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BAMS Supplement

Advancing Research for Seamless Earth System Prediction

Paolo M. Ruti, Oksana Tarasova, Julia H. Keller, Greg Carmichael, Øystein Hov, Sarah C. Jones, Deon Terblanche, Cheryl Anderson-Lefale, Ana P. Barros, Peter Bauer, Véronique Bouchet, Guy Brasseur, Gilbert Brunet, Phil DeCola, Victor Dike, Mariane Diop Kane, Christopher Gan, Kevin R. Gurney, Steven Hamburg, Wilco Hazeleger, Michel Jean, David Johnston, Alastair Lewis, Peter Li, Xudong Liang, Valerio Lucarini, Amanda Lynch, Elena Manaenkova, Nam Jae-Cheol, Satoru Ohtake, Nadia Pinardi, Jan Polcher, Elizabeth Ritchie, Andi Eka Sakya, Celeste Saulo, Amith Singhee, Ardhasena Sopaheluwakan, Andrea Steiner, Alan Thorpe, and Moeka Yamaji

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Science Summit on Seamless Research for Weather, Climate, Water, and Environment

The Science Summit, organized by the World Meteorological Organization's Commission for Atmospheric Sciences was held from 20 to 22 October 2017 in Geneva, Switzerland.

The Science Summit provided an opportunity to shape the new research agenda of the organization, building on the closer collaboration between weather, climate, water, and environment research. An additional focus of the Science Summit was to close the gap between research and the derived societal benefits. The keynote speeches, round table discussions, and World Cafe breakout sessions of the Science Summit revolved around the following five topics:

- Seamless prediction in 2023: Improving predictive capacity across weather, climate, water, and environment.
- Future infrastructures: Planning and investing in future infrastructures (computing, data handling, observations).
- Science for services: Developing and implementing a new interactive model for integrating research and operations.
- Nurturing scientific talents: Guaranteeing the sustainable development of science; breaking through geographical, gender, and age barriers; ensuring institutional continuity and transfer of knowledge.
- Innovation and resources: Catalyzing innovation and mobilizing resources in weather, climate, water, and environment research globally and locally.

The Science Summit created an inclusive, informal, and interactive forum for leading scientists from academia, the WMO community, and the private sector, as well as the representatives of funding agencies, to prioritize the key issues to be addressed in the five areas. Keynote addresses, panel discussions, and breakout group debates permitted the participants to share thoughts on how to promote both local and global exchange across the multiple disciplines related to Earth system sciences. In so doing, the Science Summit participants could outline a new framework for scientific cooperation in support of weather, climate, atmospheric composition, and related environmental research and its translation into new and better products and services.

An agenda, as well as the keynote talks of the Science Summit, can be found at https://public.wmo.int/en/events/meetings/science-summit-seamless-research-weather-climate-water-and-environment.

Fig. ES1. Further impressions from the World Cafe, where participants could express their view and visions also graphically.

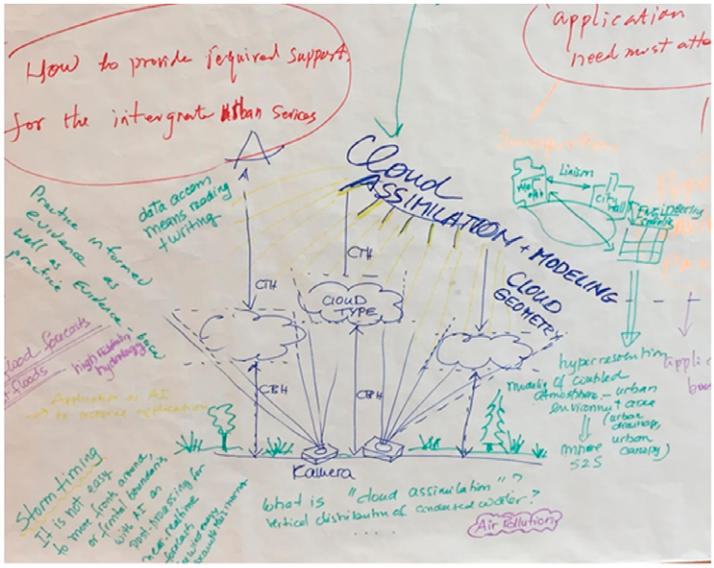
Impressions from the World Cafe

Figures ES1 and ES2 contain impressions from the World Cafe.

