

# ***McIDAS-X Version 2008 Upgrade Procedure May 2008***

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Please take the time to read this entire document; it's important to understand the whole procedure before you begin. If you connect to ADDE remote servers at other sites, contact the site coordinators at those sites. The site coordinators can tell you if any server problems that might affect your system were noted since this upgrade was distributed.

This upgrade procedure is divided into four sections.

- ***Section I. Supported Software Configurations*** contains the software versions to use with McIDAS-X 2008.
- ***Section II. Before Installing McIDAS-X*** describes the Required and Optional Actions to perform before installing McIDAS-X 2008.
- ***Section III. Installing McIDAS-X*** explains how to install McIDAS-X 2008.
- ***Section IV. McIDAS-X Significant Changes*** describes the Required and Optional Actions to perform after installing McIDAS-X 2008.

## Section I. Supported Software Configurations

McIDAS-X 2008 is supported on systems running Apple Mac OS X, HP-UX, IBM AIX, Microsoft Windows XP with Services for Unix, Red Hat Linux, SGI IRIX or Sun Solaris. The software configurations compatible with McIDAS-X 2008 are listed in the table below and in Chapter 1 of the *McIDAS User's Guide* (revised 5/08).

McIDAS-X 2008 was tested on these versions only. The McIDAS Users' Group (MUG) is extremely limited in its ability to support sites running 2008 with other software versions.

### **Vendor: Apple**

Operating System	Mac OS X 10.5 Intel
Fortran compiler	<i>gfortran</i> : 4.3 (available for free at <a href="http://hpc.sourceforge.net">http://hpc.sourceforge.net</a> )
C compiler	<i>gcc</i> : 4.0.1 (packaged with Xcode 3.0)
X Window System	packaged with Mac OS X 10.5

Operating System	Mac OS X 10.5 PPC
Fortran compiler	<i>gfortran</i> : 4.3 (available for free at <a href="http://hpc.sourceforge.net">http://hpc.sourceforge.net</a> )
C compiler	<i>gcc</i> : 4.0.1 (packaged with Xcode 3.0)
X Window System	packaged with Mac OS X 10.5

#### **OS X Note:**

1. In order to build and install McIDAS-X on Mac OS X 10.5, you must install Xcode Development Tools 3.0 on your workstation. Xcode Development Tools 3.0 is included on the OS install media and is available as a free download from <http://developer.apple.com>.

### **Vendor: HP**

Operating System	HP-UX 11.11
Fortran compiler	<i>vendor</i> : HP Fortran 90 version 3.1
C compiler	<i>vendor</i> : HP C/ANSI C 11.11.16
X Window System	packaged with HP-UX 11.11

### **Vendor: IBM**

Operating System	AIX 5L version 5.3.3
Fortran compiler	<i>vendor</i> : XLF 8.1.0 <b>-or-</b> <i>g77</i> : 3.4.4
C compiler	<i>vendor</i> : XLC 6.0 <b>-or-</b> <i>gcc</i> : 3.4.4
X Window System	AIXwindows 5.3.3

### ***Vendor: Microsoft***

Operating System	Windows XP Professional with Service Pack 2 and Services for Unix 3.5
Fortran compiler	<i>g77</i> : 3.3
C compiler	<i>gcc</i> : 3.3
X Server	see below

#### **Windows XP Notes:**

1. Because McIDAS-X for XP is distributed as a binary package, the Fortran and C compilers are needed only if you do local development on the workstation. The compilers are included in the Software Development Kit (SDK) available with Services for Unix (SFU).
2. We do not have a specific X server that we recommend. We have tried many X servers, but have encountered problems with all of them, especially when cutting and pasting. Some work better than others; many people at SSEC use MI/X 4.1.2 or MI/X 4.2.3 in Windows Desktop mode (both available for \$25 from [www.microimages.com](http://www.microimages.com)) or Exceed 6.1.1 (an older version that's no longer available; we have not acquired and tested newer versions).
3. McIDAS-X for XP will not run (it gives a "mcimagem: ERROR fork()ing" error at startup) if the Windows XP Physical Address Extension (PAE) is enabled. See the McIDAS-X for XP section in Chapter 1 of the McIDAS User's Guide for more information and how to check and/or disable PAE.

