

NATIONAL UNIFIED OPERATIONAL PREDICTION CAPABILITY (NUOPC)

BACKGROUND

- Oct 2005 goal of complementary NWP efforts established .
- Feb 2006 formed Tiger Team (TT) to examine more unified operational prediction capability options. May 2006, memo charging TT with a series of tasks, including an Analysis of Alternatives (AoA) for NUOPC.
- January 2007, accepted the TT's recommendation to pursue AoA Alternative 2, **Coordinated Research & Development with Coordinated Transition and Operations.**
- Mar 2007 initial Concept of Operations, Implementation Plan, and cost analysis were developed and approved in Oct 2007, funding NUOPC Preliminary Phase I, FY08 to FY10.
- Nov 2007, an NUOPC Interim Project Manager appointed.
- Jan 2008 NUOPC project introduced to the annual convention AMS.
- May 2008 Interim Committees (Common Model Architecture, Technology Transition Processes, and Unified Ensemble Operations) address challenges moving from Phase I to Phase II and Phase III, FY10-FY15.
- Jan 2009 AMS Townhall Meeting on NUOPC Project.
- Aug 2009 Interim Committee reports reviewed, costs for Phase II, FY10-FY12, presented, proposed permanent committees.
- Jan 2010 Permanent Committees working objectives of Phase II.

GOALS

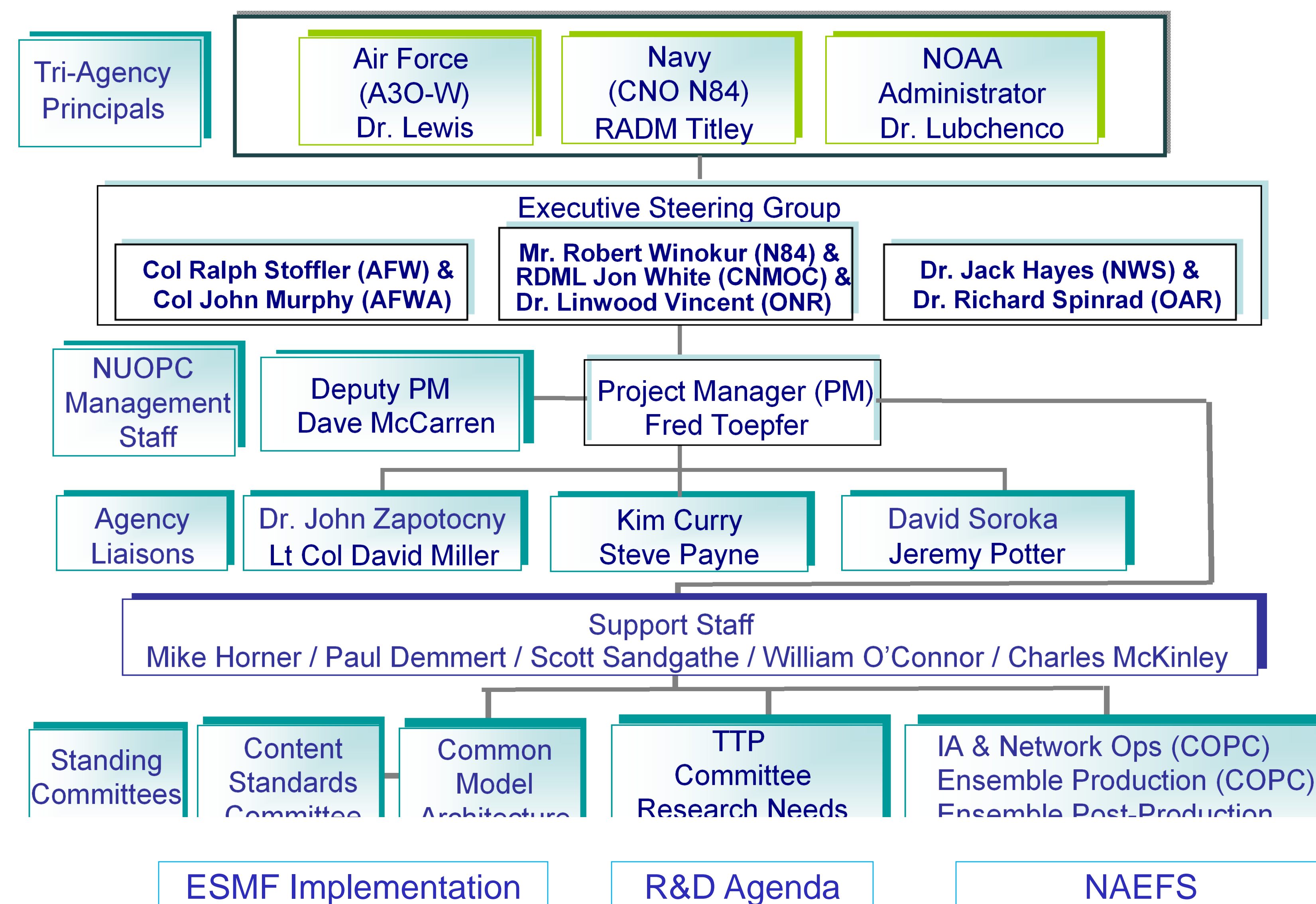
NUOPC proposes to accelerate improvement of our National capability by:

