

Testbed Projects and Planning

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Planning a successful testbed

- Lessons and Best Practices from the Hazardous Weather Testbed
 - Multi-year, multi-group effort
 - Partnerships are key
 - Solid experiment design
 - Good resource management
 - Targeted, strategic experiment ideas
 - Willing to take risks
 - Trial and error, learn from mistakes
 - Forecast staff buy-in a *must*
 - Explore new ideas, both internal and external
 - Listen to the community

Goals and Visions

- Dream BIG!
 - Think of other examples of successful “testbeds”
 - Lockheed-Martin “Skunkworks”
 - Google Earth via Google
- Think INNOVATIVE!
 - New forecast tools
 - Emerging technologies
 - Web-savvy displays (Java, Flash)
 - 3-D Visualization
 - GIS
 - Decision-making tools, new GUIs

Technical Lessons

- Model data sets are growing *rapidly*
 - 2009 HWT experiment: 100 GB *per day*
 - Plans for much more on the horizon
- Any weather testbed needs to consider:
 - Planning for increased network bandwidth
 - Planning for disk space issues and archival
- Hefty workstations
 - AWIPS-2 is fast approaching
 - Lots of RAM and powerful video cards

Research Lessons

- Determine what will integrate into operations
 - Narrow down experiment focus
 - Start planning early
 - Create an environment for innovation
 - Be careful of accidental roadblocks
- Publications are important for academic partners
 - Foster co-author relationships
 - Academic conference presence
 - Feedback and communication

Strategic Experiments

- Targeted, strategic experiments work best in R2O process
 - Good:
 - Evaluation of new model parameters
 - Feedback to model developers
 - Better:
 - Integration of a new data set into forecast operations
 - Increased forecaster awareness of experimental data
 - Best:
 - Development of a new forecast tool or method
 - Ultimate translation directly into forecast products

Long-Term Benefits

- Local impact
 - Increased R2O productivity
 - Forecaster training and knowledge
 - Staff invigoration from new ideas
- Community impact
 - Strengthened partnerships
 - Enthusiasm for new ideas
- National impact
 - Saved lives and property
 - Economy

Making the AWT a success

- Partnerships are *key*
 - Government – Hazardous Weather Testbed
 - Integration into forecast operations
 - Integration into Nextgen
- Academic
 - Research papers
 - Exposure to unique R2O process
- Important scientific topics
- Ensemble models and tools
- New algorithms, association with high res models

We need your help!

- What are your needs?
 - Technical
 - Scientific
 - Experiment design
 - Research to Operations
 - Publications
- Overcoming challenges together
 - Funding (5% budget cut FY11)
 - Do more with less, make smart decisions
 - Create a national impact