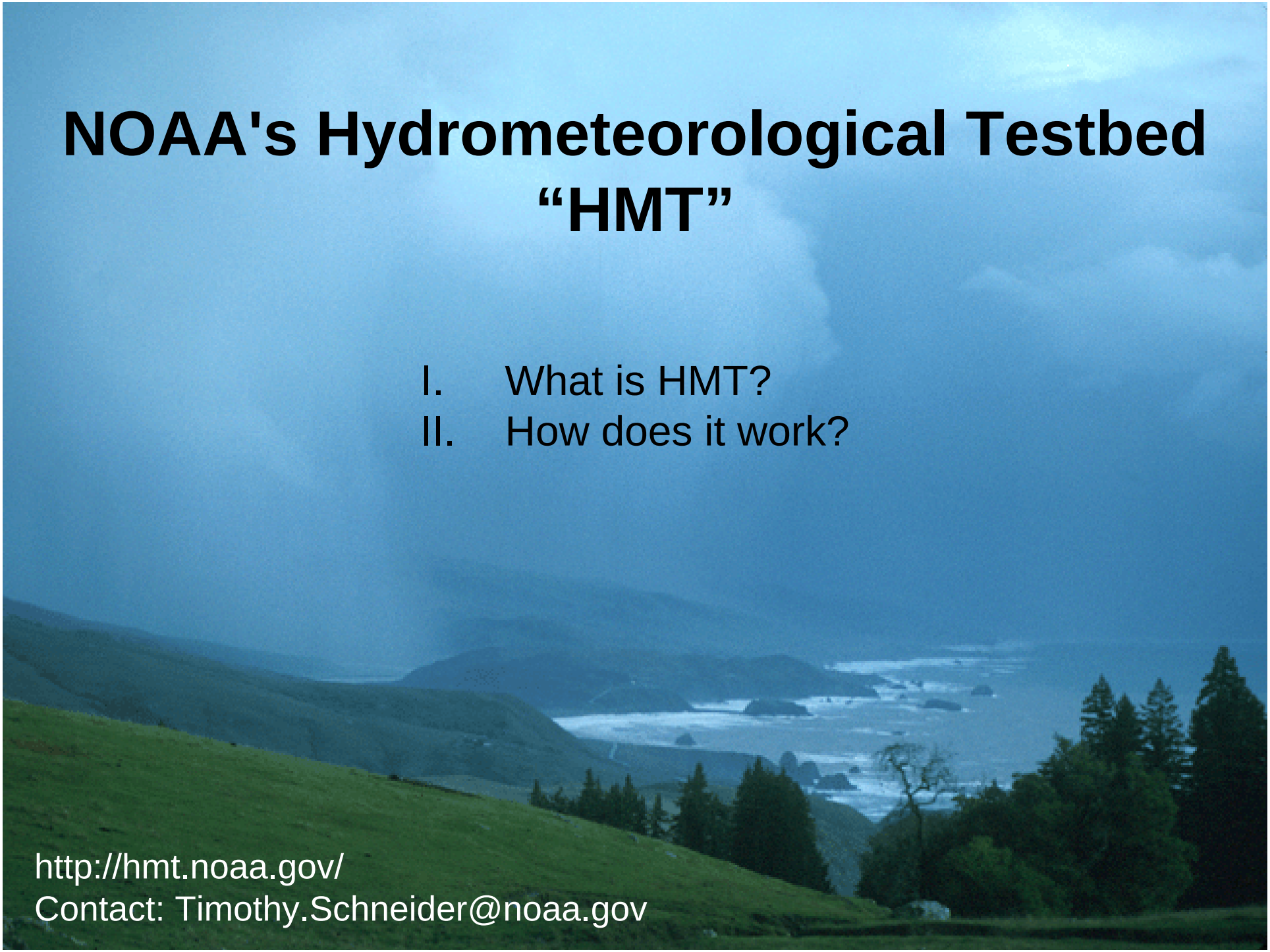


NOAA's Hydrometeorological Testbed "HMT"