### ***Vendor: Red Hat***

Operating System	Enterprise Linux 4.0 in 32 or 64 bit mode
Fortran compiler	<i>g77</i> : 3.4.6
C compiler	<i>gcc</i> : 3.4.6
X Window System	packaged with Enterprise Linux 4.0

#### **Linux Notes:**

1. On Linux systems, we recommend that you use the GNOME desktop environment. Other desktops, such as KDE, will not display the McIDAS-X windows correctly.
2. We recommend that you run your Enterprise Linux workstations in 32 bit mode. The McIDAS-X 2008 core software has been fully system tested in 64 bit mode, but many other problems have been reported, especially with locally developed code.
3. Enterprise Linux 4.0 does not install Unix **compress** by default. So you must install **compress** if you will be configuring your Enterprise Linux 4.0 workstation as an ADDE remote server.

### ***Vendor: SGI***

Operating System	IRIX 6.5.21
Fortran compiler	<i>vendor</i> : SGI Fortran 77 7.4.2 <b>-or-</b> <i>g77</i> : 3.3.2
C compiler	<i>vendor</i> : ANSI C 7.4.2 <b>-or-</b> <i>gcc</i> : 3.3.2
X Window System	packaged with IRIX 6.5.21

### ***Vendor: Sun***

Operating System	Solaris 10 OS SPARC Platform Edition
Fortran compiler	<i>vendor</i> : Sun Studio 11 <b>-or-</b> <i>g77</i> : 3.4.6
C compiler	<i>vendor</i> : Sun Studio 11 <b>-or-</b> <i>gcc</i> : 3.4.6
X Window System	packaged with Solaris 10

Operating System	Solaris 10 OS x86 Platform Edition
Fortran compiler	<i>g77</i> : 3.4.6
C compiler	<i>gcc</i> : 3.4.6
X Window System	packaged with Solaris 10

## Section II. Before Installing McIDAS-X

Complete all Required Actions below.

### Core Software Changes

Review the changes to core software before installing McIDAS-X 2008. Section IV lists some of the significant changes since the last upgrade. Two ASCII text files, **MAY08PRG.TXT** and **MAY08INQ.TXT**, list all software changes made to McIDAS-X since the previous upgrade. A third file, **MAY08OPN.TXT**, lists all software bugs known at the time this upgrade was distributed. These three files are available on the McIDAS Website (<http://www.ssec.wisc.edu/mcidas/>) and are provided with the upgrade CD for sites that receive their software that way. After installing McIDAS-X 2008, the files are in the `~mcidas/data` directory.

#### Required Action:

See Section IV of this document to review the significant changes made to core software. You can also place the three text files in the `~mcidas` directory before installing the upgrade. To do so, complete the instructions in *Obtaining McIDAS-X 2008* in Chapter 1 of the *McIDAS User's Guide* (revised 5/08).

### Operating System and Compiler Changes

Beginning with this upgrade, the following changes were made to operating system and compiler versions that McIDAS-X is supported on.

- The Apple Mac OS X version that McIDAS-X is supported on was changed from 10.4 to 10.5 on both Intel and PPC. There are corresponding compiler changes to gfortran 4.3 and gcc 4.0.1 on both Intel and PPC (previously g77 3.4 and gcc 4.0 on Intel, and g77 3.4.3 and gcc 4.0 on PPC). Note that OS X is the only platform on which McIDAS-X is tested and supported on gfortran; the other platforms are supported on g77.
- As was noted in the [McIDAS-X 2007 Upgrade Procedure](#), support for McIDAS-X on HP-UX was originally scheduled to be sunset with the 2006 upgrade, but was extended through 2009 due to the Australian Bureau of Meteorology agreeing to pay the support costs for three additional years and purchasing a new HP workstation for the MUG.

#### Required Action:

See the table in Section I, *Supported Software Configurations*, for the complete list of operating system and compiler versions that McIDAS-X 2008 is supported on. We recommend that you update the operating systems and/or compiler versions on your McIDAS-X workstation(s) to those listed in the table.

## **Compatibility with -X Remote Servers and -XCD**

McIDAS-X 2008 can run in a stand-alone mode. However, many commands can access data on other workstations (remote servers). Therefore, your McIDAS-X client workstations and the remote servers they access must be running compatible versions in order for all features to work as expected.

