

# **Commission on the Weather, Water, and Climate Enterprise (CWWCE)**

## **September Report**

**4 September 2020**

Douglas C. Hilderbrand, Commissioner

Pamela G. Emch, Past Commissioner

Sue Ellen Haupt, Future Commissioner

### **Decisions Requiring AMS Council Vote:**

No formal vote required as of September 4, 2020. However, CWWCE Commissioner requests input (“Council’s blessing”) on the CWWCE reorganization proposal. Expectation is to request a formal vote on the reorganization, with updated Terms of Reference, at the January, 2021, AMS Council Meeting.

### **Commission Reorganization Proposal:**

#### **Commission Organizational Change Discussions:**

- Two ad hoc committees in development: Ad Hoc Committee on Mind the Gap and the Ad Hoc Committee on Engineering Resilient Communities
  - Both would fall underneath the Board on Enterprise Strategic Topics (BEST)
  - Terms of Reference for each ad hoc committee are in draft form
- Discussions have continued since the July AMS Council Meeting on the future of the Board on Global Strategies (BGS). In late August, the Commission Steering Committee was briefed on the proposal to redefine the BGS. Consensus exists to redefine the board to focus on “decision support services.” A Council proposal is expected by the January 2021 AMS Council Meeting. The current board chair, Stephanie Herring, raised concern during the Commission meeting in January at the AMS Annual Conference that the Board members were interested in going a different direction than what is defined in the Board terms of reference. Once the International Committee on Weather, Water, and Climate Strategies was moved out of the Commission, the BGS identity came into question and the remaining committees were constructed more for decision support services than to achieving its originally stated goals:
  - To promote collaboration in the development of and access to high-quality, sustainable, long-term meteorological and climatological observations, models, and predictions around the globe.
  - To increase access to such meteorological and climatological information (above), especially in developing countries, to improve continuity of business, better health, and safer environmental conditions, in spite of severe weather events and a changing climate.

Discussions have focused on redefining the BGS toward explicitly working on decision support issues, and Commission leadership is looking to engage the Steering Committee as a next step toward a formal proposal to AMS Council.

Proposal:

- Rename the Board on Global Strategies (BGS) to the Board on Enterprise Decision Support (BEDS).
- Retain the three existing committees currently under the BGS.
- Move the Committee on Emergency Management from the BEST to the BEDS.
- Add language from the BGS Terms of Reference into the Commission's Terms of Reference to maintain the Commission's engagement on global-scale activities within the Society.
- Update all impacted TORs and present to AMS Council (Timing TBD but targeting either late September or January 2021)

Board on Enterprise Decision Support (BEDS) Key Messages:

- BEDS would serve as a focal point ("belly button") for decision support activities/discussions across the Society (in other words, serve as an anchor and go-to resource for decision support issues across the AMS Boards/Committees but would not be the end-all for decision support).
- BEDS would NOT serve in any way as an arbitration body in the public-private partnership related to decision support policy, but would exist to foster and facilitate discussions centered on Enterprise issues, concerns, etc.
- BEDS would amplify and foster collaboration opportunities between the three sectors (public, private, academic).
- Current BGS chair would continue as BEDS chair until her current term is up and would work in the near term on creating the new Terms of Reference.
- There would be no other immediate impacts to BGS membership unless requested by a member.

## **Commission Highlights since July:**

- Commission Steering Committee Meeting (August 26)
  - Consensus and full support to redefine BGS and associated changes to the org chart.
  - Support to explore efforts to better advocate the value of the Weather, Water, and Climate Enterprise, including branding/outreach efforts on what is all involved to make a forecast possible.
  - Support for the two new ad hoc committees.
- Addition of two ad hoc committees into the Board on Enterprise Strategic Topics. Terms of Reference for each are found in Appendix B.
  - Ad Hoc Committee on Mind the Gap

- Ad Hoc Committee on Engineering Resilient Communities.
- [AMS Washington Forum \(AWF\)](#). Originally scheduled for April, the BEED decided to postpone the event until October 26-28, 2020, and to hold it completely virtually. Session topics will include:
  - Addressing Our Wildland Fire Weather Needs
  - Truth in Science: Ensuring Scientific Integrity
  - The Future of Weather Forecasters and Technology
  - Climate Adaptation and Resiliency: Are we prepared?
  - Unlocking the Spectrum Puzzle: Balancing weather information needs with increasing global demand for spectrum
- Committee on Emergency Management drafted the AMS Statement on Hurricane Preparedness.
- Committee on Open Environmental Information Services (COEIS) completed its third of five AMS webinars big data, machine learning, and Artificial Intelligence.

