# FEDERAL COMMITTEE FOR METEOROLOGICAL SERVICES AND SUPPORTING RESEARCH (FCMSSR)

Record of Actions: 2018-1 Meeting
April 30, 2018, 2:30 p.m. EDT

SSMC 2, Room 7224, 1335 East West Highway
Silver Spring, MD 20910

Office of the Federal Coordinator for Meteorology
Suite 7130, SSMC2
1325 East West Highway
Silver Spring, MD 20910

| **Agency** | **Member** | **Attended for Member** (T: by telecon) |
|---|---|---|
| DOC/NOAA | Neil Jacobs (Chair) | |
| DOD | Dale Ormand | Bindu Nair |
| DOE | Gary Geernaert | |
| DOT/FAA | James Eck | Paul Fontaine |
| EPA | Tim Watkins | |
| NASA | Thomas Zurbuchen | Jack Kaye |
| NRC | Cynthia Jones(T) | |
| NSF | William Easterling | Paul Shepson |
| OMB | Benjamin Page (T) | |
| OSTP | Deerin Babb–Brott (T) | |
| USDA | Seth Meyer | Mark Brusburg (T) |
| OFCM | William Schulz | |

| **Invited Participants** | **Agency** | **Invited Participants** | **Agency** |
|---|---|---|---|
| Anjuli Bamzai (T) | NSF | Floyd Hauth (T) | OFCM |
| Ken Barnett | OFCM | Tsengdar Lee | NASA |
| William Bauman | FAA | Rohit Mathur (T) | EPA |
| Michael Bonadonna | OFCM | Jason Mansur (T) | DOC/NOAA/OMAO |
| Jessie Carman (T) | DOC/NOAA/OAR | David McCarren | DOD/USN |
| Jen Caufflin | DOD | William Spendley (T) | DOD/USA |
| Michael Clark | OMB | Ralph Stoffler | DOD/USAF |
| Steve Clarke (T) | OSTP | Charlie Powell | DOC/NOAA |
| Mark Govett | DOC/NOAA/OAR | Louis Uccellini | DOC/NOAA |
| Vanessa Griffin | DOC/NOAA/NESDIS | Michael Wiltberger (T) | NSF |

**Date Issued: 18 May 2018**

1. OPENING REMARKS.
Dr. Neil Jacobs, NOAA Assistant Secretary for Environmental Observation and Prediction and FCMSSR Chair welcomed participants. Roll call was conducted, and the agenda was reviewed and approved.

2. ACTION ITEMS REVIEW.
Dr. William Schulz (Federal Coordinator for Meteorology) reviewed the status of Action Items recorded at previous FCMSSR meetings.
   - 2017-2.1: The JAG/ICAWS was convened; their Weather Act committee leadership options were presented to the ICMSSR along with a revised FCMSSR charter for their review. On the agenda to be presented for FCMMSR review and guidance today.
   - 20107-2.2: The Strategic Plan for Federal Weather Coordination as presented during the 24 October 2017 FCMMSR meeting was published on 1/18/2018. Action Item is closed.

3. FEDERAL COORDINATOR'S UPDATE.
Dr. William Schulz provided an update of the Federal Weather Enterprise coordination activities.
   - The Federal Weather Enterprise infrastructure is comprised of the FCMSSR, ICMSSR, 2 councils, 4 Committees, 13 Working Groups, and 4 Joint Action Groups.
   - The "FY 19 Federal Weather Enterprise Budget and Coordination Report" was released on April 30, 2018.
   - The Tropical Cyclone Operations and Research Forum/Interdepartmental Hurricane Conference 2018 was held at Florida International University March 13-15, 2018. Members agreed to additional dropsonde observations on approach to and in turns around tropical cyclones. The Hurricane Weather Research and Forecasting Model (HWRF) was noted for outstanding track and intensity forecast performance during the 2017 season. An updated HWRF will be implemented for the 2018 Hurricane Season.
   - The Committee for Operational Production Centers will meet 8-9 May at 557th Weather Wing, Offutt AFB, NE. The agenda includes working on the DoD transition plan for GOES-17.
   - The Interagency Weather Research Coordination Committee is assisting the US Rep. to the World Meteorological Organization in preparation for the Executive Council (June 2018) and WMO Congress (June 2019).
   - The National ESPC hosted a workshop on Subseasonal to Seasonal Metrics (which complements other efforts answering requirements of the Weather Act of 2017). They also noted that the National Multimodel Ensemble (NMME) was exceeding seasonal temperature forecast accuracy goals.
   - The Working Group for Winter Storm Operations was formed to update the National Winter Storm Operations Plan.

