

38th Meeting of the Joint Scientific Committee

3-6 April 2017, Paris, France



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Contents

1.	Opening.....	1
2.	Reports of WCRP Partners.....	1
3.	Report of JSC Strategic Discussions.....	2
4.	Scoping WCRP Regional Activities	2
5.	Report of the Coordinated Regional Downscaling Experiment (CORDEX)	3
6.	Report on the Coupled Model Intercomparison Project (CMIP).....	4
7.	Report on Early Career Scientists Activities.....	4
8.	Reports of the WCRP Modelling Advisory Council.....	5
9.	Reports of the WCRP Data Advisory Council	5
10.	Reports on the parallel sessions for WCRP Core Projects	6
11.	Reports on WCRP Grand Science Challenges	7
12.	Science Coordination and Priorities: A Strategic Direction for WCRP.....	8
13.	Information and Business	9
	13.1 Urban Climate Activities	9
	13.2 Communications	9
	13.3 Finances.....	9
	13.4 Review of Membership, Actions and Decisions.....	10
	13.5 Plans for JSC-39 Session.....	10
14.	Closing.....	11
	Annex 1: JSC-38 Agenda.....	13
	Annex 2: JSC-38 List of Participants.....	15
	Annex 3: Summary of an informal discussion on integrated approach for atmosphere-chemistry-climate research	23
	Annex 4: Actions and Decisions from JSC-38.....	25
	Annex 5: Acronyms and Abbreviations.....	29

General Summary

Scientific guidance for the World Climate Research Programme (WCRP) is provided by the Joint Scientific Committee (JSC), which meets annually and consists of scientists selected by mutual agreement between the three WCRP sponsoring organizations (the World Meteorological Organization (WMO), the International Council for Science (ICSU) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO).

The following summary report highlights the main outcomes and Actions resulting from the meeting, grouped by theme. The meeting agenda and all Actions are summarised in Annexes. Additional documents and presentations are available online at the [JSC-38 web page](#).

1. Opening

The 38th session of JSC opened at 1330 CET on Tuesday 4 April 2017, at the conference room IX of the IOC/UNESCO Headquarters in Paris, France.

This meeting was preceded by a strategic discussion of JSC members on Monday 3 April, and by parallel sessions focussed on the WCRP Core Projects in the morning of Tuesday 4 April. Outcomes of these sessions were presented during the meeting accordingly (see respective agenda items).

The meeting was chaired by Professor Guy Brasseur, JSC chair, and officially opened by the representatives of WCRP co-sponsors (WMO, ICSU and IOC).

Professor Brasseur provided a presentation on the WCRP vision and key issues to set the scene, particularly taking into account the ongoing review of WCRP by co-sponsors and the emerging requirements by co-sponsors. His [presentation](#) is available online on the JSC-38 web page.

2. Reports of WCRP Partners

In the spirit of partnership and cooperation several key organisations gave brief presentations during the JSC meeting. These are available from the [JSC-38 web page](#).

Dr Florian Vladu provided a message from the United Nations Convention on Climate Change (UNFCCC) on behalf of the Convention.

Dr Valery Masson-Delmotte, Chair of the Intergovernmental Panel on Climate Change (IPCC) Working Group I, presented on the agreements and plans of the Special Reports for the IPCC Assessment Report 6 (AR6) cycle that includes; on Global warming of 1.5°C, on Ocean and Cryosphere in a Changing Climate, and on Climate Change and Land. JSC, while appreciating the extremely tight schedule and pressure for IPCC to produce the Special Reports and to achieve AR6 scoping, reaffirmed that the key activities of WCRP, particularly through its Core Projects, continues to provide essential science input to the

overall climate assessment and IPCC process. Her [presentation](#) is available online on the JSC-38 web page.

Dr Stephen Briggs, Chair of the Global Climate Observing System (GCOS) Steering Committee, presented a brief report on the recent progress in GCOS. His [presentation](#) is available online on the JSC-38 web page.

Dr Marie-France Loutre, Executive Director of the PAGES (Past Global Changes) International Project Office, provided a brief update on the status and relevant issues to WCRP. Her [presentation](#) is available online on the JSC-38 web page.

Presentations of WCRP partners continued on Thursday 6 April. Dr Tom Beer provided a brief report on the International Union of Geodesy and Geophysics (IUGG) Commission for Climate Change. His [presentation](#) is available online on the JSC-38 web page.

Dr Thorsten Kiefer, Director of Paris Hub for the Future Earth, briefly introduced a few ongoing activities that are directly relevant to WCRP.

3. Report of JSC Strategic Discussions

Two informal discussions were held in advance of the JSC-38 session; 1) on the integration of weather-chemistry-climate, among the JSC, Core Projects and the representatives of WMO Commission for Atmospheric Science (CAS), World Weather Research Programme (WWRP) and Global Atmospheric Watch (GAW) and other invited guests as available, and; 2) among JSC Members and Core Project leaders on WCRP strategic issues.

The JSC decided to postpone the related reports and discussion to the JSC-only (in camera) session that was held in the afternoon of Thursday 6 April, in line with the setting of strategic directions for WCRP. Related decisions and actions were noted under the relevant agenda items.

4. Scoping WCRP Regional Activities

Following the decision at the [previous JSC session](#) (in 2016) a small group of JSC Members and invited experts developed a set of recommendations to JSC on WCRP's regionally-focused activities including guidelines, partnerships and a way forward. Professor Brasseur, as chair of this *ad hoc* team, presented the recommendations consolidated through [a meeting](#) at the Climate Service Center Germany (GERICS), Hamburg, Germany, from 10 to 11 October 2016, to the JSC for review and approval.

Acknowledging the timeliness of this discussion, and the rigorous work of the ad hoc task team, JSC endorsed all recommendations regarding the three aspects ("legs") of WCRP regional activities, and the proposed actions for way forward – particularly to issue an international call to seek partners and new resources in order to establish a coordinator for WCRP regional activities, which should facilitate the coordination of ongoing activities as well as identifying new opportunities to expand WCRP's visibility and contributions in the regional context.

Dr Elena Manenkova (WMO) welcomed the deliberation of JSC on this critical issue, and urged WCRP to provide input to the ongoing WMO process to accelerate the implementation of the regional components of the Global Framework for Climate Services (GFCS), through a planned meeting in May 2017 that would be chaired by the President of WMO.

The relevant [in-session report](#) is available on the JSC-38 web page.

Decisions and Actions:

- **(Decision) Endorsed all regional Recommendations**
- **Proceed with an international call to identify a coordinator for WCRP regional activities (WCRP Joint Planning Staff (JPS) through advice from JSC; ASAP and before 2017 for completion of the process)**
- **CORDEX and a representative of WCRP regional scoping team to participate in the WMO meeting on contributions to GFCS (a CORDEX co-chair and a rep. for WCRP regional scoping; ASAP to identify names and by the WMO-GFCS meeting on 18-19 May 2017)**

5. Report of the Coordinated Regional Downscaling Experiment (CORDEX)

Prof William Gutowski presented an update on the activities of the Coordinated Regional Downscaling Experiment (CORDEX), recalling the vision to advance and coordinate the science and application of regional climate downscaling through global partnerships, and challenges around the added value question, the human element, coupled modelling, precipitation and local wind systems.