I. What is HMT?
II. How does it work?

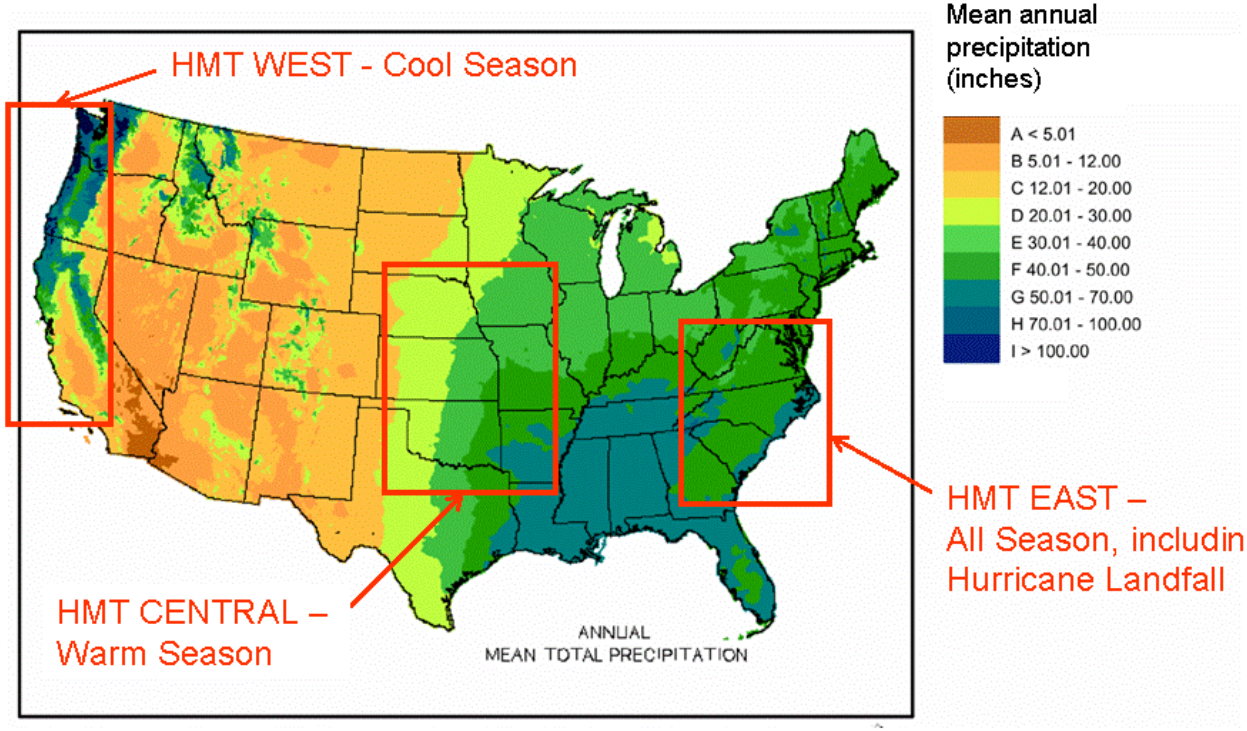
http://hmt.noaa.gov/
Contact: Timothy.Schneider@noaa.gov

