Application DropsondePlot in D2D version—P3 radar instructions appended 2

Chris Mello NHC

Plots dropsonde data from aircraft recon in NSHARP in D2D. Note. For just the radar ingest instructions, go to part 2.

Installation instructions. Part 1

Prerequisites.

The site has to be ingesting the following standard text products (Dropsondes data in text format).; **AAAREPNT3**. XXX is your local ID.

If they are already storing, skip to the next section.

entries in /data/fxa/nationalData/afos2awips.txt and /awips/fxa/data on each workstation and dx boxes.

XXXREPNT3 UZNT13 KNHC

entries in /data/fxa/nationalData/afosMasterPIL.txt

@@@REPNT3

entries in /data/fxa/nationalData/ispan_table.dat. WFO's mentioned they have the ispan_table.template. We do not have that file.

UZNT13KBIX AAAREPNT3
UZNT13KNHC AAAREPNT3
UZNT14KWBC AAAREPNT3

After making any changes the site may need to do an ndm localization on an edex server.

/data/fxa/sdc/config_awips2.sh ndm XXX

1.) Use subversion on the https://vlab.ncep.noaa.gov to download **DropsondePlot application. The user has to modify the SITE name in dropsonde.bash**

su
#!/bin/bash
#
 # dropsonde.bash script reads current version of text dropsinde data in AWIPS2 and stores as text file.
 # It then calls PYTHON/FORTRAN script that reads the data and converts to proper format
 # for D2D to plot.

SITE="MIA"
w*orkdirectory="/localapps/runtime/DropsondePlot/bin"*

Users will have to make no further changes if the application is placed in the standard /localapps/runtime/directory. Otherwise, users will have to change the base paths in dropsonde.py and dropsonde.bash in the bin directory.

workdirectory="/localapps/runtime/DropsondePlot/bin/"
datadirectory="/localapps/runtime/DropsondePlot/data/"

2.) **Set up triggers** Add the following lines to **siteTrigger.template**

/data/fxa/siteConfig/textApps/siteTrigger.template

XXXREPNT3 /localapps/runtime/DropsondePlot/bin/dropsonde.bash

Run localization scripts on dx1 as user root.

[root@dx1-nhcn ~]# /data/fxa/sdc/config_awips2.sh triggers XXX

Data should now flow should now be set up.