The 5th International Conference on Regional Climate (ICRC5) conference held 17-20 May 2016 in Stockholm, Sweden was attended by over 350 scientists and included a special event for Early Career Scientists. The outcomes of the conference were published in a Bulletin of the American Meteorological Society (BAMS) article. CORDEX is developing further in many regions, with dedicated science and training workshops. Discussions are ongoing with the World Bank to support activities in Developing Countries. Five Flagship Pilot Studies (FPS) to promote the developments in convection-permitting climate simulations have been established. A series of workshops addressing statistical downscaling have been held over the past years. CORDEX is contributing directly to the Coupled Model Intercomparison Project (CMIP) as an endorsed diagnostic MIP in close coordination with ScenarioMIP, HighResMIP and VIACS AB. The Coordinated Output for Regional Evaluations (CORDEX CORE) experimental design targets specific contributions to the IPCC AR6. CORDEX progress remains uneven across regions.

The relevant [in-session report](#) as well as the [presentation](#) are available online on the JSC-38 web page.

Decisions and Actions:

- **WCRP, particularly CORDEX, to participate in the “Science Summit” preceding Seventeenth Session of the Commission for Atmospheric Sciences (CAS-17) (JSC with an identified rep. of CORDEX Science Advisory Team (SAT); to identify (a) name(s) ASAP and by Oct’17, Bali, Indonesia)**

6. Report on the Coupled Model Intercomparison Project (CMIP)

Dr Gerald Meehl provided an update on CMIP on behalf of Veronika Eyring. CMIP is a project of the WCRP Working Group on Coupled Modeling. CMIP Phase 6 (CMIP6) experimental design was developed with the Grand Challenges as backdrop and a more distributed and continuous organization. Twenty-one MIPs address a variety of systematic errors, forcing response and variability, predictability and future scenarios. Endorsement of MIPs followed a set of predefined criteria, in particular a commitment of sufficient set (~8) of modelling centers. Eleven new modelling groups have joined CMIP6. Routine Benchmarking and Evaluation will become a central part of CMIP6 and the importance of the Earth System Grid Federation holding a growing amount of data was highlighted in this context. A Workshop on Connecting Climate Model Evaluation to Assessing Fitness-for-Purpose was held in Hamburg, Germany, 23-24 Feb 2017. A workshop on “Earth System Model Evaluation to Improve Process Understanding and to Sharpen Climate Projections” will be held in Aspen, Colorado, USA, July 30-August 4, 2017. A special issue on the CMIP6 design has been published in the Geosci. Model Dev. journal.

The [CMIP presentation](#) is available online on the JSC-38 web page.

7. Report on Early Career Scientists Activities

Dr Sebastian Sonntag (Germany) reported on progress with regard to interactions with WCRP on behalf of the Young Earth System Scientists (YESS) Community, since the YESS Community was endorsed by JSC-37 (2016) as an active link with Early Career Researcher (ECR) networks. Notable successes include the establishment of a YESS office in Argentina as of March 2017 thanks to the generous support of the Argentinean National Weather Service, [publication in BAMS](#) of the outcome of the ECR workshop held in October 2015 in Offenbach, Germany, jointly supported by WCRP, WWRP and GAW.

JSC took note of the request for support for a follow-on ECR workshop in September 2017, and continuing engagement of ECRs in the global research coordination of WCRP, and agreed on the following actions (see below).

The relevant [in-session report](#) as well as the [presentation](#) are available online via the JSC-38 web page.

Decisions and Actions:

- **Continue efforts to partner with existing ECR-related activities in identifying financial resources for ECR workshop (JPS with WWRP/GAW secretariats; by September 2017)**
- **Continue and enhance ECR involvement in WCRP activities including Core Projects, Grand Challenges, and working groups (e.g., co-leadership of scientific activities and/or observer status in leadership groups) (All WCRP group leaders; continuous)**

8. Reports of the WCRP Modelling Advisory Council

Dr Christian Jakob provided an update on the WCRP Modelling Advisory Council (WMAC). For the first time, there was no WMAC meeting held in conjunction with the JSC. The joint WCRP/WWRP International Prize for Model Development 2016 was awarded to Irina Sandu from the European Centre for Medium-Range Weather Forecasts for her work on planetary boundary layer parameterization. Future calls will encourage inclusiveness of various disciplines. The next model development school, initially scheduled for summer 2017 was postponed due to funding issues and will be held early 2018 at Centro de Previsão de Tempo e Estudos Climáticos (CPTEC), Brazil. The third edition is planned for 2019 at the National Center for Atmospheric Research (NCAR), USA. A Pan-WCRP Modelling Group Meeting will be held 9-13 Oct 2017 at the UK MetOffice in Exeter to facilitate the development of a WCRP modelling strategy for the next 5-10 years. A recent survey identified 67 modelling activities dealing with evaluation, prediction and model development within the programme. The JSC was invited to review the role of WMAC in coordinating these activities as part of the WCRP strategic developments.

The relevant [in-session report](#) as well as the [presentation](#) are available online via the JSC-38 web page.

Decisions and Actions:

- **Clarify WMAC's role in "coordination" of modelling activities especially those outside the WGs (JSC; ASAP)**
- **Clarify WMAC's future in the new strategy (JSC; ASAP)**
- **provide input and participate in the Oct pan-WCRP modeling meeting (JSC; ASAP)**
- **Provide topic suggestions for planned 2019 summer school at NCAR (JSC; ASAP)**

9. Reports of the WCRP Data Advisory Council

Dr Otis Brown provided an update on the WCRP Data Advisory Council (WDAC), which acts as a single entry point for all WCRP data, information, and observation activities with its sister programmes, in particular GCOS. obs4MIPs is project for identifying, documenting and disseminating observations for climate model evaluation in WCRP model intercomparisons, notably CMIP, and has already completed the publication of the 125 data sets on the Earth System Grid Federation (ESGF). The Reanalysis Task Team is developing plans for common infrastructure, protocols, standards and tools for reanalysis comparisons and analyses. The 5th International Reanalysis Conference will be held 13-17 November 2017 in Rome, Italy. The Surface Flux Task Team will be focusing on the publication of flux data sets on the ESGF. A SOLAS-WCRP flux workshop will be held in Cargese Corsica from May 15-19. In response to a request from the JSC on a "Climate Data Intercomparison Project" it was noted that several data sets assessments activities are being conducted within core projects but WDAC can help increasing their visibility. It was suggested to improve linkages between GCOS and the various elements of WCRP that are not necessarily represented on WDAC. The role of WDAC in advocating for observing systems was discussed and will need to be clarified.

The relevant [in-session report](#) as well as the [presentation](#) are available online via the JSC-38 web page.

