

INTERDEPARTMENTAL COMMITTEE FOR METEOROLOGICAL SERVICES AND SUPPORTING RESEARCH (ICMSSR)

INTERAGENCY WEATHER RESEARCH COORDINATION COMMITTEE (IWRCC)

Record of Actions: 2017-1 Meeting

February 9, 2017, 11:00 AM – 1:00 PM EST

SSMC 2 Room 7117

Office of the Federal Coordinator for
Meteorology

Suite 7130, SSMC2

1325 East West Highway

Silver Spring, MD 20910

PARTICIPANTS

(T): Participated via telecon

Agency	Organization	Name
DOC NOAA	OAR	Dr. John Cortinas
DOC NOAA	NWS	Dr. Ming Ji
DOD USN	ONR	Dr. Ron Ferek (T)
DOD USN	NRL	Dr. Jim Doyle (T)
DOD USN	NRL	Dr. Carol Reynolds (T)
NASA	ESD	Dr. Tsengdar Lee (T)
NSF		Dr. Pat Harr (T)
OFCM	Federal Coordinator	Dr. William Schulz
OFCM	STC	Mr. Floyd Hauth (T)
OFCM	Secretariat	Mr. Michael Bonadonna

Date of Issue: 24 Feb 2017

1. OPENING REMARKS:

Chairman Cortinas welcomed the group and conducted a roll call of participants. He noted that discussions with World Meteorological Organization (WMO) representatives at the recent American Meteorological Society (AMS) meetings and interactions with IWRCC members provided a better sense of purpose for this committee beyond the original focus on U.S. efforts in support of the three WMO Grand Challenges: Polar Prediction, Sub-Seasonal to Seasonal Prediction (S2S), and High Impact Weather (HIW). This meeting is intended to review the proposed charters of the Committee and Working Group and to present Agency assessments on weather research status and observations needed to address science needs.

2. TERMS OF REFERENCE (ToR) REVIEW (IWRCC):

Dr. Schulz started the discussion with comments about the need for the committee to have a broader focus than the three WMO Grand Challenges. He explained that the charter approval process would require concurrence from all the member Agencies (email concurrence is acceptable) and then it would be signed by the OFCM Secretariat for Federal Meteorological Coordination and presented to the ICMSSR at their March 24th meeting. (See **Action Items 2017-1.1 through 2017-1.4**).

Purpose:

Discussion points included:

- How formal is the committee? Comparisons were made with the USGCRP and its working groups which were formed and terminated depending on the topics being addressed and activities completed. Programmatic changes and the evolving state of science can influence the need for and the roles and responsibilities of the committee and working group.
- The need to meet regularly to achieve the committee's purpose.

No changes were recommended for the Purpose section.

Roles and Responsibilities:

Discussion points included:

- The content of the second bullet provides about the right amount of information regarding Thorpex in contrast to the background section of this charter which is too heavily weighted on Thorpex and needs to be toned down or adjusted. In addition, information needs to be added about the Subcommittee on Disaster Reduction (under CENRS).
- Agreement to remove the Next Generation Global Prediction System (NGGPS) from the second bullet.
- Request that OFCM provide time for members to coordinate changes and solicit agreement for the charter with key members of their agency.

Membership:

Discussion points included:

- Agreement to have the Chair elected from the members of the committee.
- Lack of US Air Force (USAF) membership on the committee. Invitation will be extended by OFCM.
- Need to invite membership from the Department of Interior, Bureau of Ocean Energy Management (BOEM). OFCM will use the approved charter as part of the invitation and coordinate membership through the ICMSSR. **See Action Item 2017-1.5**

Procedures:

Discussion points included:

- Decision and consensus processes. Agreement to remove third sentence of paragraph 5c. Also, change in sentence 1, "Decisions" to "Actions".

Reports:

Discussion points included:

- In paragraph 6a substitute "presentations" instead of "reports".
- Explanation by Dr. Shultz that in paragraph 6b OFCM will annually request input from committees for the Federal Plan.
- Remove parenthetical information about Thorpex legacy projects.

