McIDAS and the Aviation Weather Center

Amanda Terborg
UW CIMSS/Aviation Weather Center
2016 MUG Meeting – Madison, WI
15-16 November 2016

McIDAS-X concepts at the AWC

From the 2015 meeting:

- VIS/IR combination for ceiling and visibility → continuous day/night image
- Global mosaics → GEO/LEO composites
  - Issue with the change to the imgremap command in 2015.1…
- Other band differences/derived products → Convective, volcanic ash, SSTs, etc.

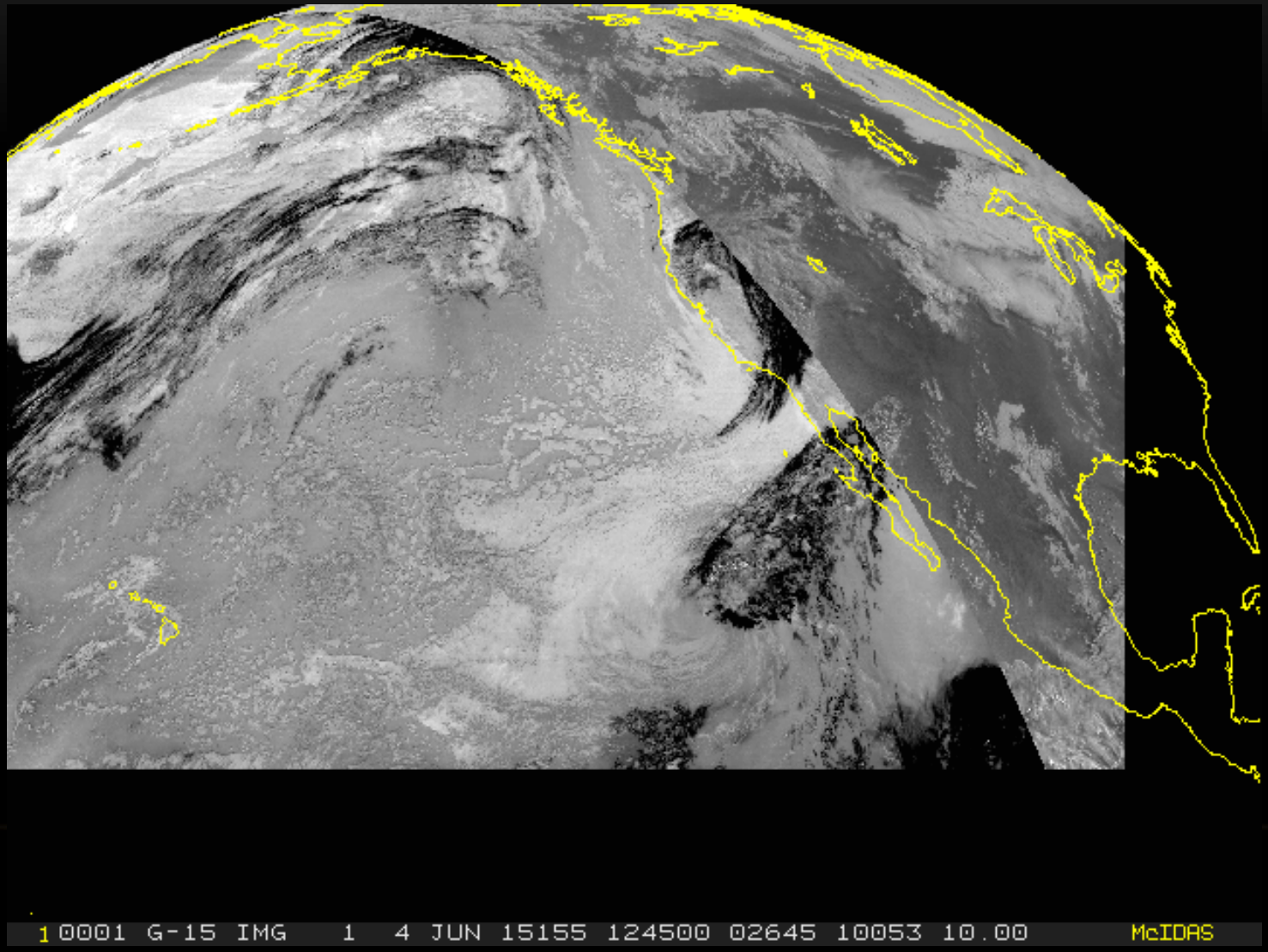
New items/concepts:

- Converting areas to AWIPS-2 compliant netcdfs → awipaput utility in XRD (CIRA)
- GOES-R data visualization → ABI and derived imagery
  - From PDA and GRB
  - "ABIN" navigation and N-AWIPS

