Science Infusion

Jack Kain
Hazardous Weather Forecasts & Warnings
NOAA Hazardous Weather Testbed

- A unique forum for collaboration between researchers and practitioners…

Two Main Program Areas…

Experimental Warning Program

Experimental Forecast Program
Establishing the “Culture of Collaboration”
A glance at pioneering Collaborative Projects between NSSL and WFO-OUN…the incipient EWP branch of the HWT
Arrival of the SPC…

Spring Experiments…

The EFP branch of the HWT

1997 2000 - 2001

2006 2007 - 2008

SE SE SE SE

SPC Arrives…Spring Experiments begin…

SE 2002

SE 2003

SE 2004 - 2005

SE 2006

SE 2007 - 2008

Winter Weather Experiment

Convective parameterization

IHOP forecasting support

Convection-Allowing WRF model forecasts

Convection-Allowing ensembles

Mesoscale Ensembles
The annual Spring Experiment

- A 6-8 week experiment conducted each spring to evaluate emerging scientific concepts and tools in a simulated operational forecasting environment

...Scenes from SE2008...
### NOAA Agencies
- NCEP/AWC (2)
- NCEP/EMC (3)
- NCEP/HPC
- NCEP/SPC (9)
- NWS/BTV
- NWS/LWX
- NWS/MAF
- NWS/OCWWS

### Universities
- NWS/OUN
- NWS/RAP
- NWS/SLC
- NWS/SRH
- OAR/NSSL (5)
- OAR/GSD (3)
- OAR/PSD
- Albany-SUNY (2)
- Arizona (2)
- Colorado State
- Iowa State
- North Carolina State (4)
- Oklahoma (2)
- Penn State
- Purdue (2)
- UNC-Charlotte
- York (Ontario)

### Gov’t Agencies
- NCAR (5)
- Environ. Canada (6)
- UK Met Office
- USRA (Huntsville)

### Private Sector
- Merrill Lynch
- FirstEnergy
Establishing our own paradigm for science and technology infusion…

What do Forecasters need?
Establishing our own paradigm for science and technology infusion…

Perform research, communicate results…
Establishing our own paradigm for science and technology infusion…

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NCEP operational forecast

NSSL parallel experimental forecast

\textit{Transfer technology…}
Establishing a “grass-roots” infusion paradigm…

Publish results…  At least 24 NSSL-SPC co-authored, refereed publications since 2000
"The WRF-NMM4 provided very useful input regarding the mesoscale organization and character of storms...I used it to help delineate where/when watches would be required.”  

*John Hart - SPC Day Shift Lead Forecaster*
Questions??