NOAA's Hydrometeorological Testbed (HMT) Program

A National Testbed Strategy with Regional Implementation

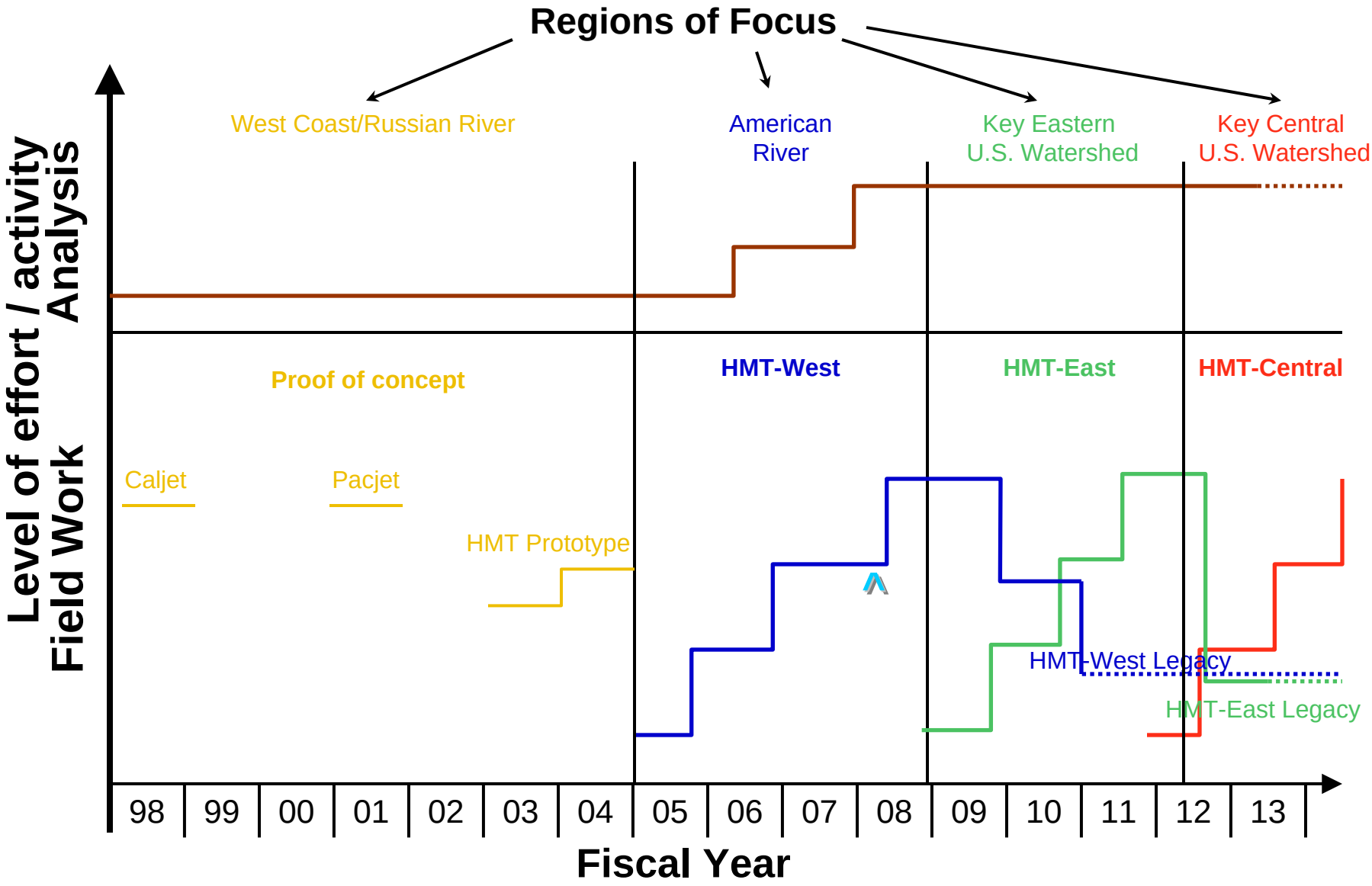
Major Activity Areas

- Quantitative Precipitation Estimation (QPE)
- Quantitative Precipitation Forecasts (QPF)
- Snow level and snow pack
- Hydrologic Applications & Surface Processes
- Decision Support Tools
- Verification
- Enhancing & Accelerating Research to Operations
- Building partnerships