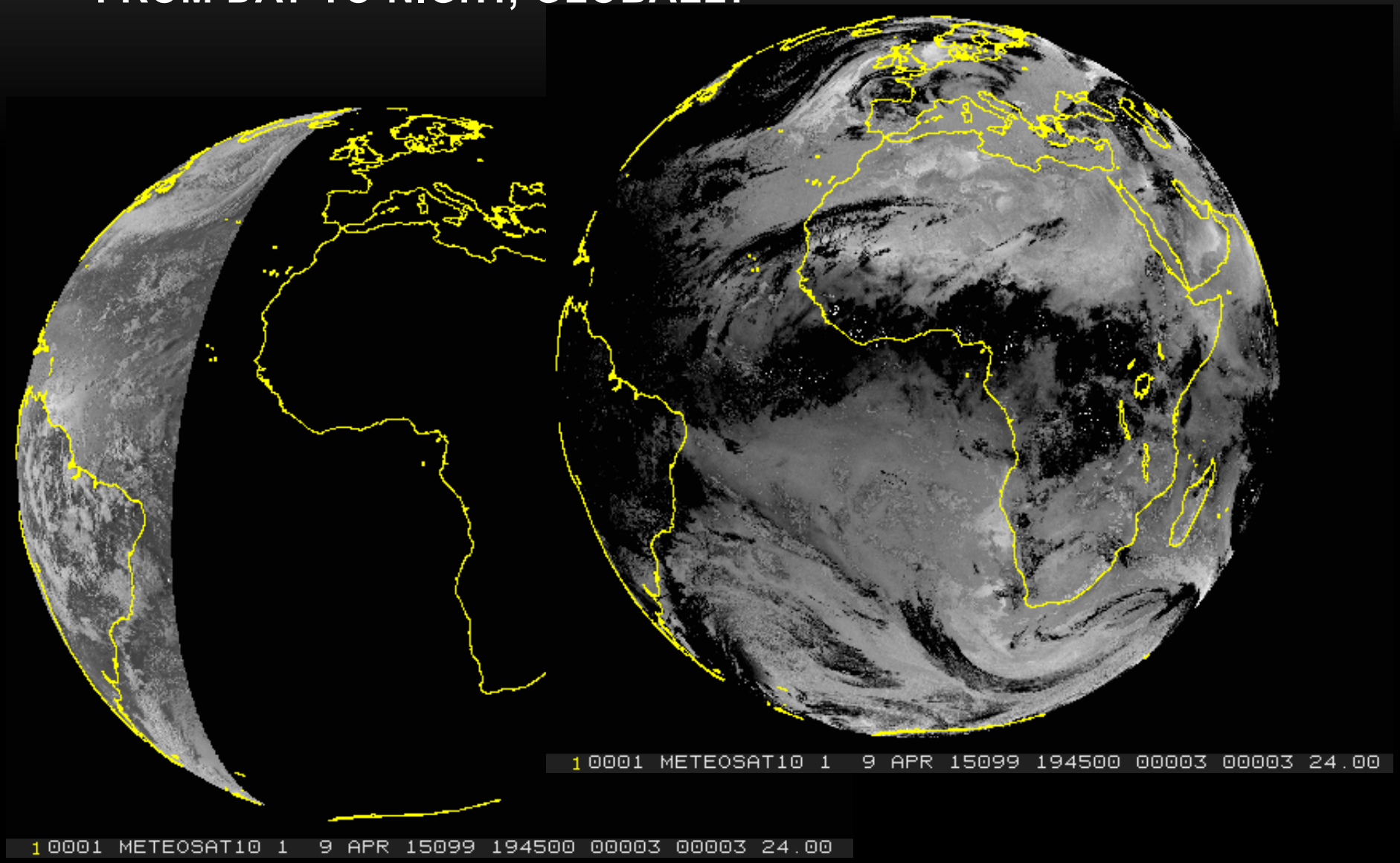
AWC concepts and noted issues with imgremap in 2015

