



UNIVERSITY OF WASHINGTON

SCHOOL OF MARINE AFFAIRS

December 11, 2007

Dear Admiral Lautenbacher:

The NOAA Science Advisory Board (SAB) acknowledges receipt of the Transmittal Memorandum, Draft Response, and Presentation that comprise the "Final NOAA Response to the Reports from the Hurricane Intensity Research Working Group (HIRWG)". The Board expresses its appreciation for the efforts made by NOAA staff in preparing this material.

The SAB notes that the Presentation outlines several steps, to be carried under a proposed "Hurricane Forecast Improvement Program (HFIP), that in effect respond directly to recommendations in the HIRWG reports. If carried out as described, these steps would begin to address the challenge of improving forecast skill for changes in hurricane intensity. More generally, the Board was pleased to see that under the HFIP umbrella, NOAA has begun to develop momentum in its overall hurricane research program. This momentum needs to be sustained and further developed through the preparation and subsequent execution of a detailed implementation plan for HFIP. The Board also had several concerns regarding points raised in both the Draft Response and the Presentation. These are provided below to assist you in guiding the further planning and implementation of the HIRWG recommendations via the HFIP.

-- The response materials suggest that NOAA is planning to take 10 years to develop an operational capability for running hurricane forecast models at a 1 km resolution. Clarification provided during the briefing suggested that NOAA scientists hope to have demonstrated a research model running at 1 km resolution within three years, and then take seven years to transition this research model to operational practice. This transition to operations seems inordinately long. The SAB strongly urges NOAA to make every effort to shorten this time to two years, including considering other operational strategies such as running such a model on an as-needed, standalone basis, independent of the regular NCEP product suite.

-- The SAB notes that research to date, while confirming that that resolution of order 1 km is essential for resolving events in the eye wall, suggest that current understanding of basic physical processes in this region is limited. As recommended by HIRWG, NOAA needs to engage the research community and other interested federal agencies, such as NSF and possibly ONR, to conduct field work to improve understanding of these processes. It is essential that this field

work be conducted in parallel with and informs the 1-km model development effort.

-- The response materials are lacking in the socio-economic-decision science studies necessary to make the cost-benefit arguments necessary to obtain the funding to conduct hurricane research and development work on the scale recommended. Attention to these studies is essential in order to make the case for the benefits of having increased understanding to a broader public and to Congress.

-- While the Draft Response links many of the HIRWG recommendations to actions planned for HFIP, the SAB notes that there are several comments that actions are required which are beyond the scope of HFIP, in whole or in part, e.g., Recommendation 8 (listed with minority report recommendations). The SAB looks forward to reports on these additional activities, especially those that relate to building research capacity in the Miami area.

The SAB notes the request from OAR for recommendations on how to best engage the broader research community in HFIP and related efforts. The SAB suggests that in addition to informing the community through traditional means (e.g., organizing town hall gatherings at AMS and AGU meetings, articles in the BAMS and EOS), OAR take the following actions:

-- convene a meeting of key research community leaders (deans, department heads, center directors, NSF program managers) to discuss the community's willingness to work with NOAA on high priority research and how such efforts could be funded.

-- establish post-doctoral and visiting junior faculty programs at key NOAA locations to develop the cadre of research leaders needed to carry this research through to completion over the next decade.

-- fund the COMET and DTC programs so that they can provide small grants to work on applications and modeling activities, respectively.

Again, the Science Advisory Board thanks the NOAA staff for the effort it has made to formulate the concepts for HFIP. The Board looks forward to an annual progress made in implementing the HIRWG recommendations through HFIP and on measurable improvements in the skill of forecasting hurricane intensity.

Sincerely,



David Fluharty
Chair, NOAA Science Advisory Board