McIDAS-XCD, GRIB2 and NOAAPORT Status

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McIDAS-XCD Update

- McIDAS GRID server has been officially replaced with the GRIB server with the XCD 2006 upgrade (XCD GRID filing still available but very limited support)
- GRIB2 file support has been added but currently supporting those that come across the NOAAPORT feed or requested by McIDAS users
- BUFR file naming conventions have improved and working toward the creation of a BUFR server for 2008 upgrade

GRIB Details

- XCD writes metadata to a MySQL database that is used by the GRIB server to speed up searches
- Ensemble information was added to the metadata and users can specify whether to allow these in the GRD* commands
  - ENS = …, -1, -0, +0, +1, …
- gbtbpds001.bv* files (used by GRIB1) have been updated with non-duplicated parameter names

Wherefore Art Thou GRIB2?

- GRIB2 files are available, but not so much over the NOAAPORT feed that XCD supports
  - More GRIB2 files are available over the NGRID and CONDUIT feeds over LDM
- NOAAPORT will apparently continue to send GRIB1 data for the foreseeable future
  - No schedule to change to GRIB2 has been established
- GRIB1 will be discontinued on the NCEP and TOC FTP servers on January 28, 2008, and replaced entirely with GRIB2

GRIB2 Implementation

- Problem with naming convention due to the lack of geographic ID in GRIB2 that is present in GRIB1
  - 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

GRIB2 Implementation (continued)

- The MUG Team is refining the GRIB2 model naming
- Using the GRD* commands in McIDAS, if you know the GRIB2 model name, then you enter that as your dataset
  - In GRIB1, it was preferable to know the Geographic ID number
  - Not certain at this time how stitched global grids would be accomplished in GRIB2 (3744 and 14912)
    - The data compression qualities of GRIB2 data would hopefully allow the global files to be sent as one
- The *geo* position parameter in the GRIB= keyword will always be “X” for GRIB2 data

Additional GRIB2 Tables

- grib2Parameters.txt – similar to gbtbpds001.2v* files but categorizes the parameters better
  - First by discipline, such as meteorological or oceanographic data
  - Then by categories, such as temperature, moisture, and momentum
  - *par* position parameter in GRD* command GRIB= keyword is no longer valid as 3 numbers define GRIB2 parameters; this will always be “X” as well
- grib2NCEPModels.txt replaces the gbtbpds001.av1 file as a lookup for the overall model name (e.g., GFS, NAM)

GRIB2 Available Datasets via LDM (RTGRIB2 via McADDE)

NOAAPORT	NGRID	CONDUIT
NCE-* (NCEP)	DGEX-*	GFS (0.5/1.0 degree)
	FGF-*	RUC (20/40/80 km)
	LMP-*	
	GFS-*	
	RTM-*	

In McIDAS documentation, we say that we support GRIB2 files available on NOAAPORT. But NOAAPORT does not currently have much in the way of GRIB2 files, so we did some (but not thorough) testing of NGRID and CONDUIT GRIB2 data. What GRIB2 data do you use?

GRIB2 Data Requested by Johnson Space Center

- Johnson Space Center requested we look at files on the NOAA server tgftp.nws.noaa.gov
- These files have been tested by the MUG team

tgftp extension	McIDAS RTGRIB2 (names subject to change)
.awipak	NAM-AKPS45KM
.awip20	NAM-USLCAW20
.icwf20	NAM-USLCAW20
.awip3d	NAM-USLCAW40
.awp211	NAM-USLC
.awp218	NAM-USLCAW12
.awip12	NAM-USLCAW12
.icwf3d	NMM-USLCAW40
.grbgrd	NAM-USPS90KM (equivalent to GRID 104 from ON 388)

BUFR Data

- XCD currently files BUFR data coming across the NOAAPORT stream
- For XCD 2008, the naming convention of these files will improve, using categories from BUFR Table A
- BUFR ADDE server currently being developed as part of McIDAS
  - Utilizes Java code written by Robb Kambic at the Unidata Program Center
  - Input regarding what type of BUFR data is used by MUG members would be very useful (i.e., does anyone display any BUFR data that comes across NOAAPORT?)