MOSAICS

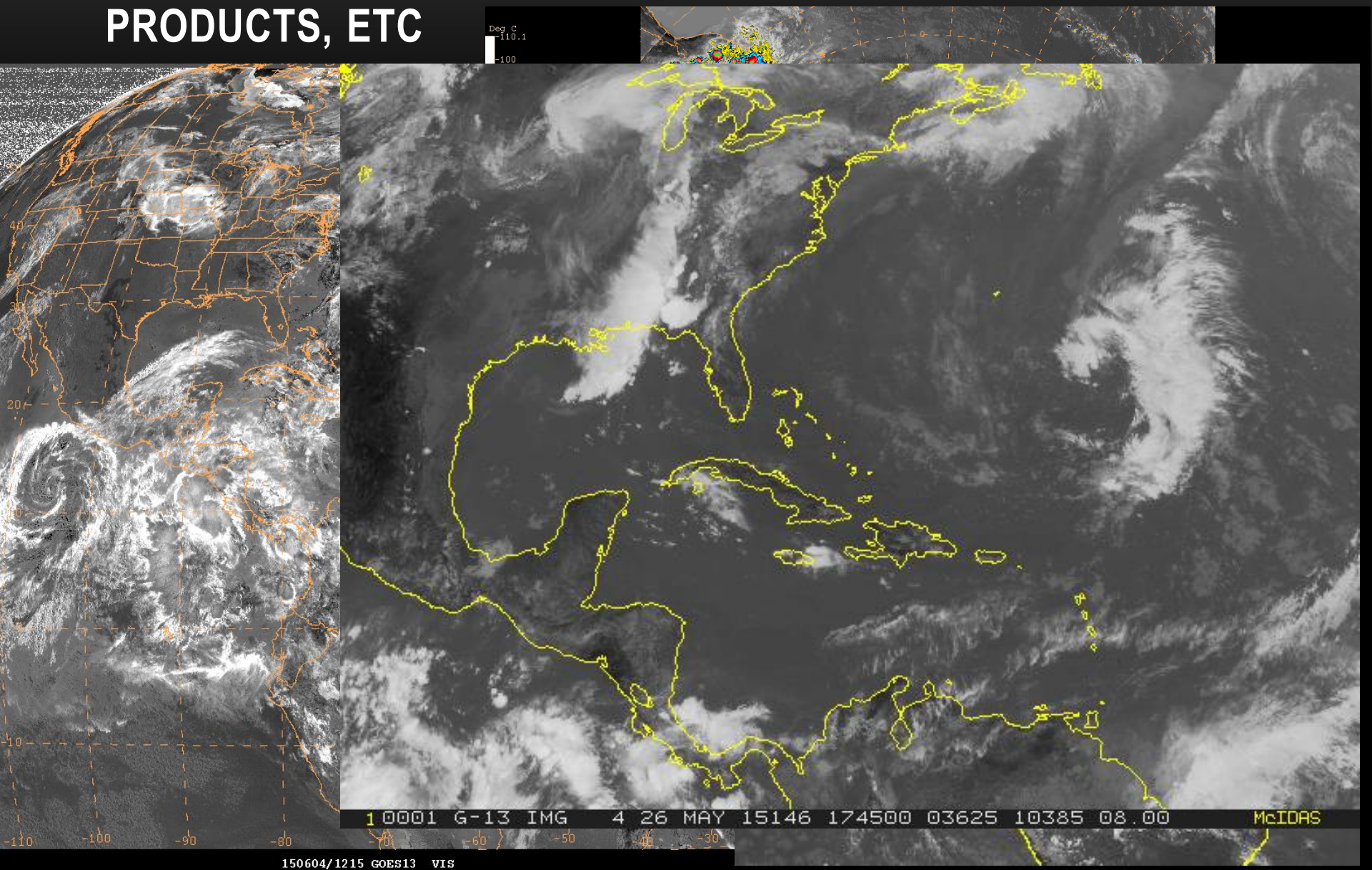
VISIBLE/INFRARED MOSAIC – CONTINUOUS COVERAGE FROM DAY TO NIGHT, LOCALLY



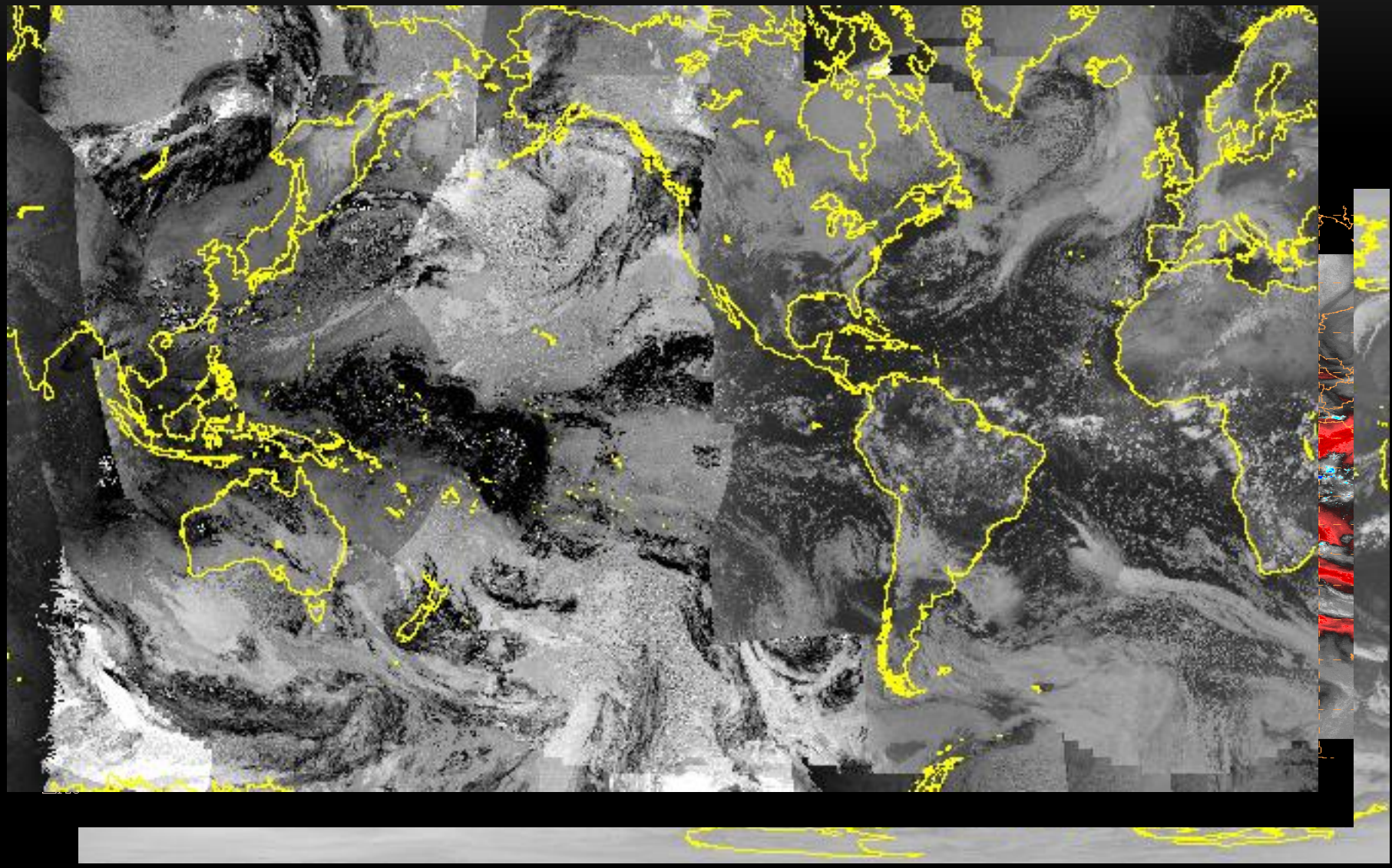
VISIBLE/INFRARED MOSAIC – CONTINUOUS COVERAGE FROM DAY TO NIGHT, GLOBALLY



OTHER MOSAICS – NORTH HEMI, POLAR VIEWS, DERIVED PRODUCTS, ETC



GLOBAL MOSAICS – FOR INTERNATIONAL FORECASTING



GLOBAL MOSAICS – FOR INTERNATIONAL FORECASTING

Two issues noted with 2014 to 2015 version and imgremap command. First, to generate mosaics, AWC uses this command to remap a base image:

