

MODIS Imagery in D-2D

For Western and western Central Region Weather Forecast Offices

Instructions for AWIPS Installation

Jordan Joel Gerth

Cooperative Institute for Meteorological Satellite Studies

Space Science and Engineering Center

University of Wisconsin in Madison

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Contributors

This document and the products gained from this installation could not have been accomplished without the dedicated work and assistance of the individuals listed below.

Scott Bachmeier,

Russ Dengel,

Scott Lindstrom,

Jerrold Robaidek,

Kathy Strabala,

Steve Wanzong

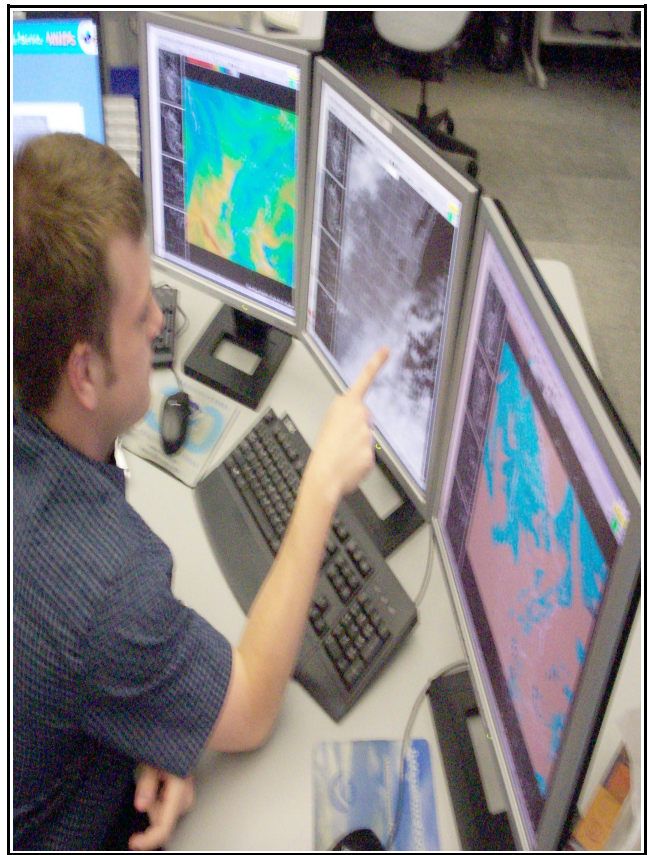
Space Science and Engineering Center
University of Wisconsin in Madison
Madison, WI

Kim Licitar

Information Technology Officer
National Weather Service Forecast Office
Milwaukee/Sullivan, WI

Jason Burks

Information Technology Officer
National Weather Service Forecast Office
Huntsville, AL



Above: Bill Borghoff, a SCEP at the NWSFO in Sullivan, reviewing satellite data using AWIPS.

Important Notes

This document is applicable only to offices located in Central Region (CRH) and Western Region (WRH). Moreover, these products are not considered operational. The Space Science and Engineering Center (SSEC) is not staffed around the clock. As a result, data outages may result periodically.

Contact Information

If you have questions regarding this document or experience installation problems, please contact Jordan Gerth, SSEC, jordang@ssec.wisc.edu or jordan.gerth@noaa.gov.

For questions and comments about these images and future developments involving satellite imagery in AWIPS, contact Kathy Strabala, SSEC, kathys@ssec.wisc.edu.

A copy of this document as well as updates and sample imagery is maintained at <http://cimss.ssec.wisc.edu/~jordang/awips-modis>. This is version 1.50.

The address for the University of Wisconsin Space Science and Engineering Center is 1225 W. Dayton Street, Madison, WI 53706.

Instructions

!! Always use /tmp as your temporary directory when applying these instructions. These scripts have been written to look for files in /tmp/modis-setup. Every time directions request to extract a new tarball, make sure to have deleted the old, previous modis-setup directory. !!

!! Assure that the temporary files have the proper file permissions before running scripts. !!

Use the two Perl scripts included with color table manipulation package manage-ct.tar to extract the color tables from SSEC's ModisColors.nc and add into customColorMaps.nc as located in /data/fxa/workFiles. The manage-ct.tar file can be extracted into a temporary location of choice. Refer to instructions.txt for information about how to use the utility. It might be a good idea to backup the initial version of customColorMaps.

