

[Redacted Version]

Review of the

*Report from the Tropical Prediction Center Assessment  
Team*

July 26, 2007

**Introduction:** On June 26, 2007, Vice Admiral Conrad C. Lautenbacher, Jr. (U.S. Navy ret.), Under Secretary for Oceans and Atmosphere, requested Dr. James M. Turner, Deputy Director, National Institute of Standards and Technology, to lead an independent team to assess the operations of the Tropical Prediction Center (TPC), and the center's ability to deliver accurate and timely hurricane forecasts to the American public. On July 13, 2007, the assessment team delivered their report.

On July 18, 2007, Vice Admiral Lautenbacher charged Brigadier General John J. Kelly, Jr. (U.S. Air Force ret.), Deputy Under Secretary for Oceans and Atmosphere to lead a review of the report and provide responses to the assessment team's recommendations. The Deputy Under Secretary for Oceans and Atmosphere assembled a review team (hereinafter referred to as the team) to examine the findings, analyze the recommendations and develop an action plan. The team developed the following response and recommended actions to address issues identified in the report.

**Approach:** In addition to the team leader, the team included Mary Glackin, acting Assistant Administrator for Weather Services and acting Director, National Weather Service; Eduardo Ribas, Director for Workforce Management; and Anson Franklin, Director for Communications. The team was supported by Vickie Nadolski, acting Deputy Assistant Administrator Weather Services and acting Deputy Director, National Weather Service; Robert Byrd, Chief Financial Officer, National Weather Service; Louis Uccellini, Director of the National Centers for Environmental Prediction; Captain Jon Bailey, Deputy Undersecretary Office; and Courtney Dragoon, National Weather Service.

The team would like to commend the assessment team for providing a systematic and objective evaluation of the operations and abilities of the TPC. The team also appreciates the assessment team's efforts to communicate their findings and recommendations in a succinct and thorough manner, and for having carried out its charge within the time frame requested. The team examined the report and determined the assessment team's work is consistent with the responsibilities outlined in the Scope of Operational Assessment provided by Vice Admiral Lautenbacher.

The team first met to review and discuss the findings, brainstorm on solutions and develop a time frame for response. During the analysis of recommendations, the team formulated targeted high-level responses aimed at addressing the two key areas needing improvement – leadership/management and scientific advancements. The team was careful to not be prescriptive and duplicate the work of the assessment team or undermine from current or future efforts to manage the various issues which became evident through the assessment. The team aimed to provide clarity on what actions would best address the recommendations. In developing the response, the team determined that NOAA is currently planning or engaged in activities that address some of the assessment team's recommendations directed at improving operations and technical capabilities of the TPC, as well as the NCEP, NWS and NOAA. For the remaining recommendations, the team presents a recommended response and action including a timeline.

**Review:** [Text omitted]. We see this as an opportunity to address the findings and recommendations in the assessment report and make organizational and operational improvements. We do note the time line for actions has the potential to be impacted by the hurricane season and may need adjusting.

[ **TEXT OMITTED** ]

**Recommendation 2:** “Morale problems and divisions among the staff must be addressed as a high priority for the good of the center and to ensure that the organization can perform its mission.”

**NOAA Response:** The team recommends you agree. We believe the solution must place a premium on supporting TPC personnel, operations and off-season activities. In addition, the solution should address TPC key partners (e.g., NCEP, NWS Regions and Forecast Offices, the Hurricane Research Division and other OAR components).