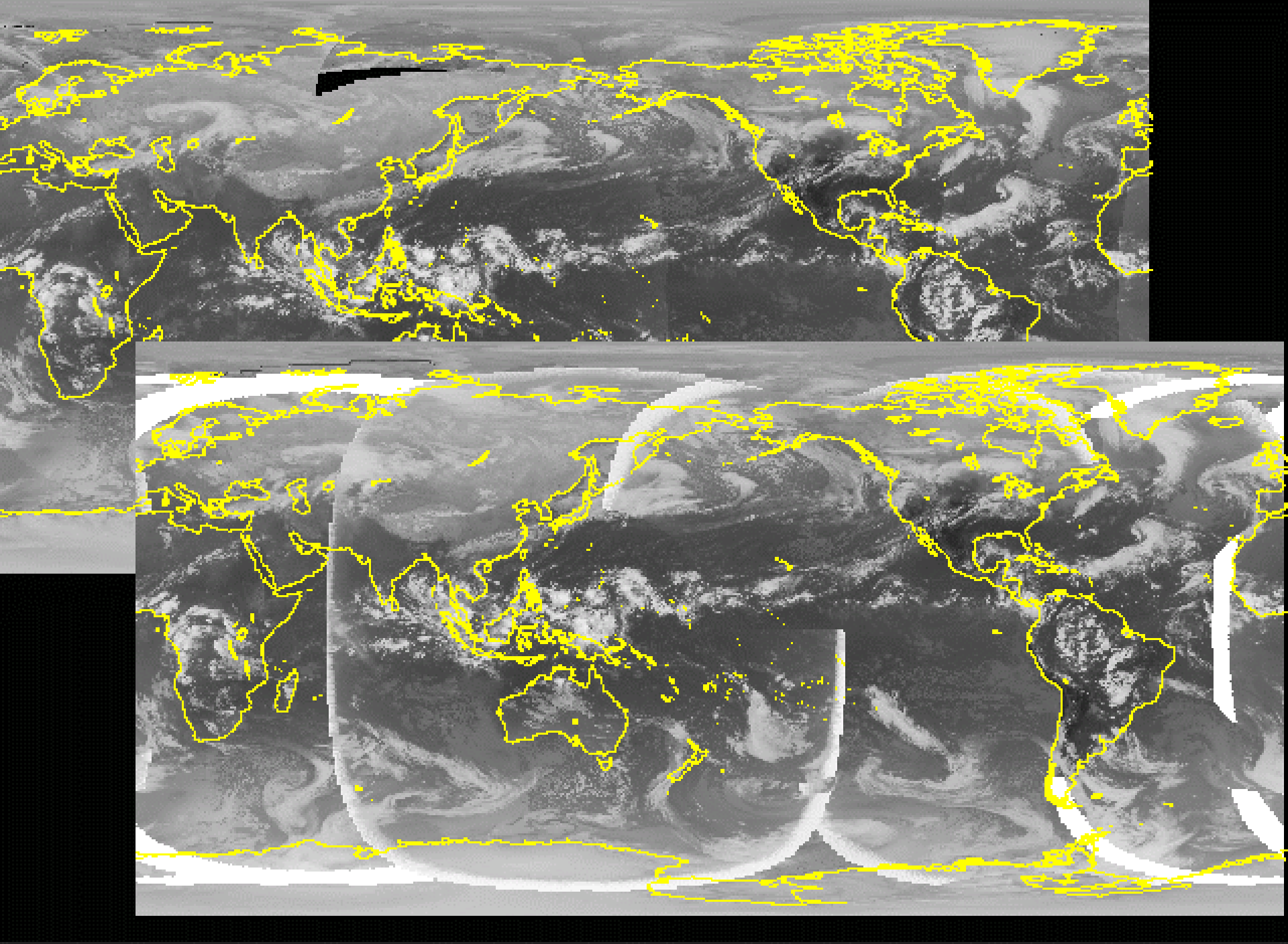
```
.TIMEOUT 10 IMGREMAP (C2) (C6A) PRO=RECT LATLON=0 180 RES=05 -
   SIZE=4001 8008 DEV=NNN
```

Where C2 is a GE north hemisphere image and C6 is the base mosaic. Then this command is looped to remap all other international satellites on top:

```
.TIMEOUT 10 IMGREMAP (CIN1) (C6A) MER=YES HTS=10. (DTEST) DEV=NNN
```

Where CIN1 is each satellite name and C6A is the basemap. DTEST is a limb cutoff value (we use 1.5 for GEOs). In this case it is a edge cutoff of 1.5 or a 70 degree cuttoff using the HTS keyword the imgremap command.