### **Board on Global Strategies (BGS)**

– Chair: Stephanie Herring

Stephanie raised concern during the Commission meeting in January at the AMS Annual Conference that the Board members were interested in going a different direction than what is defined in the Board terms of reference. Once the International Committee on Weather, Water, and Climate Strategies was moved out of the Commission, the BGS identity came into question and the remaining committees were constructed more for decision support services than to achieving its stated goals:

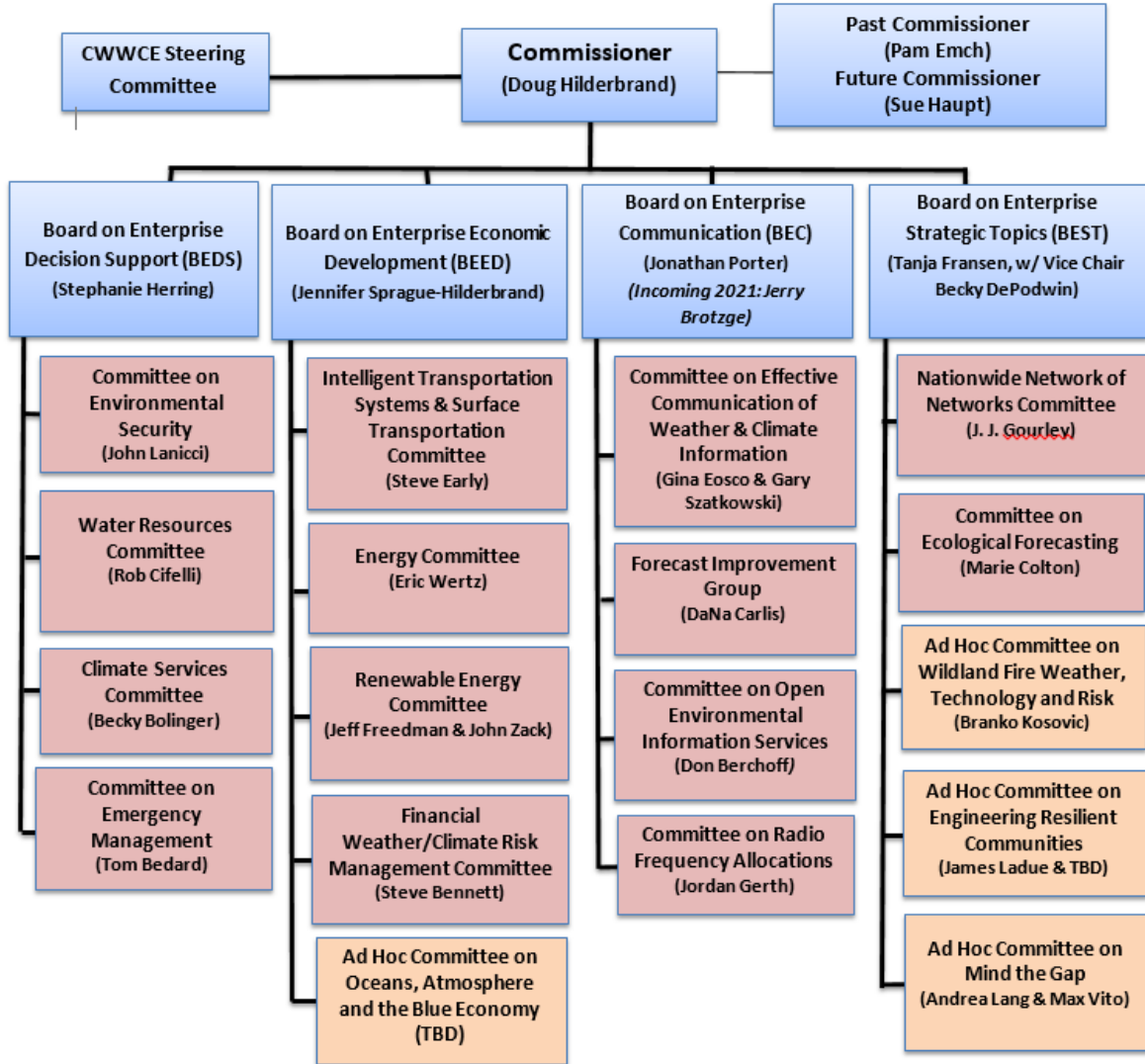
- To promote collaboration in the development of and access to high-quality, sustainable, long-term meteorological and climatological observations, models, and predictions around the globe.
- To increase access to such meteorological and climatological information (above), especially in developing countries, to improve continuity of business, better health, and safer environmental conditions, in spite of severe weather events and a changing climate.