**Proposed Action and Timeline:** Secure the services of an organization development (OD) consultant with NOAA organizational knowledge and experience. A contract can be in place by mid-August to begin work in September, tropical weather permitting. This person will be charged with executing the following: [Lead: WFMO/NWS]

- (1) Establish a “baseline” of the TPC work climate, using the assessment report to begin discussions with the TPC staff – FY08 Q1.
- (2) Conduct staff interviews with NWS, NCEP, TPC managers and employees, and TPC partners to collect organizational issues – and share issues with TPC staff, grouping them by themes, and building consensus for change. These session(s) should be conducted as soon as possible, however, understanding that flexibility is important as we are at the beginning of the hurricane season, then based on this – FY08 Q1;
- (3) Formulate an action plan for addressing weaknesses, accentuating strengths, and promoting team building – FY08 Q2.
- (4) Implement action plan – FY08 Q3.
- (5) Reevaluate “baseline” after 15 months from implementation of action plan – FY09 Q4.

**Recommendation 3:** “NCEP, NWS, and NOAA should increase their focus on the critical technical needs in hurricane forecasting, including improved ocean surface vector wind data, intensity understanding and forecasting, and modeling.”

**NOAA Response:** The team recommends you agree. We believe NOAA is engaged in activities aimed at addressing the issues identified in the findings which lead to this recommendation.

**Proposed Action and Timeline:**

- (1) NOAA has recently created a new Hurricane Forecast Improvement Project Team to develop a unified approach to accelerate hurricane forecast improvements in one to five day forecasts. Objectives are to improve tropical cyclone forecasts (intensity, track, precipitation, and uncertainty forecasts), storm surge forecasts, flooding forecasts and information and tools to support community and emergency planning. The team will accelerate specific action items and milestone delivery dates which will become part of the FY09-13 Program Plans. A fully integrated approach encompassing research, operations and outreach in areas such as observations, modeling and associated supercomputing, research to operations transition, product design and development, and education and outreach will be the primary focus – draft August 2007/ final September 2007. [Lead: NWS AA/OAR AA]
- (2) Ocean Surface Vector Winds (OSVW) Satellite replacement – Develop NOAA recommendation based on Jet Propulsion Laboratory Report and updated studies on the impact of OSVW on models – FY08 Q2. [Lead: NOAA Observing Council]

**Recommendation 4:** “NOAA leadership at all levels must require the highest level of conduct and performance from its employees and its managers. Supervisors must know that they will be supported in the management of their operations and held accountable for failure to manage effectively.”

**NOAA Response:** The team recommends you agree. NOAA has identified the need for an effective management and leadership development strategy as one of our top five human capital challenges. While this strategy is being developed, we recommend taking advantage of existing programs as follows.

**Proposed Action and Timeline:**

- (1) Conduct “providing employee performance feedback” and “setting performance expectations” workshops for TPC supervisors – September 2007. [Lead: WFMO]
- (2) Assess the developmental needs of the TPC supervisors. Based on their needs align them to available leadership and management courses/programs; require each TPC supervisor to participate in one program/course after the conclusion of the current hurricane season. Initiate for completion – FY08 Q3. [Lead: WFMO]

**Recommendation 5:** “Make the following organizational changes: create a Hurricane Forecast Branch chief (separate and distinct from the center deputy director); make the three branches (hurricane, tropical analysis forecast, and technical support) direct reports to the same TPC supervisor; consider moving the Science Operations Officer (SOO) and storm surge activities into a separate unit reporting to the office of the director.”

**NOAA Response:** The team recommends you agree organizational changes are needed to address the TPC structure to correct current inequalities among the components. Some

changes should be made immediately and others should be done in concert with the OD intervention discussed in Recommendation 2.

**Proposed Action and Timeline:**

- (1) Assign a team lead for the Hurricane Forecast Branch – August 2007. [Lead: NCEP/TPC]
  
- (2) Develop a reorganization plan for TPC based on OD input – FY08 Q3. [Lead: NCEP/TPC]

**Recommendation 6:** “Establish clear, written statements of authority for decision making throughout the management chain of TPC – and communicate them to all employees.”

**NOAA Response:** The team recommends you agree.

**Proposed Action and Timeline:**

- (1) Develop and distribute a written statement of authority for decision making – September 2007. [Lead: NCEP/TPC]

**Recommendation 7:** “Develop the methods and means to ensure that the products and services provided by the TPC are meeting the needs of users. Establish a user group to provide regular input on the TPC’s priorities and proposed new or revised products.”