★ Recommended by USWRP ★

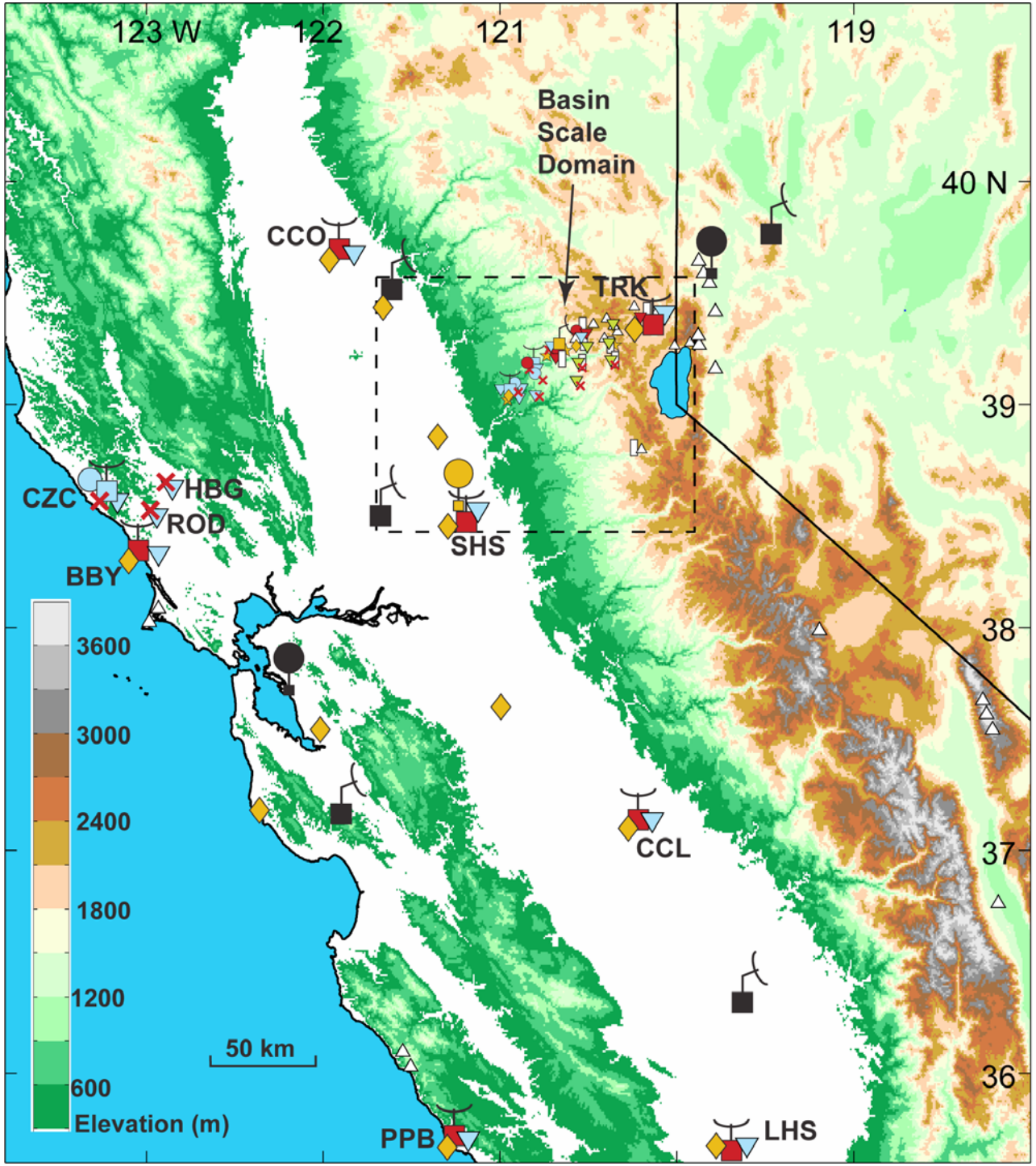
Hydrometeorology Testbed Timeline



NOAA Hydrology Program
(Water Resources Data Assimilation)

NOAA Science and Technology Infusion Program
(Hydrometeorology Testbed)

HMT-West 2008 Regional Scale Map



- X-band Polarimetric Doppler Radar
- 915 MHz Profiler
- GPS IWV
- GPS Sonde
- S-band Profiler
- Impact (JW) Disdrometer
- Optical (Pars.) Disdrometer
- Soil Moisture
- Sfc Met & TB Precip Gauge
- Hot Plate Precip Gauge
- ETI Precip Gauge
- Stream Level Logger
- Snow Depth
- WRCC Surface Network
- NWS Rawinsonde
- NWS WSR-88D

