GOES High Density Mesoscale Wind Vectors in AWIPS D-2D

Instructions for NWSFO Installation

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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.

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Important Notes

This document is only applicable *to offices located in Central Region (CRH), particularly the Great Lakes and Northern Plains.* GOES mesoscale winds are gained from this installation. These winds are at a higher spatial and temporal resolution than the high density winds presently in AWIPS. The winds are not considered operational, and should be used with care. 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 GOES mesoscale winds in AWIPS, contact Wayne Feltz, SSEC, waynef@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-goes/meso. This is version 1.00.

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Instructions

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

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

To create the data management system (directory structure, decoder, data monitor, log breaker, and purger) for the GOES mesoscale winds files on PX1, which is recommended, extract the files in gcsw-setup-px1.tar to the temporary directory and run the shell script px-pro-mon-pur.sh as user fxa. No files in the AWIPS baseline are overridden, but some files in this distribution are placed into baseline directories on PX1 (/awips/fxa/bin and /awips/fxa/data). Upon completion, remove the temporary gcsw-setup directory, then force run a '-tables', '-dataSups', and '-dirs' localization on PX1 as user fxa. It is possible the some of these scripts may need to be rerun after an operational build upgrade.

```
su - fxa
cd /tmp
tar -xvf gcsw-setup-px1.tar
cd gcsw-setup
```

```
        ./px-pro-mon-pur.sh            # Also runs two other scripts in directory
        cd ../
        rm -rf gcsw-setup
        rm -f gcsw-setup-px1.tar
        cd /awips/fxa/data/localization/scripts
        ./mainScript.csh f -tables -dataSups -dirs
```

Copy the two files that start with 'csw' in /awips/fxa/data on PX1 to all workstations, such as LX and NA machines. These files are needed only on machines which run the D-2D.

```
        cd /awips/fxa/data
        scp csw* xxY:/awips/fxa/data       # where xxY is lx1, lx2, lx3, na1, etc.
```

To add GOES winds menu items under "Satellite" on each AWIPS D-2D workstation, extract the files in gcsw-setup-loc.tar on PX1, review the depict keys file to <u>make sure the key numbers (first column) are not already used on your system</u>, and run localization.sh from within. Upon successful completion, delete the gcsw-setup directory and tarball, then force run a '-tables' and '-dataSups' localization on each workstation as user fxa.

```
        su - fxa
        cd /tmp
        tar -xvf gcsw-setup-loc.tar
        cd gcsw-setup
        ./localization.sh      # Ignore errors if previous files do not exist
        cd ../
        rm -rf gcsw-setup ; rm -f gcsw-setup-loc.tar
        /awips/fxa/data/localization/scripts/mainScript.csh f -tables -dataSups
```

<u>Caution</u>: **The LDAD is not used to process GOES mesoscale winds BUFR files; there is no preprocess script and there is no entry in the LDADinfo.txt file. The LDAD would likely be unable to maintain a load of incoming GOES mesoscale winds BUFR files.**

<u>Important</u>: **The GOES mesoscale winds are filed in their LDM state on LS1, but moved to PX1 for processing by a special decoder. This is done by setting and running a cron task *at least every ten minutes,* which will be done in the following step. It is important to make sure this cron task exists and is executing properly or disk space on LS1 may become full with BUFR files. The process script writes to a log file in /data/logs/fxa/[...].**

As user fxa on PX1, uncompress moveGCSW.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 moveGCSW.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 GCSW
        mv /tmp/moveGCSW.pl.gz GCSW
        cd GCSW                              # Move to that directory
        gunzip moveGCSW.pl.gz
        chmod 775 moveGCSW.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 GOES mesoscale winds from CIMSS/SSEC
    6,16,26,36,46,56 * * * * fxa
       csh -c '/data/local/localapps/GCSW/moveGCSW.pl &> /dev/null'
    # Break CSW log file at the beginning of each day
    3 0 * * * fxa
       csh -c '/awips/fxa/bin/breakLogIngestCSW >&! /data/logs/fxa/bliCSW.log'
    <Esc>                      # vi command to stop append mode
    :wq!                       # vi command to write and quit
```

Force run a localization on DX1 as fxa to acknowledge the new product information, then restart the purge process. The notification server will need to be restarted as well.

```
    su - fxa
    cd /awips/fxa/data/localization/scripts
    ./mainScript.csh f -purge -dataSups -tables
    cd /awips/fxa/bin
    ./stopPurgeProcess ; ./startPurgeProcess
    ./stopNotificationServer ; ./startNotificationServer
```

If there are no errors with the '-purge' localization, do the same on DX2. Remember, if PX1 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 gcsw-setup-ls1.tar to a temporary directory and run ldad.sh. Delete the temporary directory when complete.

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

Create the initial storage directory for the GOES winds BUFR files on LS1 as ldad user.

```
    su - ldad
    cd /data/ldad
    mkdir GCSW ; chmod 775 GCSW
```

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

```
    request EXP "JCSW.*" ldm.crh.noaa.gov
```

Restart the Local Data Managers where changes were made, then check the EXP feed.

```
    su - ldm
    cd /usr/local/ldm/runtime/bin
    ./ldmadmin.in stop ; ./ldmadmin.in start ; ./ldmadmin.in watch -f EXP
```

Start the decoder on PX1 to complete the installation. GOES winds will arrive shortly.

```
    su - fxa
    /awips/fxa/bin/startIngest.csw    # stopIngest.csw to stop the ingest
```