Decisions and Actions:

- Consider how best to improve linkages with GCOS observing panels and all WCRP elements (JSC/JPS and GCOS; ASAP)
- JSC to provide feedback on WDAC mandate. Should WDAC play an explicit role in “advocating” for observing systems on behalf of WCRP? (JSC/JPS; ASAP)
- WDAC and CLIVAR to work to improve linkages between relevant activities (WDAC and CLIVAR co-chairs; ASAP)
- WDAC to make WCRP Data Intercomparison Efforts more prominent (web page links, etc) (WDAC; ASAP)

10. Reports on the parallel sessions for WCRP Core Projects

The Core Projects (CPs) are a critical component of WCRP, each with its own project office and focused on a different aspect of the Earth system. The morning sessions of Tuesday 4 April were dedicated for discussions on achievements, issues and challenges of the WCRP CPs. All progress reports and presentations during the parallel sessions are available online on the JSC-38 web page, under the respective links below:

- CliC [report](#) and [presentation](#)
- CLIVAR [report](#) and [presentation](#)
- GEWEX [report](#) and [presentation](#)
- SPARC [report](#), presentations [on overall progress](#) and on [climate dynamics focus](#)

Under this agenda item, the JSC liaison persons to respective CPs reported on the outcome of these parallel sessions, with particular attentions to major issues that require JSC attention. These reports/presentations are available online on the respective link addresses at the JSC-38 web page, at:

- [Report by CliC liaisons](#)
- [Report by CLIVAR liaisons](#)
- [Report by GEWEX liaisons](#)
- [Report by SPARC liaisons](#)

Specific Decisions and Actions that came out of the presentations and associated discussions are noted below. A recurring theme throughout was how the severe cuts to the CP funding (from a high of 150k CHF per CP several years ago to 30k CHF for 2017) were not sustainable and risked the shutdown of many of the CP activities. A converging requirement for strategic consideration was to strengthen high level promotion of the value of WCRP coordination, in view of raising the profile of international climate research in national science and funding agencies.

JSC noted the latest developments in the coordination of the CPs; all participants welcomed the new Executive Director of the International CLIVAR Project Office, Dr José Luis Santos Davila, who started his duty as of April 2017. JSC also noted with appreciation the officer from the Deutsches Luft- und Raumfahrt (DLR; German space agency) to host the International SPARC Project Office as of 2018, and expressed its appreciation to the expressed its appreciation to the Swiss Federal Institute of Technology Zurich (ETH Zurich) and the Government of Switzerland for their long-term contribution for the international coordination of SPARC.

Decisions and Actions:

- **CLIVAR and IOC to explore future cooperation with regards to e.g. upwelling and physical issues affecting ecosystems (JPS, CLIVAR, IOC; ASAP and before JSC-39)**
- **Ensure a strategy for GEWEX/GASS to ensure its linkage to the modelling centers (GEWEX SSG and GASS, S2S and WGNE co-chairs with JPS; ASAP and continuing)**
- **Improve linkages with relevant groups to underpin the GEWEX focus on atmospheric processes and phenomenon (primarily; GAW - aerosols, Cloud GC, FluxNet) (GEWEX SSG; ASAP and continuing)**
- **GC-Carbon to present the scientific direction and progress in the GEWEX SSG (GC Carbon in coordination with GEWEX IPO; by GEWEX SSG in 2018)**
- **SPARC to extend joint activities with existing groups on tropospheric composition (IGAC, ILEAPS, GAW, etc.) on a clear definition on WCRP/SPARC contribution (SPARC SSG; ASAP and continuing)**

11. Reports on WCRP Grand Science Challenges

All ongoing Grand Science Challenges provided reports on their progress since JSC-37 (2016). They included:

- Regional Sea Level Change and Coastal Impacts, a [progress report](#) by GC leaders and [presentation](#) by Dr Detlef Stammer
- Understanding and Predicting Weather and Climate Extremes, a [progress report](#) by GC leaders and [presentation](#) by Dr Gabi Hegerl
- Clouds, Circulation and Climate Sensitivity, a [progress report](#) by GC leaders and [presentation](#) by Dr Sandrine Bony
- Melting Ice and Global Consequences, a [progress report](#) by GC leaders and [presentation](#) by Dr Gerhard Krinner
- Water for the Food Baskets of the World, a [progress report](#) by GC leaders and [presentation](#) by Dr Jan Polcher
- Near Term Climate Prediction, a [progress report](#) and [presentation](#) by GC leaders
- Carbon feedbacks in the Climate System, a [progress report](#) by GC leaders and [presentation](#) by Prof. Pierre Friedlingstein

JSC recalled that currently the formation and constitution of a WCRP GC is generally accepted and agreed as described at http://www.wcrp-climate.org/JSC37/Presentations/Day2/Grand_Challenge_Definition.pdf, while monitoring and evaluation guidelines, exit/sunset strategies, etc. have yet to be clarified. The JSC members, also relating to a pending action item from the previous session (2016), decided that such a framework should be considered and decided within a general strategic framework and therefore it should be included within the new WCRP strategic development that will be led by JSC (see actions under the respective agenda item).

Decisions and Actions:

- **Hold conference calls to discuss involvement of Core Projects and other WCRP activities in different GCs, for example GC Clouds, Circulation and Climate Sensitivity, in particular to ensure continuation of GC activities after it finishes (GC-Clouds, CPs and WGs; before end 2017)**

- **Explore linkages between Melting Ice GC and Carbon GC on permafrost carbon (Melting Ice GC/CliC, Carbon GC; before end 2017)**
- **Explore linkages between GC Food Baskets and CliC, CLIVAR and SPARC GCs (GC Food Baskets and CPs; before end 2017)**
- **GC Carbon to think about forming a statement of what is required from others (observations, models etc.) in order for this GC to succeed (GC Carbon; by JSC-39)**

12. Science Coordination and Priorities: A Strategic Direction for WCRP

JSC members had several discussions, throughout the sessional period, focusing on the future strategy for the Programme:

First, JSC recalled the pre-sessional discussion on Monday 3 April 2017 with the president of CAS, as well as the chairpersons of WWRP and of GAW, on an integrated approach to atmosphere-chemistry-climate research (a short summary of this discussion is presented in *Annex 3*). It highlighted the growing importance of seamless approaches in both climate and weather research and the need to develop interdisciplinary “Earth system approaches” involving coupled physical, biological and chemical processes and interactions between different planetary components. It was decided that this discussion should be pursued in the coming months with the purpose of identifying research topics of mutual interest and of developing science-based services in support of society.

JSC also had a very general discussion, prior to the main JSC-38 meeting, about the future evolution of the Programme. Different elements emerged from this discussion, including the important role of the CPs, which provide important intellectual and human resources for the development of WCRP. The results expected from the activities conducted by the Grand Challenges are exciting, and the future integration of these activities after the sunset of the GC in a few years will have to be considered with care. It was proposed to take the opportunity of the WCRP’s 40th anniversary in 2020 to organize a major open science conference during which a new phase of the Programme with an updated strategy (to be defined by the JSC in the next 2-3 years) would be the focus.

JSC expressed its deepest concerns on the current budget situation, and agreed that WCRP urgently need to review its modus operandi in order to seek an optimal way of carrying out its business that clearly defines and communicates WCRP’s added value and societal relevance. WCRP will need to take into account the outcomes of the current co-sponsors review, though should not delay drafting a new strategy.

Through the discussions at the plenary and during the in-camera sessions, JSC agreed to develop a roadmap to guide the future evolution of WCRP, enhancing its seamless relation with other research programmes.

Decisions and Actions:

- **Develop a roadmap for the discussion of the future strategy of WCRP (JSC led by chair; ASAP)**

13. Information and Business

Reports on past activities (for information), as well as various reports on the follow-on activities of JPS to the past JSC decisions were discussed under this agenda item. Discussions on finances, memberships and review of actions were mostly made during the JSC-only (in camera) session.

