



UNITED STATES DEPARTMENT OF COMMERCE
The Office of the Chief Scientist
Washington, D.C. 20230

March 25, 2016

MEMORANDUM FOR: Members, NOAA Research Council
Members, Line Office Transition Manager Committee

FROM: Richard W. Spinrad, Ph.D.
Chair, NOAA Research Council

SUBJECT: NOAA Task Force on Unified Modeling

The NOAA Research Council is charged to stand up a Task Force to facilitate cross-Line Office and trans-disciplinary collaboration among NOAA modelers, and collaborations beyond NOAA, to develop a unified modeling approach for the agency. Unified modeling should not be interpreted as development of a unitary modeling system. Instead, the emphasis should be on establishing the common framework/architecture, data assimilation methodologies, approaches to dealing with uncertainty, and an interoperable concept of operations for integrating the most relevant physical, biological, biogeochemical, social/behavioral predictive systems to produce and communicate actionable environmental intelligence for decision making.

Ten to fifteen Task Force members will be nominated by the Research Council. These individuals will be representative of the full range of NOAA mission responsibilities. The Task Force will spearhead the topics, approach, and strategic actions required to advance components of an agency-wide unified modeling practice in NOAA. The Task Force is expected to have a term of approximately one year. The Task Force will use an approach that incorporates NOAA's response to the findings of the University Corporation for Atmospheric Research Community Advisory Committee for NCEP Model Advisory Committee (UMAC) 2015 review of the NWS operational model suite, as well as relevant advice from the NOAA Science Advisory Board, the National Academies of Science, Engineering and Medicine, and other findings deemed relevant by the Task Force. The Task Force will coordinate effort with relevant interagency activities such as the Earth System Prediction Capability and the Joint Center for Satellite Data Assimilation.

The Task Force will identify potential topic(s) for further exploration. Following Research Council approval of appropriate topics, the Task Force will create focused teams to develop approaches to making progress on the topic, designing and executing a series of short-term actions that contribute to putting the concept of unified modeling into practice within the



Agency. Such actions could include, but are not limited to: a forum for discussion of common modeling challenges, structured brainstorming, “hackathons” focused on specific NOAA-relevant modeling challenges, personnel exchanges between NOAA modeling centers, development of internal and external training opportunities, and structured model comparison experiments. The development of longer-term concepts for budget initiatives is also encouraged.

Within six months of inception, the Task Force will produce a strategy to guide NOAA towards a unified modeling approach, including recommendations for short-term actions, as well as longer term needs, and indicating recommended processes for executing the strategy.