Termination:

Discussion points included:

- Delete "and the Federal Coordinator".

3. TERMS OF REFERENCE (ToR) REVIEW (CWRWG):

Background: Agreement to make changes parallel to the changes suggested for the IWRCC background paragraph (downplay WMO Grand Challenges connections). The Committee agreed to change WG name to the “Working Group on Weather Grand Challenges.”

Purpose: Agreement that the purpose statement for the Working Group needed to be more specific than that of the committee since the emphasis is on the legacy projects.

Roles and Responsibilities:

- Paragraph 3, third bullet, change language to “recommending” rather than “holding” periodic open meetings or workshops etc.
- Paragraph 3 fourth bullet, fourth sub-bullet; change WWRP to WCRP.
- Paragraph 3 fifth bullet, change “reports” to “updates”.

Membership:

- Third bullet, change “high impact” to “impactful.”
- Fourth bullet, add “North American” representative. OFCM will clear this with International Affairs.

Responsibilities of the Chair: First bullet, change “high impact” to “impactful.”

Review of the Terms of Reference: Consider review on a shorter time basis, perhaps 3-5 years.

Termination: Add, “The Working Group shall remain in existence until terminated by the IWRCC and coincide with the completion the WMO Grand Challenges.”

4. AGENCY ASSESSMENTS ON WEATHER RESEARCH STATUS AND OBSERVATIONS NEEDED TO ADDRESS SCIENCE NEEDS.

Agency	S2S	PPP	Hi Impact
NASA	<ul style="list-style-type: none"> • NAS study • GMAO coupled data assimilation • North-America Multi-Model Ensemble seasonal forecast • MJO study • Participation on WCRP-WWRP S2S Project • ROSES16 • YTMIT Subproject • Tropics-midlatitude teleconnections 	<ul style="list-style-type: none"> • SIRTA • ARISE campaign • Instruments on Arctic Ship freeze-in 	
Navy	<ul style="list-style-type: none"> • Global coupled system • Ensemble forecast systems • September sea ice extent • Air-sea-land interactions in the evolution of intraseasonal oscillations • NAWDEX 	<ul style="list-style-type: none"> • YOP efforts • Polar and extratropoical interactions 	<ul style="list-style-type: none"> • Air-sea-land interactions in the evolution of intraseasonal oscillations • NAWDEX
NOAA	<ul style="list-style-type: none"> • Assessments of uncertainly in S2S predictions • Social science research related to the use of these data by decision makers 	<ul style="list-style-type: none"> • Participation in YOPP 	<ul style="list-style-type: none"> • Verification of the Origin of Rotation in Tornadoes Experiment in the Southeast US
NSF	<ul style="list-style-type: none"> • Southern Ocean cloud degradation aerosol experiment 	<ul style="list-style-type: none"> • Office of Polar Programs project (more info forthcoming) 	<ul style="list-style-type: none"> • Remote sensing of electrification, lightning and mesoscale/microscale processes.

Additional details on the research identified in this table are provided in the following paragraphs.

NASA: NASA Activities and Contributions in S2S Research:

- NASA via co-sponsorship and panel membership contributed to the NAS, 2016 Study.
- NAS 2016 study highlights key areas where satellite observations are needed to make advances in understanding, modeling and prediction capabilities for S2S.
- GMAO is enhancing their S2S forecasting system with a coupled data assimilation
- GMAO participates in the North-America Multi-Model Ensemble seasonal forecast.
- Plan to study MJO using the new coupled forecast system.

- NASA participation on WCRP-WWRP S2S Project Steering Group – yields multi-model S2S hindcast and developed subseasonal forecast database for community research.
- ROSES16 included S2S Element within Modeling, Analysis and Prediction (MAP).
- ROSES16 included Science Team support of CYGNSS, including a focus on MJO.
- Since AGU 2016, JPL (Waliser) and GSFC/GMAO (Pawson) plan to join force with GMU (Stan) and DOE/Calwater (Leung) on YTMIT-CalWater. (S2S Project's YTMIT Subproject = Year of Topics - Midlatitude Interaction and Teleconnection)
- Focusing on the tropics-midlatitude teleconnections when GPM, CYGNSS, 3D Wind (through ROSES 2016 W&AD/CPEX) may contribute the most.

NASA Activities Related to PPP:

- NASA co-chaired (with NOAA and NSF and the participation by DOE, ONR, NRL) a study “Systematic Improvements to Reanalyses of The Arctic (SIRTA)” at improving the reanalyses for the Arctic, which is critical to everything from weather to sea ice change. Would like to make this a PPP-YOPP strategy.
- NASA is considering an ARISE-2 campaign to look at Arctic clouds.
- Also, considering putting instruments on the MOSAIC Arctic ship freeze-in (An NSF-led, YOPP activity) to look at clouds.

Navy: NRL-ONR participation in national and international efforts:

- ESPC: Navy contribution to the National Earth System Prediction Capability projects onto both S2S and PPP efforts
 - Navy ESPC is developing a global coupled system to produce S2S forecasts, scheduled for transition to operations at the end of FY18.
 - Navy ESPC is part of the NOAA MAP SubX project and is very interested in how the Navy system (with unique, high-resolution ocean and ice components) can enhance and benefit from multi-agency S2S ensemble forecast systems.
 - Navy ESPC has contributed to the Sea Ice Prediction Network with multi-month predictions of the September sea ice extent for the last three years.
 - NRL has participated in the PPP YOP planning meetings and plans to continue being involved with YOP efforts
- PISTON-YMC: the ONR Departmental Research Initiative Propagation of Intra-Seasonal Tropical Oscillations (project manager, Dan Eleuterio) is a component of the international Year of Maritime Continent effort. The goal is to improve understanding and simulation of multi-scale tropical convection and the role of air-sea-land interactions in the evolution of intraseasonal oscillations. The field campaign will occur in the summer-fall of 2018 in the Philippines. This projects onto S2S and perhaps HIWeather.
- NAWDEX: NRL is participating in the North Atlantic Wave-guiDe Experiment, which is a cross-cutting topic for the scientific community focusing on both weather and climate timescales. This is associated with the World Weather Research Programme (WWRP) WG on Predictability, Dynamics and Ensemble Forecasting (PDEF). NAWDEX also has a strong link to HIWeather. It also deals with one of the four key questions posed by the Grand Challenge on clouds, circulation and climate sensitivity of the World Climate Research Programme (WCRP) for the next decade (Bony et al., 2015). NRL participated in the NAWDEX field campaign during the fall of 2016.
- ONR has a new Polar Department Research Initiative (DRI) that is focused on polar and extratropical interactions, and the impact of long-lived cyclones on sea ice

coverage change on weather to seasonal time scales. This DRI program is expected to be well integrated with the WWRP PPP, Year of Polar Prediction (YOPP), and the Multidisciplinary Drifting Observatory for the Study of Arctic Climate (MOSAIC).

NOAA/OAR: OAR is involved with various projects that contribute to the goals of all three WMO THORPEX legacy projects, HiW, PPP, and S2S:

- In HiW, OAR is conducting research as part of the Verification of the Origin of Rotation in Tornadoes Experiment in the Southeast US, ongoing hurricane observations program, Warn on Forecast project, hurricane modeling, as well as social science projects focused on the use of such information.
- In PPP, numerous laboratories and programs are preparing to participate with observing systems during the intensive observing periods for the Year of Polar Prediction (YOPP).
- In S2S, major activities are associated with improving global models and assessments of uncertainty in S2S predictions through the use of ensembles as well as social science research related to the use of these data by decision makers.

NSF: NSF research is PI driven. The science committee reviews proposals and makes decisions on what to fund:

- S2S: Southern Ocean cloud degradation aerosol experiment project in Antarctic Ocean.
- Hi-Impact: Remote sensing of electrification, lightning and mesoscale/microscale processes. In South America the lee of the Andes has the deepest convection and most intense lightning. A group of University PIs will study cloud aerosols and complex terrain interaction in collaboration with DOE ARM instruments deployed in the region.
- PPP: There is a project under the Office of Polar Programs in NSF. More will need to be obtained from that office.