13.1 Urban Climate Activities

All participants were informed through an [in-session report](#) of recent WCRP-relevant urban climate activities – particularly a planned major conference on 2018 “Cities and Climate Change Science” that is organized by IPCC in partnership with the C40 Cities Climate Leadership Group, Cities Alliance, ICLEI (Local Governments for Sustainability), Future Earth, United Nations Environment Programme, UN Habitat and WCRP. JSC took note of the progress and the extent of JSC/WCRP engagement in this initiative, relating to potential linkages with the regional scoping (see agenda item 4).

13.2 Communications

JSC recalled its discussion at the previous session (2016) to request a re-development of a WCRP communications strategy. As a follow-up, Dr Narelle van de Wel, communications officer, presented a draft WCRP Communications Strategy that includes a set of recommendations on the ways forward. In doing so, the results of WCRP Communications Survey were also presented, which reflected the status of WCRP’s outreach, in-reach (and in-community communication) and key challenges.

The relevant [in-session report](#) as well as the [presentation](#) are available online on the JSC-38 web page.

Decisions and Actions:

- **(Decision) adopt Recommendations from Communications Summary, noting both time and resource constraints and any particular issues:**
[https://www.wcrp-climate.org/JSC38/documents/WCRP Communication Strategy Highlights.pdf](https://www.wcrp-climate.org/JSC38/documents/WCRP_Communication_Strategy_Highlights.pdf)

13.3 Finances

Dr David Carlson, WCRP Director, presented a summary of the WCRP’s Joint Climate Research Fund (JCRF) 2016 income and expenditure and the proposed 2017-2018 allocations for WCRP activities.

JSC extensively discussed the current budget situation, which necessitates a review of all planned activities, and will significantly impact the near and long-term future of WCRP (see agenda item 12).

13.4 Review of Membership, Actions and Decisions

Professor Brasseur recalled that, according to a decision made by WCRP co-sponsors, the current JSC membership has been extended until the end of 2017, regardless of the individual terms of office for members. JSC also reaffirmed that, among the current members, Drs Anny Cazenave, Maurico Mata and Martin Visbeck would serve as JSC Officers until the next JSC session in 2018, together with the chair (Professor Brasseur) and vice-chair (Prof. Amanda Lynch).

JSC, primarily by its officers, reviewed recommendations from the WCRP CPs regarding the membership of their Scientific Steering Groups (SSGs) as of January 2018. Taking into account a required expertise, gender and geopolitical balance, the JSC:

- Approved the recommendations for CliC SSG, with the request to seek additional Russian member from the membership as of January 2019.
- Approved provisionally the recommendations for the CLIVAR SSG, with a request to seek an additional Chinese member (ideally a female) as of Jan 2018 if possible, and to seek an additional Indian member from January 2019 **(to confirm on the final 2018 nomination as soon as possible, after the meeting)**.
- Approved provisionally the recommendations for the GEWEX SSG, with requests; 1) for a clarification or re-consideration of one nominee to avoid possible overlaps in expertise; 2) for a search of possible additions in membership with experts from Arabic countries and/or India – if not possible to fulfil in 2018 membership, to seek for nominations for the membership as of Jan 2019 **(to confirm on the final 2018 nomination as soon as possible, after the meeting)**.
- Approved the recommendations for SPARC SSG.

JPS reported on the [status of actions decided at JSC-37 \(2016\)](#). JSC took note with satisfaction on the overall accomplishments, and requested JPS to provide a progress report on JSC-38 actions 6 months after JSC-38.

JSC appreciated the advanced planning on in-session documents and reporting for this year, and requested that a draft agenda for JSC-39, and invitations if possible, should be made available for community-wide consultation at least 3 months in advance of the meeting.

Decisions and Actions:

- **Review status of JSC-38 actions in 6 months (JSC supported by JPS; September 2017)**
- **Invite WCRP Working Groups in JSC-39 (JPS; JSC-39)**
- **Initiate a draft agenda for JSC-39 at least 3-month in advance (JPS, January 2018)**

13.5 Plans for JSC-39 Session

JSC agreed to investigate a venue and time for the 39th JSC meeting, to create opportunities to closely communicate with potential donors and/or contributors. It also emphasized that the future JSC sessions, where possible should co-organize a scientific symposium on emerging climate research issues.

Decisions and Actions:

- **Communicate with all WCRP community (with potential donors, in view of support for WCRP) to decide a JSC-39 venue (to investigate an option to be in Nanjing, China as the primary potential venue)**

14. Closing

The 38th Meeting of the WCRP Joint Steering Committee was closed at 1330 LST on 6 April 2017. The JSC members continued with the JSC-only session for the discussion on the overall strategic issues, which continued until 1730 LST on 6 April 2017.

Annex 1: JSC-38 Agenda

Monday, 3 April		Tuesday, 4 April		Wednesday, 5 April		Thursday, 6 April		Friday, 7 April	
09:30 - 10:30	(09:30 – 11:00) Weather-Chemistry-Climate (<i>JSC officers, CP co-chairs, WMO/CAS, WWRP, GAW</i>)	(09:30 – 10:45) Core Project parallel sessions (<i>all JSC, CP co-chairs and IPOs, all interested participants</i>)		09:30 Regional scoping (decisions) 09:50 WMAC report 10:10 WDAC report Room IX		09:00 Information & Business • Communication • Urban climate activities • JPS report (Other Partners' reports) Room IX		Additional as required Room VIII	
	Room VIII	CLiC Room IX	GEWEX Room VIII	Tea/coffee break					
11:00 - 12:30	break	(11:15 – 12:30) Core Project parallel sessions (<i>all JSC, CP co-chairs and IPOs, all interested participants</i>)		11:00 CORDEX report (CMIP report if needed) 11:20 ECR activities & Capacity Development 11:40 Report of Tuesday CP parallel sessions Room IX		11:00 Business • Finances • Succession planning • Response to review Room IX		Additional as required Room VIII	
	Room VIII	CLIVAR Room IX	SPARC Room VIII	Lunch break					
END OF SESSION									
13:30 - 15:30	JSC Strategic discussion cont. (<i>all JSC, CP co-chairs, CP IPOs</i>) Room VIII	13:30 Official opening (<i>WMO, ICSU, IOC</i>) 14:00 UNFCCC 14:15 IPCC 14:30 Vision & setting (<i>Chair JSC</i>) Room: IX		13:30 Grand Challenges Room IX		JSC Executive (all JSC) Room VIII			
	Tea/coffee break								
16:00 - 17:30	JSC Strategic discussion cont. (<i>all JSC, CP co-chairs, CP IPOs</i>) Room VIII	16:00 GCOS 16:30 PAGES report 16:50 Report of Monday meetings Room IX		16:00 Discussion: Science coordination & priorities Room VIII		JSC Executive (all JSC) with JPS Review of Actions/Decisions Room VIII			

Annex 2: JSC-38 List of Participants

JSC Members

Prof. Guy P. Brasseur (Chair)
Max Planck Institute for Meteorology
Bundesstr. 53
D 20146 Hamburg
Germany
Tel: +49 40 41173209
Mobile: +49 171 2876106
E-mail: gpbsasseur@gmail.com
guy.brasseur@mpimet.mpg.de