Using DropsondePlot

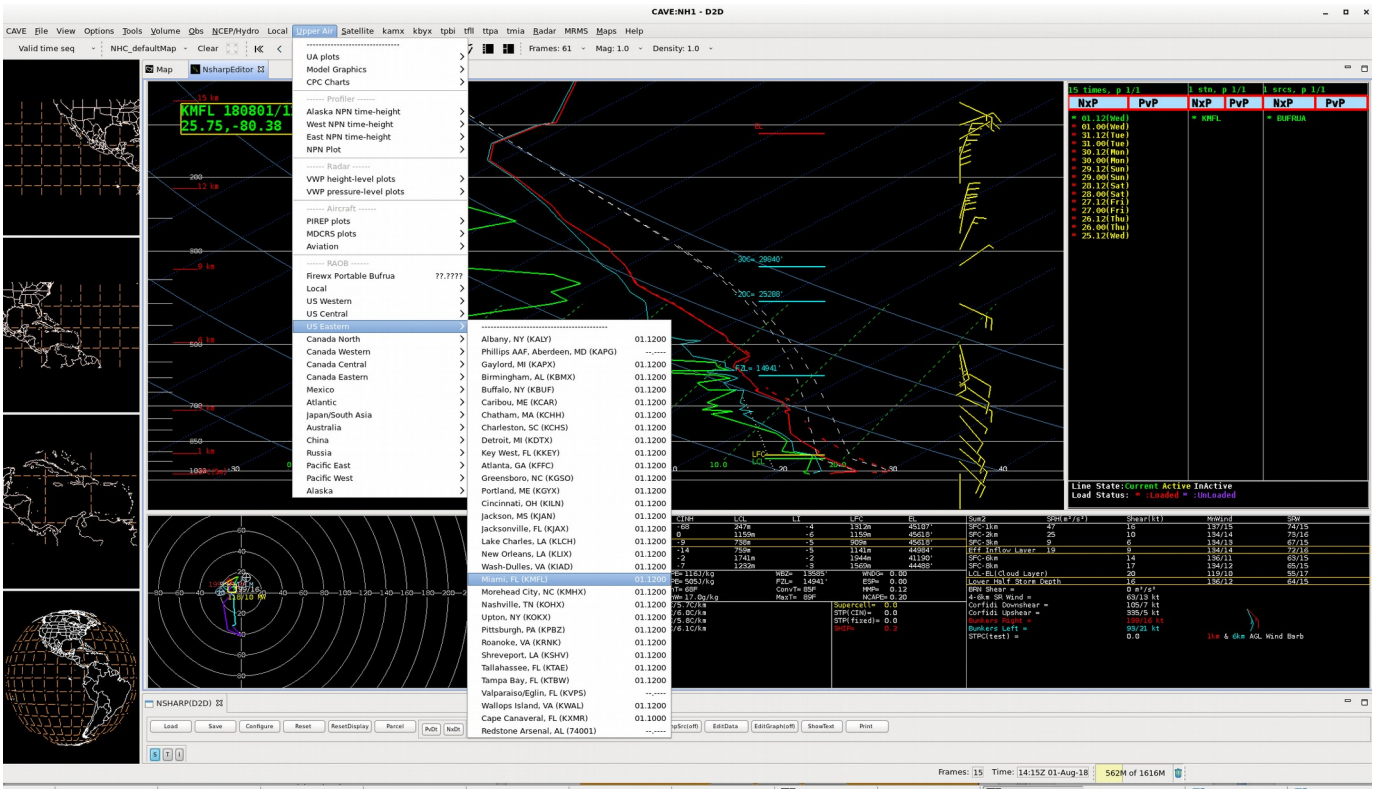
The application converts the text into a format that NSHARP in D2D can read. There are four basic types of recon dropsonde observations . Each file name includes the type, location and time.