- Implementing a global atmospheric ensemble system designed to enhance predictive capability;
- Clearly articulating operational requirements and a corresponding National research agenda, with initial emphasis on hurricane track/intensity forecasts, joint wind and seas forecasts, and ceiling/visibility forecasts;
- Sharing the predictive burden among the operational agencies;
- Promoting collaboration on development among government agencies;
- Accelerating the transition of new technology into the operational centers;
- Implementing ways to enhance broad community participation in addressing the National research agenda.

VISION

- A National System with a Tri-Agency commitment to address common requirements.
- Multi-component system with interoperable components built upon common standards and a framework such as the ESMF.
- Managed ensemble diversity.
 - Significantly improve forecast accuracy.
 - Quantify, bound, and reduce forecast uncertainty
- Joint ensemble.
 - Produce most probable forecast, e.g. high impact weather.
 - Provide mission specific ensemble products.
 - Drive high-resolution regional/local predictions.
 - Drive other down stream models.
- Establish a national global NWP research agenda to accelerate development and transition.

NUOPC STRUCTURE

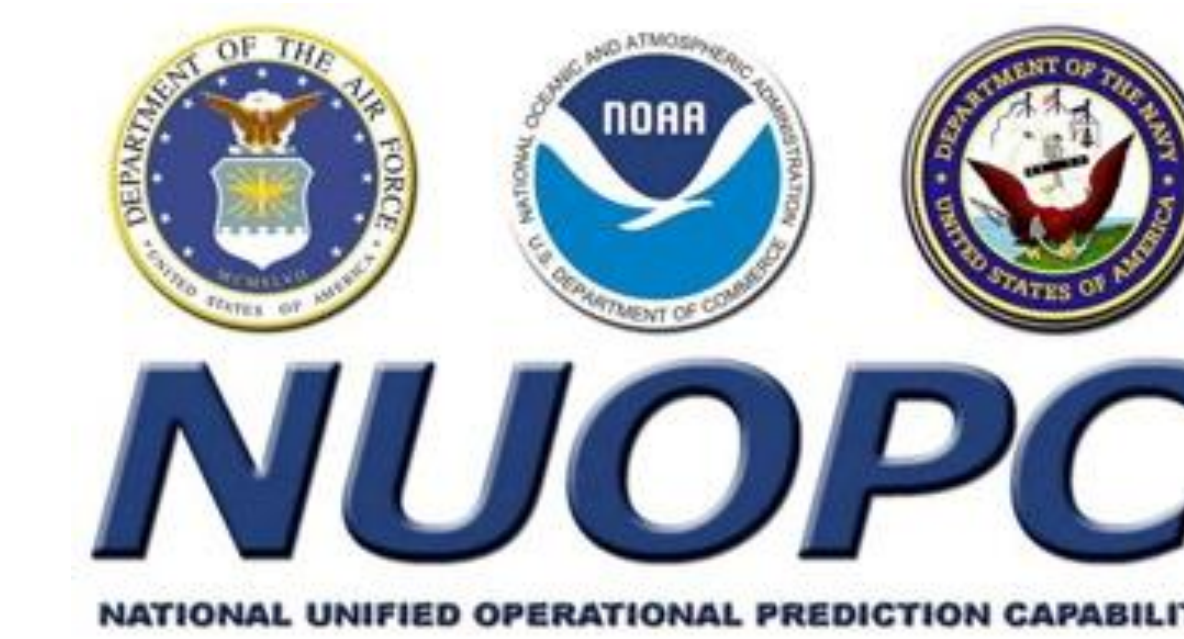


R&D CHALLENGES

Use scientific improvements to advance overall performance:

- Improved Hurricane forecast track & intensity performance.
- Improved performance for NextGen aviation weather.
- Probabilistic basis for improved decision-making.

Manage ensemble diversity so probability density functions capture the total error of the system.
Post-process and develop a new generation set of products.



<http://www.weather.gov/nuopc/>

SCHEDULE

NUOPC Implementation Schedule