Prof. Amanda Lynch (Vice-chair)
Director, Institute at Brown for
Environment and Society
Department of Earth, Environmental and
Planetary Sciences
Brown University
Providence, Rhode Island 02912
USA
Tel: +1 401 863 3032
E-mail: amanda_lynch@brown.edu

Dr Anny Cazenave (officer)
Laboratoire d'Etudes en Géophysique et
Océanographie Spatiale (LEGOS)
Centre National d'Etudes Spatiales (CNES)
18 av. Edouard Belin
31400 Toulouse
France
Tel: +33 5 61 33 29 22 (office)
E-mail: anny.cazenave@legos.obs-mip.fr
anny.cazenave@gmail.com

Dr Vladimir M. Kattsov
Voeikov Main Geophysical Observatory
7 Karbyshev Str.
St. Petersburg 194021
Russian Federation
Tel: +7 812 2974390
E-mail: kattsov@mail.ru

Prof. Hong Liao
School of Environmental Science and
Engineering
Nanjing University of Information Science
& Technology
Nanjing 210044
China
Tel: +86 25 58731371

E-mail: hongliao@nuist.edu.cn

Prof. Mauricio M. Mata (officer)
Institute of Oceanography
Federal University of Rio Grande (FURG)
Rio Grande, RS
Brazil 96203-900
Tel: +55 53 32336861
E-mail: mauricio.mata@furg.br
mauricio.m.mata@mail.com

Dr Jens Hesselbjerg Christensen
Adjunct Professor, the Niels Bohr Institute,
University of Copenhagen
Research Leader for regional climate
Research and Development
Danish Meteorological Institute
Lyngbyvej 100
DK-2100 Copenhagen Ø
Denmark
Tel: +45 39157428
E-mail: jhc@dmi.dk

Dr Helen Cleugh
CSIRO Oceans & Atmosphere
Building 002
Wilf Crane Crescent
GPO Box 3023, Yarralumla
ACT 2600
Australia
Tel: +61 2 62818246
E-mail: helen.cleugh@csiro.au

Prof. In-Sik Kang
School of Earth Environment Sciences
Seoul National University
Seoul 151-742
Republic of Korea
Tel: +82 2 880 6718
E-mail: insik.kang1@gmail.com

Prof. Masahide Kimoto
Atmosphere and Ocean Research
Institute
The University of Tokyo
5-1-5, Kashiwanoha, Kashiwa-shi
Chiba 277-8568
Japan
Tel: +81 4 71364386
E-mail: kimoto@aori.u-tokyo.ac.jp

Mr Rodney Guillermo Martínez Güingla
Centro Internacional para la Investigación
del Fenómeno de El Niño
CIIFEN Escobedo 1204 y 9 de Octubre
PO Box 09014237
Guayaquil
Ecuador
Tel: +593 4 2514770
E-mail: r.martinez@ciifen.org

Dr Carlos Nobre
Rua Joao Justo Pereira, 80
Sao Jose dos Campos 12244-590
Brazil
Tel: +55 12 99666-2758
E-mail: cnobre.res@gmail.com

Prof. Thomas Peter
Chair, Department of Environmental
Systems Science
ETH Zurich, Institute for Atmospheric and
Climate Science
Universitatstrasse 16, CHN O12.1
CH-8092 Zurich
Switzerland
Tel: +41 44 6332756
E-mail: thomas.peter@ethz.ch

Dr James Renwick
Professor of Physical Geography
School of Geography, Environment and
Earth Sciences
Victoria University of Wellington
Cotton 206, VUW Kelburn
New Zealand
Tel: +64 4 4634719
E-mail: james.renwick@vuw.ac.nz
(also co-chair for CliC)

Prof. Soroosh Sorooshian
Director, Center for Hydrometeorology
and Remote Sensing (CHRS)
Engineering Hall (Building #308), Suite
5300
University of California, Irvine
E-4130 Engineering Gateway
Irvine, CA 92697-2175
USA
Tel: +1 949 824 8825
E-mail: soroosh@uci.edu

(Apologies)

Prof. Martin Visbeck
Physikalische Ozeanographie
GEOMAR Helmholtz-Sentrum für
Ozeanforschung Kiel und Christian-
Albrechts
Universität zu Kiel
Duesternbrooker Weg 20
24105 Kiel
Germany
Tel: +49 431 6004100
E-mail: mvisbeck@geomar.de

Prof. Stephen Belcher
Met Office
FitzRoy Road
Exeter, Devon EX1 3PB
United Kingdom
E-mail: stephen.belcher@metoffice.gov.uk

Dr Puis Yanda
Centre for Climate Change Studies Centre
University of Dar es Salaam
P.O. BOX 33453
Dar es Salaam
Tanzania
E-mail: pyanda@gmail.com

WCRP International Project Office Chairs and Directors

CliC

Dr Gerhard Krinner
Co-chair, CliC Scientific Steering Group
Laboratoire de Glaciologie et
Géophysique de l'Environnement
(LGGE)

CNRS
54, rue Molière, BP 96
F-38402 Saint-Martin d'Hères cedex
France
E-mail: krinner@ujf-grenoble.fr

Mr Lawrence Hislop
Director
Norwegian Polar Institute
CliC International Project Office
Fram Centre
Postbox 6606 Langnes
9296 Tromsø
Norway
Tel: +47 48 500514
E-mail: lawrence@climate-cryosphere.org

CLIVAR

Dr Annalisa Bracco
Co-chair, CLIVAR Scientific Steering
Group
School of Earth and Atmospheric Science
Georgia Institute of Technology
311 Ferst dr, Atlanta GA 30332
USA
Tel: +404 8941749
E-mail: abracco@gatech.edu

Dr Detlef Stammer
Co-chair, CLIVAR Scientific Steering
Group
Oceanography and Remote Sensing of
the Earth System
Director, Center für Erdsystemforschung
und Nachhaltigkeit - CEN
Universität Hamburg
KlimaCampus Hamburg
Bundesstr. 53
20146 Hamburg
Germany
Tel: +49 40 428385052
E-mail: detlef.stammer@uni-hamburg.de
**(also Grand Challenge leader for
Regional Sea-level Change and
Coastal Impacts)**

Dr Jose Luis Santos
Executive Director
International CLIVAR Project Office
State Oceanographic Administration First
Institute of Oceanography
6 Xianxialing Road
Qingdao 266061
P.R. China
E-mail: jose.santos@clivar.org

GEWEX

Prof. Sonia Seneviratne
Co-Chair, GEWEX Scientific Steering Group
Associate Professor, Land-Climate
Dynamics
Institute for Atmospheric and Climate
Science
CHN N11, Universitätsstrasse 16
8092 Zurich
Switzerland
E-mail: sonia.seneviratne@ethz.ch

(also Grand Challenge leader for Climate Extremes)

Dr Graeme Stephens
Co-Chair, GEWEX Scientific Steering Group
JPL
California Institute of Technology
4800 Oak Grove Drive
Pasadena, CA 91011
USA
Tel: +818 3931176
E-mail: graeme.stephens@jpl.nasa.gov