For example, the items below are dependent upon the McIDAS-X version that the client is running and/or the McIDAS-XCD version that the server is running.

- The filing of METAR cloud coverage value FEW as a separate value (rather than combined with SCT) in ISFC-schema MD files, and the ability to list or plot the value with commands like SFCCON, SFCLIST, SFCMG and SFCPLOT works only if the client workstation is running McIDAS-X 2008 and the McIDAS-XCD server it accesses is running version 2008. See *METAR Cloud Coverage Values* in Section IV of this document for more information.
- McIDAS-X and -XCD 2008 contain modifications to enable the MOSRPT command to correctly find and list MOS forecasts for Alaskan stations. This new option works only if the client workstation is running McIDAS-X 2008 and the McIDAS-XCD server it accesses is running version 2008.

### **Required Action:**

Coordinate upgrading your site's McIDAS-X and -XCD systems according to your needs, considering the compatibility requirement listed above.

## **Disk Space**

McIDAS-X disk space requirements increased with this upgrade.

The overall disk space requirements for obtaining, building and installing McIDAS-X 2008 are listed in the table below. The disk space requirements for 2007 are listed for comparison. The compiler type (vendor or gcc/g77) used for each build are also listed.

<i>Operating system</i>	<i>Compilers</i>	<i>McIDAS-X 2007</i>	<i>McIDAS-X 2008</i>
AIX 5L version 5.3.3	vendor	445 MB	465 MB
HP-UX 11.11	vendor	465 MB	490 MB
IRIX 6.5.21	vendor	515 MB	545 MB
Enterprise Linux 4.0	gcc/g77	470 MB	485 MB
Mac OS X 10.5 Intel	gcc/g77	n/a	485 MB
Mac OS X 10.5 PPC	gcc/g77	n/a	490 MB
Solaris 10 SPARC	vendor	605 MB	635 MB
Solaris 10 x86	gcc/g77	405 MB	425 MB
Windows XP Pro	gcc/g77	340 MB	355 MB

### **Required Action:**

Verify that you have sufficient disk space available to obtain, build, and install McIDAS-X 2008.

## Section III. Installing McIDAS-X

If you need assistance with the upgrade or want to know if any problems that might affect your site were noted since this upgrade was mailed, call the McIDAS Help Desk at (608) 262-2455 or send email to [mug@ssec.wisc.edu](mailto:mug@ssec.wisc.edu).

### **Required Action:**

Obtain and install McIDAS-X 2008 using the instructions in Chapter 1, *Installing and Configuring McIDAS-X*, in the *McIDAS User's Guide* (revised 5/08).

## Section IV. McIDAS-X Significant Changes

Complete all Required Actions below. Optional Actions are only for your consideration.

### **METAR Cloud Coverage Values**

In the past, the METAR cloud coverage report FEW shared the same value as SCT in the ISFC-schema MD files (both were assigned a value of "1" in the CC1 and CC2 parameters). Beginning with the McIDAS-XCD 2008 upgrade, the surface decoder now assigns FEW the value "5" in those MD file parameters. The value "5" was chosen because it was previously unused and thus retains backward compatibility for the other cloud coverage values (CLR, SCT, BKN and OVC are still 0, 1, 2 and 3, respectively) with archived ISFC-schema MD files.

The table below shows the previous and current definitions.

<i>Reported Value</i>	<i>Old (pre-2008) CC1 and CC2 values</i>	<i>New (2008 and later) CC1 and CC2 values</i>
CLR	0	0
FEW	1	5
SCT	1	1
BKN	2	2
OVC	3	3

The splitting out of FEW into its own value in the ISFC-schema MD files means that you can now display or list its values separately from SCT. For SFCPLOT and SFCCON, you will simply see plot or contour values of 5. For SFCLIST with OPT=CLOUD or OPT=ALL, the cloud coverage values are listed in 8ths so they follow definitions of 0/8ths=CLR, 1/8th=FEW, 3/8ths=SCT, 5/8ths=BKN and 8/8ths=OVC. For SFCMG, the cloud coverage symbols will be open (unfilled) for CLR, 1/4 filled for FEW, 1/2 filled for SCT, 3/4 filled for BKN and completely filled for OVC.