4. IMPLEMENTING SECTION 402 OF THE WEATHER RESEARCH AND FORECASTING INNOVATION ACT OF 2017.
Section 402 of the Weather Act (signed into law on 19 April 2017) directs OSTP to establish another federal weather coordination committee ('ICAWS'). Since enactment of this law, ICMSSR has forwarded a proposal for FCMSSR to assume the duties (and name) assigned to this new body, in lieu of creating another committee.

   Dr. Schulz summarized the three options for co-chair of the ICAWS as provided by the JAG/ICAWS and forwarded by the ICMSSR. The pros and cons of each option were reviewed and discussed, and consensus was reached by the FCMSSR members to recommend Option A: Two equal co-chairs:

NOAA and OSTP. The proposed FCMSSR Charter Revisions to Sections 1 through 6 were also reviewed and accepted.

Following consultation with the OSTP representative, the FCMSSR members agreed to have OFCM send an email to OSTP with the recommended co-chair option and charter revisions for OSTP leadership review and further action. See Action Item 2018-1.1.

5. FEDERAL METEOROLOGICAL SERVICES AND SUPPORTING RESEARCH STRATEGIC PLAN AND ANNUAL REPORT.

Dr. Schulz reported that the OFCM published the FY2019 Federal Weather Enterprise Budget and Coordination Report on the OFCM website on April 30, 2018 in support of the Strategic Plan for Federal Weather Coordination.

Section 1 lists actions that support the Strategic Plan for Federal Weather Enterprise Coordination, organized by committees and working groups. An example was shown for the Committee for Operational Processing Centers (COPC) with entries that noted the objectives and goals achieved or underway.

Section 2 describes status and major changes in agency funding using a brief agency-provided narrative and two summary charts. This section is intended to satisfy the requirements of PL 87-843.

In the future the Strategic Plan will continue to include the activity summaries in the annual Budget and Coordination Report. The FCMSSR/ICMSSR (OFCM) will conduct gap analysis and issue directions to Committees/Working Groups as appropriate. The intent is to leverage the existing Committee/Working Group structure to accomplish tasks from the 2017 Weather Act. Beginning CY20, the Strategic Plan (via Joint Action Group) will be reviewed/revised and issued CY21 for FY 22-26.

6. QUALIFICATION STANDARDS FOR CIVILIAN METEOROLOGISTS.

The Air Force Director of Weather, Mr. Ralph Stoffler, discussed the challenges with federal government standards and requirements for Office of Personnel Management (OPM) Series 1340 Meteorologist and the impacts on Air Force Weather.

Mr. Stoffler noted that the job specifications for weather personnel are very specific regarding academic courses and experience. As a result, when individuals respond to a job announcement their university course records are often screened in an automated manner and variations in school transcripts may not provide the course detail that would allow the applicant to progress to the interview stage. The focus on specific courses and their description on transcripts often prevents the applicant from being judged on a combination of academic preparation and job experience with the result that qualified candidates are not being considered.

Members discussed similar experiences with hiring processes in various agencies and also commented on the need to maintain academic standards related to Meteorology and related disciplines. It was noted that the AMS is on board with working with universities to ensure that their courses meet the needs of federal employers.