Discussions as of July 1, 2020, have focused on redefining the BGS toward explicitly working on decision support efforts, and Commission leadership is looking to engage the [Steering Committee](#) as a next step toward a formal proposal to AMS Council.

## **APPENDIX A**

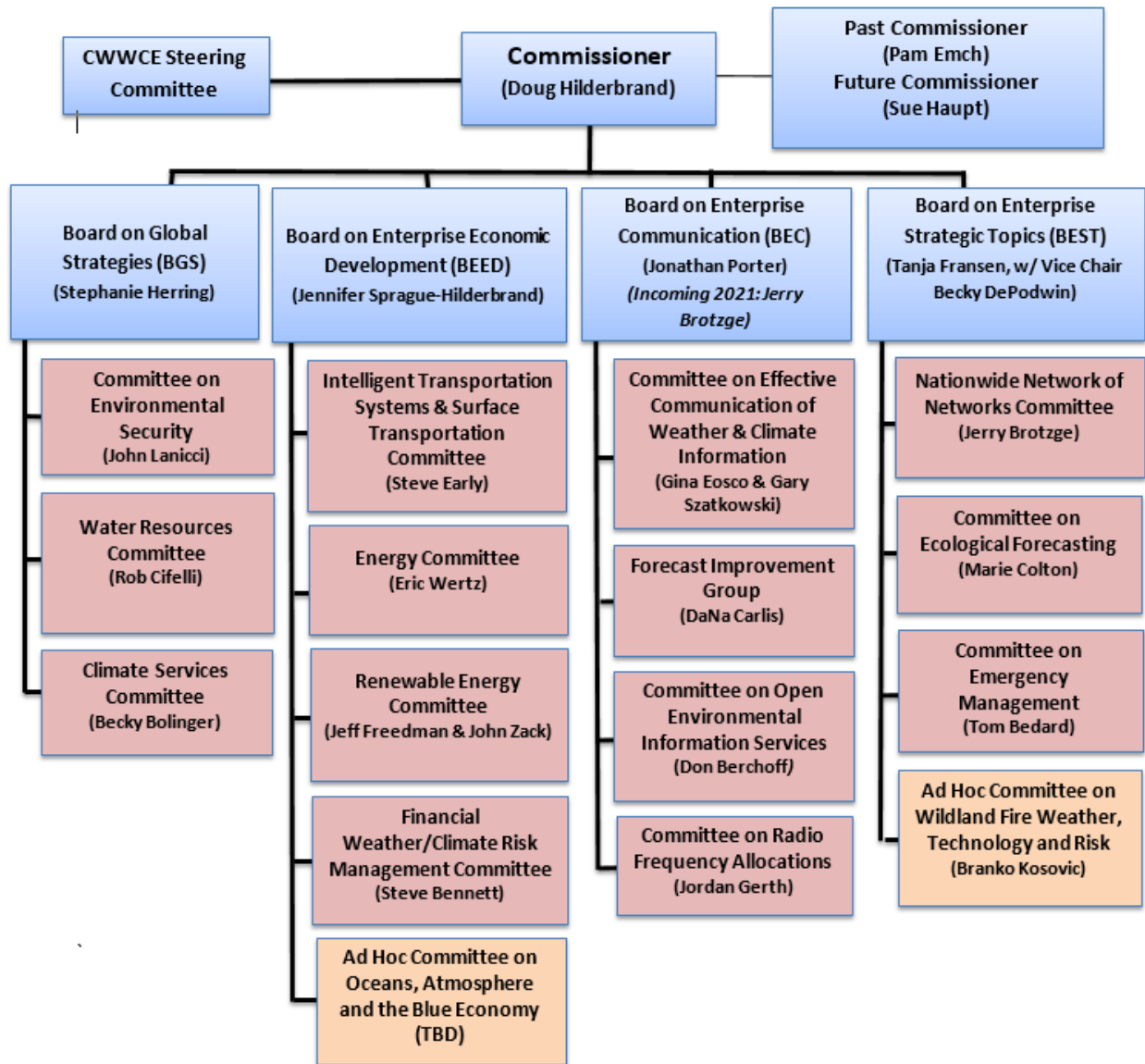
### **Proposed Reorganization of CWWCE**

