



2A.4

AWIPS-II Data Delivery Paradigm

A New Approach to Data Acquisition

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AMS, New Orleans
January 23, 2012



Outline



- Motivation for AWIPS-II Data Delivery
- CONOPS - Key Features
- GSD Objectives
- Data Delivery Components and Descriptions
- Data Delivery GUI Screenshots
- NOAA booth hours for demos



Motivation for Data Delivery

New/Enhanced Data Services

Higher
Resolution
Numerical
Models

GOES-R,
NPP/JPSS

NEXRAD/Dual
Polarization

Access to Model
Ensemble
Members

PROBLEM:
Current Infrastructure Cannot
Support Additional and
Enhanced Data



Concept of Operations

Key Features



- Allow AWIPS-II users to access data not routinely delivered via SBN
- Use “Smart” push/pull technologies for users to request
 - On an ad-hoc basis
 - Through subscription services
- Enable users to temporally, spatially, and/or parametrically subset datasets
 - Reduces bandwidth
 - Reduces data processing at receiving AWIPS sites
- Data Provider Strategy
 - **Work with data providers to support AWIPS II requirements; Services will be compliant with OGC standards, e.g., WFS, WCS.**
- Smart bandwidth management, using all infrastructure
 - AWIPS WAN delivery
 - Data Delivery channel on SBN

