communicating climate change science, which could be considered as a topic at the research dialogue;

(e) The outputs from downscaling techniques for global climate reanalysis and models, which could be considered as a topic at the research dialogue.

48. The SBSTA requested its Chair to produce, with the assistance of the secretariat, a summary report on RD9, to be made available prior to SBSTA 48.

49. The SBSTA invited Parties to submit via the submission portal,<sup>1</sup> by 2 February 2018, their views on possible topics and considerations for the research dialogue to be held in conjunction with SBSTA 48 and beyond, taking into account the themes and presentations already addressed at previous research dialogue meetings and the themes suggested for future meetings,<sup>2</sup> as well as the topics referred to in paragraph 47(d) and (e) above. It also invited Parties, in their submissions, to take into account the report back from the consultations of the Presidencies of COP 22 and 23 on the preparations of the 2018 facilitative dialogue,<sup>3</sup> in particular any aspects relating to scientific information.

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<sup>1</sup> <http://unfccc.int/5900>.

<sup>2</sup> As identified in annex I to the information note on RD9 and the submissions from Parties referred to in paragraph 41 above.

<sup>3</sup> Decision 1/CP.22, paragraph 16.