A). DROP
B). MXWNDBND
C). EYEWALL
D). CENTER

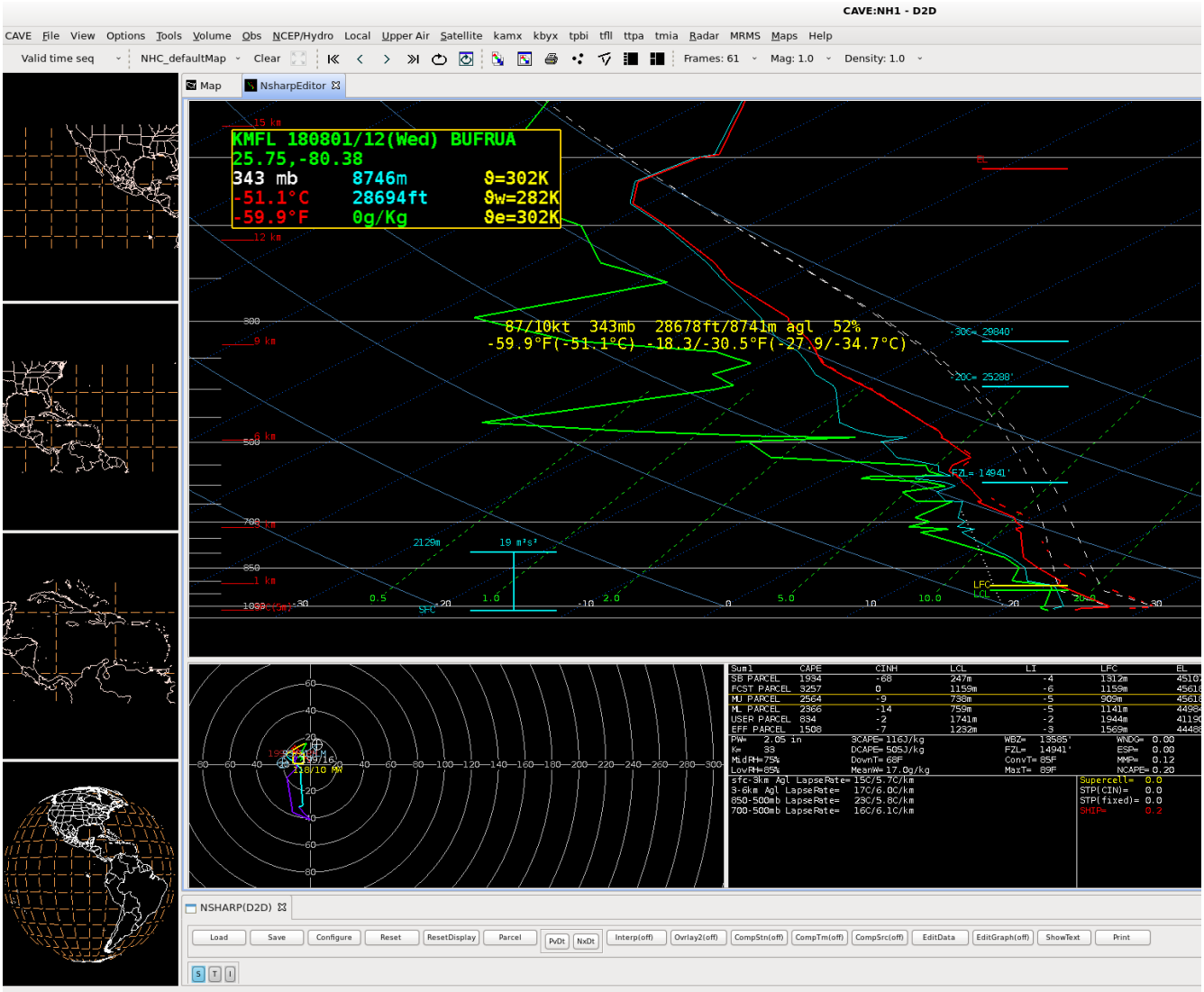
How to load in a current sounding

1.) Open D2D and load in any current sounding.

