Unidata Policy Committee
NOAA/NWS Update

May 23, 2011
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Chief Training Division
Office of Climate, Water, and Weather Services
NOAA’s National Weather Service
Outline

- NOAA Budget
- NOAA Climate Service Status
- NOAA Renewable Energy
- MADIS Status
- NWS Forum on Wireless Weather Services (June 28th)
- NOAA Data Growth
- AWIPS II
- NEXGEN & 4D Cube
NOAA Budget – FY 11

• $ 4.5 Billion budget (year long CR, not line item budget)
• $ -1.0 Billion below President’s request
• $ - 227 Million below FY 10
• NOAA must submit a spend plan by June 15 to Congress
• Spend plan to address not receiving $1.1Billion for Joint Polar Satellite System
• Hall amendment – no funds may be used to implement, establish or create a NOAA Climate Service (limitation expires 09/30/11)
  • Note a proposal to establish a NOAA Climate Service was part of President’s FY 12 budget submission
• NCS. users will obtain easy and timely access to the nation’s trusted data and information about the current state of the climate system in context with the past.
Renewable Energy

- NOAA signed a MOU with Department of Energy (DOE) to spur collaborative work on weather-dependent and oceanic renewable energy.

- DOE funding NOAA to perform the WindForecast Improvement Project (WFIP), a year longfield campaign in northern Plains and west Texas starting this summer.

- NOAA has $2M in the FY12 Presidential Budget to perform studies on improving wind characterization and forecasts in the planetary boundary layer in support of wind energy. Additional field tests are expected (both onshore and offshore) as well as in complex terrain.

Renewable Energy…cont’d

- NOAA is involved in Renewable Energy across the spectrum of our capabilities:
  - Participating in the Offshore permitting process which includes environmental assessments and protection of native species and habitats
  - Research into improving characterization and prediction of onshore/offshore winds, solar, and marine hydrokinetics (e.g., power from waves, currents, tides)
  - Provision of numerical forecasts that serve as the basis for private sector customization for power generation and integration decision making.
MADIS Status

• Initial Operating Capability (IOC) achieved by NWS in September, 2010.
• IOC MADIS feed through NWS Telecommunications Operations Center (TOC) Gateway
• Both NWS and GSD currently supporting MADIS feeds.
• GSD running MADIS archives from 2001.
• Complete transition of Full Operating Capability (FOC) to NWS in 2013-2015 (budget dependent)
• FOC Archives in NCDC- seamless access
Goals

• Engage NWS, private sector, and core partners in discussions on how best to provide wireless environmental information services.

• Solicit feedback on most appropriate role for NWS in providing wireless weather services.

Discussion Areas

• How can the enterprise best serve the needs of NWS core partners?

• How can the enterprise best serve the needs of general public?

• What does the private sector need from NWS to support development of low cost wireless weather services?
# Current and Future NOAA Data Rates

<table>
<thead>
<tr>
<th></th>
<th>Today's Data Rates</th>
<th>Future Data Rates (projected)</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Total Available</td>
<td>Total on AWIPS</td>
<td>Total Available</td>
</tr>
<tr>
<td>Satellite</td>
<td>86 Mbps</td>
<td>1.5 Mbps</td>
<td>741 Mbps</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>500 Mbps</td>
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<td></td>
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<tr>
<td>Model</td>
<td>68 Mbps</td>
<td>6 Mbps</td>
<td>612 Mbps</td>
</tr>
<tr>
<td>Radar</td>
<td>3.9 Mbps (Lev 2)</td>
<td>2 Mbps</td>
<td>9 Mbps (Lev 2)</td>
</tr>
<tr>
<td></td>
<td>2 Mbps (Lev 3)</td>
<td></td>
<td>9 Mbps (Lev 3)</td>
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<tr>
<td>Other (e.g. mesonets)</td>
<td>0.4 Mbps</td>
<td>0.3 Mbps</td>
<td>0.5 Mbps</td>
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<tr>
<td>Total</td>
<td>160 Mbps</td>
<td>10 Mbps</td>
<td>2372 Mbps</td>
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Data Requirements
Assumptions