### **Required Action:**

Adjust any macros, scripts, BATCH files, F Key menus, McBASl programs and SKE entries that depend on cloud coverage values to use the new set of values described above.

## ***Future McIDAS-X Software Updates***

In 2009 and beyond, McIDAS User Services plans to issue its official McIDAS-X software updates via fully-supported Fastrack releases (including online documentation updates) rather than via formal annual upgrades each May. This step is being taken so that the McIDAS programming, testing and documentation staff can focus more of its future efforts on the McIDAS-V project.

We recognize that future updates will be needed in the McIDAS-X package, and we will issue them, as needed, via fully-supported Fastrack releases and eventually as part of McIDAS-V.

### ***Optional Action:***

Contact the McIDAS Help Desk at *mug@ssec.wisc.edu* if you have any comments or suggestions about these plans.

## ***McIDAS-X for XP Remote Servers***

Due to a change in the Windows XP service installation, the ADDE remote server installation script (e.g., **mcinet2005.sh**) no longer works on XP workstations with Service Pack 2 (SP2) or later. Therefore, we are NOT including a remote server installation script for McIDAS-X for XP with this 2008 upgrade. (We also did not include it in the 2006 and 2007 upgrades.)

If your McIDAS-X for XP workstation is already running the remote server (e.g., from version 2004 or 2005), you can continue to run it even after installing McIDAS-X for XP version 2008. Please note, however, that if you uninstall it (with a command similar to **sh ./mcinet2005.sh uninstall mcadde**) you will NOT be able to reinstall it because the failure occurs during the install portion of any version of the mcinet script. Therefore, we strongly recommend that you do NOT uninstall the remote server on your McIDAS-X for XP workstations at any time unless you're sure you will not need to run it again in the future.

### ***Required Action:***

If you are currently running an ADDE Remote Server on your McIDAS-X for XP workstation, do NOT uninstall it. If you do so, you will not be able to reinstall it. As noted above, we did not include a 2006, 2007 or 2008 version of the McIDAS-X for XP ADDE remote server because of this problem.

## Other Modifications

The modifications below require no special action.

<i>Command / Topic</i>	<i>Modification</i>
ADT	added many corrections to ADT and associated software so it works much better on more platforms than the beta version in McIDAS-X 2007; also now sets the value for the environment variable <code>LDR_CNTRL</code> based on the amount of memory available when running McIDAS-X on an AIX system
IMGCOPY	modified BAND keyword to allow copying of selected bands (not just one band or ALL bands) if the source image is MTSAT raw data on an SDI server; copying of selected bands is also available with GVAR raw data on an SDI server, MODIS Level 1b data in HDF format, or real-time segmented MSG Level 1.5 files transmitted by EUMETSAT
MCLISTEN	new undocumented command that is used to send McIDAS-X information to McIDAS-V through use of the McIDAS-V bridge
MOSRPT	fixed bugs in MOS decoders and in station database so MOSRPT now correctly finds and lists Alaskan MOS forecasts
NAVCALC	updated to work correctly with MTSAT HRIT imagery
BUFR Server	several new modules were added and existing ones were modified in preparation for an upcoming McIDAS-X BUFR server and McIDAS-XCD BUFR filer; the server and filer are *not* complete in version 2008; a separate, alpha version, McIDAS BUFR package that requires Java is planned for summer 2008
GeoTIFF Servers	updated GeoTIFF servers so that GeoTIFF files created with IMGCOPY, IMGFLT, IMGOPER or IMGREMAP are compatible with the ArcGIS software package
GOES-14 and -15	updated calibration module and server so applications will correctly handle increased resolution (from 8km to 4km) of band 6 GOES-O/14 and GOES-P/15 data
GVAR Servers	updated GVAR servers to output correct radiance values when using IMGCOPY with UNIT=RAD to write to a netCDF dataset
Level 1b Servers	updated Level 1b servers to work with MetOp-A AVHRR FRAC data; see the DSSERVE command's online help or its documentation in the <i>McIDAS User's Guide</i> (revised 5/08) for information about creating the datasets
Meteosat-8, and -9	updated Meteosat Second Generation servers and calibration module to accommodate the 05 May 2008 change from spectral to effective radiance, and the inclusion of a flag in the signal to indicate the radiance type; the calibration block for MSG data was increased in size to 400 bytes; the calibration module ( <code>kbxmsg.d1m</code> ) is backward compatible to correctly read both old and new data
Meteosat Servers	updated Meteosat PDUS servers to work with archive directory structures that have a different directory for each day; also added new Meteosat OMTP servers to work with Open MTP format data
New MODIS Product Server	added MODIS product server in McIDAS-X to allow creation of datasets of MODIS Corrected Reflectance data in HDF format on local and remote servers, and display or manipulation of the data using the IMG* commands; see the DSSERVE command's online help or its documentation in the <i>McIDAS User's Guide</i> (revised 5/08) for information about creating the datasets
MTSAT HRIT Server	changed latitude and longitude of MTSAT's subsatellite point from a hardcoded value to one that finds the value from the satellite signal