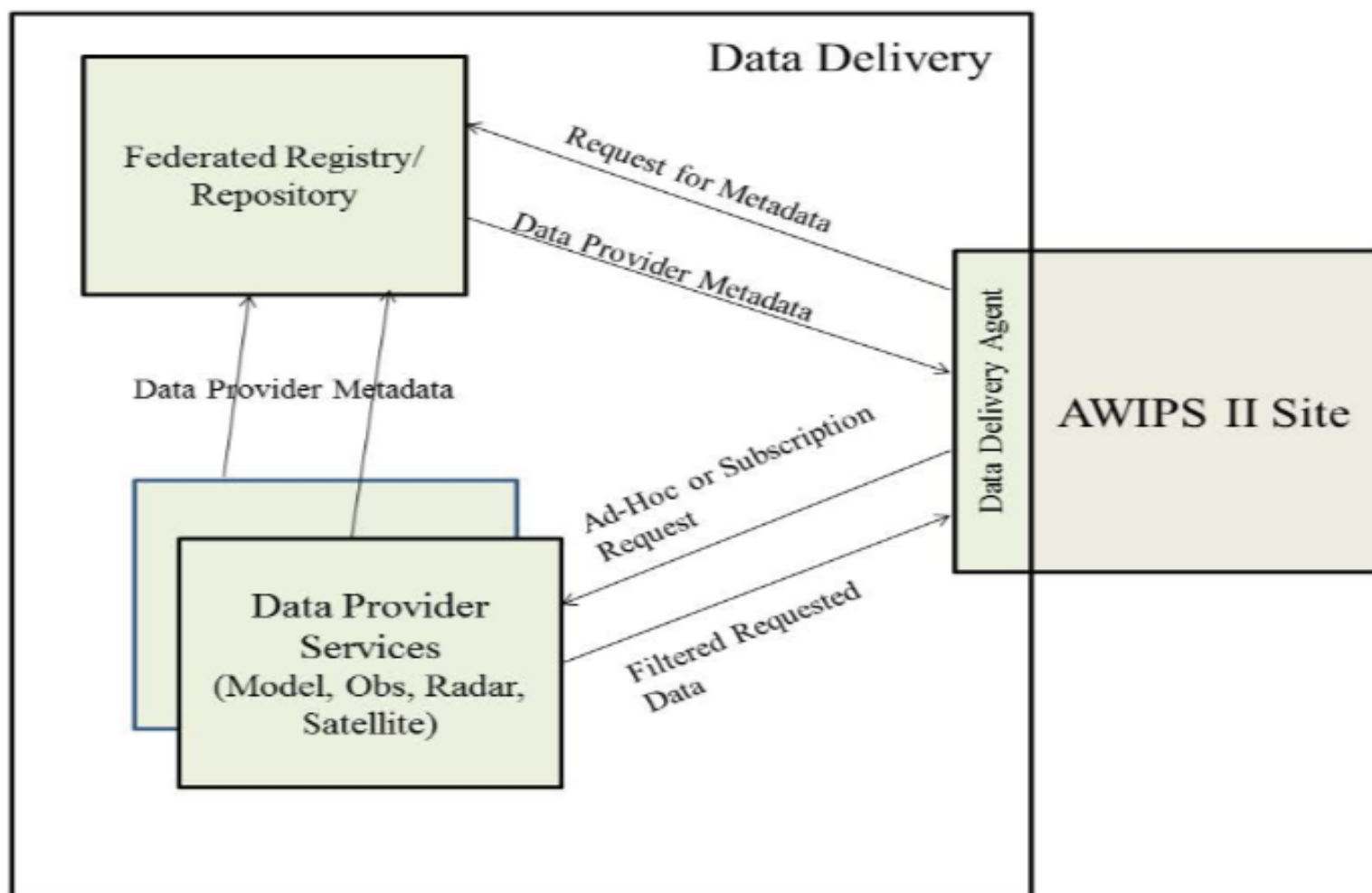


GSD Data Delivery Objectives

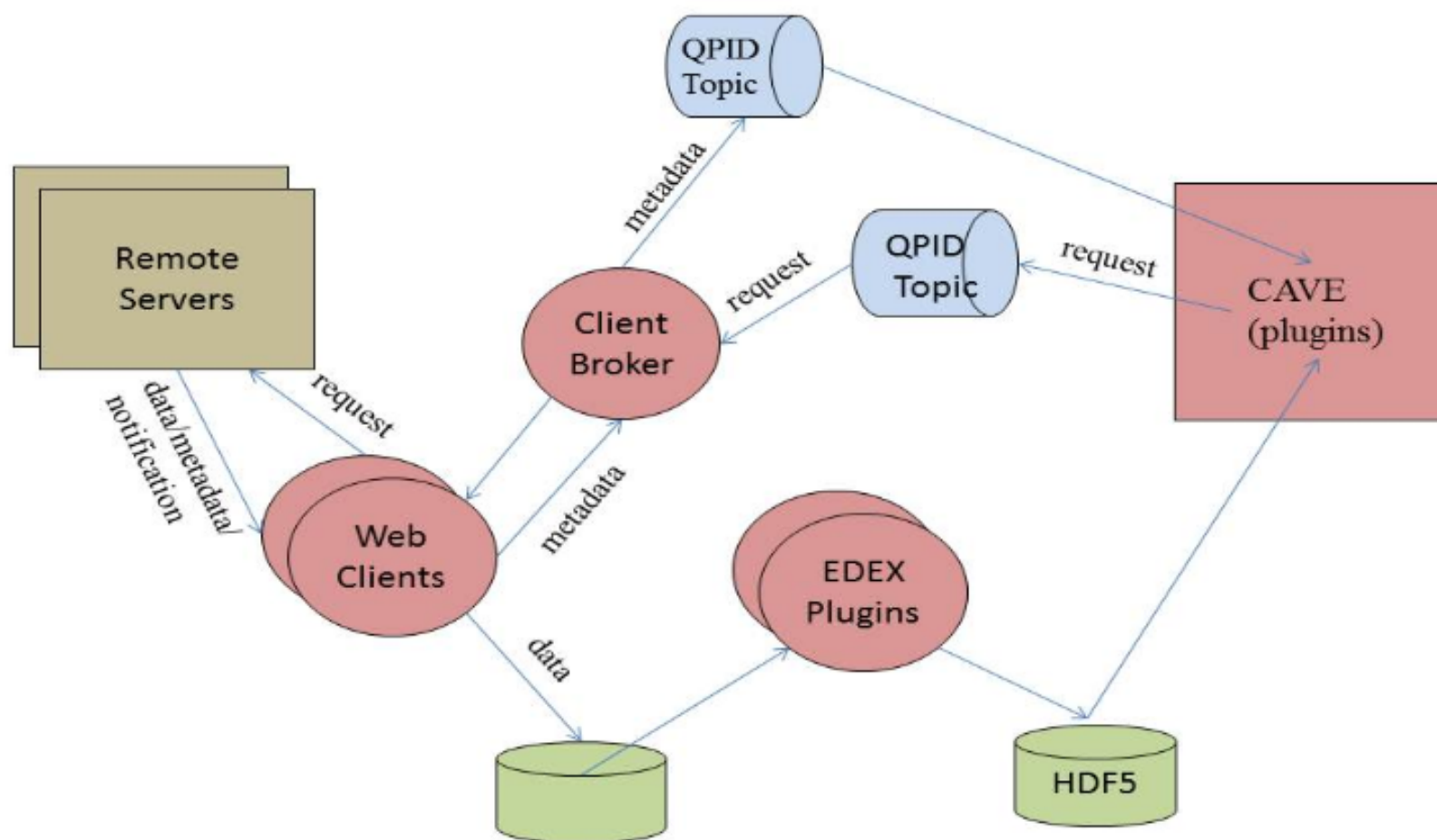


- To develop prototypes as proofs-of-concept for a new way of delivering data to forecast offices
- Prototypes to demonstrate the following capabilities:
 - Data discovery using registry/repository
 - Smart push/pull capability using web services
 - Spatial, temporal and parametric subsetting
 - Ad-Hoc requests and Subscriptions
 - Dynamic menus showing previously unknown datasets
- Development to be done in the AWIPS Development Environment (ADE)