Data Available to AWIPS, NCEP, and the Gateway

Environmental Data Distribution (Mbps) within NWS vs. Calendar Year

* Note: Volume of other products (e.g. METARS) is negligible
Broad Scope for Environmental Data Stewardship

- ~150 Research & Operational Observing Systems
- ~4-5 Petabytes of data/year (~15 Pb total)

Data Management Challenges are Changing

- No longer just about data volume
- Data discovery and integration
- Data stewardship and information

Prepared by Environmental Data Management Committee for NOAA Leadership
WFO AWIPS Status

• Last 2 major software releases, all “bug” fixes, and local applications migration scheduled to be completed by June 30 *(both behind schedule)*

• Field OT& E (WFO’s using AWIPS II operationally) to begin in July *(behind schedule due to ongoing “software bugs”, slower than expected local application migration, and workstation stability and performance – which has limited testing of full WFO functionality and backup operations)*

• Goal is to make 1 WFO “deployed” by end of FY 11 – Full deployment phased in during FY 12
Actuals as of (05/02/11)

- 19 net DR increase, (v.s. 44 planned decrease)
- 3 wk. rolling avg. = xx net decrease per week
- 2.23 DR’s per person per week, for current wk.
  - 1.41 wk. ending 04/22, 1.72 wk. ending 04/15
- Raytheon staff: 39 (unchanged from 6/28/10)
- 87 DR’s fixed last week. Avg. 70/wk, last 3 wks.
  - 55 wk. ending 04/22, 67 wk. ending 04/15
- 29% rework rate (13 failed DR’s out of 45 tested)
  - 10% wk. ending 04/22, 19% wk. ending 04/15
- 9 New DR’s last week Avg. 18/wk, last 3 wks
  - 28 DRs wk ending 04/22, 16 DRs wk. ending 04/15
Local Applications to Migrate - Field OT&E
April 29, 2011

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<th># of apps</th>
<th>Planned</th>
<th>Actual</th>
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<tr>
<td>1/7/2011</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>2/7/2011</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>3/7/2011</td>
<td>400</td>
<td></td>
</tr>
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<tr>
<td>7/7/2011</td>
<td>0</td>
<td></td>
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Open

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<tr>
<th>Total</th>
<th>In Progress</th>
<th>Test</th>
<th>Cancel (i.e. Dup, OBE)</th>
<th>Complete</th>
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<tr>
<td>January 28, 2011</td>
<td>549</td>
<td>0</td>
<td>0</td>
<td>44</td>
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<tr>
<td>April 29, 2011</td>
<td>365</td>
<td>50</td>
<td>25</td>
<td>56</td>
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<tr>
<td>Net Change</td>
<td>-184</td>
<td></td>
<td></td>
<td>+12</td>
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Current Full AWIPS II Migration Schedule

Fiscal Year is from October to September

NATIONAL MIGRATION
- National OT&E
- National Deployment / Installation

NAWIPS MIGRATION
- Centers Evaluate Incremental Migration SIB Releases
- Development cycle w/ RTS Releases
- Center Application & Script Migration
- Operational Testing & Evaluation Planning

- Forecaster Integration Testing (FIT)
- NC Field OT&E (w/ AWIPS1 migration signoff)
- NC Field OT&E (w/ NAWIPS migration signoff)
- NC Training Plans
- NC Training
- COOP Planning for NCs
- COOP in Place for NCs
NEXGEN & 4D Cube Issues

- Role of Forecasters “over the loop” given 5-15 minutes refresh rates?
- How to determine the Single Authoritative Source?
- Intended to be Open Source Project
- How will interface to external world be managed to other gov, private sector and academia?
- What role will Unidata have?
- How will AWIPS2 evolve into the 4D cube?
- Technical implementation schedules are budget dependent