Example Miami
Upper Air -----> RAOB----> US Eastern -----> Miami, Fl

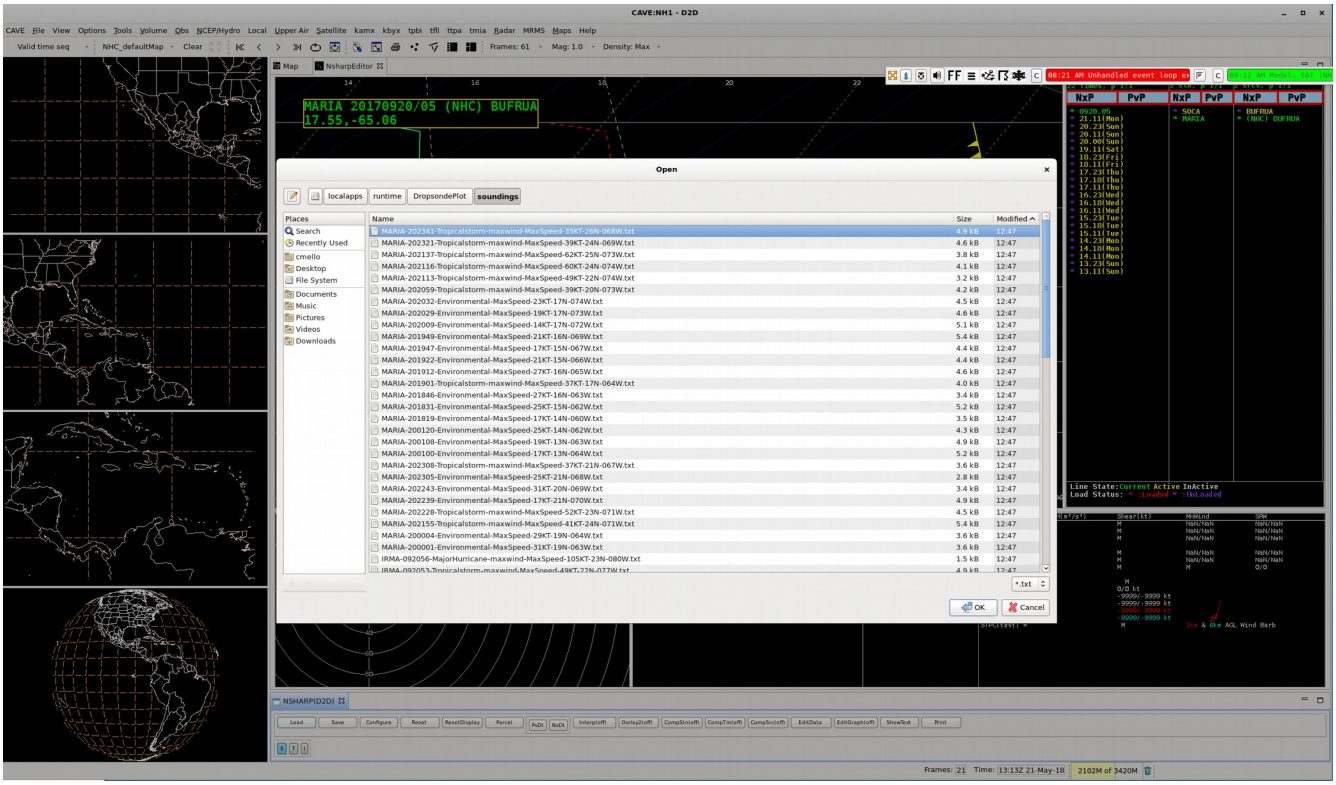


2) Current Sounding opens up. Left click on “Load “in the lower right corner.



3.) A window launches. Use the system files to go directory where files are located. Default ---- /localapps/runtime/DropsondePlot/soundings

Each file name includes the type, location and time.



Part2 Set Up AWIPS2 to load P3 radar data.

Loading in P3 Doppler Radar into AWIPS2

The P3 data is now available in real time in AWIPS2 (it takes about an hour to process after a vortex pass). This is the result of a long term HRD project. Chris Mello in conjunction with Stephanie Stevenson configured the AWIPS2 system to ingest the P3 data.

Download instructions.
https://vlab.ncep.noaa.gov/redmine/projects/nwsscp/wiki/DropsondePlot

As user awips on the dx3. XXX is your site ID.

1). Make the directory /awips2/edex/data/utility/common_static/site/XXX/grid/netcdf/maxdbz

[awips@dx3-nhcn: ~]$ mkdir -p /awips2/edex/data/utility/common_static/site/XXX/grid/netcdf/maxdbz

2). Copy the file P3radar.xml located in common_static/grid/netcdf/maxdbz
Note: one line command
[awips@dx3-nhcn: ~]$ cp /localapps/runtime/DropsondePlot/common_static/grid/netcdf/maxdbz/P3radar.xml /awips2/edex/data/utility/common_static/site/XXX/grid/netcdf/maxdbz

3.) Copy baseline version of netcdfGrid.xml to site level if it does not exist.
Note: one line command
[awips@dx3-nhcn: ~]$ cp /awips2/edex/data/utility/common_static/base/distribution/netcdfGrid.xml /awips2/edex/data/utility/common_static/site/XXX/distribution

4.) Add two entries to netcdfGrid.xml using editor of choice.

```
<regex>^AWIPSMaxdb.*</regex>
<regex>^AWIPSWind.*</regex>
```

5.) Add an entry to LDADinfo.txt located the px2. This file is located in /data/fxa/LDAD/data.