Dr Peter J. Van Oevelen
Director, International GEWEX Project Office
425 Third St. SW
Suite 940
Washington DC 20024
USA
Tel: +1 202 527 1827
E-mail: gewex@gewex.org
**(also Grand Challenge leader for Water
Availability)**

SPARC

Dr Neil Harris
Co-chair, SPARC Scientific Steering
Group
Centre for Atmospheric Informatics and
Emissions Technology
Cranfield University
College Road
Cranfield MK43 0AL
United Kingdom
Tel: +44 (0) 1234 758155
E-mail: Neil.Harris@cranfield.ac.uk
Dr Judith Perlwitz
NOAA/ESRL/PSD
and
Cooperative Institute for Research in
Environmental Sciences
University of Colorado
R/PSD1
325 Broadway
Boulder, CO 80305-3328
USA
Tel: +1 303 4974814
E-mail: judith.perlwitz@noaa.gov

Dr Fiona Tummon
Director, SPARC International Project
Office

Swiss Federal Institute of Technology
(ETH)
Institut f. Atmosphäre und Klima
CHN P 16.1
Universitätstrasse 16CH-8092 Zürich
Switzerland
Tel: +41 44 6329752
E-Mail: fiona.tummon@env.ethz.ch

CORDEX

Dr William J. Gutowski, Jr.
Co-chair, CORDEX Science Advisory
Team
3021 Agronomy Hall
Dept. of Geological & Atmospheric
Sciences
Dept. of Agronomy
Iowa State University
Ames, Iowa 50011-1010
USA
Tel: +1 515 294 5632
Email: gutowski@iastate.edu

Dr Irene Lake
Director
International Project Office for CORDEX
(IPOC)
SMHI / Swedish Meteorological and
Hydrological Institute
Folkborgsvägen 17
SE - 601 76 NORRKÖPING
Sweden
Tel: +46 (0)11 495 83 19
E-mail: irene.lake@smhi.se
ipoc@cordex.org

Grand Challenge leaders

Clouds, Circulation and Climate Sensitivity

Dr Sandrine Bony
Laboratoire de Meteorologie Dynamique
(LMD/IPSL)
CNRS/UPMC, box 99
4 place Jussieu, boîte 99
75252 Paris cedex 05
France
Tel: +33 1 44 27 50 14
E-mail: sandrine.bony@lmd.jussieu.fr

Understanding and Predicting Weather and Climate Extremes

Dr Gabriele Hegerl FRSE
Co-leader of the GC-Extremes
Chair of Climate System Science
GeoScience, U. Edinburgh
King's Buildings, James Hutton Rd
EH9 3FE
+44 131 6519092

Water for the Food Baskets of the World

Dr Jan Polcher
Laboratoire de Météorologie Dynamique
du CNRS
Tour 25, 5eme étage, Case 99
4 pl. Jussieu,
75252 PARIS cedex 05
Tel: +33 1 44274763
E-mail: Jan.Polcher@lmd.jussieu.fr

Carbon feedbacks in the Climate System

Prof. Pierre Friedlingstein
University of Exeter
CEMPS, Earth System Science
Laver Building, Room 720
North Park Road
Exeter, EX4 4QE
UK
Tel: +44 1392 725279
E-mail: P.Friedlingstein@exeter.ac.uk
Advisory Council leaders

Prof. Christian Jakob
Co-chair, WCRP Modelling Advisory
Council (WMAC)
School of Earth, Atmosphere and
Environment
Monash University, Wellington Road
Clayton, VIC 3800
Australia
Tel: +61 3 9905 4461
E-mail: christian.jakob@monash.edu

Dr Gerald Meehl
Co-chair, WCRP Modelling Advisory
Council (WMAC)
National Center for Atmospheric Research
(NCAR)
Climate and Global Dynamics Laboratory
P.O. Box 3000
Boulder, CO 80307-3000
USA
Tel: +303 497 1331

E-mail: meehl@ucar.edu

Dr Otis B. Brown
Co-chair, WCRP Data Advisory Council
(WDAC)
NC State University NCICS/CICS-NC
NOAA's National Centers for
Environmental Information
151 Patton Avenue
Asheville, NC 28801
USA
Tel: +1 828 257 001
E-mail: Otis_Brown@ncsu.edu

Sponsors

Dr Heide Hackmann
Executive Director
International Social Science Council
(ICSU)
UNESCO House
1 rue Miollis
75732 Paris Cedex 15
France
E-mail: heide.hackmann@icsu.org

Dr Elena Manaenkova
Deputy Director-General
World Meteorological Organization
7 bis, avenue de la Paix
Case Postale 2300
CH-1211 Geneva 2
Switzerland
Tel: +41 22 7308300
E-mail: emanaenkova@wmo.int

Dr Vladimir Ryabinin
Executive Secretary IOC
Intergovernmental Oceanographic
Commission of UNESCO
7, place de Fontenoy
75732 Paris cedex 07
France
Tel: +33 1 45 68 39 83
E-mail: v.ryabinin@unesco.org

Other Invitees / Agencies

Dr Tom Beer
IUGG representative
Safe System Solutions
Office G2, 10-14 Hope Street

Brunswick, Victoria 3056
Australia
E-mail: tom.beer@safesystemsolutions.com.au

Dr Stephen Briggs
Chair, GCOS Steering Committee
European Space Agency (ESA)/ECSAT
Fermi Avenue
Harwell Didcot
Oxfordshire OX11 0FD
United Kingdom
E-mail: Stephen.Briggs@esa.int

Dr Roberto Buizza
ECMWF
Shinfield Park
Reading RG2 9AX
United Kingdom
E-mail: roberto.buizza@ecmwf.int

Dr Thorsten Kiefer
Director, Global Hub Paris, Future Earth
CNRS-UPMC
4, Place Jussieu
75005 Paris
France
Tel: +33 1 44 27 61 35
E-mail: thorsten.kiefer@futureearth.org

Dr Pascal Lecomte
Head of ESA Climate Office
Directorate of Earth Observation
Programmes
Via Galileo Galilei
Casella Postale 64
00044 Frascati
Italy
E-mail: pascal.lecomte@esa.int

Dr Marie-France Loutre
Executive Director, PAGES - Past Global
Changes
International Project Office
Falkenplatz 16
3012 Bern
Switzerland
Tel: +41 31 631 56 08
E-mail: marie-france.loutre@pages.unibe.ch

Dr Valery Masson-Delmotte
Chair, IPCC Working Group I
LSCE, Bat 701
L'Orme des Merisiers
CEA Saclay

91191 Gif-sur-Yvette cédex
France
Tel: +33 (0) 1 69 08 77 15 - +33 (0) 6 79
08 21 22
E-mail: valerie.masson@lsce.ipsl.fr

Dr Sebastian Sonntag
The Land in the Earth System
Max Planck Institute for Meteorology
Bundesstr. 53
20146 Hamburg
Germany
Tel: +49 40 41173 437
E-mail: sebastian.sonntag@mpimet.mpg.de

Dr Frédéric Vitart
Co-Chair, Subseasonal to Seasonal
Prediction Project (S2S)
European Centre for Medium-Range
Weather Forecasts (ECMWF)
Shinfield Park
Reading RG2 9AX
United Kingdom
E-mail: Frederic.Vitart@ecmwf.int