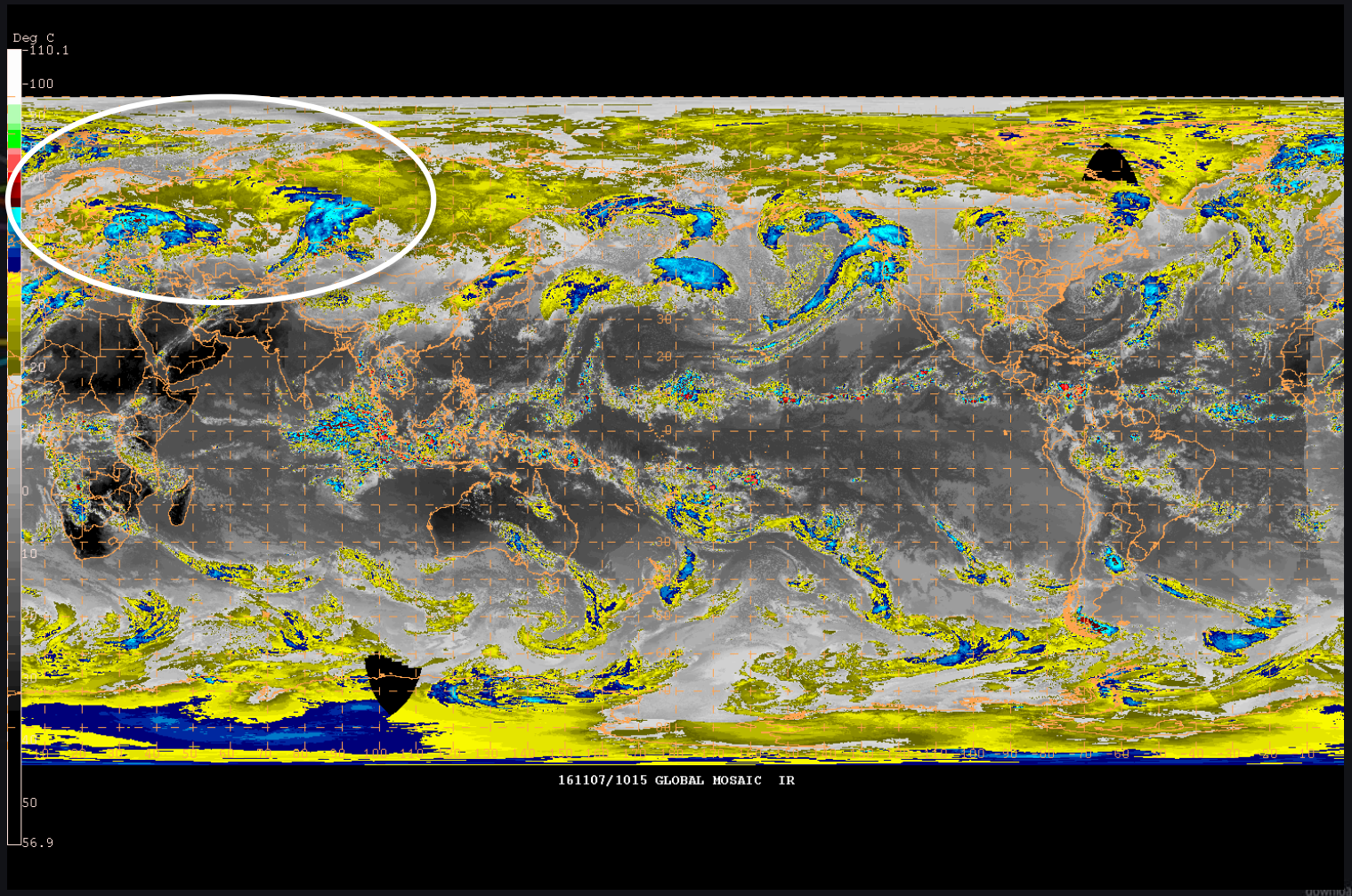
With the new imgremap command, HTS works but leaves lots of white space…


1 00001 11 31 OCT 16305 194500 08001 05997 14.00 McIDAS

So, use DIST instead:

.TIMEOUT 10 IMGREMAP (CIN1) (C6A) MER=YES DIST=7500 DEV=NNN

That works fine for the most part, but…

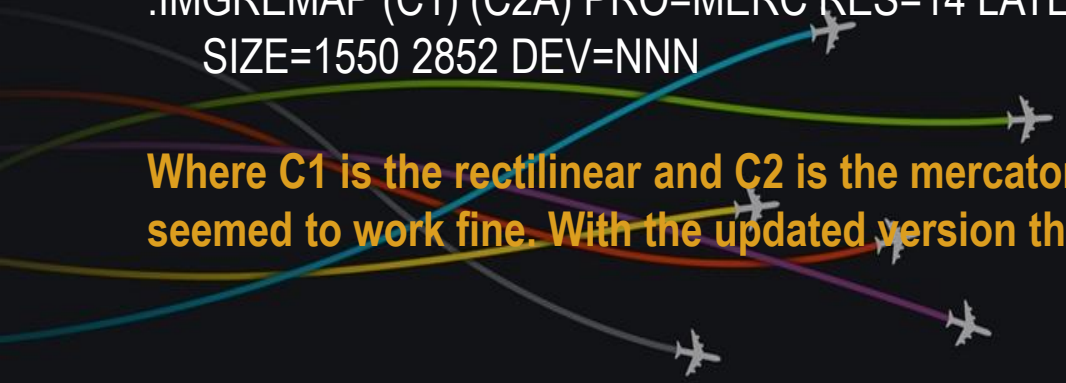


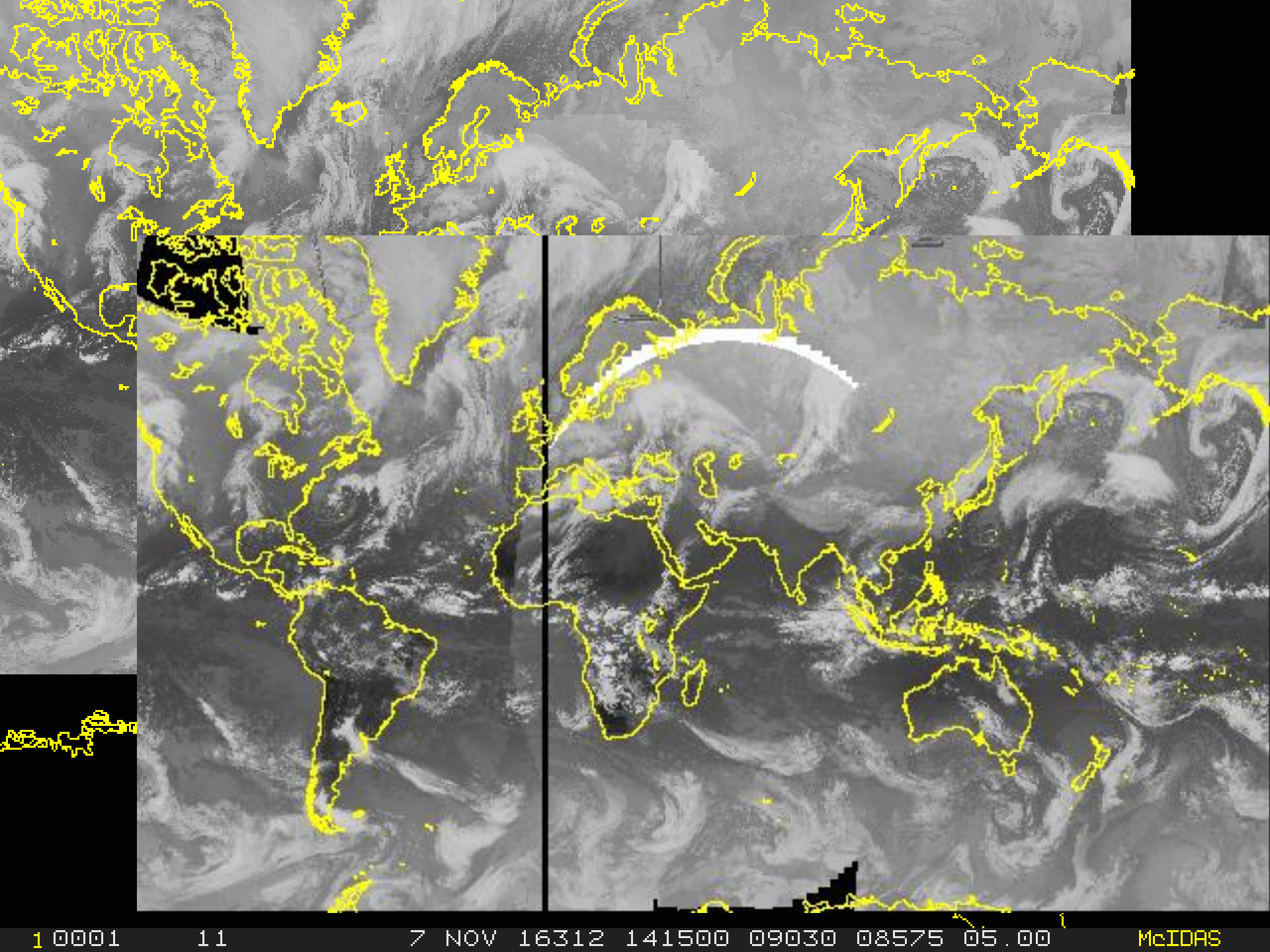
GLOBAL MOSAICS – FOR INTERNATIONAL FORECASTING

The second issue seems to involve reprojecting a global mosaic. AWC remaps from a 10km rectilinear to a 14km mercator:

```
.IMGREMAP (C1) (C2A) PRO=MERC RES=14 LATLON=5 110 -
    SIZE=1550 2852 DEV=NNN
```

Where C1 is the rectilinear and C2 is the mercator. In the old imgremap command this seemed to work fine. With the updated version there is a gap…




