Future Decision Support System Activities

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Review of Current DSS Activities

• Currently supported
  – AWIPS I
  – NAWIPS
  – Web/KML

• New Platforms
  – AWIPS II
  – AWIPS II National Centers Perspective (NCP)

• Future DSS
  – Open GIS Consortium (OGC) Application
  – Mobile Phone
Motivation

• Assess trends in DSS
• Identify potential growth areas
• Use technologies to consolidate data
• We have identified the following platforms to maximize impact:
  – Open GIS Consortium (OGC) systems
  – Mobile Devices
• Development cannot compromise existing end-users
Trends in Support by DSS

Number of end-users vs Time

- AWIPS I
- AWIPS II
- NAWIPS-I
- OGC/Mobile Devices
- AWIPS II NCP
- Web
AWIPS II DSS Trends

• AWIPS II is extensible, which provides opportunities for:
  – New data
  – New tools

• Explore Data Delivery technology in AWIPS II to deliver products
  – Current delivery of data:
    • Requires “backdoor” method
    • Requires significant end-user bandwidth
    • Causes extra layer of troubleshooting for setup and maintenance
  – Allows subscription
  – Data can be delivered via SBN or AWIPS WAN
  – Extends products to incident meteorologists
  – Goal is to fully use Data Delivery Technology
Open GIS Consortium (OGC)

• Develop Open Standards with Geospatial datasets
• Extends SPoRT data to users that utilize tools such as:
  – ArcGIS
  – Web Mapping Services
• Adhere to OGC Standards
  – Web Mapping Service (WMS)
  – Web Feature Service (WFS)
OGC Enabled Applications

• Many DSS can import OGC standard data
• SPoRT has developed a OGC data service: Web Mapping Service
• End-to-end system based on:
  – Standard web architecture
  – Cloud based architecture
• Developed framework for web and mobile device development

SPoRT SST composite product in OGC compliant viewer
Web Based Data Delivery

- Provide core infrastructure to support web and mobile clients as well as OGC DSS
- Build web displays based on WMS
- Utilize tile caching of the WMS to provide responsive service
# Products on WMS

## Real-time Data:
- GOES East Imager
  - LWIR
  - VIS
  - WV
- MODIS RGB (Terra and Aqua)
  - True color
  - Airmass
  - Dust
  - Nighttime microphysics
  - False color

## Disaster Support:
- MODIS
  - True Color (500 m)
  - NDVI (250 m)
  - NDVI Change (250 m)
- VIIRS
  - True Color (750 m)
  - NDVI (375 m)
  - NDVI Change (375 m)
  - DNB Anomaly (750 m)
- ASTER
  - False Color (15 m)
  - NDVI (15 m)
  - NDVI Change (15 m)
- Landsat 7
  - False Color (30 m)
  - NDVI (30 m)
  - NDVI Change (30 m)
  - Panchromatic (15 m)
- Landsat 8
  - False Color (30 m)
  - NDVI (30 m)
  - NDVI Change (30 m)
  - Panchromatic (15 m)
- ISERV
  - True Color (5 m)
- Worldview-1
  - True Color (1 m)
  - Panchromatic (0.5 m)
- Worldview-2
  - True Color (1 m)
  - Panchromatic (0.5 m)
- SPOT-5
  - False Color (5 m)

## Case data:
- Landsat 8
  - False
  - True color
- MODIS
  - True color
- VIIRS
  - Day/night band
- ASTER
  - NDVI
  - NOAA Blackmarble

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http://1.usa.gov/1ohRHIB

http://wms1.nsstc.nasa.gov:8080/geoserver/gwc/service/kml/SPoRT:realtime_modis_conus_aqua_truecolor.png.kml
Summary

• AWIPS II provides potential growth area
• Producing products in OGC standards can help deliver products to new end-users using many applications
• SPoRT has core web mapping infrastructure already in place
• Web and mobile devices represent large opportunity to reach end-users
• More about this in the presentation:
  – Disaster Response: Applications of Web Mapping Service to Mobile Devices
Questions