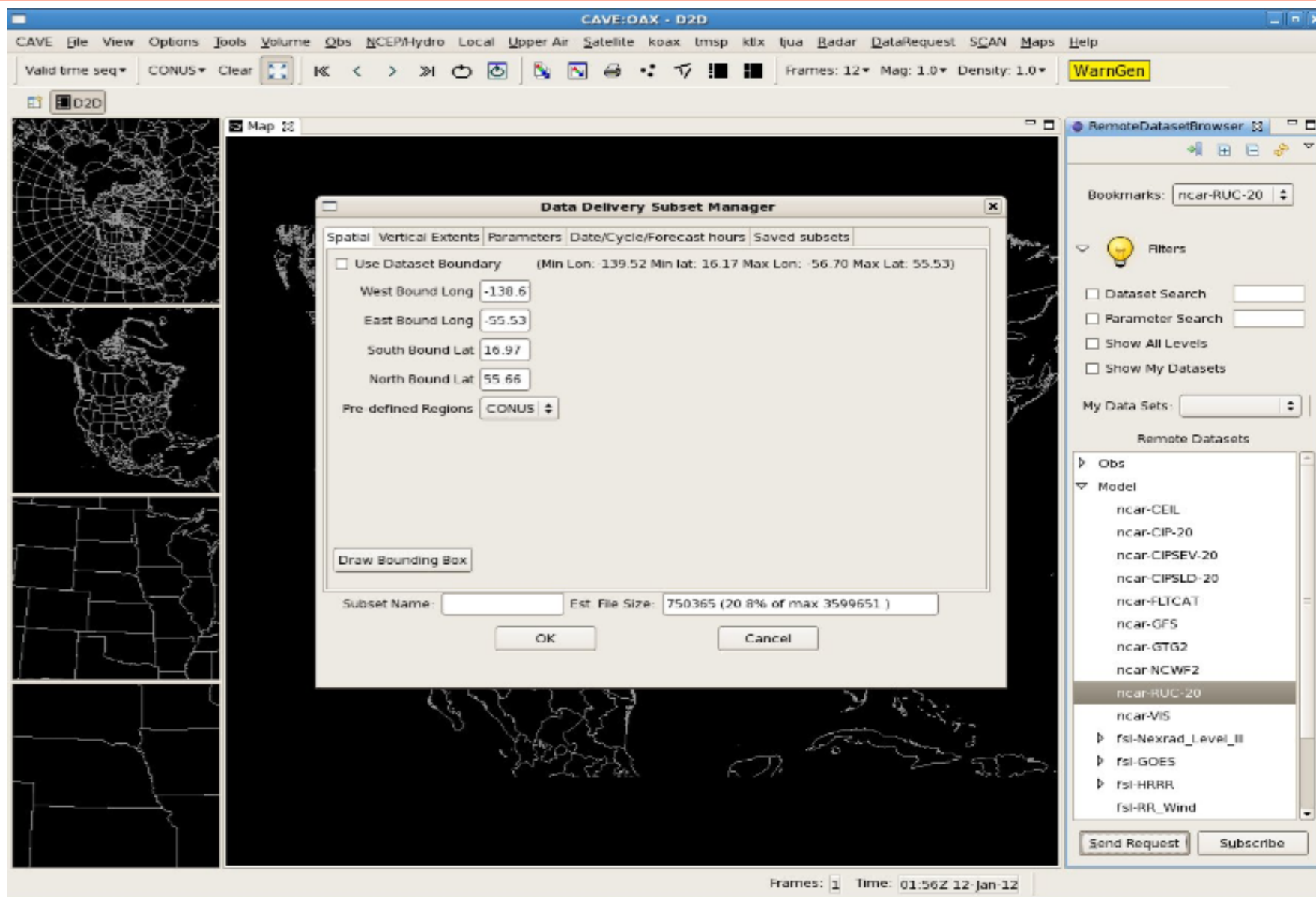
Data Delivery Components



Data Flow through Components



Subset Manager

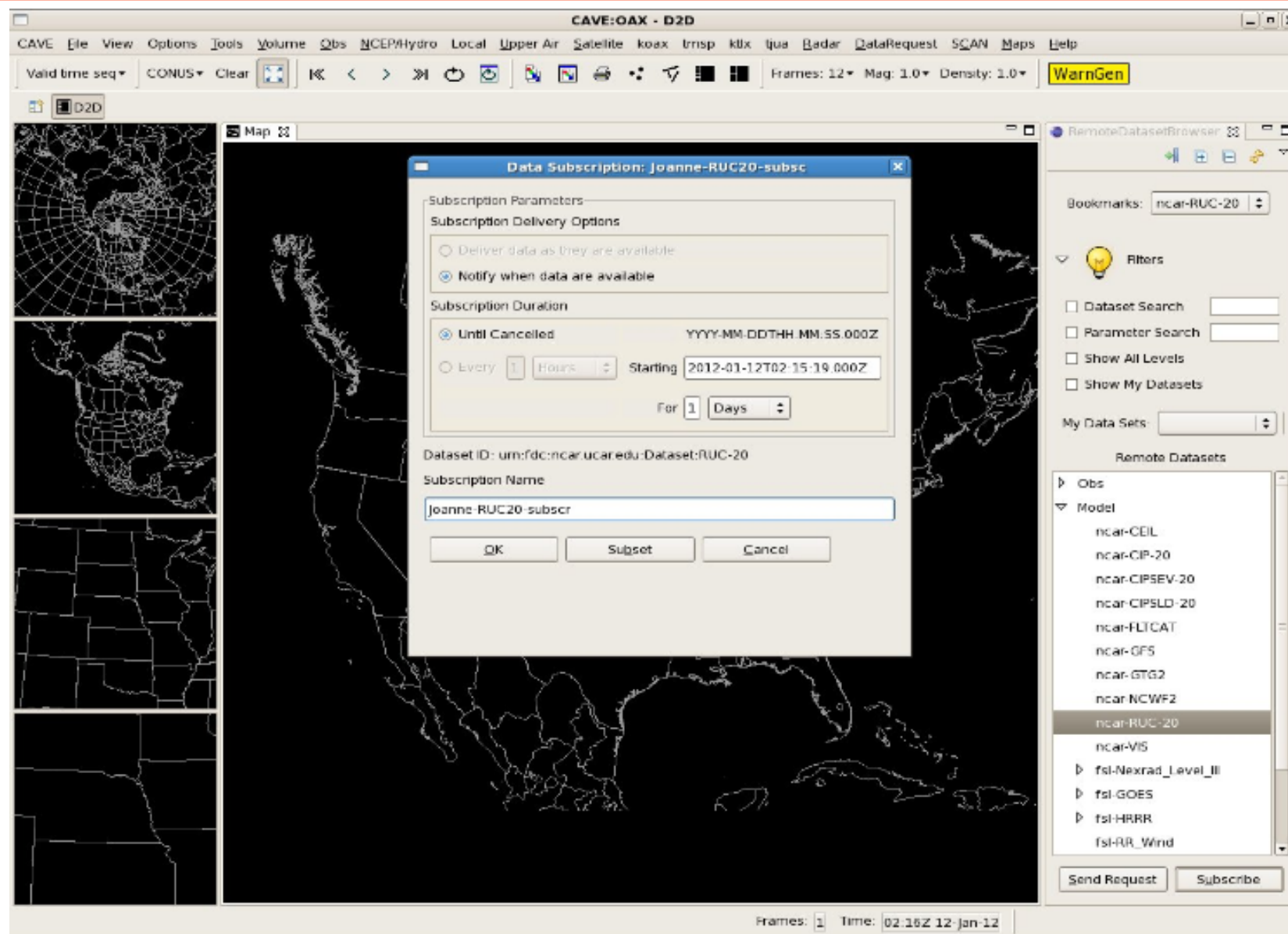


The screenshot displays the CAVE:OAX - D2D Subset Manager interface. The main window shows a map of the United States with a bounding box drawn over the central region. The 'Data Delivery Subset Manager' dialog box is open, showing the 'Spatial' tab. The dialog includes fields for 'West Bound Long' (-138.6), 'East Bound Long' (-55.53), 'South Bound Lat' (16.97), and 'North Bound Lat' (55.66). The 'Pre-defined Regions' dropdown is set to 'CONUS'. The 'Subset Name' field is empty, and the 'Est. File Size' is 750365 (20.8% of max 3599651). The 'OK' and 'Cancel' buttons are visible at the bottom of the dialog.

The interface also includes a 'RemoteDatasetBrowser' panel on the right, showing a list of datasets under the 'Model' category. The 'ncar-RUC-20' dataset is selected. The 'Send Request' and 'Subscribe' buttons are located at the bottom of this panel.

The top menu bar includes: CAVE, File, View, Options, Tools, Volume, Obs, NCEP/Hydro, Local, Upper Air, Satellite, koax, tmsp, klx, lta, Radar, DataRequest, SCAN, Maps, Help. The status bar at the bottom shows: Frames: 1, Time: 01:56Z 12-Jan-12.