NWS Hydrology STIP

The HMT Concept

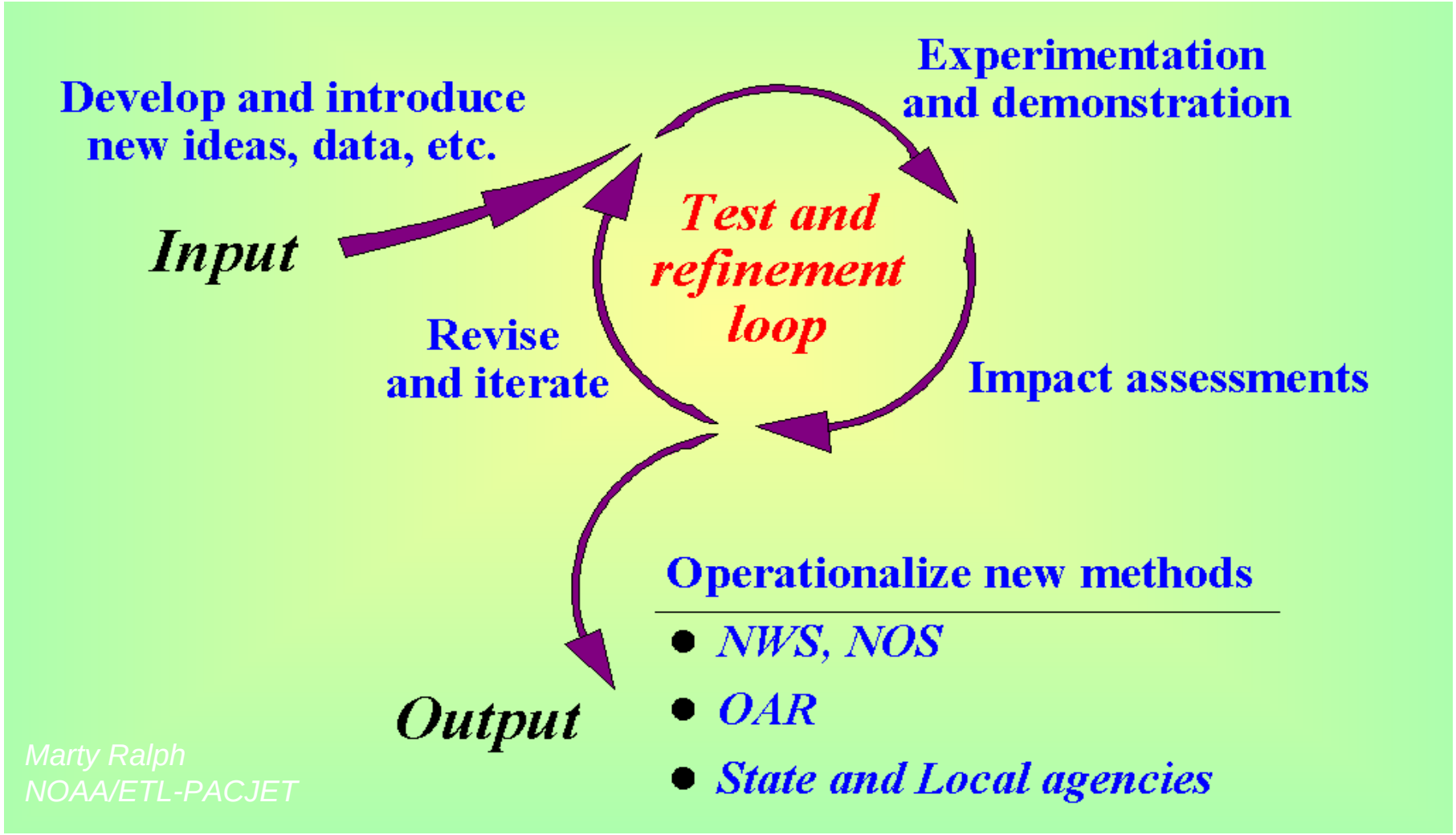
Testbed as a Process

- As NOAA considers the future of its integrated regional, surface, and tropospheric observing systems (information online at www.nws.noaa.gov/ost/STIP2004.pdf), it faces a key question addressed by this workshop—how to optimize the development and deployment of new measurement systems so as to strengthen the mesoscale observation and prediction capabilities over the United States. Test beds can point the way toward filling this need, and, thus, they became a major focus of the workshop.
- Test beds defined. The TBWG developed the following consensus definition of a test bed (Fig. 1):
  - A testbed is a working relationship in a quasi-operational framework among measurement specialists, forecasters, researchers, the private sector, and government agencies aimed at solving operational and practical regional _____ problems with a strong connection to the end users. Outcomes from a testbed are more effective observing systems, better use of data in forecasts, improved services, products, and economic/public safety benefits. Testbeds accelerate the translation of R&D findings into better operations, services, and decision-making. A successful testbed requires physical assets as well as substantial commitments and partnerships.

From: Dabberdt et. al. 2005 "MULTIFUNCTIONAL MESOSCALE OBSERVING NETWORKS" Bull. Amer. Meteor. Soc. pp. 961--982

The HMT Concept

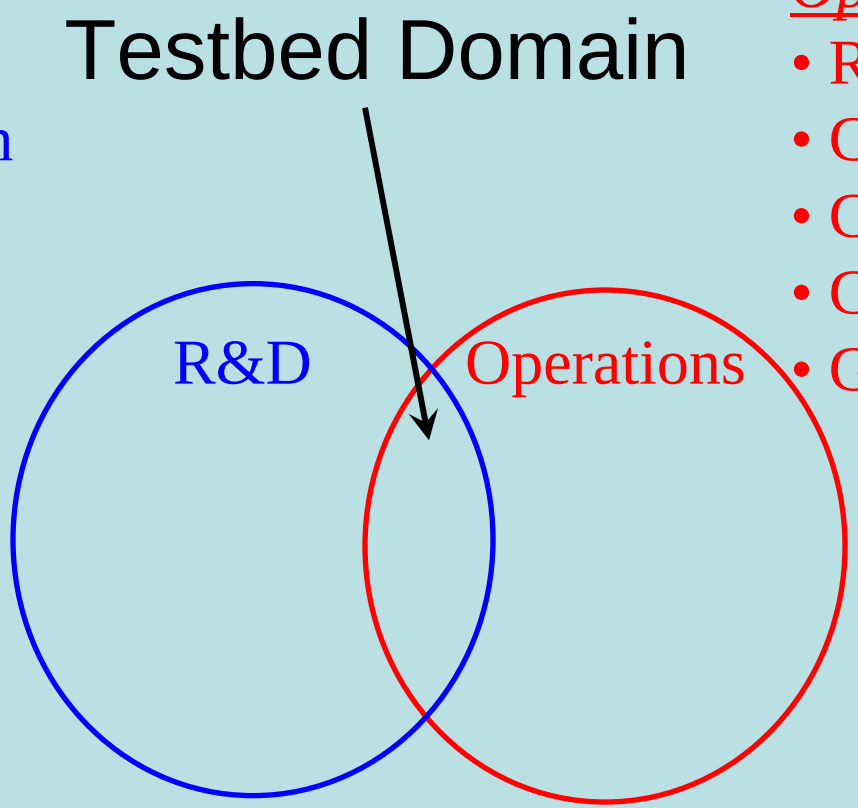
Testbed as a Process



See: Dabberdt et. al. 2005 Bull. Amer. Meteor. Soc.