Members agreed with Mr. Stoffler's request for FCMSSR to support his request for an OPM change allowing for "some but not all coursework" phrasing for Part B of the 1340 standard. Members asked that the wording be changed from "some" to "most" in the request and also asked that the impact of the change be briefed to them in approximately one year following its implementation. See Action Items 2018-1.2 and 1.3.

7. NATIONAL EARTH SYSTEM PREDICATION CAPABILITY (ESPC) HIGH PERFORMANCE COMPUTING (HPC) SUMMARY.

Mr. David McCarren presented a briefing on Future HPC Needs for Earth System Prediction Models. In describing Earth System Prediction Computing needs he noted:

- The need to better predict hazards at short time ranges and enable planning for weather-to-climate overlap. Weather predictions have strict time requirements (1 model day $\leq$ 8 minutes of wall clock time) whereas seasonal through decadal predictions have short run times for model evaluation and development.
- Future computing needs will exceed todays computing capacities by orders of magnitude. Current prediction models operate at the petaflop ($10^{15}$ operations/s) scale while future models will operate at the exaflop ($10^{18}$ operations/s) scale

Exascale hardware capability is anticipated by approximately 2024, but HPC capability increases (including programmer skillsets and optimized code) are not progressing fast enough to meet that target.

With improved Earth System prediction tied to HPC, the Earth System Prediction Capability (ESPC) HPC working group was formed to discuss the computing challenges now and in the future and has had monthly meeting since 2016.

Mr. McCarren summarized information from the Supercomputing ’17 session where discussions noted competing philosophies and concluded that Earth system codes must be more flexible to accommodate multiple architectures both for interoperability and to ease transition to new systems (which can be very costly). He also briefed the goals of the National Strategic Computing Initiative (NSCI) and the Earth System Modeling Application Challenges.

Mr. McCarren concluded with the following discussion points:

- To support national resilience, agencies need a voice in the development of new exascale computing architectures in the National Strategic Computing Initiative.
- Future HPC design should more closely fit software across the computation, storage, and networking system.
- Disruption from hardware/software architecture changes to operational prediction missions should be minimized. NOAA, DoD need to prepare codes for future architectures.
- Current activities should be transitioned to a unified HPC strategy for earth system prediction across agencies and coordinated with international partners.

Members stressed the importance of HPC to all of the agencies and provided examples of issues and problems including the potential system costs and having adequately educated and trained people to develop and implement HPC. They agreed there was a need for more information on the strategy to prepare for broader enterprise implementation. See Action Item 2018-1.4.

8. CLOSING COMMENTS/ADJOURN:
Mr. Bonadonna briefed tentative draft Action Items from this meeting. Final draft Action Items are provided following this meeting summary,

The meeting adjourned at 3:47 P.M.

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**Federal Committee for Meteorological Services and Supporting Research (FCMSSR)**

**Meeting 2018-1 Action Items**

**Action Item 2018-1.1.** Send email to OSTP recommending Option A: Rename the FCMSSR as ICAWS and make other changes in order to comply with the 2017 Weather Act. Request a written response from OSTP.
**Responsible Office:** OFCM
**Due Date:** May 4, 2018.

**Action Item 2018-1.2.** USAF A3W adjusts their 1340-series qualifications proposal letter as advised by FCMSSR and sends it to OFCM. OFCM drafts a cover letter for FCMSSR Chair endorsement and forwards the proposal to OPM.
**Responsible Offices:** USAF A3W, OFCM, FCMSSR Chair
Due Date: May 11, 2018

**Action Item 2018-1.3.** Review and brief FCMSSR on the impact of 1340-series qualification changes approximately one year after OPM implements the change.
**Responsible Office:** OFCM
**Due Date:** October 31, 2019.

**Action Item 2018-1.4** Brief the FCMMSR on the NOAA Next Generation Global Prediction System (NGGPS) Strategy as a possible framework for broader enterprise implementation.
**Responsible Office:** NOAA
**Due Date:** October 31, 2018