Subscription Dialog

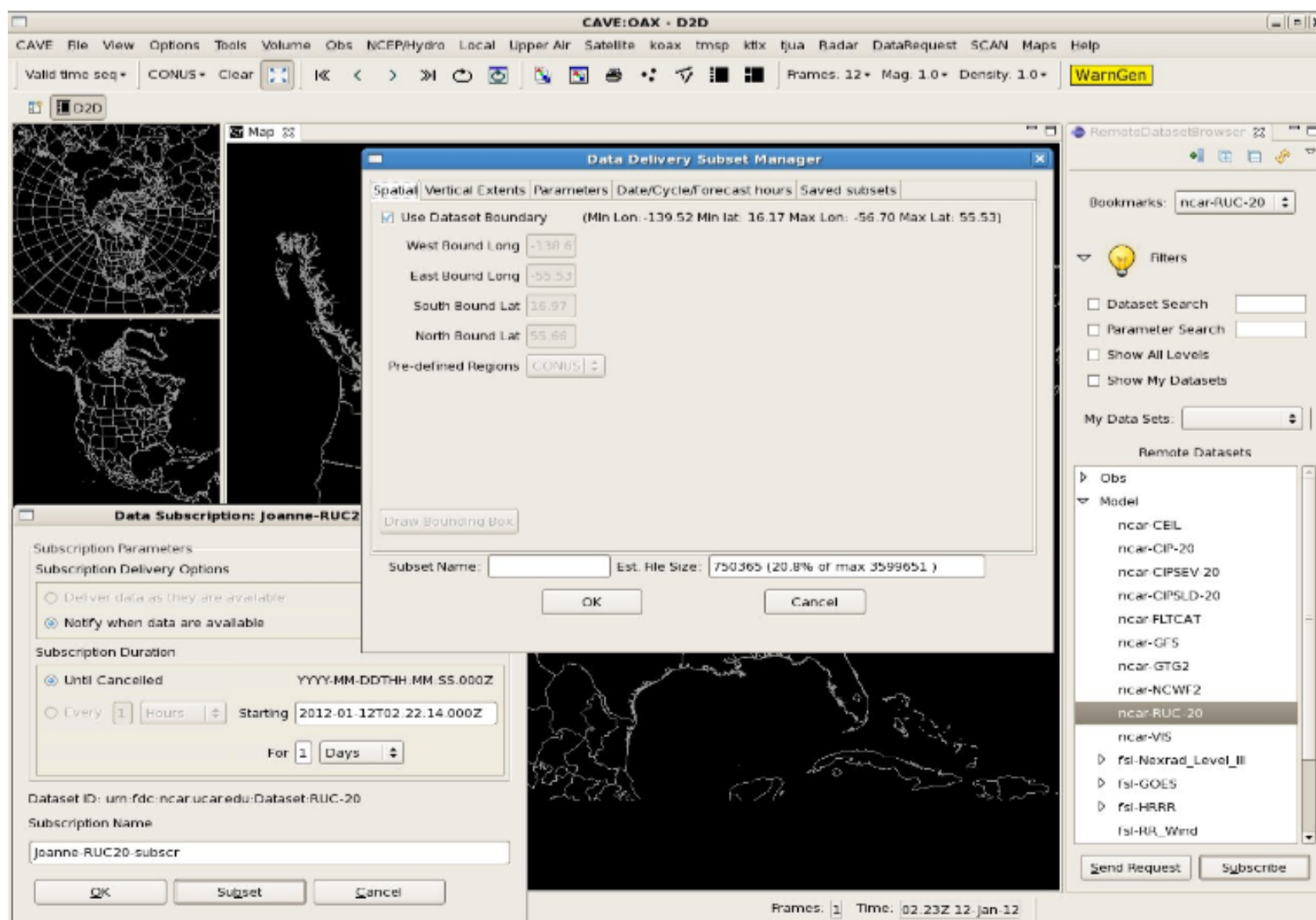


The screenshot displays the CAVE:OAX - D2D application interface. A central dialog box titled "Data Subscription: Joanne-RUC20-subsc" is open, showing the following details:

- Subscription Parameters:**
 - Subscription Delivery Options:**
 - ☐ Deliver data as they are available
 - ☒ Notify when data are available
 - Subscription Duration:**
 - ☒ Until Cancelled (YYYY-MM-DDTHH MM:SS.000Z)
 - ☐ Every 1 Hours Starting 2012-01-12T02:15:19.000Z For 1 Days
- Dataset ID:** urn:fdc:ncar.ucar.edu:Dataset:RUC-20
- Subscription Name:** Joanne RUC20-subsc

Buttons at the bottom of the dialog include OK, Subset, and Cancel. The background shows a map of the United States and the Pacific Ocean. The right sidebar lists remote datasets, with "ncar-RUC-20" selected under the "Model" category. The status bar at the bottom indicates "Frames: 1 Time: 02:16Z 12-Jan-12".

Subscription Dialog and Subset Manager

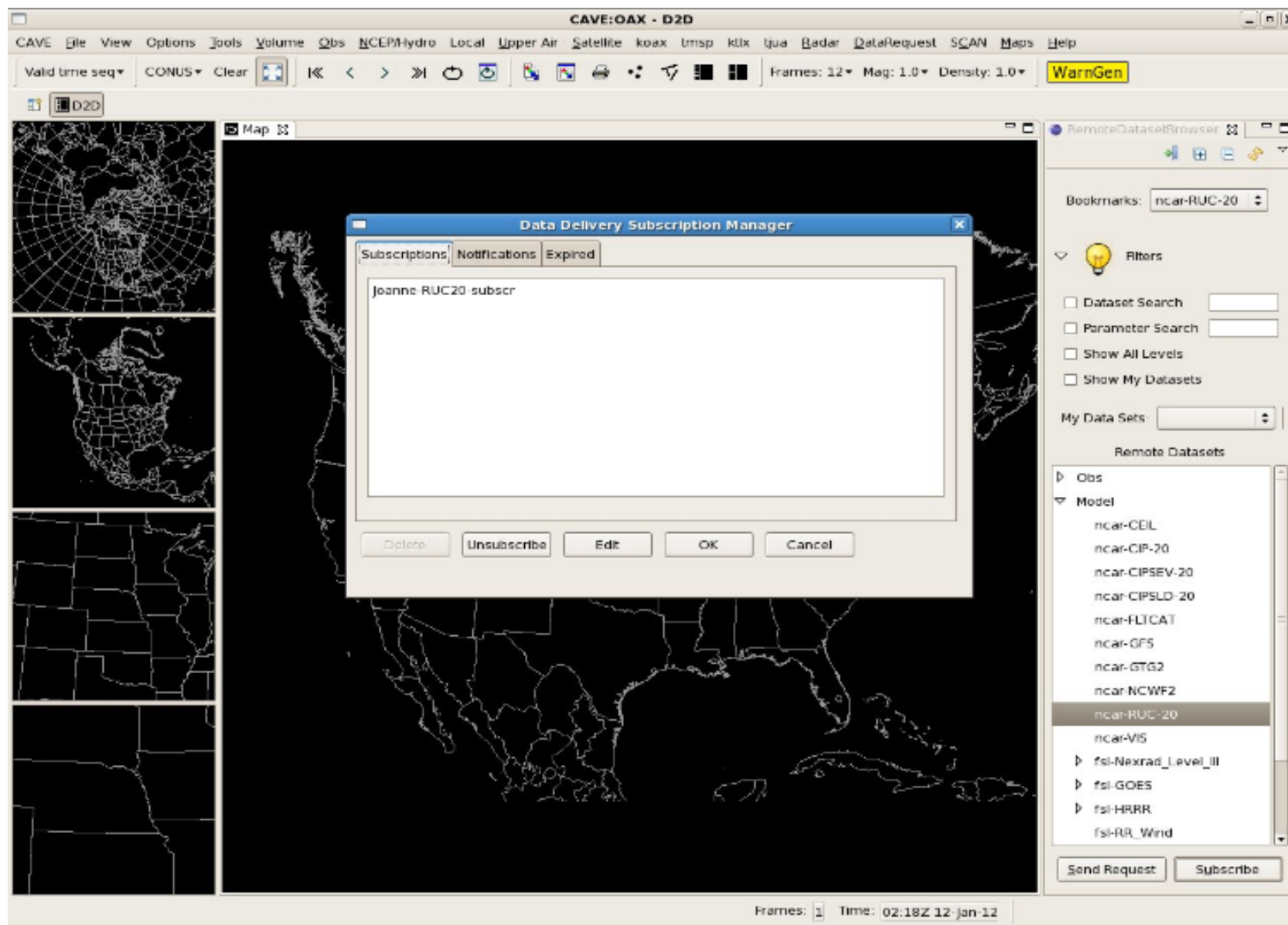


The screenshot displays the CAVE:OAX - D2D software interface. The main window shows a map of the United States with a grid overlay. A dialog box titled "Data Delivery Subset Manager" is open, showing the "Spatial" tab. It includes fields for "West Bound Long" (-139.52), "East Bound Long" (-56.70), "South Bound Lat" (16.17), and "North Bound Lat" (55.53). A "Pre-defined Regions" dropdown is set to "CONUS". Below these fields is a "Draw Bounding Box" button. The "Subset Name" field is empty, and the "Est. File Size" is 750365 (20.8% of max 3599651). The "OK" and "Cancel" buttons are at the bottom.