R&D and Operational Perspectives:
Observing Systems

R&D Priorities
- Exploratory
- Higher Resolution
- Multi-Sensor
- New Variables
- Publication



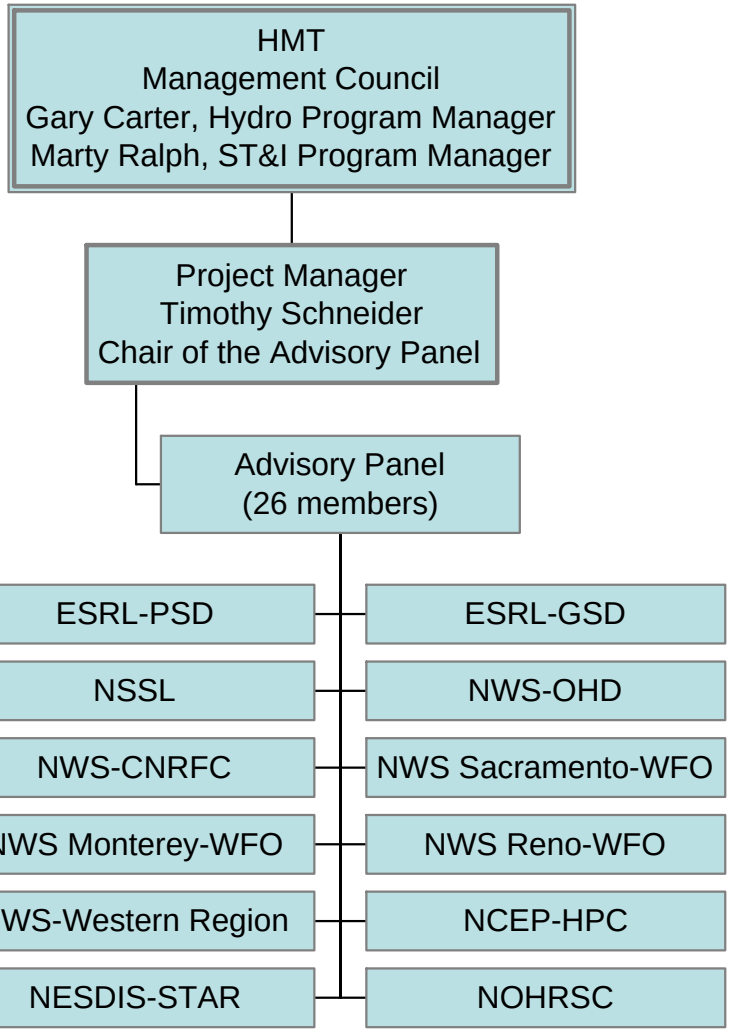
Operational Priorities
- Reliability
- Cost Effectiveness
- COTS (plug n' play)
- Continuity
- GPRA Measures

Basic R&D → Improved User Decisions

"Culture"

Building Partnerships

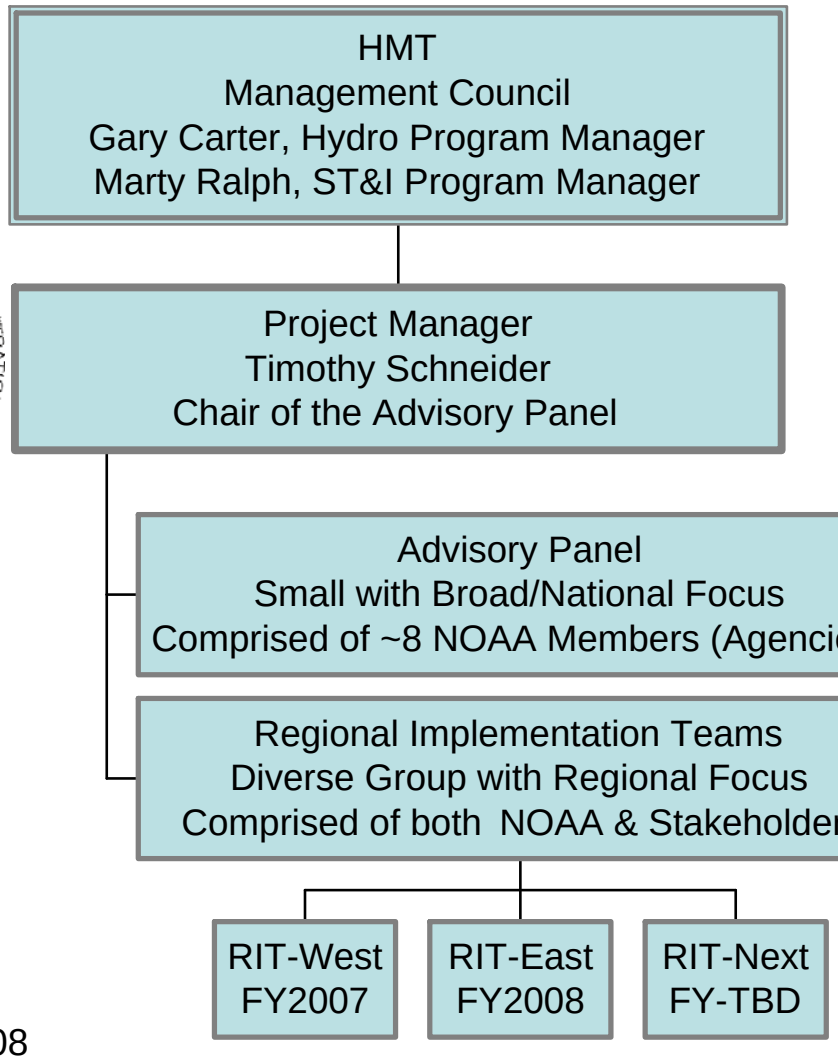
Current Structure



- A critical element: engaging local, state and federal stakeholders…
- Changes to Advisory Panel Pending:
  - Smaller panel with National focus
  - Standup "Regional Implentation Teams" (regional focus; give voice to non-NOAA partners)