**2020 - AMS Commission on the Weather, Water, and Climate Enterprise**  
 (Proposed 26 August, 2020)



**Current Organizational Chart of CWWCE**

(Effective 7 February, 2020)



## APPENDIX B

### Ad Hoc Committee on Mind the Gap

#### Terms of Reference

#### Background:

In recent years, the changing private sector landscape in atmospheric sciences has exposed existing gaps in the education and preparation of the atmospheric science workforce and the skill sets needed for private sector employment. An [AMS information statement](#)

recommends that students seek instruction beyond the core of the meteorology curriculum. This suggests that standard atmospheric science coursework is not sufficient in preparing them for careers in the private sector. Students and faculty from several atmospheric science programs have expressed that there is a clear lack of awareness regarding existing private sector career opportunities and the requisite skill sets to pursue those careers.

To address this systematic lack of awareness concerning the pathway to private sector employment, a workshop was organized by a small group, consisting of academic and private sector representatives, that took place at NCAR in Boulder, CO (summer of 2019). This ad hoc committee exists to carry forward the effort to “mind the gap” between what students are trained for and what skills the private sector needs.

**Purpose:**

This ad hoc committee is tasked to share information, create engagement opportunities across the academic, government, and private sectors, and identify best practices of how the three sectors can best align educational requirements to needed skill sets.

**Goal:**

To develop better strategies to educate the next generation of atmospheric scientists for industry needs.

**Activities:**

The Ad Hoc Committee on Mind the Gap will lead the following AMS activities:

- Identify curriculum gaps & challenges that lead to a lack of preparation for students pursuing careers in the private sector.
- Discuss these gaps & challenges to identify creative solutions that can be scaled across the academic and private sectors.
- Identify and foster best practices that can be used by academic programs to modify their curricula to address these gaps & challenges.
- Identify and foster best practices for private sector partners to take a more active role in directly addressing skill gaps through internships, capstones, and partnerships with academic programs.
- Promote future venues for sparking mutual innovation between the private sector and academia, driven by the needs for educating students.

**Committee Structure:**

The Ad Hoc Committee on Mind the Gap will be structured as follows:

- Will be a temporary “ad hoc” Committee, reporting to the Board on Strategic Topics (BEST).
- Will have a two-year “ad hoc” designation upon which the BEST Chairperson(s) will recommend to the Commissioner whether or not to terminate the committee or present to the AMS Council justifying its change to full committee status.
- Will consist of six (6) to fifteen (15) professional members including the Chairperson(s).
- Professional membership terms (nominally) will consist of three (3) year terms with 1/3 typically rotating off the Committee each year.

- Membership terms will begin immediately upon approval by the Commissioner of this ad hoc committee and again each year at the AMS Annual Meeting.
- Membership shall represent the three (3) community sectors (e.g. private/commercial, government and academic). At least one student member is also encouraged.
- At least one (1) member shall represent, in a liaison role, the Commission on Professional Affairs. This member shall be approved by the Commissioner, Commission on Professional Affairs.
- At least one (1) member shall represent, in a liaison role, the Education and Human Resources Commission. This member shall be approved by the Commissioner, Education and Human Resources Commission.
- Candidate committee members will be nominated by the Committee Chair and approved by the BEST Chair and the Commissioner of the CWWCE.
- At the discretion of the Chair, with BGS Chair and CWWCE Commissioner consent, a Committee member who does not participate in Committee activities for a period of twelve or more months can be removed and a replacement named.
- The Chair, shall be an *ex officio* non-voting member of the BEST. This designation of non-voting may change if/when the Committee becomes a full committee.