Another dialog box titled "Data Subscription: Joanne-RUC2" is open, showing the "Subscription Parameters" tab. It includes a "Subscription Delivery Options" section with radio buttons for "Deliver data as they are available" and "Notify when data are available" (selected). The "Subscription Duration" section has radio buttons for "Until Cancelled" (selected) and "Every 1 Hours" (disabled). The "Starting" date is 2012-01-12T02:22:14.000Z. The "Dataset ID" is um:fdc:ncar.ucar.edu:Dataset:RUC-20. The "Subscription Name" is Joanne-RUC20-subscr. The "OK", "Subset", and "Cancel" buttons are at the bottom.

The "RemoteDatasetBrowser" panel on the right shows a list of "Remote Datasets" under the "Model" category. The list includes: ncar-CEIL, ncar-CIP-20, ncar-CIPSEV-20, ncar-CIPSLD-20, ncar-FLTCAT, ncar-GFS, ncar-GTG2, ncar-NCWF2, ncar-RUC-20 (highlighted), ncar-VIS, fsl-Nexrad_Level_III, fsl-GOES, fsl-HRRR, and fsl-RA_Wind. The "Send Request" and "Subscribe" buttons are at the bottom.

Subscription Manager



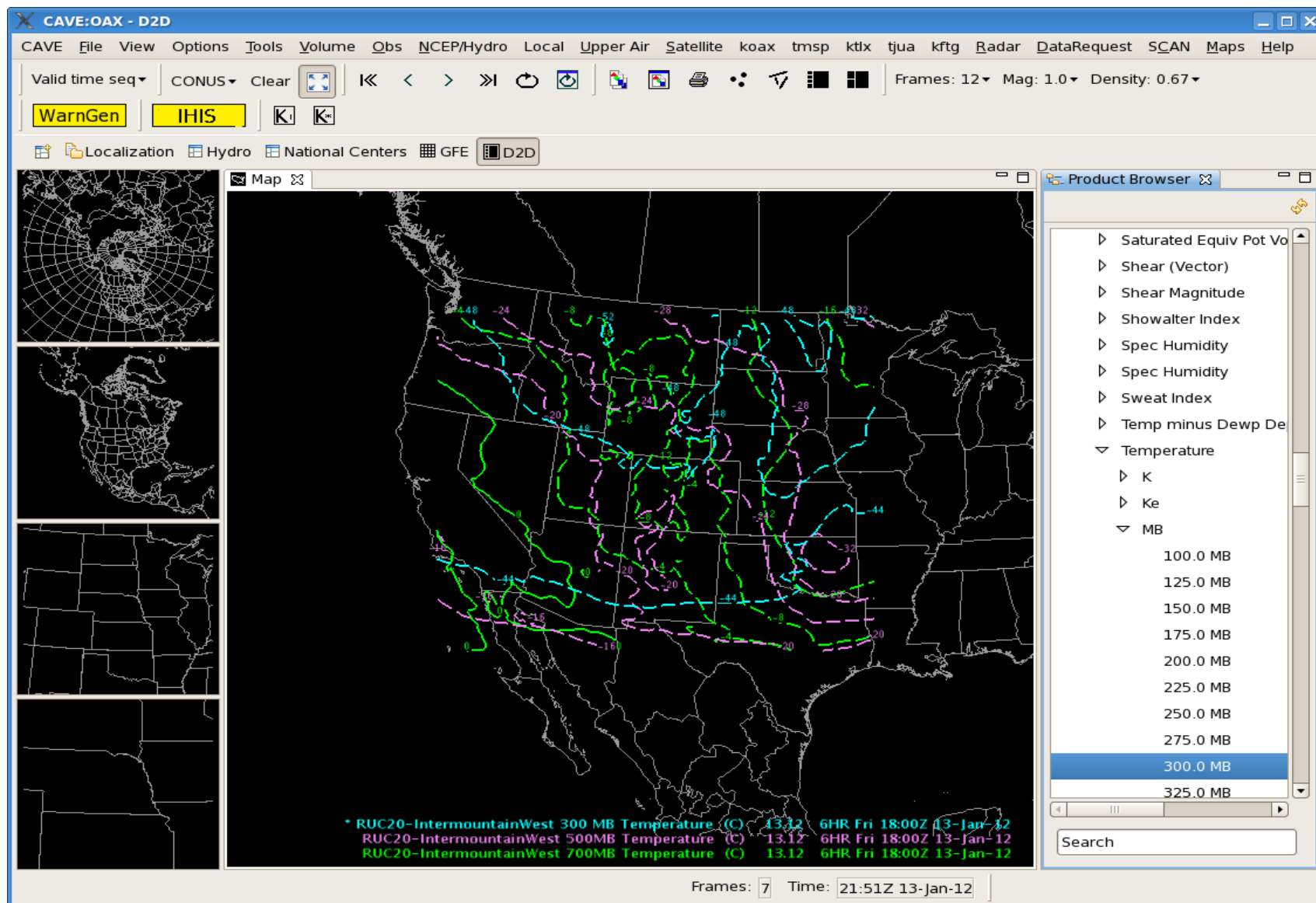
The screenshot shows the CAVE:OAX - D2D application interface. The main window displays a map of the United States. A dialog box titled "Data Delivery Subscription Manager" is open, showing a list of subscriptions. The "Subscriptions" tab is selected, and the list contains one entry: "Joanne RUC20 subscr". Below the list are buttons for "Delete", "Unsubscribe", "Edit", "OK", and "Cancel".

The application interface includes a menu bar with options: CAVE, File, View, Options, Tools, Volume, Obs, NCEP/Hydro, Local, Upper Air, Satellite, koax, tmnp, kllx, lja, Badar, DataRequest, SCAN, Maps, Help. The status bar at the bottom shows "Frames: 12" and "Time: 02:18Z 12-Jan-12".

On the right side, there is a "RemoteDatasetBrowser" panel. It includes a "Bookmarks" section with a dropdown menu set to "ncar-RUC-20". Below this are "Filters" with checkboxes for "Dataset Search", "Parameter Search", "Show All Levels", and "Show My Datasets". The "My Data Sets" section has a dropdown menu. The "Remote Datasets" section lists various datasets under "Obs" and "Model" categories. The "Model" category is expanded, showing a list of datasets including "ncar-CEIL", "ncar-CIP-20", "ncar-CIPSEV-20", "ncar-CIPSLD-20", "ncar-FLTCAT", "ncar-GFS", "ncar-GTG2", "ncar-NWCF2", "ncar-RUC-20" (which is highlighted), "ncar-VIS", "fsl-Nexrad_Level_III", "fsl-GOES", "fsl-HRRR", and "fsl-RR_Wind". At the bottom of this panel are "Send Request" and "Subscribe" buttons.

