McIDAS-XCD Status

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McIDAS-XCD Update

- McIDAS GRIB server has continued its stable performance following the -XCD 2006 release (-XCD GRID filing still available but very limited support)
- GRIB2 file support continues for those files that come across the NOAAPORT feed or as requested by McIDAS users
- BUFR file naming conventions have improved but some file sources remain unidentified and are labeled as “UNKN”

GRIB2 Files Update

- GRIB2 files available mainly over the NGRID and CONDUIT feeds using the LDM
- NOAAPORT has continued to send GRIB1 data over the WMO/HDS feed and will do so for the foreseeable future
  - No schedule to change to GRIB2 has been established
- GRIB1 was discontinued on the NCEP and TOC FTP servers on January 28, 2008, and replaced entirely by GRIB2

GRIB2 Issues

- Lack of geographic ID in GRIB2 conflicted with the -XCD naming of GRIB1 files
  - Navigation parameters can still be determined from the data, however
  - Using the file grib2NavLookup.txt, -XCD matches the navigation parameters with the MUG Team defined GRIB2 model name
    - e.g. NAM-USLCAW12 is the NAM Lambert Conformal 12-km AWIPS grid

GRIB-2 Issues (continued)

- Uniform naming of GRIB files is desired, especially in relation to a future archive GRIB server
- MUG Team and the Datacenter have determined that naming all files with the GRIB2 naming convention is the way to proceed
  - Eventually the files on NOAAPORT will all be converted to GRIB2
  - Archived GRIB1 data will still need to be accessed
  - Currently, a one-to-one correspondence between existing GRIB1/GRIB2 files has been difficult to track down
  - It appears that any future model data will be created in GRIB2 format, but yet NOAAPORT continues to send GRIB1 data

GRIB2 Tables

- Identification of GRIB2 data has continued as new data comes in
  - grib2NavLookup.txt and grib2NCEPModels.txt allow for the identification of GRIB2 model data based on the data's navigation parameters
    - If -XCD users come across unknown GRIB2 data, they can use the "grib2nav" executable to get the navigation parameters to add to their own copies of grib2NavLookup.txt
  - grib2Parameters.txt allows for the identification of GRIB2 data parameters such as temperature, pressure, and wind speed based on Discipline, Category, and Number
    - If -XCD users come across unknown GRIB2 parameters, they can add the new ones to their own copies of grib2Parameters.txt
    - Not sure what to do with 255, 255, 255 that has cropped up recently

GRIB2 Available Datasets via LDM (RTGRIB2 via McADDE)

NOAAPORT	NGRID		CONDUIT
NCE-* (NCEP)	DGEX-*	GLW-*	GFS (0.5/1.0 degree)
GFS-USLCAWI4	FGF-*	MGWM-*	RUC (20/40/80 km)
GFS-AKPS2	LMP-*	NAM-*	
PSS-*	GFS-*	NDF-*	
	RTM-*	NMM-*	
	RUC(13 km)	SREF-*	

In MUG documents, we say that we support NOAAPORT. Although the number of files has increased on NOAAPORT via the WMO/HDS feed, most of the volume of GRIB2 data comes across the NGRID and CONDUIT feeds. This data has not been thoroughly tested and we would like to know what GRIB2 data you use to better direct those testing efforts.

BUFR Data

- -XCD currently files BUFR data coming across the NOAAPORT stream
- For -XCD 2008, we introduced an improved naming convention for these files using categories from BUFR Table A
- 5 BUFR versions showing up – 1, 2, 3, 4, and even 0!
- Files are named according to this version and an SSEC-defined name derived from Table A for that version
    - e.g., QUIKSCAT.12.137.2009138.1726.bufr3 is named using the bufrVersion3TableA.txt file derived from information found at http://www.emc.ncep.noaa.gov/mmb/data_processing/data_dumping.doc/table_1.htm

BUFR Data (continued)

- BUFR Edition 4 files are defined further by international subcategories
- The source of the namings for bufrVersion4TableA.txt comes from 2 locations:
  - WMO BufrCommon-11-2007.pdf from http://www.wmo.ch/pages/prog/www/WMOCodes/OperationalCodes.html (Common Code Tables link)
  - Common Code Table C-13 at http://www.emc.ncep.noaa.gov/mmb/data_processing/common_tbl_c8-c14.htm
- Some data remains unclassified due to incomplete tables and this data has a file prefix of “UNKN”

BUFR Server?

- In the 2007 -XCD talk, we mentioned a BUFR server would be available for a 2008 release
- This used Java code produced by Robb Kambic at Unidata that decoded the BUFR data
- We did get a limited BUFR server working using PTLIST/PTDISP commands in McIDAS-X and attempted to get this working with McIDAS-V
- However, this remains a work in progress; we can provide the BUFR server code for users to test and investigate

Miscellaneous -XCD Changes

- Nested Grid Model (NGM) was removed for -XCD 2009.1
- Terminal Aerodrome Forecast (TAF) data decoding was updated to account for the new 30-hour format in -XCD 2008a
- The existing weather text server was modified to accommodate an archived weather text server and has been in use in the SSEC Data Center since early 2009
- MD files now properly handle FEW cloud coverage

Future -XCD Rewrite

- Some discussion about a future -XCD rewrite
  - Efficiency improvements
  - Easier-to-read code
  - Better interface with the LDM/McIDAS-V
  - Utilize a database (such as SQLite) for replacing constructs such as Rapid Access Pointer/Text files
  - Streamlined and uniform upgrade procedure to reduce the possibility for error