AWIPS | | | | | |REC.sh |

6.) Copy REC.sh to /awips/ldad/bin on the px2.

[awips@dx3-nhcn: ~]$ scp /localapps/runtime/DropsondePlot/bin/ REC.sh px2@/awips/ldad/bin

Bounce your ldad listener on the px2. Ask NCF to do it if you are not sure how to do it.

7.) Add a rule to your site level gridPurgeRules.xml in

/awips2/edex/data/utility/common_static/site/XXX/purge

```
<rule>
        <keyValue>AircraftDoppler</keyValue>
        <versionsToKeep>10</versionsToKeep>
    </rule>
```

8.) After coordinating with staff, bounce EDEX.

9.) Make two directories on your ls1 as user ldad.

a. ssh ldad@ls1
b. mkdir -p /ldad/localapps/runtime/DropsondePlot/bin
c. mkdir -p /ldad/localapps/runtime/DropsondePlot/data

d. Copy /localapps/runtime/DropsondePlot/ldad/P3download.bash to /ldad/localapps/runtime/DropsondePlot/bin from the dx3.

scp /localapps/runtime/DropsondePlot/ldad/P3download.bash ldad@ls1:/ ldad/localapps/runtime/DropsondePlot/bin

10. Test the data flow by running P3download.bash with the test argument.

ls2-nhcn{ldad}186: /localapps/runtime/DropsondePlot/ldad/P3download.bash test

Data should load into EDEX as Grid AircraftDoppler. Use the Product Browser in D2D to check data.

10. set up a cron to get the data every 15 minutes on the ldad.

Install Menu options in the Volume Browser

Optional: Install Menu choice

From /localappss/rutime/ DropsondePlot as user awips copy these files to your site level.

common_static/derivedParameters/definitions/ReconRadarWind96.xml
common_static/derivedParameters/definitions/ReconRadarWind34.xml
common_static/derivedParameters/definitions/ReconRadarWind64.xml
common_static/styleRules/netcdfGridImageryStyleRules.xml

1. cd /localapps/runtime/DropsondePlot
2 cp common_static/derivedParameters/definitions/* /awips2/edex/data/utility/common_static/site/XXX/derivedParameters/definitions/

3. Append the contents of d2dContourStyleRules.xml.append to your site level versions of d2dContourStyleRules.xml. Do not overwrite.

Site level located in /awips2/edex/data/utility/common_static/site/XXX/styleRules/ d2dContourStyleRules.xml

DropsondePlot/common_static/styleRules/d2dContourStyleRules.xml.append

```
<styleRule>
    <paramLevelMatches>
        <parameter>ReconRadarWind34</parameter>
    </paramLevelMatches>
    <contourStyle>
        <displayUnits>kn</displayUnits>
        <contourLabeling>
            <values>34</values>
        </contourLabeling>
    </contourStyle>
</styleRule>

<styleRule>
    <paramLevelMatches>
        <parameter>ReconRadarWind64</parameter>
    </paramLevelMatches>
    <contourStyle>
        <displayUnits>kn</displayUnits>
        <contourLabeling>
            <values>64</values>
        </contourLabeling>
    </contourStyle>
</styleRule>

<styleRule>
    <paramLevelMatches>
```

```
        <parameter>ReconRadarWind96</parameter>
    </paramLevelMatches>
    <contourStyle>
        <displayUnits>kn</displayUnits>
        <contourLabeling>
            <values>96</values>
        </contourLabeling>
    </contourStyle>
</styleRule>
```

Append the contents of gridImageryStyleRules.xml.append to your site level version of gridImageryStyleRules.xml. Do not overwrite.

Site level located in /awips2/edex/data/utility/common_static/site/XXX/styleRules/ gridImageryStyleRules.xml.