## Data Files

The following changes were made to files in the `~mcidas/data` directory.

<i>File name</i>	<i>Change</i>
<code>bufrVersion2TableA.txt</code> <code>bufrVersion3TableA.txt</code> <code>bufrVersion4TableA.txt</code>	new text files used by the upcoming -X BUFR server and existing-XCD BUFR filer to label the BUFR files in a consistent manner using the category/subcategory
<code>DCISFC</code>	added new 5=FEW cloud cover in parameter description section
<code>gbtbpds001.av1</code> <code>gbtbpds001.2v131</code>	added new file <code>gbtbpds001.2v131</code> so McIDAS works with Table 131 grids (e.g., NARR GRIB files); updated <code>gbtbpds001.av1</code> so GRDLIST gives correct values for SRC and PAR when using NARR grids
<code>gbtbpds001.bv1</code>	updated to support geographic GRIB domain 225, and added entries to correctly identify GRIB1 AWR, NAH, RCM and WNA grids
<code>GEODATA.CORE</code>	updated MTSAT entries to match SSEC Data Center real-time MTSAT datasets
<code>grib2NavLookup.txt</code>	added new nav information for 2008 upgrade, including lookup for RUC 13-km model and wave model files on NWS ftp
<code>grib2Parameters.txt</code>	added new parameters for 2008 upgrade, changed unit name for MSLM from HPA to PA, and updated parameters in physical atmospheric properties and GOES-12 forecast satellite imagery product
<code>LEODATA.CORE</code>	removed FLYOVER from the list of default datasets used by the LEO command because it's no longer available on the SSEC Data Center real-time servers
<code>OUTLARST</code>	new map file containing Argentinian states; replaces previous version of map file, named <code>OUTARGENTST</code> , that was in McIDAS-XRD
<code>SATANNOT</code>	added sensor source numbers 129, 139 and 216 for TERRA-LST, AQUA-LST and AMSU-A LWP, respectively
<code>SATBAND</code>	added band information for Terra LST, Aqua LST, and AMSU-A LWP
<code>STNDB.CORE</code>	corrected spelling from Culepra to Culebra for station CPX; corrected entry for Eldred Rock, AK (was ERI/Ekdred Rock, now ERO/Eldred Rock) and corrected Alaskan NGMMOS stations to begin with "P" so they can now be used with the MOSRPT command
<code>USCOUNTY.MAP</code>	corrected FIPS codes for Monroe County, Florida entries ("Mainland Monroe", "Lower Keys in Monroe", "Middle Keys in Monroe" and "Upper Keys in Monroe") so they each draw the appropriate region
<code>XRD2008.TXT</code>	updated with list of commands, servers and data files in McIDAS-XRD version 2008 sidecar package; run McIDAS-X command <b>SEE XRD2008.TXT</b> to view the list

### **Required Action:**

Merge these modifications with all local copies of the data files.

## Local Code

Compile and link all local code after installing the upgrade. Listed below are some of the software and structural changes most likely to affect your local code.

