

Instructions for Ingesting and Displaying SPoRT LIS GRIB2 files in AWIPS II

Date: 25 Sep 2015

Ver. of AWIPS II: 14.3.4 or 15.1.1

Configuring EDEX

*Perform the following on your EDEX server (dx3) as user awips

1) Create a new LIS GRIB model definition file by copying the file provided in the tarball:

- `ssh awips@dx3`
- `cp edex/gribModels_lis.xml /awips2/edex/data/utility/edex_static/site/<3-letter site ID (e.g. HGX)>/grib/models/gribModels_lis.xml`

2) Create new parameter files to support the LIS GRIB files:

If the path doesn't already exist, create /awips2/edex/data/utility/edex_static/site/<3-letter site ID>/grib/tables/7/138

- `cp *.table /awips2/edex/data/utility/edex_static/site/<3-letter site ID>/grib/tables/7/138/.`

3) Allow the ingest of the LIS GRIB files (names containing ".grb2") by modifying the distribution file (/awips2/edex/data/utility/edex_static/site/<3-letter site ID>/distribution/grib.xml) to include the statement below. If this file doesn't exist, copy it from base (/awips2/edex/data/utility/edex_static/base/distribution/grib.xml) and then edit.

- `<regex>.grb2</regex>`

4) Modify the GRID purge rules file (/awips2/edex/data/utility/common_static/site/<3-letter site ID>/purge/gridPurgeRules.xml) to include the following. This will retain files for three days New data arrive every 6 hours at approximately 0530Z, 1130Z, 1730Z, 2330Z with 3-hourly data resolution, although some of the longer term Relative Soil Moisture change files are only delivered once daily, at 12Z. However, you may feel free to modify the purge rules period to fit your needs. A sample snippet file (edex/gridPurgeRules_snippet.xml) is provided for your use, which you may copy and paste into the existing gridPurgeRules.xml file.

```
<!-- Purge rules for NASA SPoRT LIS -->
<rule>
  <keyValue>LIS-CONUS</keyValue>
  <period>03-00:00:00</period>
</rule>
```

5) Restart EDEX on EDEX servers, ensuring the GRIB decoder is started

- `service edex_camel restart ingestGrib`
- `service edex_camel restart ingest`

Configuring LDAD

*Perform the following on px1 machines as user ldad

1) Add the following entry to your LDADinfo.txt file. From a terminal window in AWIPS

- `ssh ldad@px1`
- `cd data/fxa/LDAD/data`
- `cp LDADinfo.txt LDADinfo.txt.YYYYMMDD`
- `vi LDADinfo.txt`

Add the following line to the file (no need to worry about tabs). A sample snippet of the file (ldad/LDADinfo_snippet.txt) is provided for your use, which you may copy and paste into the file.

- `lis | | | | |preProcessGRIB2.pl |`

2) Now you need to restart LDAD processes on px2

- `/awips/ldad/bin/stopLDAD.sh`

** Wait for terminal prompt to return **

- `/awips/ldad/bin/startLDAD.csh`

****Configuring LDM****

*Perform the following on ls1 as user ldm

1) Ensure you are in the correct directory for your ldm server

- `ssh ldm@ls1`
- `cd /usr/local/ldm/etc`

2) Make a copy of the existing pqact.conf and ldmd.conf files

- `cp pqact.conf pqact.conf.YYYYMMDD`
- `cp ldmd.conf ldmd.conf.YYYYMMDD`

3) Now edit the ldmd.conf file to add the following entry. Replace <NWS LDM server> with the IP/address of your regional LDM server (e.g., srh-ls-cpnrs2.srh.noaa.gov). Be sure to adhere to spacing rules of the file and USE TABS between columns. A sample snippet of the file

(ldm/ldmd.conf_snippet.txt) is provided for your use, which you may copy and paste into the file.

- **REQUEST EXP "sportlis_conus3km_awips" <NWS LDM server>**

4) Open the pqact.conf file and add the following entries. This will ensure you get all of the SPoRT LIS products locally ingested via the LDM. Be sure to USE TABS between columns when editing this file. Each line starts with EXP and ends with the /data/Incoming/\1. A sample snippet of the file (ldm/pqact.conf_snippet.txt) is provided for your use, which you may copy and paste into the file.

- **EXP (sportlis_conus3km_awips_....._.....\.grb2)
FILE -overwrite -close /data/Incoming/\1**

5) Stop your ldm server, check your pqact file for errors (fix if necessary), and restart your ldm server

- **ldmadmin stop**
- **ldmadmin pqactcheck**
- **ldmadmin start**

6) If all went well with the preceding steps, you can now copy those two configuration files over to ls3.

- **scp ldmd.conf ls3:/usr/local/ldm/etc**
- **scp pqact.conf ls3:/usr/local/ldm/etc**

Color Maps

***Perform the following on your EDEX serves (dx3) as user awips**

1) There are new colormaps created for the various LIS parameters that are included in the colorMaps directory in the bundle:

- LIS_VolumetricSoilMoisture.cmap
- LIS_RelativeSoilMoisture.cmap
- LIS_WeeklyChange_1.cmap
- LIS_SoilTemp_new.cmap
- LIS_Greenfrac.cmap

Initially, you may place these in your local user file on edex in the following path...
/awips2/edex/data/utility/common_static/user/[**your username**]/colormaps, or you may go ahead and copy over to the SITE colormaps directory.

Checking the Products

1) A sample LIS .grb2 file is provided in the SampleData directory for testing purposes. To ingest these data, copy it into /data/Incoming on ls1 (or ls2).

2) Once the data have been ingested, the following SPoRT LIS products will be available through the Product Browser (CAVE→Data Browsers→Product Browser, then Grid→LIS-CONUS).

- AVSFT: Average Surface Skin Temperature (F)
- CHGRSM, CHGRSM14, CHGRSM30, CHGRSM90, CHGRSM182, CHGRSM365 (percent change in 0-200 cm Relative Soil Moisture on 7, 14, 30, 90, 182 and 365 day timescales)
 - 2.0-0.0 BLS: 0-200 cm depth
- RSM: Relative Soil Moisture (%)
 - 0.1-0.0: 0-10 cm depth
 - 0.4-0.1: 10-40 cm depth
 - 1.0-0.4: 40-100 cm depth
 - 2.0-0.0: 0-200 cm depth
 - 2.0-1.0: 100-200 cm depth
- SOILW: Volumetric Soil Moisture Content (%)
 - 0.0-0.1: 0-10 cm depth
- TSOIL: Soil Temperature
 - 0.0-0.1: 0-10 cm depth
- VEG: Green Vegetation Fraction (%)

2) To make the data available through the *Volume Browser*, please see the separate set of instructions, LISInVolumeBrowser.pdf.

Let me (Kris White) know if you have any questions or encounter any problems and I'll be glad to help!

- Email: kris.white@noaa.gov
- Phone: 256-890-8503 ext 232