Building Partnerships

Proposed Structure



- A critical element: engaging local, state and federal stakeholders…
- Changes to Advisory Panel Pending:
  - Smaller panel with National focus
  - Standup "Regional Implentation Teams" (regional focus; give voice to non-NOAA partners)

The Process

Planning

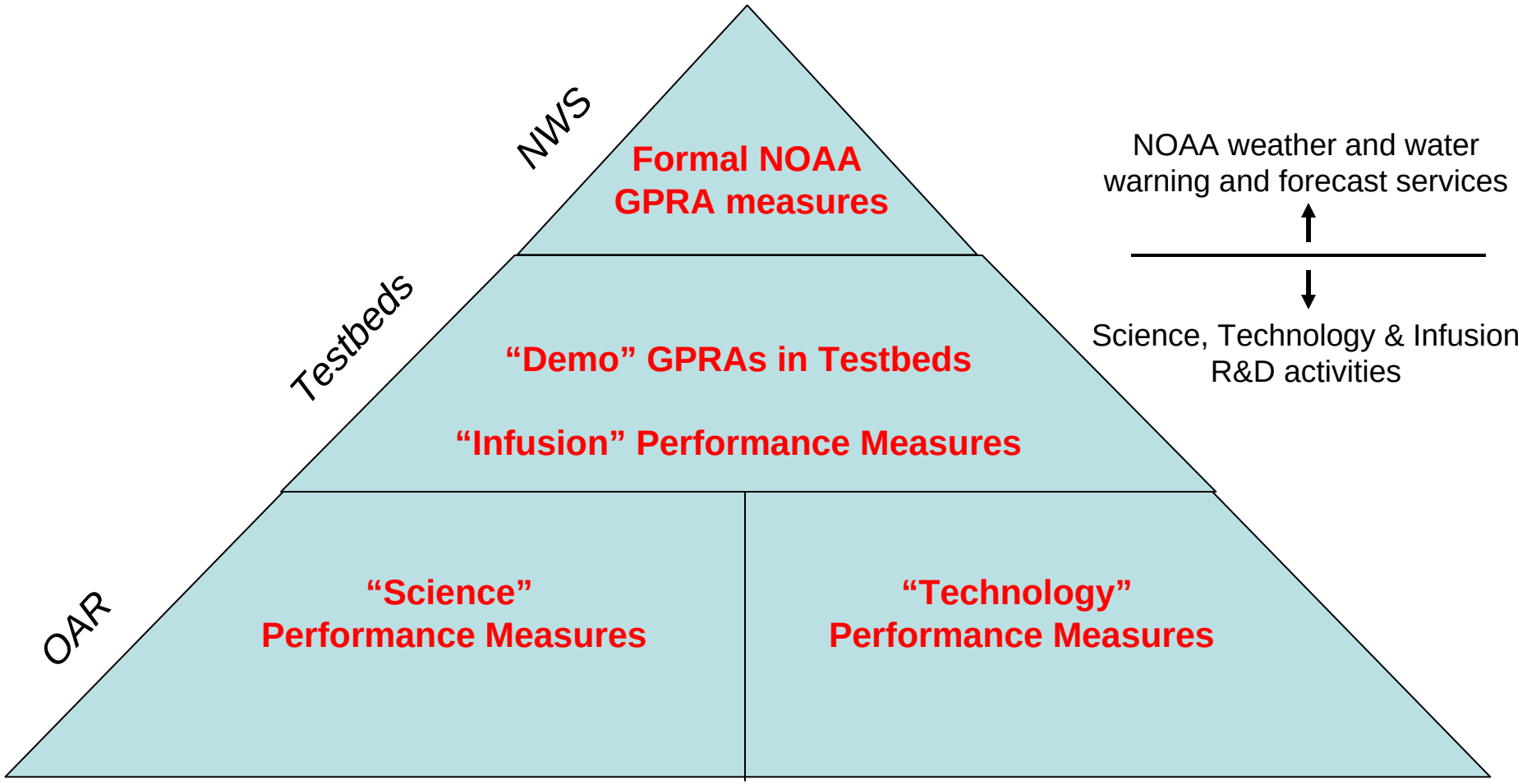
- Build consensus in Advisory Panel
- Send recommendations to Management Council
- Monthly calls
- Annual meetings
- Workshops