Dr Florian Vladu
Programme Officer, Technology
UNFCCC Secretariat
P.O. Box 260124
D-53153 Bonn
Germany
E-mail: fvladu@unfccc.int

IOC Secretariat
UNESCO
7, place de Fontenoy
75732 Paris cedex 07
France

Dr Salvatore Aricò
Head of the Ocean Science Section
Tel: +33 1 45 68 40 90
E-mail: s.arico@unesco.org

Dr Albert Fischer
Head of the Ocean Observation Section
Tel: +33 1 45 68 58 12
E-mail: a.fischer@unesco.org

Dr Thorkild Aarup
Head of Tsunami Section
Tel: +33 1 45 68 40 19

E-mail: t.aarup@unesco.org

WMO Secretariat
7bis avenue de la Paix
Ch-1211 GENEVA
Switzerland

Dr Carolin Richter
Director, GCOS Secretariat
E-mail: crichter@wmo.int

Dr Deon Terblanche
Director, Atmospheric Research and
Environment Branch
E-mail: dterblanche@wmo.int

Dr Paulo Ruti
Atmospheric Research and Environment
Branch
E-mail: pruti@wmo.int

Dr Oksana Tarasova
Atmospheric Research and Environment
Branch
E-mail: otarasova@wmo.int

WCRP Joint Planning Staff
WMO
7bis avenue de la Paix
Ch-1211 GENEVA
Switzerland

Dr David Carlson
Director, JPS
E-mail: dcarlson@wmo.int

Dr Boram Lee
Senior Scientific Officer
E-mail: blee@wmo.int

Dr Michel Rixen
Senior Scientific Officer
E-mail: mrixen@wmo.int

Dr Mike Sparrow
Senior Scientific Officer
E-mail: msparrow@wmo.int

Dr. Narelle van der Wel
Communications Consultant
E-mail: nvanderwel@wmo.int

Annex 3: Summary of an informal discussion on integrated approach for atmosphere-chemistry-climate research

Date/Venue: 3 April 2017, UNESCO, Paris, France

Participants:

- Øystein Hov: President, WMO Commission on Atmospheric Science (CAS)
- Sarah Jones: Chair, World Weather Research Programme (WWRP) of CAS
- Greg Carmichael: Chair, Global Atmospheric Watch (GAW) of CAS
- WMO Secretariat (Deon Terblanche, Oksana Tarasova, Paolo Ruti)
- JSC members
- JPS (David Carlson, Boram Lee, Michel Rixen, Mike Sparrow)

The meeting was chaired by Øystein Hov, who had asked for the meeting on behalf of CAS.

The purpose of the meeting was; 1) to inform about the strategic outlook of WWRP, GAW and WCRP, and; 2) to see if a process can be initiated to align the programmes of research between WWRP and GAW on the one side and WCRP on the other, and to see if a common effort can be developed in the Science for Service direction (operations, services, outreach).

Both GAW and WWRP have developed detailed implementation plans where the headline is “Science for Service”, and the plans were endorsed by the Executive Council of WMO in June 2016 (EC-68). Mechanisms have been put in place to move mature research results to operations and services, for instance through the new Science Advisory Group on Applications in GAW. The Integrated Global Greenhouse Gas Information System (IG3IS) is another initiative in GAW which is science based and with a strong user focus. The main projects in WWRP (Subseasonal to Seasonal Prediction S2S, High Impact Weather (HIWeather), and the Polar Prediction Programme (PPP)) all have a strong pull by users. A seamlessness approach is applied across temporal and spatial scales and across themes in an Earth System framework. The integration in the WMO Integrated Global Observing System (WIGOS) is an important component of the projects in GAW and WWRP, aiming at closing the gap between research and operations. Sarah Jones, the chair of WWRP, and Greg Carmichael, chair of GAW, provided an overview of the most relevant parts of their programmes.

The societal demand for environmental information does not ask for the organizational structure underneath analyses or forecasts on the very local, the urban, regional, hemispheric or global scales, for air quality, weather, climate, water. The demand is for a competent, adequate and comprehensive response to the questions asked by the user community. WMO and WCRP organize the science communities covering environmental analyses and forecasting in the broadest sense, and there is a societal obligation on us as well as an expectation on us from our sponsors to move mature research results to operations and services. As seen from CAS, we want a stronger alignment between GAW, WWRP and WCRP and a stronger commitment in this direction from the relevant parts of WCRP. The first practical steps could be to act jointly in WWRP, GAW and WCRP to solve tasks that are similar, in the context of the implementation plans for the programmes.

In the ensuing tour-de-table there was quite some support among the WCRP representatives present to find commonalities between WCRP and WWRP/GAW tasks, and take steps in the science for service direction. During the WCRP JSC the discussion with WWARP/GAW was touched upon several times. The WCRP JSC in its subsequent discussions proposed the following:

1. WCRP JSC would take the opportunity to draft in the next 2-3 weeks a 2-page document for the WCRP strategy that will include the seamless aspects and also contain other aspects of importance for WCRP ((essentially processes at long (climatic) timescales, links to Future Earth, and others). Here we will have to account for the prospective views of our core projects.

2. This document could serve as the basis (from WCRP JSC side) for the discussions between WWRP, GAW and WCRP. In our discussions, we should focus on the commonalities and seamless aspects, and draft a joint short paper. The service aspects and the need to serve society should also be part of our discussions.

Annex 4: Actions and Decisions from JSC-38

Agenda item	ACTION	By/responsible	Deadline
Regional	<ul style="list-style-type: none"> - (Decision) Endorsed all regional Recommendations - Proceed with an international call to identify a coordinator for WCRP regional activities - CORDEX and a representative of WCRP regional scoping team to participate in the WMO meeting on contributions to GFCS (regional focus, 18-29 May 2017) 	<p>JPS with advice from JSC</p> <p>a CORDEX co-chair and a rep. for WCRP regional scoping</p>	<p>ASAP and to complete initial stage before end 2017</p> <p>ASAP to identify names, and by 18-19 May 2017</p>
ECR/CD	<ul style="list-style-type: none"> - Continue efforts to partner with existing ECR-related activities in identifying financial resources for ECR workshop (September 2017) - Continue and enhance ECR involvement in WCRP activities including Core Projects, Grand Challenges, and working groups (e.g., co-leadership of scientific activities and/or observer status in leadership groups) 	<p>JPS with WWRP/GAW secretariats</p> <p>All WCRP group leaders</p>	<p>ASAP and before May 2017</p> <p>Continuous</p>
WMAC	<ul style="list-style-type: none"> - Clarify WMAC's role in "coordination" of modelling activities especially those outside the WGs - Clarify WMAC's future in the new strategy - provide input and participate in the Oct pan-WCRP modeling meeting - Provide topic suggestions for planned 2019 summer school at NCAR 	<p>JSC</p> <p>JSC</p> <p>JSC</p> <p>JSC</p>	<p>ASAP</p> <p>ASAP</p> <p>ASAP</p> <p>ASAP</p>
WDAC	<ul style="list-style-type: none"> - Consider how best to improve linkages with GCOS observing panels and all WCRP elements - JSC to provide feedback on WDAC mandate. Should WDAC play an explicit role in "advocating" for observing systems on behalf of WCRP? - WDAC and CLIVAR to work to improve linkages between relevant activities - WDAC to make WCRP Data Intercomparison Efforts more prominent (web page links, etc) 	<p>JSC/JPS and GCOS</p> <p>JSC/JPS</p> <p>WDAC and CLIVAR co-chairs</p> <p>WDAC</p>	<p>ASAP</p> <p>ASAP</p> <p>ASAP</p> <p>ASAP</p>