To add MODIS menu items under "Satellite" on each AWIPS D-2D workstation, extract the files in modis-setup-loc.tar on PX1, modify the depict keys file to make sure the key numbers (first column) are not already used on your system and the color tables (last column) correspond to the correct number in customColorMaps, and run localization.sh from within. Upon successful completion, delete the modis-setup directory and tarball, then force run a '-tables' and '-dataSups' localization on each workstation as user fxa.

```
su - fxa
cd /tmp
tar -xvf modis-setup-loc.tar
cd modis-setup
vi UW-localDepictKeys.txt
    Modify keys currently numbered 7352, 7354, 7356, 7357, 7358, 7359, 7380, 7381, 7382,
7383, 7384, and 7385; note changes
./localization.sh      # Ignore errors if previous files do not exist
cd ../
rm -rf modis-setup
rm -f modis-setup-loc.tar
cd /awips/fxa/data/localization/scripts
./mainScript.csh f -tables -dataSups
```

To create the data management system (directory structure, data monitor, and purger) for the MODIS files, extract the files in modis-setup-px1.tar to the temporary directory on PX1 and run px-monitor-purge.sh as user fxa. Delete the temporary modis-setup directory when complete, then run a '-tables', '-dataSups', and '-dirs' localization on PX1 as user fxa. The html-add.sh script may need to be rerun after an AWIPS build upgrade.

```

su - fxa
cd /tmp
tar -xvf modis-setup-px1.tar
cd modis-setup
./px-monitor-purge.sh          # Also runs two other scripts in directory
cd ../
rm -rf modis-setup
rm -f modis-setup-px1.tar
cd /awips/fxa/data/localization/scripts
./mainScript.csh -tables -dataSups -dirs

```

Caution: The LDAD is not used to process MODIS files; there is no preprocess script and subsequently there is no entry in the LDADinfo.txt file. During testing, it was discovered that the LDAD could not maintain a load of incoming MODIS products.

Important: The MODIS files are filed in their LDM state (compressed) on LS1, but moved to PX1 for processing and filing. This is done by setting and running a cron task *at least once hourly*, which will be done in the following step. It is important to make sure this cron task exists and is executing properly or MODIS products may quickly overwhelm LS1. The process script writes to a log file in /data/logs/fxa/[...].

As user fxa on PX1, uncompress processMODIS.pl.gz in a local directory of choice. That is, choose a directory that is not overwritten during an operational build upgrade and contains other local applications. Since processMODIS.pl is an executable, it may be best placed in a bin directory, but not /awips/fxa/bin. Kim Licitar suggested this procedure:

```

su - fxa
cd /data/local/localapps          # Choose the directory you wish
mkdir MODIS
mv /tmp/processMODIS.pl.gz MODIS
cd MODIS                          # Move to that directory
gunzip processMODIS.pl.gz
chmod 775 processMODIS.pl
su - root
vi /etc/cron.d/SITEpx1cron        # Make cron change in two files
vi /etc/ha.d/cron.d/SITEpx1cron  # After the first file complete
ssh px2 vi /etc/ha.d/cron.d/SITEpx1cron # In case PX1 fails
<Page Up>                         # vi command to move to bottom of file
a                                  # vi command to append
<Enter>                            # vi command to add blank line
# Process MODIS products from CIMSS/SSEC
5,20,35,50 * * * * fxa
    csh -c '/data/local/localapps/MODIS/processMODIS.pl >& /dev/null'
<Esc>                              # vi command to stop append mode
:wq!                                # vi command to write and quit

```

Run a '-tables' and '-purge' localization on DX1 as fxa to acknowledge the new product and associated purge information, then restart the purge process. The notification server will need restarting as well.

```

su - fxa
cd /awips/fxa/data/localization/scripts

```

```

./mainScript.csh -tables -purge
cd /awips/fxa/bin
./stopPurgeProcess
./startPurgeProcess
./stopNotificationServer
./startNotificationServer

```

If there are no errors with the '-purge' localization, do the same on DX2. Remember, if DX1 is offline, there is nothing running to purge the incoming files on LS1.

```
ssh dx2 /awips/fxa/data/localization/scripts/mainScript.csh -purge
```

On LS1 as ldm user, extract the files in modis-setup-ls1.tar to a temporary directory and run ldad.sh. Delete the temporary directory when complete.

```

su - ldm
cd /tmp
tar -xvf modis-setup-ls1.tar
cd modis-setup
./ldad.sh
cd ../
rm -rf modis-setup
rm -f modis-setup-ls1.tar

```

Make the following addition to ldmd.conf in /usr/local/ldm/etc at the appropriate location:

```

request EXP ".*_AWIPS_MODIS_WEST_.*" ldm.crh.noaa.gov # Central Region
request EXP ".*_AWIPS_MODIS_WEST_.*" galileo3.srh.noaa.gov # Western Region

```

Create the initial storage directory for the compressed MODIS data on LS1 as ldad user.

Give the directory proper permissions.

```

su - ldad
cd /data/ldad
mkdir MODIS
chmod 775 MODIS

```

Restart the Local Data Manager on LS1 as ldm user. Watch the EXP feed if you wish.

```

su - ldm
cd /usr/local/ldm/runtime/bin
./ldmadmin.in stop
./ldmadmin.in start

```

This completes the installation. Products will arrive in AWIPS following the next pass of either MODIS satellite. The MODIS passes over the course of a day are irregular, so the wait could be several hours for a complete set depending on the time and date.

Development History

Advanced Satellite Products in AWIPS – Phase Three



July 20, 2006 – Initial stable beta version released

August 1, 2006 – Official release of version 1.0

General information about MODIS can be found at <http://modis.gsfc.nasa.gov/>