

## **Climate Information Products and Application Review TERMS OF REFERENCE**

### **Purpose**

To evaluate the climate information products and applications program activities and its ability to meet increasing demands for climate information to address decision maker needs through applied and issue focused research; develop prototype products and tools; transition research products into applications, operations and decision processes; and provide operational delivery of climate services, capacity building and support to users. The review will occur as follows:

July 13-15, Boulder, CO – Identification of cross-program connections, synergies and gaps; climate information products and applications strategic planning and recommendations for the way forward

### **Background**

- The NOAA Science Advisory Board is the only Federal Advisory Committee with responsibility to advise the Under Secretary of Commerce for Oceans and Atmosphere on long- and short-range strategies for research, education and the application of science to resource management and environmental assessment and prediction. The SAB considers eight themes when providing advice to NOAA: 1) Quality, Creativity and Credibility; 2) Timeliness and Scale; 3) Science Connected to the Application and Operational Implementation of Policy; 4) Capacity Building; 5) Education; 6) Efficiency; 7) Social Science Integration; and 8) Diversity.
- The Climate Working Group (CWG), as a sanctioned working group of the NOAA SAB, advises on the condition and capabilities of NOAA's climate activities and supporting NOAA systems and submits formal reports that identify current issues, deficiencies, recommendations for remedial action, and proposed initiatives. The CWG provides scientific advice and broad direction to NOAA's climate program, in the context of national and international activities.
- The CWG conducts a review of one major climate program each year. The focus is on the broad research and operational components of the climate program, as well as on the underlying observations and data management issues.

### **Framing Questions and Topics for Review**

1. Program Framework
  - a. What does the program framework provide in the way of flexibility and creativity to address emerging national, regional and local climate service requirements? Sector priorities? International objectives? Integrated capabilities on the sector/regional scale? What does the program framework provide in terms of support internally to other NOAA entities as well as externally to NOAA customers/decision makers?
  - b. How do NOAA labs/centers interact with this program? Climate information is developed in several different parts of NOAA (e.g. NCDC, GFDL, NCEP). The

provision of climate services also occurs in many different areas of NOAA (e.g. National Marine Fisheries Service, Coastal Services Center, NWS-Climate Services Division, RISA, new NOAA Regional Collaboration Teams, NIDIS)

- c. What is the contribution from the program to support the efficiency of R20 and O2R capabilities?
  - d. What is the role of the external community in developing cutting-edge impacts and adaptation research and tools; leveraging years of research, expertise and work with regional/local stakeholders?
  - e. What are NOAA policies and experiences with the public/private provider relationships on services?
  - f. How are the priorities for the program determined and what is the extent to which the external community has an influence on that priority setting?
2. Performance Metrics
    - a. What are key performance metrics to measure the success of the program in achieving stated goals? [Use NRC study for guidance?]
    - b. Do these metrics need to be revised/updated? What would those proposed changes be?
  3. Program Activities
    - a. What is the effectiveness of the current 'climate services laboratories' (RISAs, RCCs)?
    - b. What are effective means for employing the program's service capabilities in national programs and setting out appropriate delivery strategies?
    - c. What climate product lines are useful to scientists and decision makers, and provide a pathway for feedback from these user communities?
    - d. What is the effectiveness of the current international influence (IRI's) on the program?
  4. Future Directions
    - a. How can the program build a needed culture of excellence, innovation, responsiveness, and customer-orientation?
    - b. How can the program best communicate (listen as well as speak) and collaborate with partners and users moving forward? This is multi-level:
      - i. internally, within NOAA
      - ii. between NOAA and DOC
      - iii. with other federal agencies, departments
      - iv. with regional/state/local governments
      - v. with private-sector providers of climate services
      - vi. with sector-by-sector users of climate services
    - c. Is the program effectively managing rapidly evolving capabilities for service provision with rapidly evolving needs? How can the program make these two trends more congruent? How are those needs assessed and how often?
    - d. What can the program do to build capacity, both
      - i. *internally*, with respect to its ability to develop the natural and social science needed to assess climate impacts (given that the needed science is not in hand); and
      - ii. *externally*, with respect to improving its *customers'* ability to use climate services?