DropsondePlot/common_static/styleRules/gridImageryStyleRules.xml.append
Do not overwrite. Append to

```
<styleRule>
        <paramLevelMatches>
            <parameter>RECON-RADAR-MAXVELOCITY-WIND</parameter>
        </paramLevelMatches>
        <imageStyle>
            <displayUnits>kts</displayUnits>
            <range scale="LINEAR">
                <minValue>0</minValue>
                <maxValue>126.6</maxValue>
            </range>
            <defaultColormap>Radar/OSF/16 Level Composite Reflectivity</defaultColormap>
            <colorbarLabeling>
                <increment>10</increment>
            </colorbarLabeling>
        </imageStyle>
    </styleRule>

    <styleRule>
        <paramLevelMatches>
            <parameter>ReflectivityMax</parameter>
        </paramLevelMatches>
        <imageStyle>
            <displayUnits>kts</displayUnits>
            <range scale="LINEAR">
                <minValue>-35</minValue>
                <maxValue>82.2</maxValue>
            </range>
            <defaultColormap>Radar/Storm Clear Reflectivity</defaultColormap>
            <colorbarLabeling>
```

```
                    <increment>10</increment>
                </colorbarLabeling>
            </imageStyle>
        </styleRule>
```

In /awips2/edex/data/utility/cave_static/site/XXX/menus/volume make the following changes.

Append baseFourPanelFamilies.xml.append to your site level version of baseFourPanelFamilies.xml. Do not overwrite.

```
        <contribute xsi:type="titleItem" titleText="------Four Panel  Recon data ------"
                id="FamiliesLine" />

        <contribute xsi:type="bundleItem" file="bundles/volume/ReconRadar4panel.xml"
    menuText="Recon Radar 4 panel" id="recondata" useReferenceTime="true">
    <substitute key="frameCount" value="41" />
  </contribute>
```

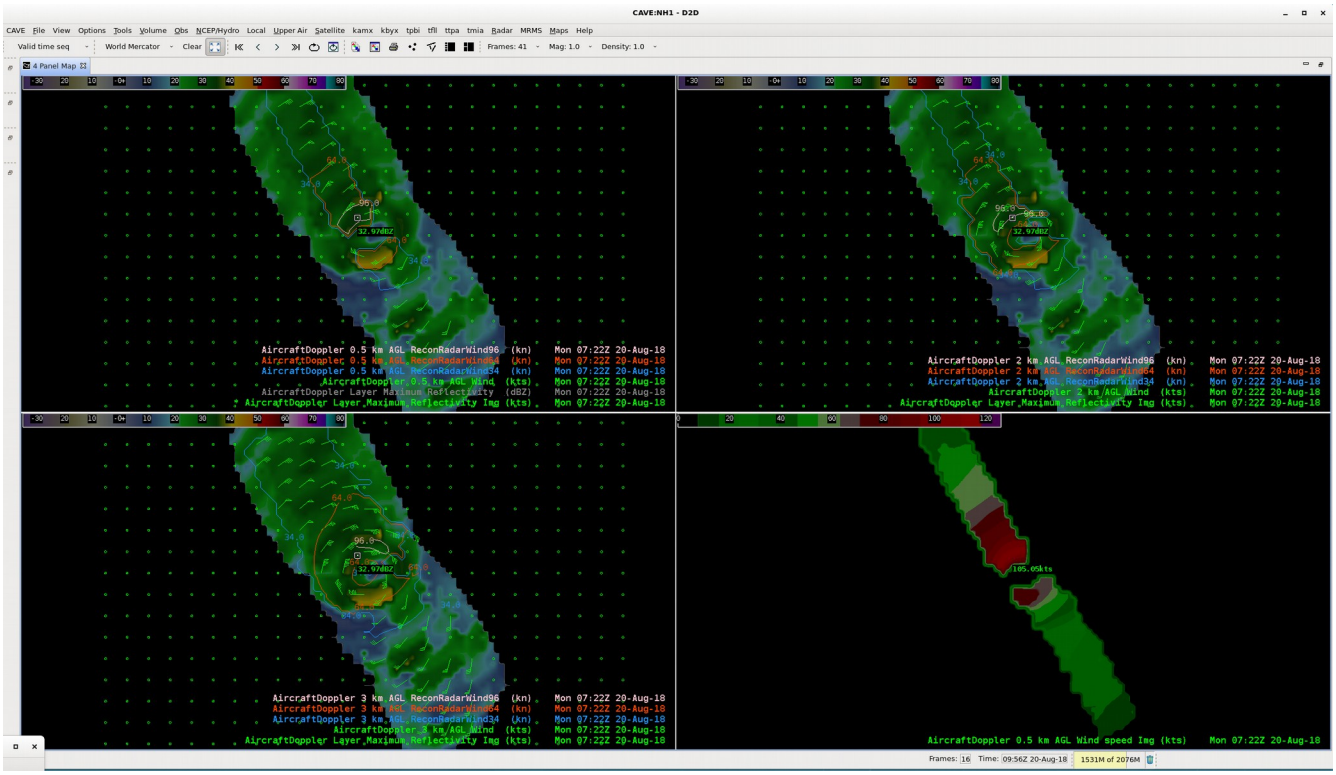
Append baseFamilies.xml.append to your site level version of baseFourPanelFamilies.xml. Do not overwrite.

```
  <contribute xsi:type="titleItem" titleText="------ Recon Radar ------"
                id="FamiliesLine" />


<contribute xsi:type="bundleItem" file="bundles/volume/ReconRadar.xml"
      menuText="ReconRadar" id="RECONRADAR" useReferenceTime="true">
      <substitute key="modelName" value="cmc"/>
      <substitute key="TP" value="TP"/>
      <substitute key="frameCount" value="41"/>
  </contribute>
```

