Role of GPM in NOAA Testbeds

Research to Operations Strategy

Develop and introduce new ideas, data, etc.

Experimentation and demonstration

Test and refinement loop

Input

Revise and iterate

Impact assessments

Operationalize new methods
- *NWS, NOS*
- *OAR*
- *State and Local agencies*

Output
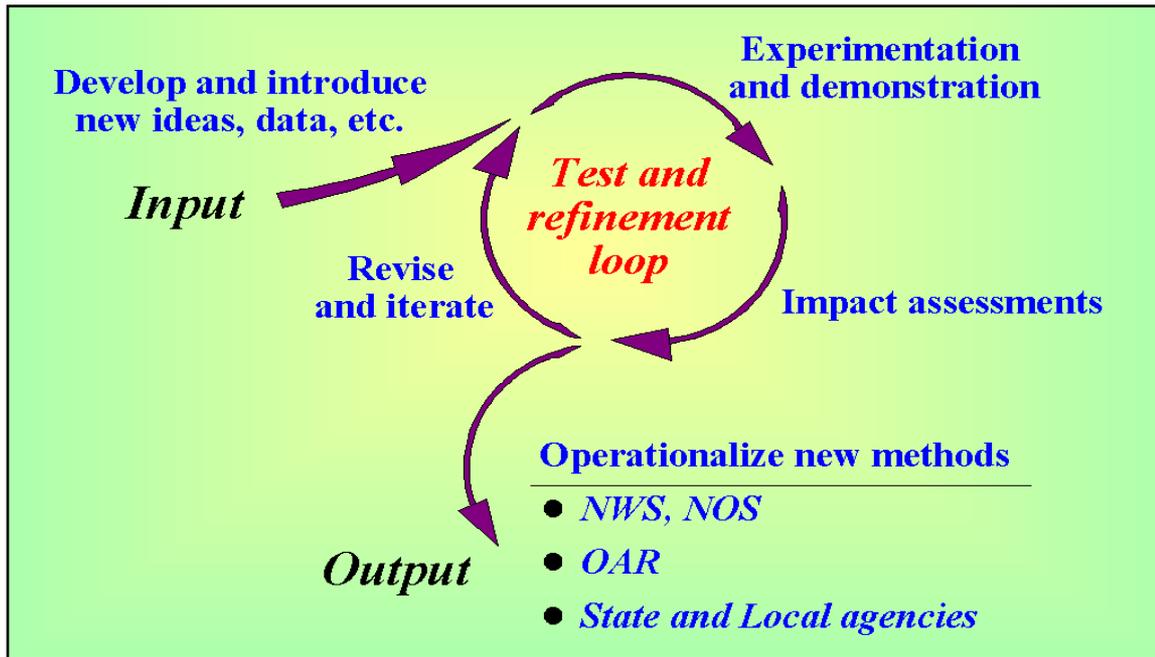
- Develop prototype tools and methods

- test new ideas – provide a conduit to link research to operations

- Engage with operational community to determine needs, assess/improve prototypes

GPM Data in the Hydrometeorology Testbed (HMT)
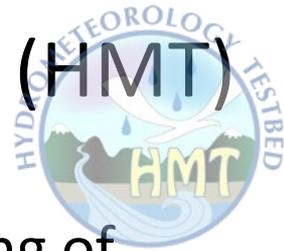
- HMT conducts research aimed at improved understanding of precipitation physical processes and improving precipitation estimates (QPE) and forecasts (QPF), with emphasis on extreme precipitation

- Currently TRMM data (3B42) used to improve precipitation analysis and downscaling (time and space)

- HMT can serve as a "proving ground" to test and improve multi-sensor precipitation estimation (QPE)
    - HMT-West (cold season – stratiform rain/snow)
    - HMT-SE (warm season convection/tropical systems)

- GPM data needed for validation and algorithm improvement

QPE Proving Ground Concept

Satellite Input

MW · IR · Radar

Radar Input

Stage IV · Q2 · Stage II

Gauge Input

ALERT · HADS · Other

Evaluation Step

Data Fusion System (MPE, CMORPH..)

Role for GPM data
- Product Validation
- Data Fusion Development

Evaluation Step

Impact on Hydrologic Runoff

Evaluation Step