INTERDEPARTMENTAL COMMITTEE FOR METEOROLOGICAL SERVICES AND SUPPORTING RESEARCH (ICMSSR)

INTERAGENCY WEATHER RESEARCH COORDINATION COMMITTEE (IWRCC)

TERMS OF REFERENCE

1. BACKGROUND

The Federal Weather Enterprise consists of multiple agencies with missions to support observations, research, applications and operations of weather –related activities. The research that enables these tools progresses best when the resources, talents and perspectives of the agencies are effectively coordinated in addressing the complex challenges inherent in earth sciences. Therefore, the Federal Weather Enterprise requires a framework for providing strategic management of research objectives and other weather related activities. This framework must facilitate communication and collaboration in the interagency, inter-disciplinary, and international settings.

Numerous National Academy Reports have detailed the needs for scientific advancements in specific topics related to variations in the atmosphere-ocean systems over high latitudes, over subseasonal-to-seasonal time scales, and in the forcing of high-impact weather. The needs for advancements in these topics are aimed at increasing societal resilience to and improving forecasts worldwide. As such, the World Meteorological Organization (WMO)/World Weather Research Program (WWRP) has also targeted these specific needs through initiation of the Polar Prediction Project (PPP), the Subseasonal to Seasonal Prediction Project (S2S, in collaboration with the World Climate Research Program of WMO), and the High-Impact Weather Prediction Project (HIWeather). These three special WMO/WWRP projects grew from the recently concluded THe Observing system Research and Predictability EXperiment (THORPEX), which was an international research program sponsored by the WMO/WWRP to accelerate improvements in the accuracy of 1-14 day forecasts of high-impact weather for the worldwide benefits of society, the economy, and the environment. Over its 10-year lifespan, THORPEX sought to develop new adaptive and interactive forecast systems that seamlessly integrate observations, data assimilation, numerical prediction, and application tools.

To support THORPEX activities, national and international collaborations were formed among research institutions, operational forecast centers, and users of forecast products In the United States (U.S.) these collaborations were planned through U.S. executive and science steering committees; groups that were composed of federal program managers and research scientist representing individual and collective U.S. research interests. Examples of successful collaborations include observational, process-oriented, and theoretically-based research that was conducted via large campaigns such as the THORPEX Pacific Asian Regional Campaign (T-PARC), the International Polar Year (IPY) and the Year of Tropical Convection (YOTC) as well as numerical data assimilation, modeling, and ensemble forecast experiments such as the THORPEX Interactive Grand Global Ensemble (TIGGE)

While THORPEX has concluded and formal collaborations ended, strategic management of the federal weather enterprise activities dictates the continuing need for a national framework in which new collaborations form nationally and internationally to provide scientific advancement and increased capabilities along topics addressed by Academy Studies and WMO/WWRP priorities. This coordinated approach will provide for increased understanding and prediction in high latitudes, subseasonal-to-seasonal time scales, and of high-impact weather. Furthermore, it will ensure a coordinated US response to large and complex research projects, and provide for efficient use of the U.S. weather research infrastructure. Therefore, for the furtherance of the above causes and the continued national coordination of weather-related research, the Interdepartmental Committee for Meteorological Services and Supporting Research (ICMSSR) establishes the Interagency Weather Research Coordination Committee (IWRCC).

2. PURPOSE

The IWRCC promotes and helps to coordinate basic and applied U.S. research activities aimed at a better fundamental understanding and improved prediction of high-impact weather related to variations in atmospheric-ocean circulations over high latitudes and over subseasonal-to-seasonal time scales for future socioeconomic and environmental benefits, including applications in support of weather-sensitive decision making at Federal, State, and other agencies (i.e., "high impact weather research"). In particular, IWRCC helps to (a) coordinate U.S. agency weather research priorities, (b) promote U.S. interests in the participation of well-defined international projects, and (c) explore and engage with new national and international weather research initiatives, including those associated with the THORPEX legacy projects. IWRCC provides a forum where agencies can best leverage efforts among themselves and in the international community to achieve agency goals.

3. ROLES AND RESPONSIBILITIES

- Promote coordination of U.S. agency and community involvement for a coherent national input and response to domestic and international projects, when possible.
- Map, where appropriate and needed, US agency programs and initiatives onto large interagency projects, including but not limited to the Interagency Arctic Research Policy Committee (IARPC), U.S. CLIVAR, U. S. Global Change Research Program (USGCRP), the National Earth System Prediction Capability (National ESPC), the Next Generation Global Prediction System (NGGPS) initiative led by NOAA, and the U.S. Group on Earth Observations (USGEO), as well as engage with relevant American Meteorological Society (AMS) activities and committees such as the AMS Policy Program.
- Enhance U.S. basic and applied weather research capabilities by fostering the development of coordinated agency - community initiatives related to large interagency projects.
- Facilitate the optimal and shared use of national and international research infrastructure such as data archives, evaluation tools, and testing environments in support of projects.
- Support the possible transition of weather research activities to improved environmental forecasting of extreme events at US operational agencies.
- Define its role, appoint its chairs and approve its membership, and oversee the activities of the Community Weather Research Steering Committee (CWRSC).

- Review progress and provide feedback to CWRSC and to others, as requested, in the execution of US research activities contributing to projects.
- Compile and share with agencies brief annual summaries of IWRCC plans, activities, and accomplishments including metrics of success when available.
- Keep the U.S. Permanent Representative to the World Meteorological Organization informed of the Committee's activities and plans.