4. cp /localapps/runtime/DropsondePlot/cave_static/bundles/volume to /awips2/edex/data/utility/cave_static/site/XXX/menus/volume

cp /localapps/runtime/DropsondePlot/cave_static/bundles/volume/* /awips2/edex/data/utility/cave_static/site/XXX/menus/volume


CAVE:NH1 - D2D
CAVE File View Options Tools Volume Obs NCEP/Hydro Local Upper Air Satellite kamx kbyx tpbi tfll ttpa tmia Radar MRMS Maps Help
Valid time seq
World Mercator
Clear
Frames: 41
Mag: 1.0
Density: 1.0
4 Panel Map
AircraftDoppler 0.5 km AGL ReconRadarWind96 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 0.5 km AGL ReconRadarWind64 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 0.5 km AGL ReconRadarWind34 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 0.5 km AGL Wind (kts) Mon 07:22Z 20-Aug-18
AircraftDoppler Layer Maximum Reflectivity (dBZ) Mon 07:22Z 20-Aug-18
AircraftDoppler Layer Maximum Reflectivity Img (kts) Mon 07:22Z 20-Aug-18
AircraftDoppler 2 km AGL ReconRadarWind96 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 2 km AGL ReconRadarWind64 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 2 km AGL ReconRadarWind34 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 2 km AGL Wind (kts) Mon 07:22Z 20-Aug-18
AircraftDoppler Layer Maximum Reflectivity Img (kts) Mon 07:22Z 20-Aug-18
AircraftDoppler 3 km AGL ReconRadarWind96 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 3 km AGL ReconRadarWind64 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 3 km AGL ReconRadarWind34 (kn) Mon 07:22Z 20-Aug-18
AircraftDoppler 3 km AGL Wind (kts) Mon 07:22Z 20-Aug-18
AircraftDoppler Layer Maximum Reflectivity Img (kts) Mon 07:22Z 20-Aug-18
105.05kts
AircraftDoppler 0.5 km AGL Wind speed Img (kts) Mon 07:22Z 20-Aug-18
Frames: 16 Time: 09:56Z 20-Aug-18 1531M of 2076M