5. ACTION ITEM REVIEW:

2016-1 Meeting Action Items: (these were not reviewed during the meeting)

Action Item 2016-1.1: Develop assessments on where the U.S. weather community is regarding modeling and observations needed to address science needs.

Responsible Office: IWRCC Members

Due Date: January 15, 2017

Status: Open and in progress.

Action Item 2016-1.2: Draft a charter for the Committee and a TOR for the Working Group.

Responsible Office: IWRCC Chair, OFCM

Due Date: December 1, 2016

Status: CLOSED. Draft created and distributed for discussion.

Action Item 2016-1.3: Extend invitations to DOE, BOEM, Environment Canada, and USGS for membership on the CWRWG. Coordinated through ICMSSR and FCMSSR members.

Responsible Office: IWRCC Chair, OFCM

Due Date: January 15, 2017

Status: Open and in progress.

6. CLOSING REMARKS:

Dr. Schulz provided his list of action items from this meeting and they are included in the Action Item section of this report.

Dr. Cortinas discussed the need to get the Working Group activated and will contact the three co-chairs (Morgan, Bromich, and Walther) to update them on the committee's progress and solicit their acceptance on the WG and request them to initiate the WG and its activities. **See Action Item 2017-1.7.**

Pat Harr asked for a few minutes to relate recent discussions of NSF with NAS and a Congressional contact. The idea is to try to link science research to academy studies so that funding for research would be better supported in budget requests. This may be a good time for the community to do a decadal study of atmospheric science challenges that have links across all the agencies.

Dr. Schulz suggested that Pat write a white paper about the motivation and requirements for a decadal study. This could be presented to the ICMSSR for their review and approval/commitment. **See Action Item 2017-1.8.**

Chairman Cortinas thanked the members for their participation and contributions to this meeting. The next meeting will be scheduled in late April 2017.

The meeting adjourned at 2:45 P.M.

INTERDEPARTMENTAL COMMITTEE FOR METEOROLOGICAL SERVICES AND SUPPORTING RESEARCH (ICMSSR)

INTERAGENCY WEATHER RESEARCH COORDINATION COMMITTEE (IWRCC)

Meeting 2017-1

Action Items

Action Item 2017-1.1: Provide changes to the “Background” section of the Terms of Reference (ToR) documents of the committee and working group. Intent is to reduce emphasis on WMO Grand Challenges and broaden the research focus of the IWRCC.

Responsible Office: NSF, Pat Harr

Due Date: 29 Feb 2017

Action Item 2017-1.2: Incorporate recommended changes to ToRs.

Responsible Office: OFCM

Due Date: 2 March 2017

Action Item 2017-1.3: Send revised ToRs to agencies for comments.

Responsible Office: OFCM

Due Date: 2 March 2017

Action Item 2017-1.4: Email agency concurrence of charters to the OFCM.

Responsible Office: IWRCC Members

Due Date: 20 March 2017

Action Item 2017-1.5: Invite AF, BOEM and other agencies as appropriate to participate in the IWRCC.

Responsible Office: OFCM

Due Date: 27 March 2017

Action Item 2017-1.6: Agencies that presented their weather research status related to S2S, Hi-Impact and PPP will send info summaries via email to OFCM.

Responsible Office: IWRCC Members

Due Date: 17 February 2017

Action Item 2017-1.7: Dr. Cortinas will contact Mike Morgan, Duane Walther and Dave Bromich to initiate the working group actions related to S2S, PPP, and Hi-Impact Grand Challenges.

Responsible Office: IWRCC Chair

Due Date: 23 March 2017

Action Item 2017-1.8: Draft a White Paper for ICMSSR/FCMSSR consideration that will propose a decadal survey of atmospheric science issues/questions across all agencies.

Responsible Office: NSF – Pat Harr

Due Date: 1 June 2017