

**Environmental Information Services Working Group (EISWG) of the
NOAA Science Advisory Board (SAB)**

MEMO

xx March 2018

To: Lynn Scarlett, Chair, Chair, NOAA SAB

CC: Cynthia Decker, SAB Executive Director

Andrea Bleistein, NWS Liaison to EISWG

John Cortinas, OAR Liaison to EISWG

Robert Winokur, SAB Liaison to EISWG

From: John T. Snow, Principal, Snow & Associates, LLC and Co-Chair, EISWG
Bradley R. Colman, Director of Science - Weather Science, The Climate
Corporation, and Co-Chair, EISWG

SUBJECT: EISWG response to requests from NOAA OAR and NWS for assistance

In meetings and teleconferences over the last six months, Mr. Craig McLean, NOAA Assistant Administrator for Oceanic and Atmospheric Research (OAR), and Dr. Louis W. Uccellini, Assistant Administrator for Weather Services and Director of the National Weather Service (NWS), have requested the assistance and advice of EISWG in addressing the requirements of the Weather Research and Forecasting Innovation Act of 2017 (hereafter the “Weather Act of 2017”). Their requests can be paraphrased as follows:

- Mr. McLean: EISWG needs to characterize the nature of research investments that OAR must make to move ahead. The Weather Act designates less funding for weather research than currently provided: how does OAR invest properly?
- Dr. Uccellini: We have a wide range of research that is needed and the whole community can contribute. EISWG needs to help by calling it out and helping in setting priorities. It's time for support for U.S. weather research programs.

This memorandum provides EISWG’s response to these requests for assistance.

The EISWG appreciates the opportunity to assist OAR and NWS, as well as NESDIS and the other NOAA line offices, in addressing the requirements of the Weather Act of 2017. The issues raised by Mr. McLean and Dr. Uccellini in their requests present not

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only challenges but also opportunities for innovation and new connections within NOAA and with academia and the commercial weather communities (often called America's Weather Industry). It is important not just for NOAA but also for the environmental, economic, and physical security of the Nation that these issues be addressed in timely, thoughtful ways.

EISWG notes that the Weather Act of 2017 begins with the statement that it is

“An Act To improve the National Oceanic and Atmospheric Administration’s weather research through a focused program of investment on affordable and attainable advances in observational, computing, and modeling capabilities to support substantial improvement in weather forecasting and prediction of high impact weather events, ...”.

Further, Title IV, Sec. 401(a) of the Act states that the role of the EISWG is

“... (1) to provide advice for prioritizing weather research initiatives at the National Oceanic and Atmospheric Administration to produce real improvement in weather forecasting;

(2) to provide advice on existing or emerging technologies or techniques that can be found in private industry or the research community that could be incorporated into forecasting at the National Weather Service to improve forecasting skill;

(3) to identify opportunities to improve (A) communications between weather forecasters, Federal, State, local, tribal, and other emergency management personnel, and the public; and (B) communications and partnerships among the National Oceanic and Atmospheric Administration and the private and academic sectors; and

(4) to address such other matters as the Science Advisory Board requests of the Working Group.”

Finally, Title IV, Sec. 401(c) of the Act assigns to the EISWG the following responsibility:

“ANNUAL REPORT.—Not less frequently than once each year, the Working Group shall transmit to the Science Advisory Board for submission to the Under Secretary a report on progress made by National Oceanic and Atmospheric Administration in adopting the Working Group’s recommendations. ...”

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In light of the above, in responding to requests for assistance in meeting the requirements of the Act, EISWG must be an “honest broker,” balancing

- 1) Its role in providing advice and assistance to NOAA,
- 2) The FACA rules for documenting recommendations and dealing with informal discussions, particularly in regard to such difficult and challenging matters such as “divestment,” and
- 3) The requirement to submit an annual report to the Congress as described above.

In its work, EISWG will review the NOAA line offices efforts to comply with the Weather Act of 2017 – as documented in the reports that the Act requires the Line Offices to submit -- and make determinations if those efforts have potential for significantly improving the monitoring and forecasting of the High Impact Events (HIE) or addressing other matters as called out in the Act. It will then provide advice it deems necessary or as requested by the Line Offices, and make appropriate recommendations through the SAB to NOAA leadership. At the end of each year, EISWG will then report to the SAB on whether NOAA responded by adjusting its programs in accordance with that advice and those recommendations.

With the preceding paragraph in mind, it would be a mistake for the EISWG to endeavor to provide detailed, prescriptive advice or develop recommendations by itself. Rather, the EISWG proposes the development of a collaborative, consultative annual process among OAR, NWS, NESDIS, and the other NOAA line offices, and EISWG, with due recognition being given to the FACA rules and the Working Group’s limited member numbers, small staff, and infrequent face-to-face meetings. Such an approach will allow the EISWG to provide timely advice and ensure that it has the necessary information to develop appropriate recommendations. Furthermore, it is often true that some of the greatest benefits of this kind of relationship are derived through the back-and-forth dialogue and not one-way prescriptive advice.

To this end, the EISWG proposes the following initial three steps to begin the development of an annual cyclic process:

- The EISWG proposes to review the reports required by the Weather Act of 2017 of OAR, NWS, NESDIS, and other NOAA line offices. The reports provided by the line offices can be both working drafts during the report preparation phase and finalized reports ready for submission to the Congress. In keeping with the provisions of the Act, the EISWG proposes to focus its review of such reports on

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the identification of gaps; opportunities for innovation and adjustment of resource allocations; and potential synergies within NOAA, with other government agencies, and with academia and the private sector. EISWG will identify and recommend research and development areas on which NOAA should focus to continue to make real improvements to weather monitoring and forecasting, as called out in the Act.

- The EISWG proposes to set aside one-third of each EISWG face-to-face meeting for review and discussion with NOAA senior management; OAR, NWS, NESDIS, and other line office leadership; members of the NOAA SAB and other SAB Working Groups of specific challenges and opportunities associated with implementation of the provisions of the Weather Act of 2017. Where appropriate, EISWG proposes to invite outside expertise from academia and the private sector to contribute to these discussions. The gist of these sessions and any recommendations that arise in them will be documented in the meeting summary.
- Working with NOAA, the EISWG proposes to convene small groups of three or four Working Group members, supplemented as deemed necessary by outside expertise, for informal telephone discussions with NOAA staff on relatively narrow topics of immediate interest. These groups would provide immediate feedback in said discussions, and then provide a brief summary report at the next EISWG meeting; each such report will become part of the meeting summary.

EISWG sees that for NOAA in general, and for OAR, NWS, and NESDIS, in particular, to address the requirements of Weather Act of 2017 will require very high levels of coordination and collaboration among the NOAA Line Offices. To this end, EISWG requests that all relevant Line Offices always have appropriate representation in discussions with the Working Group.

In closing, the EISWG notes that the issues raised by OAR and NWS in responding to the Weather Act of 2017 must be recognized as complex, intertwined, and ongoing, and so will not be resolved in isolation or by a single set of decisions. Addressing these issues will require ongoing attention and iterative approaches that involve continuous communication, and effective coordination and collaboration among NOAA senior management, all the NOAA Line Offices, and the academic and private sector communities over a period of several years. EISWG will contribute to this process as an advisory and facilitating body, one that will serve in a variety of roles.