**NOAA Response:** The team recommends you agree that we should further strengthen procedures on meeting user needs; however, we do not recommend establishing a new group. We believe TPC can collect user needs by leveraging on-going activities, such as the NOAA Hurricane Conference, Interdepartmental Hurricane Conference, the WMO Regional Hurricane Committee, TPC hosted workshops for emergency managers, state conferences, public talks, marine outreach functions, Internet comments, e-mail, and OCWWS program manager. The team recommends instituting an activity to consolidate user inputs and establish methods to feed them into the PPBES and NCEP Annual Operating Plan processes, and the Hurricane Improvement Forecast Project. We suggest this also be applied to all the centers under NCEP. We recommend you implement the following.

**Proposed Action and Timeline:**

- (1) Develop and implement a process to collect user requirements identified in various annual conferences and workshops and use these requirements in annual NOAA planning processes – FY08 Q1. [Lead: NCEP]
  
- (2) Apply this process to all NCEP Centers to ensure responsiveness to all documented user needs – FY08. [Lead: NCEP]

**Recommendation 8:** “TPC should develop a vision for the future, clearly identifying its priorities and how it plans to get there.”

**NOAA Response:** The team recommends you agree.

**Proposed Action and Timeline:**

(1) Develop a strategic vision and multi-year implementation plan for each NCEP service area and mission support area using cross-center teams – FY08 Q4. [Lead: NCEP]

(2) Support the NCEP led efforts by fully engaging staff and drawing on customer needs as described in Recommendation 7 – FY08 Q4. [Lead: TPC]

**Recommendation 9:** “Institute formal succession planning and leadership programs for developing staff from within.”

**NOAA Response:** The team recommends you agree with the recommendation. While awaiting the adoption of the NOAA Leadership Development and Management strategy planned for FY08, develop a succession planning process to ensure the availability of diverse individuals with the necessary competencies to fill key leadership positions.

**Proposed Action and Timeline:**

(1) Develop a “pilot” succession planning process for “key” NWS positions. Key positions are defined as those positions that are of the most significant importance in the strategic and operational decisions that affect organizational success. Once a succession program is successfully institutionalized, it can be expanded to encompass more NWS supervisory, managerial and executive positions. Initiate process – FY08 Q2. [Lead: NWS with WFMO support]

(2) Develop an Individual Development Plan for each TPC employee and supervisor. Include building leadership, management, and team building skills as appropriate – FY08 Q2. [Lead: TPC with WFMO support]

**Recommendation 10:** “NWS/NCEP needs to foster an environment in which its centers, including the TPC, feel they are part of the process and part of one organization.”

**NOAA Response:** The team recommends you agree.

**Proposed Action and Timeline:**

1) Revitalize existing processes to reinforce NCEP mission and operations to include: [Lead: NCEP]

- a. Conduct monthly staff meetings with all centers to share information
  - b. Conduct annual internal planning meeting to drive NOAA PPBES and Annual Operating Plan processes and improves coordination and collaboration efforts between NOAA, NWS, and NCEP
  - c. Conduct annual service center assessments and identify needed adjustments
- 2) Leverage the actions associated with Recommendations 7 and 8 to educate TPC employees on their contributions to and dependencies on other NOAA components. [Lead: TPC]

**Recommendation 11:** “NOAA must communicate aggressively, in plain language, key facts and rebut erroneous information about its hurricane program to stakeholders and to the public.”

**NOAA Response:** The team recommends you agree. We recommend you accept the attached communication plan developed by NOAA’s Office of Communications.

**Proposed Action and Timeline:**

- 1) Implement attached communications plan. See attachment 3 – NOAA Hurricane Program Communication Plan. [Lead: NOAA Communications]