Execution

- Assessment: Spring
- Preparation: Summer-Fall
- Deploy: Fall
- Daily coordination calls
- Crew deploys as needed (IOPs; cost savings)
- Automated instruments; real-time displays

Performance Measures Help NOAA Testbeds Link Science and Technology Advances To Service Improvements

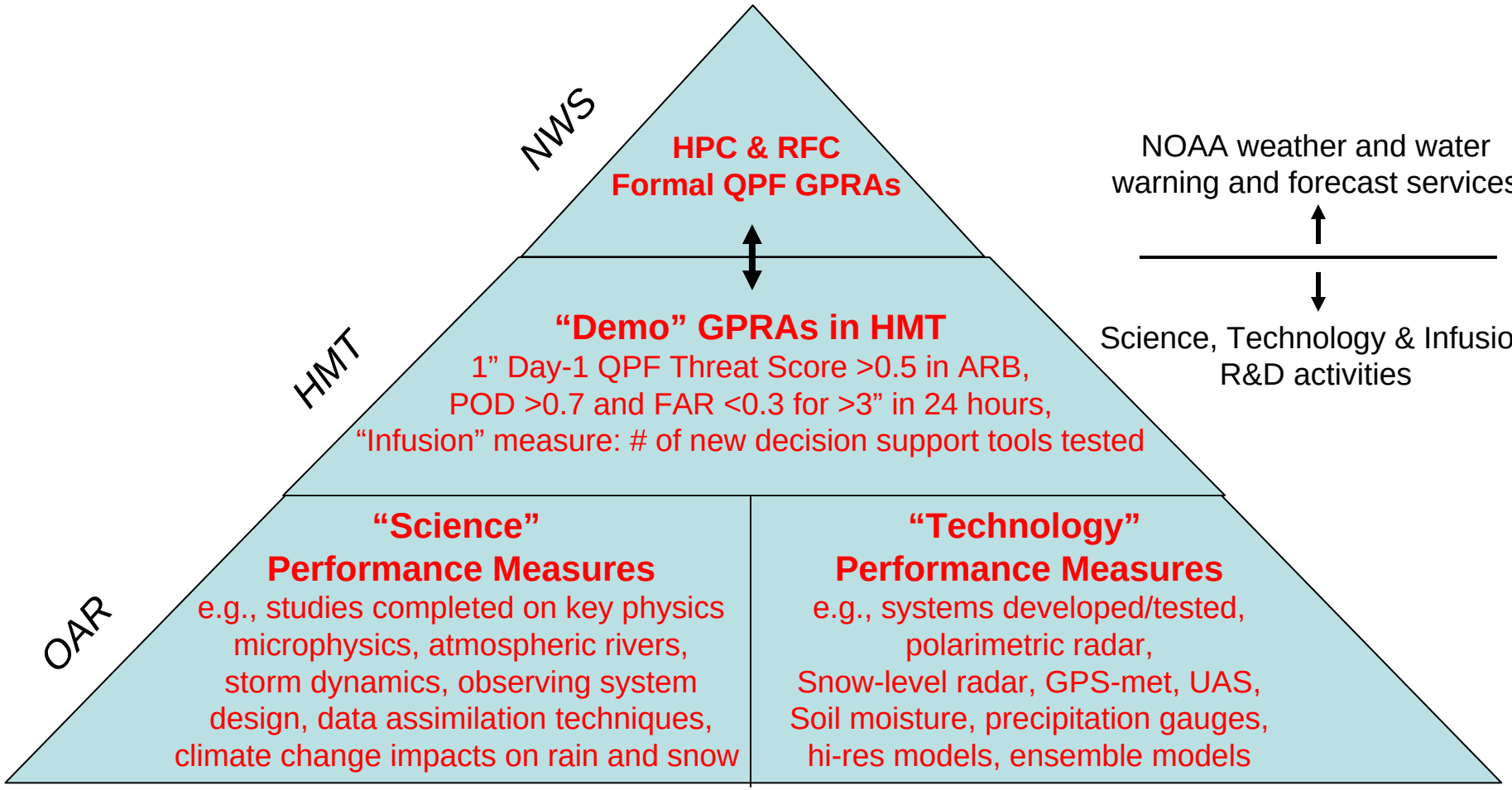
NOAA's Testbeds provide a framework to accelerate improvements in existing NOAA Corporate GPRA* measures and to develop new GPRA measures.



*GPRA: Gov't Performance Requirements Act: Congress requires annual reports from NOAA on these measures.

Performance Measures Help HMT Link Science and Technology Advances To Service Improvements

HMT provides a framework to accelerate improvements in existing NOAA Corporate GPRA* measures and to develop new GPRA measures.



*GPRA: Gov't Performance Requirements Act: Congress requires annual reports from NOAA on these measures.