1 0001 11 7 NOV 16312 141500 09030 08575 05.00 McIDAS

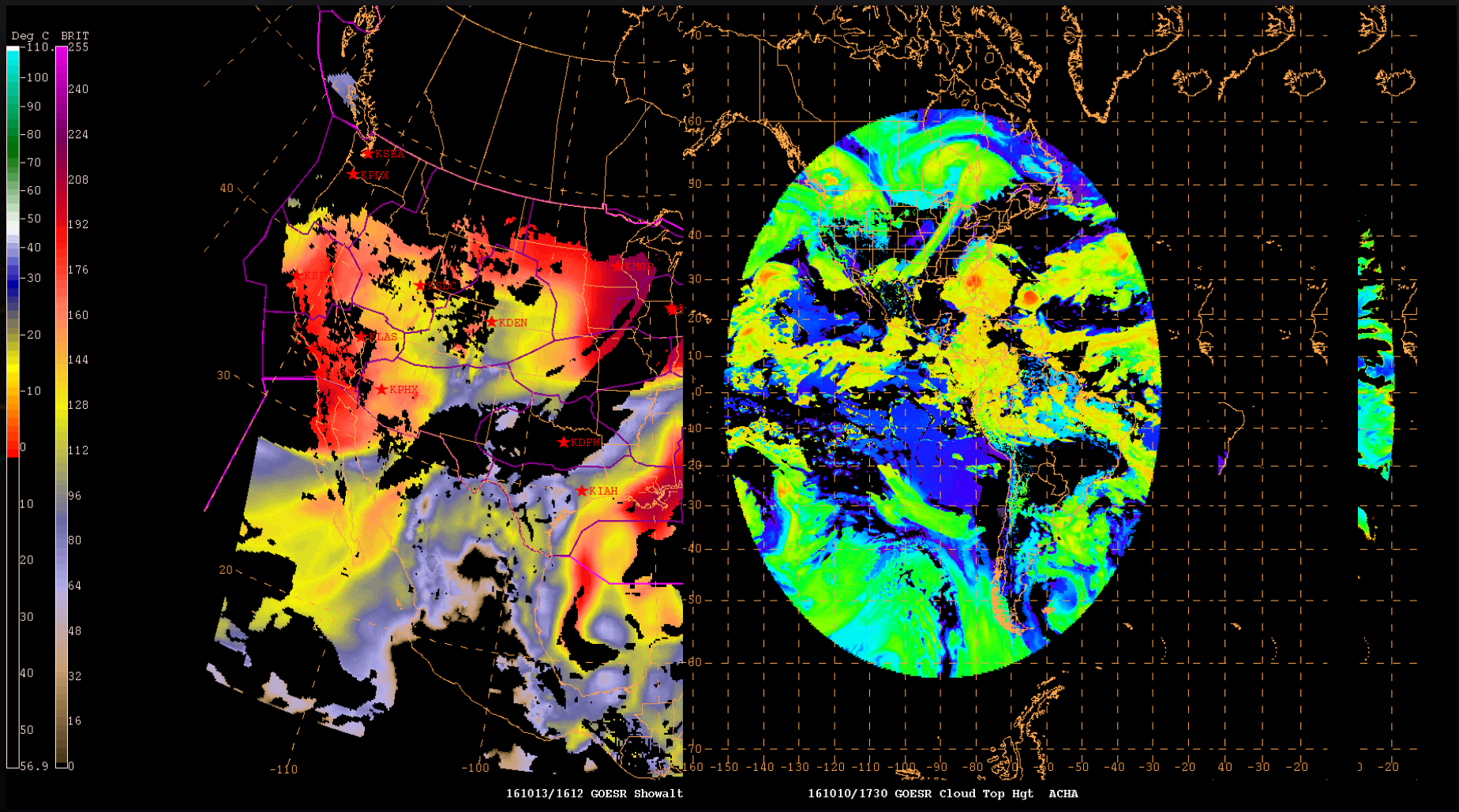
AWC mosaic imagery and GOES-R data visualization

AWIPS-2 AND N-AWIPS

AWIPS-2 AND N-AWIPS VISUALIZATION

- Worked with SPoRT to use awipaput function in XRD for AWIPS-2
  - As AWC transitions to AWIPS-2, we need netcdfs
  - Using awipaput with ncatted allows addition of needed variables for AWIPS-2 compliant netcdfs… depictorName, channel, & satelliteName
- GOES-R data visualization → N-AWIPS
  - With 2016.2, simulated GOES-R netcdfs can be converted to area files
  - These areas can then be visualized in N-AWIPS…
  - …with one issue → N-AWIPS/gempak cannot read the *ABIN* navigation so files need to be remapped into another projection/navigation