Grand Challenges	<ul style="list-style-type: none"> - Hold conference calls to discuss involvement of Core Projects and other WCRP activities in different GCs, for example GC Clouds, Circulation and Climate Sensitivity, in particular to ensure continuation of GC activities after it finishes - Explore linkages between Melting Ice GC and Carbon GC on permafrost carbon - Explore linkages between GC Food Baskets and CliC, CLIVAR and SPARC GCs - GC Carbon to think about forming a statement of what is required from others (observations, models etc.) in order for this GC to succeed. 	<p>GC-Clouds, CPs and WGs</p> <p>Melting Ice GC/CliC, Carbon GC</p> <p>GC Food Baskets and CPs</p> <p>GC Carbon</p>	<p>Before end 2017</p> <p>Before end 2017</p> <p>Before end 2017</p> <p>To present at JSC-39</p>
Integration CORDEX	<ul style="list-style-type: none"> - WCRP, particularly CORDEX, to participate in the “Science Summit” preceding CAS-17 (Oct’17, Bali, Indonesia) 	<p>JSC with an identified rep. of CORDEX SAT</p>	<p>to identify (a) name(s) ASAP, through a meeting in Oct’17</p>
CLIVAR	<ul style="list-style-type: none"> - CLIVAR and IOC to explore future cooperation with regards to e.g. upwelling and physical issues affecting ecosystems 	<p>CLIVAR, IOC, JPS</p>	<p>ASAP, but before next JSC</p>
GEWEX	<ul style="list-style-type: none"> - Ensure a strategy for GASS to ensure its linkage to the modelling centers - Improve linkages with relevant groups to underpin the GEWEX focus on atmospheric processes and phenomenon (primarily; GAW - aerosols, Cloud GC, FluxNet) - GC-Carbon to present the scientific direction and progress in the GEWEX SSG 	<p>GEWEX (SSG and GASS), S2S and WGNE co-chairs with JPS</p> <p>GEWEX SSG</p> <p>GC Carbon in coordination with GEWEX IPO</p>	<p>ASAP and continuing</p> <p>ASAP and continuing</p> <p>GEWEX SSG in 2018</p>
SPARC	<ul style="list-style-type: none"> - Extend joint activities with existing groups on tropospheric composition (IGAC, ILEAPS, GAW, etc.) on a clear definition on WCRP/SPARC contribution 	<p>SPARC SSG</p>	<p>ASAP and continuing</p>
Strategy / Science coordination	<ul style="list-style-type: none"> - Develop a roadmap for the discussion of the future strategy of WCRP (JSC led by chair; ASAP) 	<p>JSC led by chair</p>	<p>ASAP</p>

Communications	<ul style="list-style-type: none"> - (Decision) adopt Recommendations from Communications Summary, noting both time and resource constraints and any particular issues : https://www.wcrp-climate.org/JSC38/documents/WCRP_Communication_Strategy_Highlights.pdf 		
Business	<ul style="list-style-type: none"> - Review status of JSC-38 actions in 6 months - Invite WCRP Working Groups in JSC-39 - Initiate a draft agenda for JSC-39 3-month in advance - Communicate with all WCRP community (with potential donors, in view of support for WCRP) to decide a JSC-39 venue (to investigate an option to be in China as the primary potential venue) - (Decision) JSC officer to be Anny, Martin, Mauricio 	<p>JSC supported by JPS JPS in coordination with JSC-chair JPS in coordination with JSC-chair JSC supported by JPS</p>	<p>Sep'17 by JSC-38</p> <p>Jan'18</p> <p>ASAP and before Dec'17</p>

Annex 5: Acronyms and Abbreviations

AR6	IPCC Assessment Report 6
BAMS	Bulletin of the American Meteorological Society
CAS	Commission for Atmospheric Science (WMO)
CET	Central European Time
CLiC	Climate and Cryosphere (WCRP)
CLIVAR	Climate and Ocean Variability, Predictability and Change (WCRP)
CMIP	Coupled Model Intercomparison Project (WCRP)
CMIP6	CMIP Phase 6
CORDEX	Coordinated Regional Downscaling Experiment (WCRP)
CORE	Coordinated Output for Regional Evaluations (CORDEX)
CP	Core Project (WCRP)
CPTEC	Centro de Previsão de Tempo e Estudos Climáticos (Brazil)
DLR	Deutsches Luft- und Raumfahrt (Germany)
ECR	Early Career Researcher
ESGF	Earth System Grid Federation
FPS	Flagship Pilot Studies (CORDEX)
GASS	Global Atmospheric System Studies (GEWEX)
GAW	Global Atmospheric Watch (WMO)
GCOS	Global Climate Observing System
GERICS	Climate Service Center Germany
GEWEX	Global Energy and Water Exchanges (WCRP)
GFCS	Global Framework for Climate Services
HIWeather	High Impact Weather (WMO)
ICRC5	5th International Conference on Regional Climate (CORDEX)
ICSU	International Council for Science
IG3IS	Integrated Global Greenhouse Gas Information System
IGAC	International Global Atmospheric Chemistry (Future Earth)
iLEAPS	Integrated Land Ecosystem-Atmosphere Processes Study (Future Earth)
IOC	Intergovernmental Oceanographic Commission (UNESCO)
IPCC	Intergovernmental Panel on Climate Change
IPO	International Project Office (WCRP)
IUGG	International Union of Geodesy and Geophysics
JCRF	Joint Climate Research Fund (WCRP)
JPS	Joint Planning Staff (WCRP)
JSC	Joint Scientific Committee (WCRP)
MIP	Model Intercomparison Project
NCAR	National Center for Atmospheric Research (USA)

PAGES	Past Global Changes (Future Earth)
PPP	Polar Prediction Project
S2S	Subseasonal to Seasonal Prediction Project
SAT	Science Advisory Team (CORDEX)
SOLAS	Surface Ocean - Lower Atmosphere Study (Future Earth)
SPARC	Stratosphere-troposphere Processes And their Role in Climate (WCRP)
SSG	Scientific Steering Group (WCRP)
UNESCO	United Nations Educational, Scientific, and Cultural Organization (UN)
UNFCCC	United Nations Framework Convention on Climate Change (UN)
WCRP	World Climate Research Programme (ICSU-IOC-WMO)
WDAC	WCRP Data Advisory Council
WGNE	Working Group on Numerical Experimentation (WCRP-CAS)
WIGOS	WMO Integrated Global Observing System
WMAC	WCRP Modelling Advisory Council
WMO	World Meteorological Organization (UN)
WWRP	World Weather Research Programme (WMO)
YESS	Young Earth System Scientists Community

**The
World Climate
Research Programme
(WCRP)**

*facilitates analysis and
prediction of Earth system change
for use in a range of practical
applications of direct relevance,
benefit and value to society.*