Participants and organizers

Tables ES1 and ES2 contain lists of the speakers and participants, respectively, and the Organizing Committee is as follows:

- Øystein Hov (Norway, President of Commission for Atmospheric Sciences)
- Sarah Jones (Germany, Chair World Weather Research Programme Scientific Steering Committee)
- Greg Carmichael (United States, Chair Environmental Pollution and Atmospheric Chemistry Scientific Steering Committee)
- Deon Terblanche (WMO Secretariat)
- Oksana Tarasova (WMO Secretariat)
- Paolo M. Ruti (WMO Secretariat)



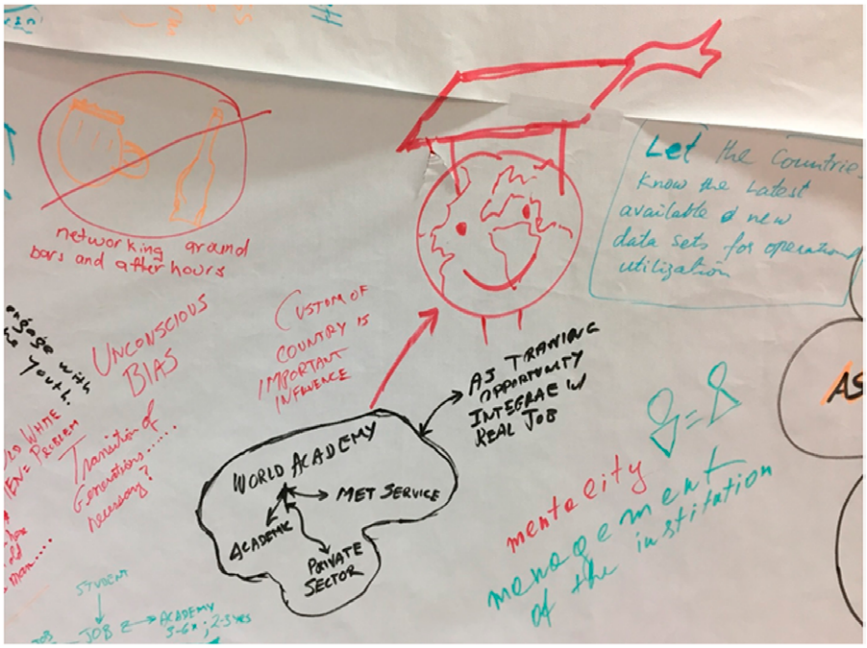


Fig. ES2. As in Fig. ES1.

Table ES1. List of speakers.

Name	Country	Name	Country
Andrea Celeste Saulo	Argentina	Wilco Hazeleger	Netherlands
Elizabeth Ritchie	Australia	David Johnston	New Zealand
Véronique Bouchet Gilbert Brunet Michel Jean	Canada	Mariane Diop Kane	Senegal
		Christopher Gan	Singapore
		Nam Jae-Cheol	South Korea
Victor Dike Peter Li Xudong Liang	China	Alastair Lewis Valerio Lucarini Alan J. Thorpe Peter Bauer	United Kingdom
Jan Polcher Vladimir Ryabinin	France		
Guy Brasseur Julia H. Keller Andrea Steiner	Germany	Ana P. Barros Philip Decola Kevin R. Gurney Steven Hamburg Amanda Lynch	United States
Amith Singhee Nadia Pinardi	India	Elena Manaenkova	WMO
Moeka Yamaji Satoru Ohtake	Japan		

Table ES2. List of participants.

Name	Country
Elizabeth Ebert Peter May	Australia
Alice Marlene Grimm	Brazil
Pierre Tabsida Zongo	Burkina Faso
Michel Beland Lawrence Wilson	Canada
Min Chen Yihong Duan Yaqiang Wang Min Wen Hui Yu Haijia Zang	China
Alphonse Kanga	Congo
Branka Ivancan-Picek Cleo Kosanovic	Croatia
Abdalla Abdelrahman Baligh Mohamed Salah M. Okka	Egypt
Dula Shanko Lebeta Finland Antti Makela	Ethiopia
Philippe Dandin Véronique Ducrocq Marc Pontaud	France
Susanne Crewell Martin Goeber Sarah Jones Thomas Jung Matthieu Masbou Christian Plass-Duelmer Roland Potthast	Germany
Bozo Laszlo	Hungary
Urip Haryoko Bagus Rachmat Rievan Ardhasena Sopaheluwakan Maman Sudarisman	Indonesia
Kazuto Suda Munehiko Yamaguchi	Japan
Ahmed Rasheed	Maldives
Siham Sbii	Morocco
Tun Hla Su Su Win	Myanmar
Bartholomeus van den Hurk	Netherlands
Cheryl Anderson Greg Pearson	New Zealand
Abdulrasheed Darazo Zakariyau	Nigeria
Cynthia Celebre	Philippines
Janusz Filipiak	Poland
Ji hyeon Do Sangok Han Hyojeong Jeong Hyun-Suk Kang Dongkyou Lee Youngsan Park Jaegwang Won	South Korea
Violeta Balan	Moldova
Chin Ling Wong	Singapore
Alick Haruhiru	Solomon Islands
Lucky Dalton Ntsangwane	South Africa
Abdelgadir Lado	South Sudan
Dahanayake Ananda Jayasinghearachchi	Sri Lanka
Joakim Langner	Sweden
Jörg Klausen Heike Kunz Philippe Sierra	Switzerland
Songkran Agsorn	Thailand
Yusuf Nsubuga	Uganda
Carla Cardinali Brian Golding Frederic Vitart Keith Williams	United Kingdom
Doreen Mwara Pascal Waniha	Tanzania
Roelof Bruintjes James Butler Gregory R. Carmichael Brittany Croll Thomas Cuff Randall Dole Jenni Evans Michael Morgan Shanna Pitter Rita Roberts Duane Waliser	United States