GOES-R DATA VISUALIZATION

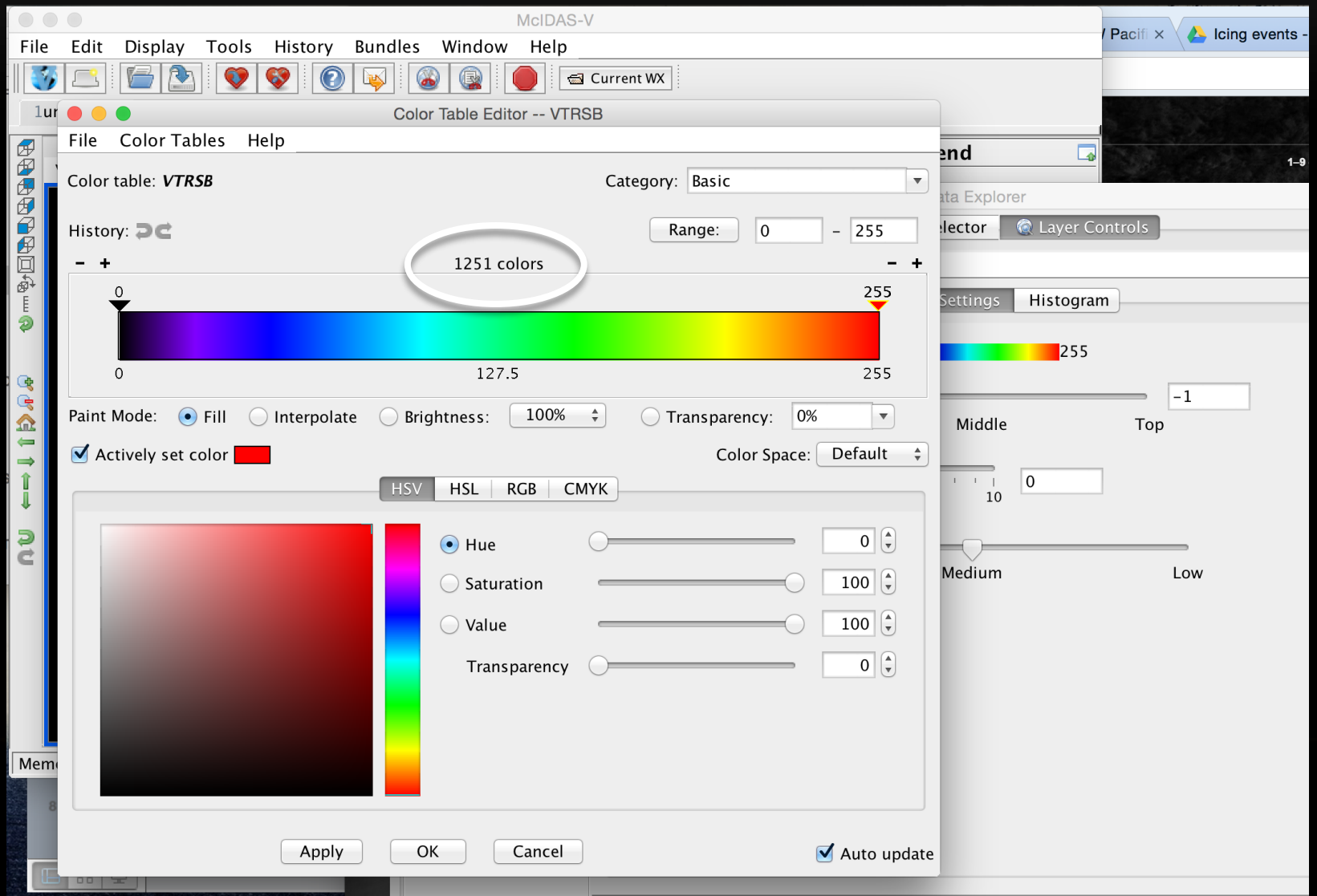


N-AWIPS style…

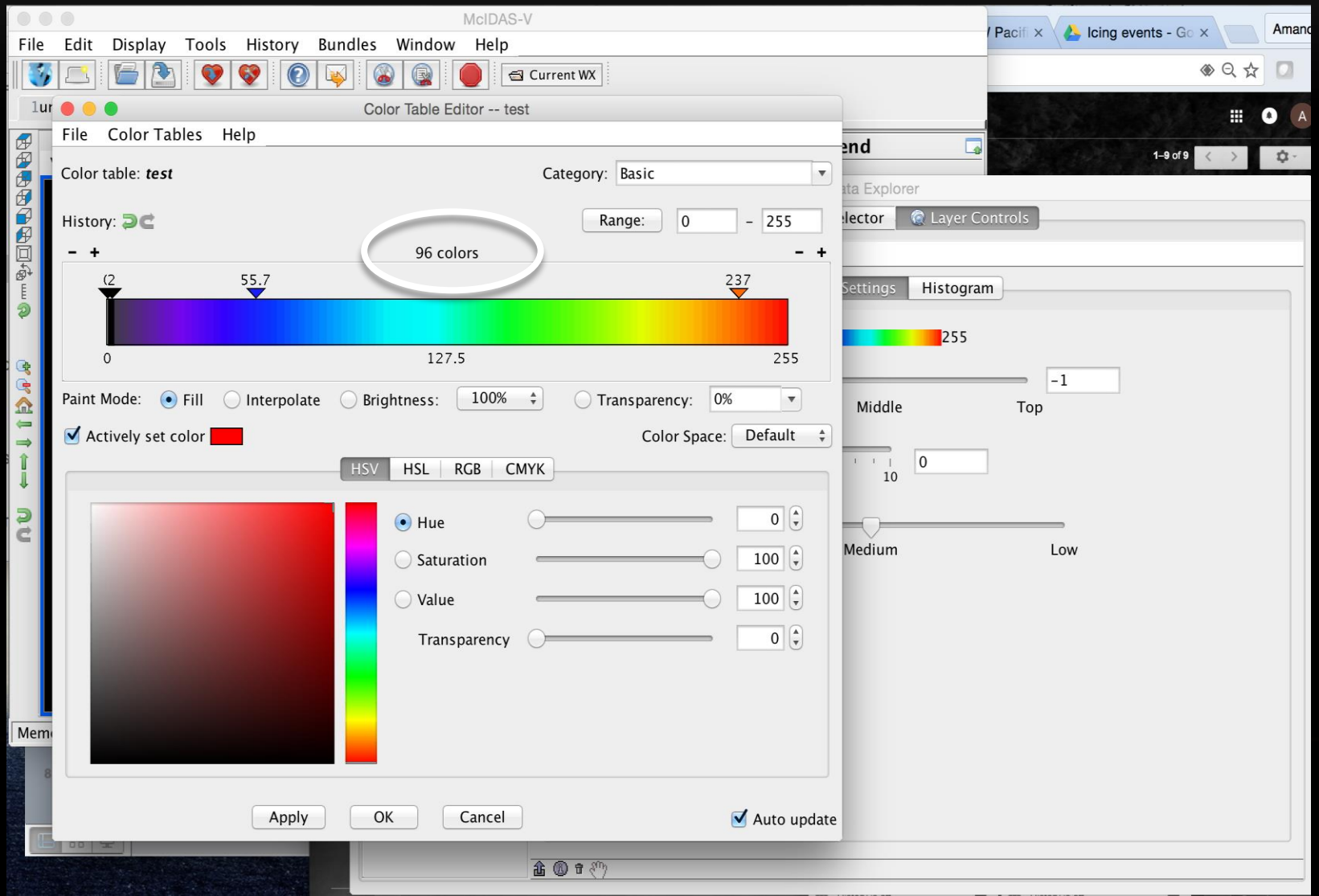
McIDAS-V CONCEPTS AT THE AWC

- Not the primary processing system (utilize McIDAS-X), but still has been useful
- GOES-R data visualization → color bars
  - Squashing an AWIPS-2 1024+ color scale into 96 colors for N-AWIPS → great color scale editing tool in McIDAS-V
  - Used to build colorbars for other future capability GOES-R data
- Recommended as a training tool for data visualization to WMO training group
  - WMO in Curacao → South American and Caribbean countries are using it
  - Plug in built for Geonetcast-A data visualization

MCIDAS-V CONCEPTS AT THE AWC



MCIDAS-V CONCEPTS AT THE AWC



Thanks for listening!

QUESTIONS?