4. MEMBERSHIP

a. Representatives engage in Committee activities with the approval of their agencies.
b. Credo:

    1) Representatives acknowledge the need for the coordination in the planning and support of the many national and international research activities.
    2) While specific funding is not identified nor solicited, members consider contributing, to the extent possible, to any potential reasonable costs related to the national coordination of weather research associated with projects considered by the IWRCC.

c. Chair: The Committee will be led by two Committee members serving as cochairs. Cochairs will serve two years and will rotate through the member agencies, with one cochair replaced each year.
d. Member Agencies

- NASA - Earth Science Division (ESD)
- NOAA - Office of Oceanic and Atmospheric Research (OAR)
- NOAA - National Weather Service (NWS)
- NSF - Division of Atmospheric and Geospace Sciences
- US Navy - Office of Naval Research (ONR)
- US Navy – Oceanographer of the Navy (N2N6E)

The ICMSSR member of each federal member agency will appoint a Principal as that agency's main point of contact for the IWRCC. Principals may designate alternates to represent them in their absence, and may invite additional representatives from their agencies when necessary to address specific committee issues.

e. Potential Future Member Agencies:

- Department of Energy (DOE)
- Federal Aviation Administration (FAA)
- United States Geological Survey (USGS)
- Department of the Interior Bureau of Ocean Energy Management (BOEM)
- Environment Canada

f. Observers and Invited Experts:

The IWRCC may invite Observers to attend its meetings (e.g., from OSTP, OFCM, US CLIVAR, AMS Policy Program) to facilitate coordination with other organizations, and other experts to help its deliberations on science and/or management issues.

g. Other Federal agencies may participate on the committee by applying to the Office of the Federal Coordinator for Meteorology. Subject to the concurrence of the members, public

and industrial organizations, having a substantial interest in specific matters, may be invited by the Chairman to participate in discussions as subject-matter experts.

h. An Executive Secretary shall be provided by the Federal Coordinator for Meteorology (hereinafter called the Federal Coordinator).

5. PROCEDURES

a. IWRCC will typically hold four teleconference or in-person meetings annually. Meetings are scheduled by the Chair at least 2 weeks in advance, based on a survey of the availability of the members. From each agency at least one representative or alternate is expected to attend each meeting. As necessary, the Committee may hold Members-only closed sessions. After each meeting short notes are distributed by the Chair.

b. The IWRCC, with the support of its Secretariat and individual IWRCC Representatives, will collect and analyze information provided by the WMO/WWRP, the International Project Offices of PPP, S2S, and HIW, and other sources. When appropriate, the IWRCC shall seek information from Observers, invited experts, and the CWRSC through its co-chairs.

c. Decisions will be based on informed consensus. The Chair will strive for consensus on every issue. If consensus cannot be reached and a formal vote is necessary, the Chair and the Principal from each member agency will be accorded one vote. No majority decision of the IWRCC, however, can bind any agency from exercising its independent responsibilities with respect to policy or resource commitments. When agreement is not reached, the co-chairs will summarize the views and: (1) refer the matter to the Federal Coordinator's office for additional discussion/mediation or (2) refer the matter to the ICMSSR for resolution.

d. The IWRCC may form working groups to achieve specific tasks. Membership shall be approved by the IWRCC. Working groups will generally be composed of individuals who are not members of the IWRCC, but the IWRCC may seek to include an IWRCC member on its working groups. Working groups will use the same decision making process followed by the IWRCC. The IWRCC may terminate working groups after consultation with the ICMSSR.

    1) Community Weather Research Working Group (CWRWG): The IWRCC establishes CWRWG to (a) provide scientific leadership for the promotion and coordination of US involvement in international and national projects; (b) inform the IWRCC on matters concerning the scientific integrity and progress of such projects. The CWRWG operates under a Terms of Reference under the IWRCC.
    2) A formal sub-group, called a Joint Action Group (JAG), may be formed under the IRWCC to complete an ICMSSR tasking; each group will develop and maintain separate terms of reference.

e. The IRWCC may establish additional rules and procedures necessary to conduct business.

6. REPORTS

a. The Committee shall prepare reports and publications, as necessary, to complete specific actions or projects or as requested by the ICMSSR.

b. The Committee shall submit inputs through the Executive Secretary to the Executive Secretary of the ICMSSR for inclusion in the annual Federal Plan for Meteorological

Services and Supporting Research. These inputs should contain:

1) Accomplishments and planned activities.
2) Photographs, diagrams, and other materials which may be of value.
3) A brief discussion of problems encountered and other matters of interest.

c. Agendas and records of actions of meetings of the Committee shall be prepared and disseminated to Committee co-chairs, members, and to the Executive Secretary of the ICMSSR. The Executive Secretary shall maintain complete records of the Committee's activities in the OFCM.

7. REVIEW OF TERMS OF REFERENCE

On a 5-year basis, IWRCC will review its activities and accomplishments to determine if changes in its Terms of Reference are necessary. This will allow IWRCC to adjust to changes in the national needs and the international weather research environment (i.e., culmination of THORPEX legacy projects between 2018 and 2024).

8. APPROVAL AND TERMINATION

These Terms of Reference are approved upon signature of the Secretariat below, which confirms that all member agencies have concurred with this document, and that the ICMSSR has given approval. The Committee shall remain in existence until terminated by the ICMSSR and the Federal Coordinator.

-- Signed -- 6/22/2017

Michael F. Bonadonna

Secretariat, Federal Meteorological Coordination

Date of ICMSSR approval: