



Building a Community-Driven Vision for the Next Generation Weather Enterprise:

Update on Project Development

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“Given the ever evolving nature of the weather enterprise I would submit we need an active and ongoing strategic planning process as could be achieved by Congress requesting a decadal survey for the weather enterprise inclusive of mid-way assessments and subsequent follow-on surveys.”

Statement of
Antonio J. Busalacchi, Jr., Ph.D.
before the
Subcommittee on Environment
Committee on Science, Space and Technology
U.S. House of Representatives
June 8, 2016

Scoping Meeting Held April 18, 2017

Meeting objectives:

- Discuss emerging societal needs, technology and science changes, and other future challenges and opportunities for the weather enterprise with community leaders.
- Take stock of current approaches for setting weather priorities (including research to meet those priorities), and identify what's working and not working in these current approaches
- Discuss whether a National Academies activity could help address current challenges and, if so, how it could be structured to be most useful.

Our take aways...

- Time is ripe for an effort that brings the community together around a shared vision and a clear framework for future coordination.
- Areas that could benefit from more coordination include:
 - Model development
 - Sustainability of observations
 - Research priorities and funding
 - Education and workforce development
 - Connections between research, operations, and decision making
 - International components

Our take aways...

- However, many questions were raised about the specific nature of a possible new National Academies activity, such as:
 - Interface with existing coordination and strategic planning efforts?
 - How to build on past guidance?
 - How to design a process that allows for robust participation by all sectors?
 - Is the traditional “decadal survey” approach a good fit?

Desired characteristics

- Builds on existing coordination activities, strategic planning efforts, and reports
- Emphasis on community engagement; development of shared vision
- Focus on longer-term [10-25 years?] horizon
- Elevates public awareness of national investment in weather
- Confronts the hard issues that limit collaboration
- Products recognized as authoritative by government oversight entities
- Mechanism to build accountability into the process
- Expectation that process would be repeated at regular intervals



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Draft Statement of Task

The committee will **engage the broad weather community** to develop a shared vision for the U.S. weather enterprise, identify a set of shared goals for advancing the enterprise during the next decade, and recommend critical investments, institutions, and coordination mechanisms to make rapid progress towards meeting these goals. Their report will:

1. **Describe the weather enterprise today.**
2. **Consider how the weather enterprise may change in the next few decades.**
3. **Describe a comprehensive ideal vision of a robust and successful weather enterprise for the next decade and beyond.**
4. **Recommend key steps to enable the weather enterprise to achieve the vision.**

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Draft Statement of Task (cont.)

In addressing its charge, the committee shall **consider the full continuum from research to decision making**, including:

- A. Research in the physical, natural, and social and behavioral sciences
- B. Development of next generation modeling and data assimilation capabilities
- C. Space based and in situ observations/platforms – both traditional and novel approaches
- D. Education and work force development
- E. Weather-related decision making

Community Engagement

- **Request(s) for input**
- **Virtual engagement**
 - discussion threads facilitated by committee members
 - a repository of relevant reports and recommendations
 - the collection of responses to the RFI
 - videos of presentations made to the committee
 - outputs of the community workshop
- **In-person engagement**
 - community workshop(s)
 - open sessions at committee meetings
 - town halls and other events at professional meetings

Weather Research and Forecasting Innovation Act of 2017

The National Academy of Sciences shall conduct a study on matters concerning future satellite data needs.

- (i) develop recommendations on how to make the data portfolio of the Administration more robust and cost-effective;
- (ii) assess the costs and benefits of moving toward a constellation of many small satellites, standardizing satellite bus design, relying more on the purchasing of data, or acquiring data from other sources or methods;
- (iii) identify the environmental observations that are essential to the performance of weather models, based on an assessment of Federal, academic, and private sector weather research, and the cost of obtaining the environmental data;
- (iv) identify environmental observations that improve the quality of operational and research weather models in effect on the day before the date of enactment of this Act;
- (v) identify and prioritize new environmental observations that could contribute to existing and future weather models; and
- (vi) develop recommendations on a portfolio of environmental observations that balances essential, quality-improving, and new data, private and nonprivate sources, and space-based and Earth-based sources.

Thank you!

To provide input on proposed Weather Enterprise study:

- Amanda Staudt – astaudt@nas.edu

For more info on BASC activities:

- <http://dels.nas.edu/basc>

BASC fall meeting:

- Open discussion of Weather Enterprise study, Nov 6, 3-5 pm ET, Washington DC
- Register to attend in person or participate virtually:
<http://dels.nas.edu/basc/Upcoming-Events>