NGGPS Update:
NOAA Testbeds-related Projects

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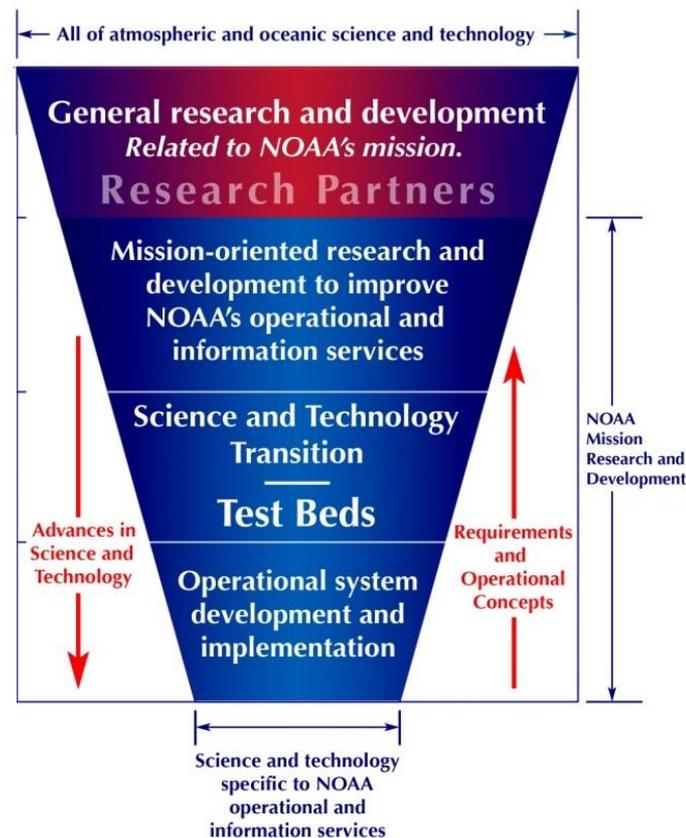**NOAA/National Weather Service**

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Current NOAA TBPG

http://www.testbeds.noaa.gov (thanks to: Rich Lataitis & Barb deLuisi)

Framework for Transition: NOAA and Partners

TBPG Strategy

Role in NGGPS

Conduct testing needed to exploit NGGPS advances for service improvements

- **Testing forecast service impacts for NGGPS prototypes, establish skill baselines/improvement targets**

- **Testing advanced forecaster tools/applications needed to exploit NGGPS in achieving service improvements**

- **Initial Focus Areas for Service Improvements:**

  - **Weeks 3-4 Forecasts**

  - **Days 6-10 Forecasts**

  - **Storm-scale and High Resolution applications (Day 0-3)**

Week 3-4 Forecasts

- **Current gap in explicit forecast products despite widespread user demand; NGGPS to provide basis for high-impact forecast information**
  - **Beginning baseline skill assessments in forecast guidance for significant large-scale events, e.g. hurricane, drought/floods, prolonged heat/cold**
  - **Extending object-oriented evaluation, identification of signal from noise in coupled model/ensemble guidance for reliable, consistent forecast information**
- **TBPG testing forecast service impacts for NGGPS components, coupled system prototypes and feedbacks**

Day 6-10 Forecasts

- **Current NWS detailed forecasts only through Day 7; NGGPS advances in skill/reliability provide basis for extending to Day 10.**
  - **Rapid drop in skill for forecasts of "sensible" weather**
  - **Beginning evaluations of reliable skill in model guidance to be mined for potential useful information for decision support**
- **TBPG engaged in evaluating guidance and translation into consistent, actionable products & services**

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High-impact weather forecasts (Stormscale) for US

- **Current NWS forecasts for high-impact weather including tornado outbreaks, flash floods, major aviation disruptions from thunderstorms do not yet contain the temporal and spatial detail needed to support optimal decision making; NGGPS to provide framework**
  - **Lack of operational guidance from convection-allowing ensembles at high spatial/temporal resolutions**
  - **Beginning to ingest high-resolution, rapidly updating observations from radar; satellites next**
- **TBPG engaged in evaluating guidance and translation into consistent, actionable products & services**

Round I Sponsored Projects: Testbeds-related activities

Focus Area		Project	Outcomes*
Global-scale & extended-range weather applics	Weeks 3-4	Exploitation of Ensemble Prediction System Information in support of Atlantic Tropical Cyclo-genesis Prediction (Thorncroft)	EBS, ATA
		Application of a Hybrid Dynamical-Statistical Model for Week 3-4 Forecast of Atlantic/Pacific Tropical Storm and Hurricane Activities (Schemm)	ATA
	Days 6-10	An Investigation of the Skill of Week Two Extreme Temperature and Precipitation Forecasts at NCEP-WPC (Bosart)	EBS
		Validation of Significant Weather Features and Processes in Operational Models Using a Cyclone Relative Approach (Colle)	EBS
Storm-scale & high-resolution applications Day 0-3		Test and Evaluation of Rapid Post-Processing and Information Extraction from Large Convection 3hr Tornado Outlooks (Correia)	ATA
		Data Mining of High-resolution Storm-scale Data Sets (Smith)	ATA
		Information Extraction and Verification of Numerical Weather Prediction for Severe Weather Forecasting (Jirak)	EBS, ATA
		Improvement of Convective/Severe Weather Prediction through an Integrative Analysis of WRF Simulations and NEXRAD/GOES Observations over the CONUS (Dong)	EBS
Cross-cutting		Incorporation of near real-time Suomi NPP Green Vegetation Fraction and Land Surface Temp data into the NCEP Land modeling suite (Csiszar)	ATA, EBS

* Projected Outcomes: Establish Baseline Skill (EBS), Advanced Forecaster Tools /Applications

Sponsored Projects and Partners

Focus Area	Projects	Principal TB Partners
Week 3-4	Global-scale and extended range weather Thorncroft, Schemm, Csiszar)	Thorncroft: JHT (also EMC) Schemm: CTB Csizar: JCSDA (EMC, NESDIS/STAR)
Day 6-10	Extended range weather (Thorncroft, Bosart, Colle, Csiszar)	Bosart: HMT (also EMC) Colle: HMT (also EMC)
Day 0-3 high impact weather	Storm-scale and high-resolution applications (Correia, Smith, Jirak, Dong, Csiszar))	Corriea: HWT Smith: HWT Jirak: HWT (also EMC) Dong: HWT