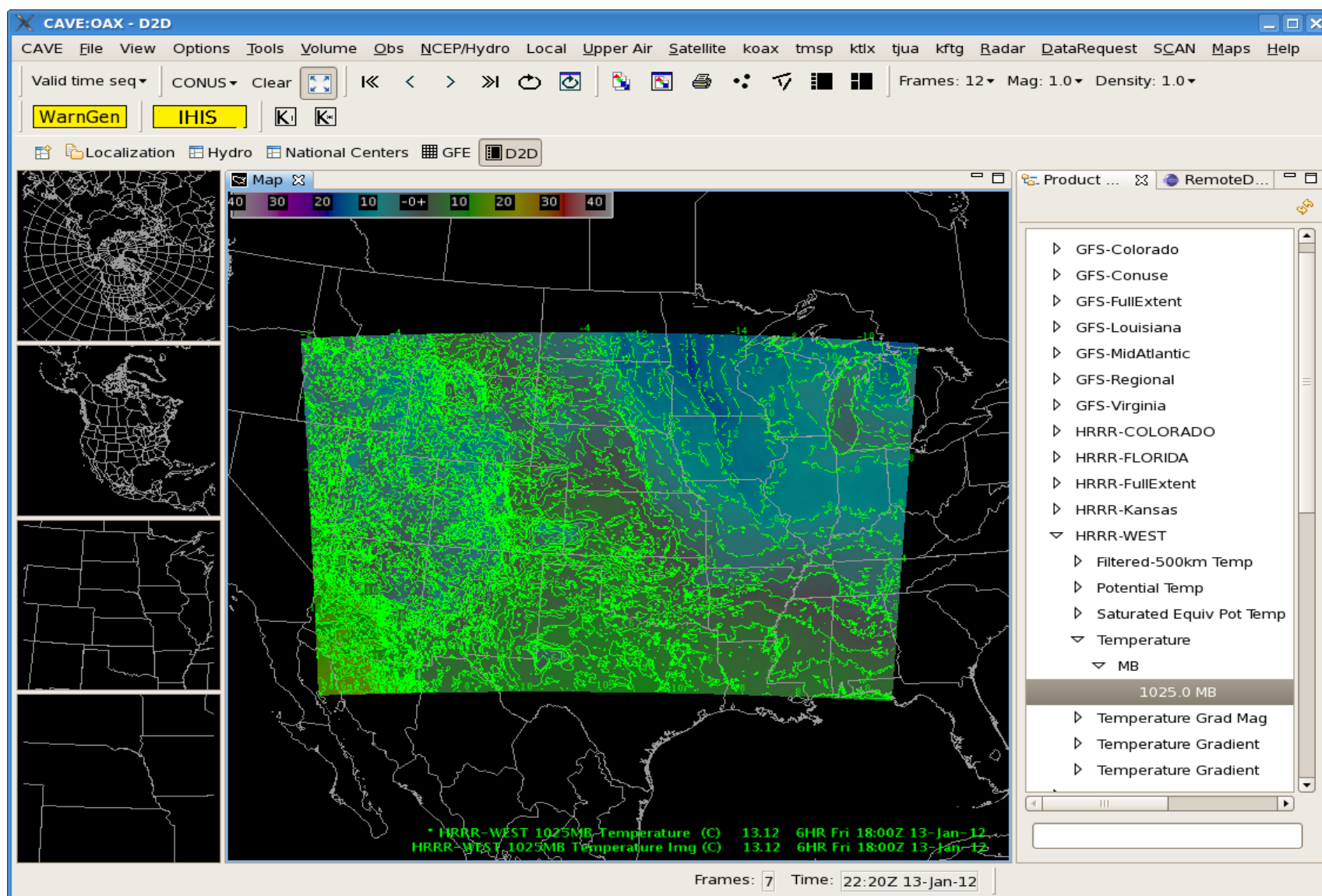


RUC-20 Display



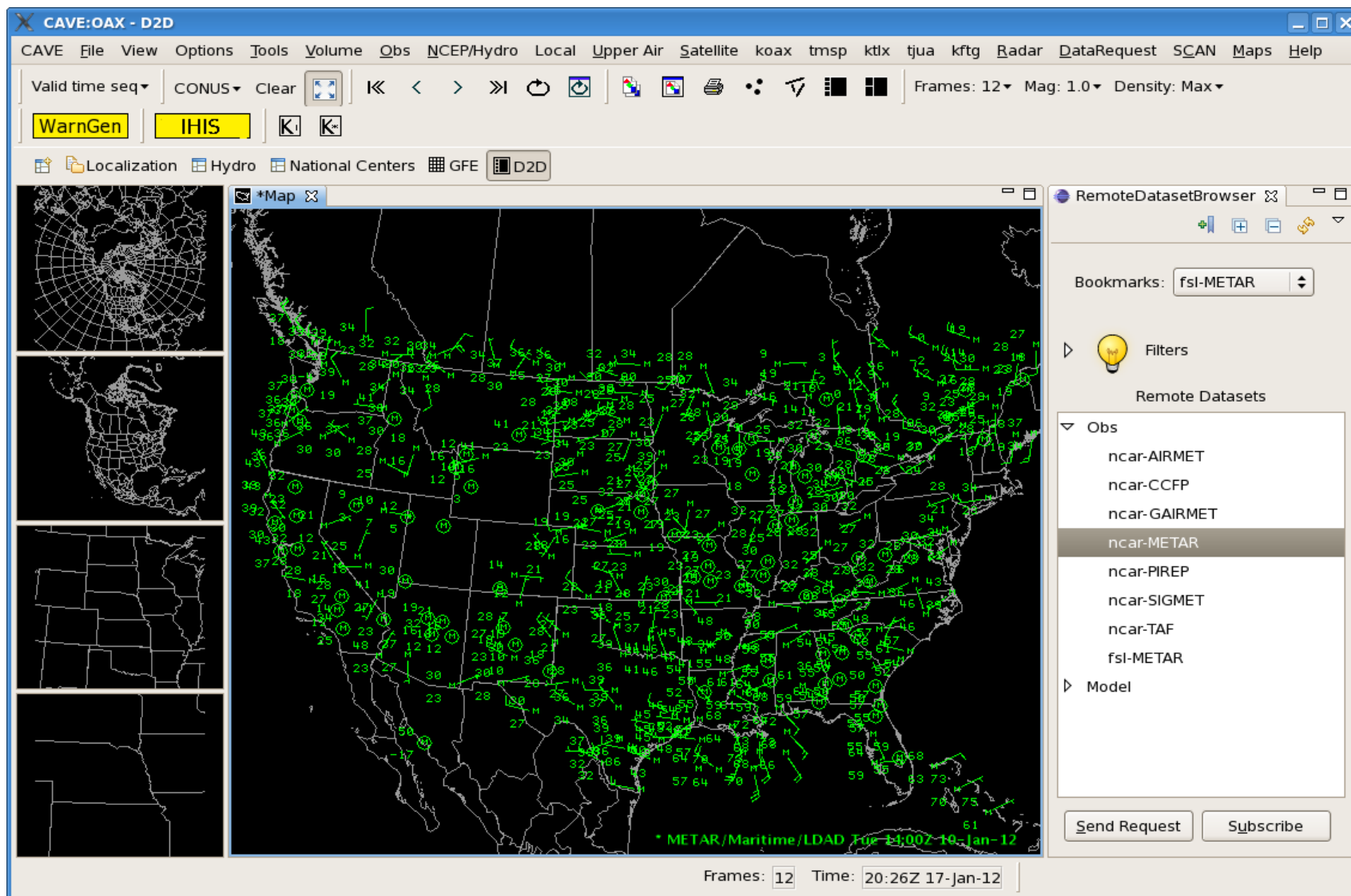


HRRR Display



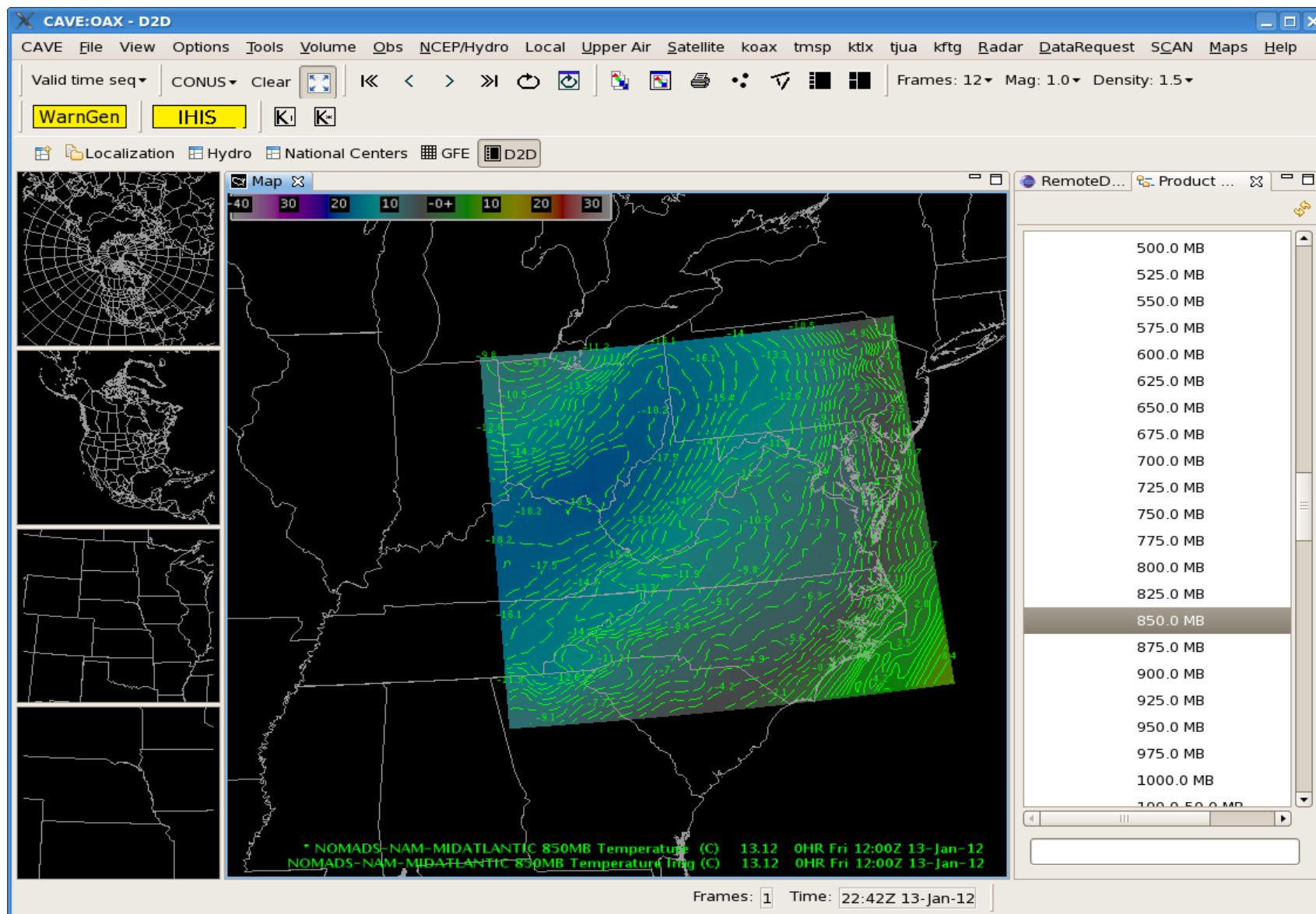


WXXM METAR Display





NOMADS NAM Display





Hydro Discovery Dialog



CAVE:OAX - Hydro

CAVE File Tools Projections Overlays MapData LiveData ReferenceData Product HydroApps DataRequest Help

Map

Localization Hydro National Centers GFE D2D

Discovery Dialog

Dataset Identifiers

- <http://river.sdsc.edu/wateroneflow/NWIS/DailyValues.asmx?WSDL>
- <http://river.sdsc.edu/wateroneflow/NWIS/Data.asmx?WSDL>
- <http://river.sdsc.edu/wateroneflow/NWIS/UnitValues.asmx?WSDL>
- http://river.sdsc.edu/wateroneflow/EPA/cuahsi_1_0.asmx?WSDL
- http://eddy.ccny.cuny.edu/CIMS/cuahsi_1_1.asmx?WSDL
- <http://river.sdsc.edu/wateroneflow/NWIS/Groundwater.asmx?WSDL>
- http://icewater.usu.edu/MudLake/cuahsi_1_0.asmx?WSDL
- http://river.sdsc.edu/sdrfp2_ws/cuahsi_1_0.asmx?WSDL
- http://his03.geol.umn.edu/COTCsnow/cuahsi_1_0.asmx?WSDL
- http://ees-his06.ad.ufl.edu/santafe-flstoret/cuahsi_1_0.asmx?WSDL