## **Ad-Hoc Committee on Engineering Resilient Communities**

### **Terms of Reference**

**Background:** In too many instances, fatalities, injuries and unneeded property losses are occurring from extreme weather, water and climate disasters. Former FEMA Director Craig Fugate is well known for saying, “There are no natural disasters, only human-made ones.” That is due to how and where structures are built and what society is willing to accept as “good enough.” Examples include mobile and manufactured homes becoming detached from its foundation due to inadequate anchoring, or a weakened garage door exposing the interior of a single family home due to high winds, buildings being inundated by storm surge, and being built near floodplains that didn’t flood in the past, but are flooding now. And, building “firewise” structures in communities at risk of wildfires. Extreme climates and climate events also require different methodologies to lead to climate resilient communities. What works in the desert southwest doesn’t necessarily translate to the high plains. The Weather Enterprise invests billions of dollars to ensure the public receives accurate, timely warnings, but without adequate thought to weather, water and climate impacts on construction, the societal outcome can still be tragic and economically devastating.

#### **Purpose:**

The Board on Enterprise Strategic Topics (BEST) has identified the need and opportunity to collaborate with the engineering community. While the interactions have also been there, they were not integrated into our community in a sustainable way to lead to long lasting change. To strengthen community resilience against extreme weather, water, and climate events, an “end-to-end” approach is needed, which includes the AMS fully embracing the contributions and research of the engineering discipline.

**Goal:** To increase awareness and share best practices within the weather, water and climate enterprise on how to build greater community resilience to weather, water and climate disasters. This includes looking at the structural engineering research and best practices, better understanding societal barriers that exist, and increasing knowledge of policies related to building for resilience. This would include promotion and development of preparedness and call to action messaging, connecting research and development opportunities across all relevant disciplines.

**Activities:** The Ad Hoc Committee on the Engineering of Resilient Communities will lead the following AMS activities:

- Identify the many ways that buildings are impacted by weather, water and climate events and how design standards may change in the future
- Consider outreach and discussion with other AMS Boards/Committees that have related interests (ie. Committee on Emergency Management, Climate Services Committee, Societal Impacts Board)
- Identify/provide outreach content on best practices and tools for building resilient communities.
- Pursue opportunities toward AMS Statements focused on the role of resilient engineering to combat loss of life from such weather hazards as tornadoes, hurricanes, floods, and other types of extreme weather.
- Determine improved methods of public messaging to the value of resilient engineering such as tornado shelters, anchoring of manufactured homes, hurricane shutters and other construction recommendations.
- Compile existing resources for outreach/education purposes, and make recommendations for needed resources for outreach/education purposes
- Identify R&D partnering opportunities with an interdisciplinary approach across all relevant sciences.
- Share lessons learned and best practices within the AMS community forums and through webinars for all members to have an increased awareness of the issues and potential resources and solutions available.
- Organize relevant sessions for the AMS Annual Conference Symposium on the Weather, Water, and Climate Enterprise.

**Committee Structure:** The Ad Hoc Committee on Resilient Engineering will be structured as follows:

- Will be a temporary “ad hoc” Committee, reporting to the Board on Strategic Topics (BEST).
- Will have a two-year “ad hoc” designation upon which the BEST Chairperson(s) will recommend to the Commissioner whether or not to terminate the committee or present to the AMS Council justifying its change to full committee status.
- Will consist of six (6) to fifteen (15) professional members including the Chairperson(s).
- Professional membership terms (nominally) will consist of three (3) year terms with 1/3 typically rotating off the Committee each year
- Membership terms will begin immediately upon approval by the Commissioner of this ad hoc committee and again each year at the AMS Annual Meeting.
- Membership shall represent the three (3) community sectors (e.g. private/commercial, government and academic) as well as membership from related sciences. At least one student member is also encouraged.



- Candidate committee members will be nominated by the Committee Chair and approved by the BEST Chair and the Commissioner of the CWWCE.
- At the discretion of the Chair, with BGS Chair and CWWCE Commissioner consent, a Committee member who does not participate in Committee activities for a period of twelve or more months can be removed and a replacement named.
- The Chair, shall be an *ex officio* non-voting member of the BEST. This designation of non-voting may change if/when the Committee becomes a full committee.