Send Request Cancel

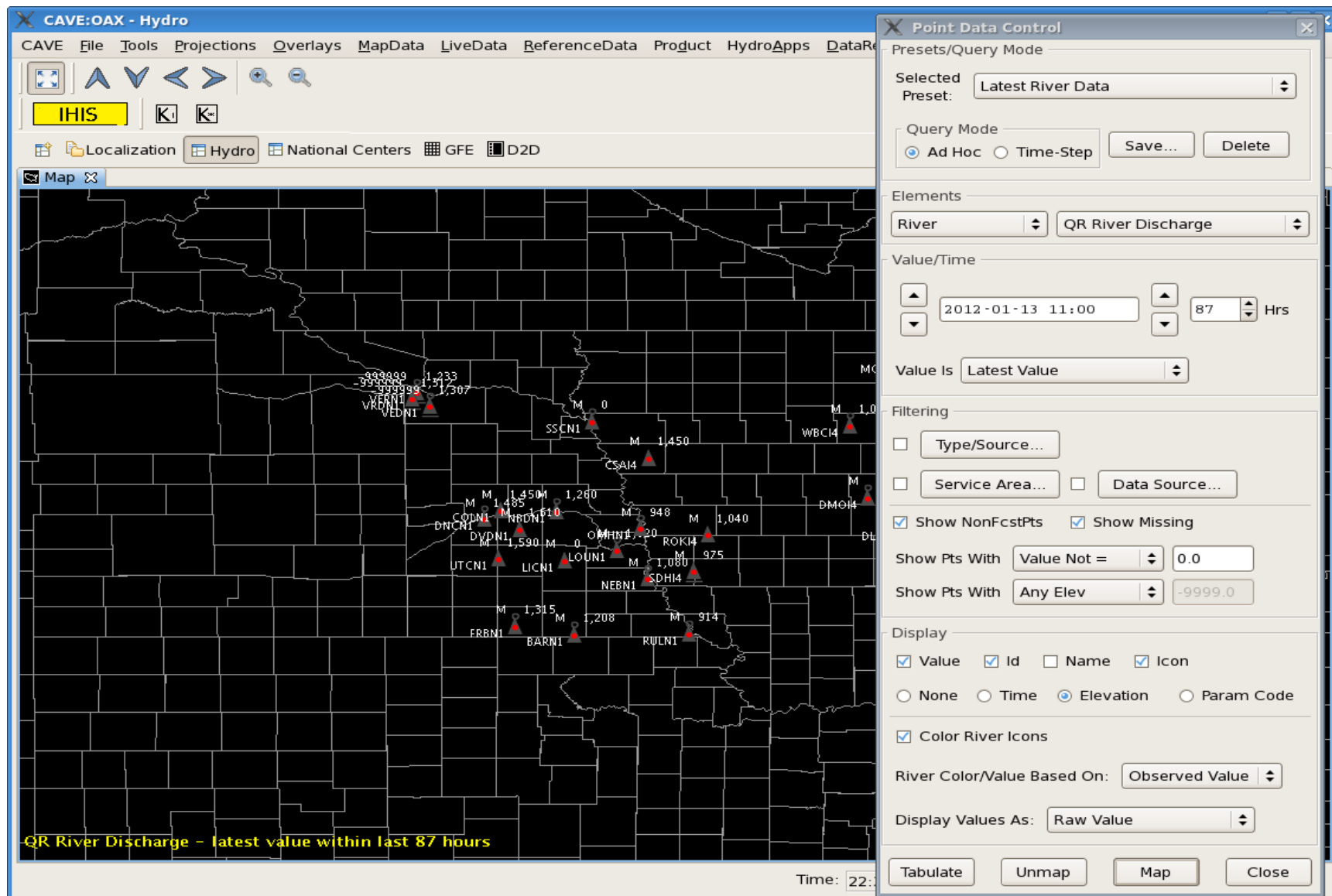
River - Primary PE - latest value within last 24 hours

State/County Boundaries

Time: 22:27Z 13-Jan-12

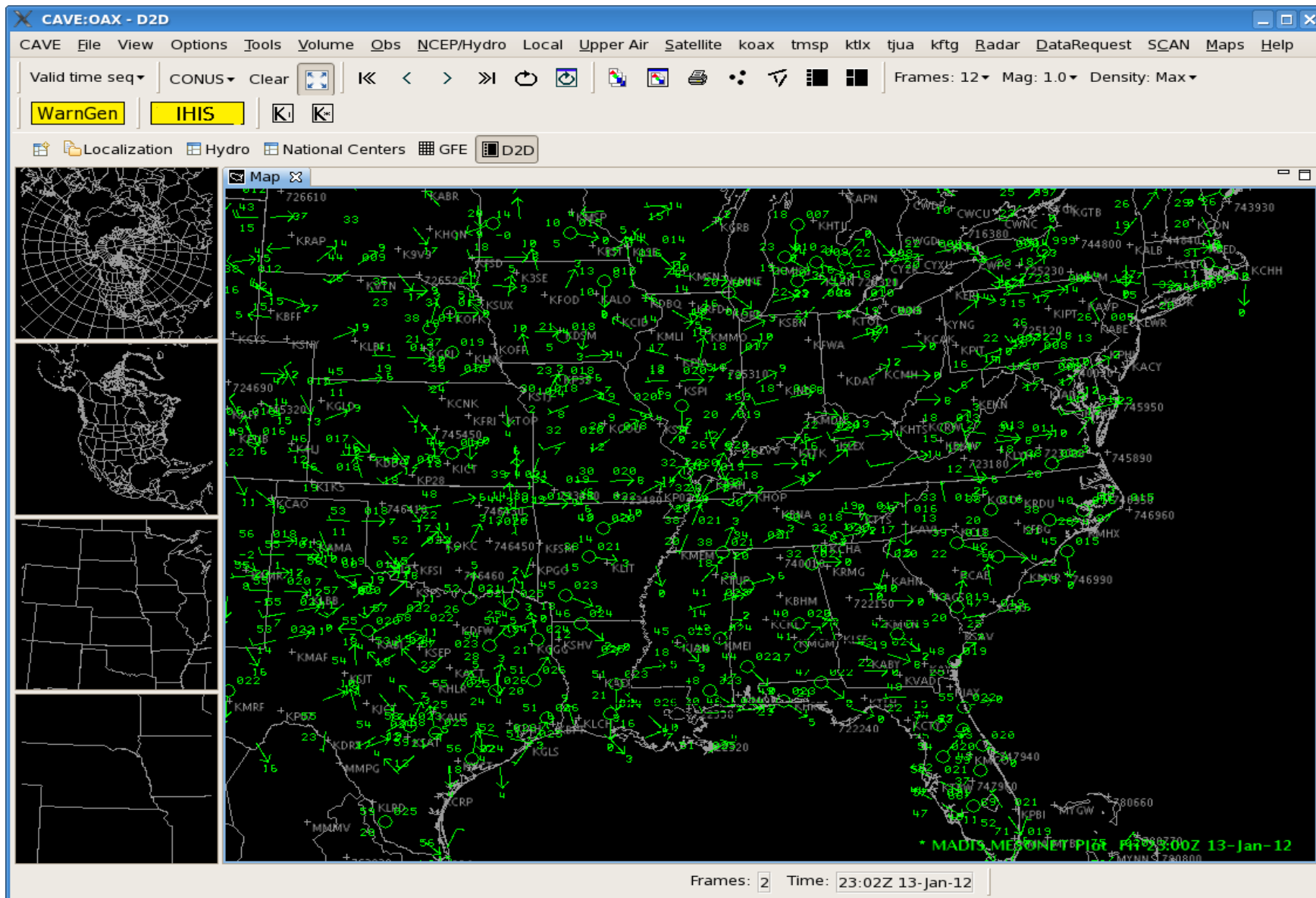


Hydro Display





MADIS Mesonet Display





NOAA Booth Hours for Demos



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- Tuesday: 10am - Noon, 1-3pm
 - Wednesday: 10am - Noon, 1-2pm
 - Thursday: 9-10:30am, 11am - Noon, 1-2pm