- The MTSAT modules **mtstadir2.for** and **mtstaget2.for** were enhanced to transfer multi-banded data. They, along with navigation routine **nvxgeos.dlm**, were updated to correctly file and access the satellite subpoint.
- The Meteosat modules **msgtadir2.for** and **msgtaget2.for** and calibration module **kbxmsg.dlm** were updated for the effective radiance values now being sent in the HRIT signal. The calibration block increased in size to accommodate flags for each band to identify whether effective or spectral radiance was used to create the area.
- Start, stop and status options were added to **mclisten.c**. Also, the binary created for **mclisten.c** was changed from **mclisten** to **mclisten.k**.
- The MSG calibration alpha and beta values in module **msgtutil.for** were updated for some IR bands to match EUMETSAT's values.
- The AVHRR Level 1b server **lv1baget.cp** and utility function **lv1butil.c** were updated to work with AVHRR FRAC data from MetOp-A.
- A gfortran flag was added to the installation script **mcinst.sp** and the compiling script **mccomp.sh**. The following modules were also updated to correct gfortran compiler errors and warnings. At this time the MUG supports gfortran builds only on the Mac OS X platforms.

<b>cur2lalo.for</b>	<b>fsdxutil.for</b>	<b>gdirserv.fp</b>
<b>ggetserv.fp</b>	<b>grdlist.pgm</b>	<b>imgcha.pgm</b>
<b>imgdisp.pgm</b>	<b>imgmag.pgm</b>	<b>imgplot.pgm</b>
<b>imgremap.pgm</b>	<b>m0count.for</b>	<b>m0dslook.for</b>
<b>m0gsort.for</b>	<b>m011_lin.for</b>	<b>uacross.pgm</b>

- The following modules are new or were updated for new GRIB and GRIB2 data:

<b>grib2NavLookup.txt</b>	<b>grib2NCEPModels.txt</b>
<b>grib2Parameters.txt</b>	<b>gbtbpds001.2v131</b>
<b>gbtbpds001.av1</b>	<b>gbtbpds001.bv1</b>
- Development work has begun on a Java-based BUFR server. The server, **bufrks.cp**, was added, but is not currently being used.
- The behavior of the area servers was changed to match that of other satellite data servers. The area servers now call a subserver. The following modules are either new or have been updated for this new design:

<b>adirserv.fp</b>	<b>ageterv.fp</b>	<b>addefunc.c</b>
<b>areaadir.cp</b>	<b>areaagetsub.for</b>	<b>areaadirsub.for</b>
<b>areaaget.cp</b>		
- The Open MTP modules **omtpadir2.for** and **omtpaget2.for** were updated to correctly file the actual start day and time into the area directory.
- A check was added to the MODIS calibration module **kbxmods.dlm** so multiple LUTs are not generated for the same area file.

- The calling sequence for the following modules was updated to correctly pass the third argument to **Mcdaytimetosec** as an int. These changes corrected 64-bit issues.

```

gvaradir.cp      gvaraget.cp      lvlbutil.c
makefile         mcomp.sh         mcmkhelp.c
modsk.s.cp      MSAT.c           POES.c
poesadir.cp     poesaget.cp      SDIUtil.c
sfcdata.c       tclcomp.sh       txtgserv.cp

```

- The following modules were updated so flags written to GeoTIFF files are compatible with the ArcGIS software package:

```

gennavblk.for   geo.pgm          geolat.for
geotaput.cp     grding.pgm       grdnav.for
grib2func.c     imgremap.pgm     leo.pgm
llcart.for      maknav.pgm       planet.c
plarad.for

```

- The new command **mcservl.cp** was written to emulate the task done by **inetd**. **mcservl** allows remote access to local data and can be set to listen for requests on any open port. The advantage of using **mcservl** is that it does not require **root** privileges for port numbers greater than 1023. Commands run from remote clients must use either the environment variable **MCCOMPRESS** or the keyword **MCC=** to set the port for sending a request to **mcservl**. The module **ddesub.c** was also updated for this enhancement.

- In preparation for the launch of GOES-O/14 and GOES-P/15, the resolution for band 6 was changed from 8km to 4km in **GVAR.c**.

- A value of 5 is now being used for the cloud cover classification of FEW reported in METAR observations. The following modules were updated for this change:

```

DCISFC          mcsfcdat.h      sfcdata.c
sfclist.c       sfcmg.c          sfcon.pgm
sfcplot.pgm

```

- The Tcl/Tk version was updated to 8.5.2 for Mac OS X to correct problems with the GUI (**mcwish**) not exiting properly. A change was made to **gui.shk** to monitor the existence of the **mcenv** process. Once **mcenv** has finished, the GUI is stopped gracefully. The modules **gui.shk** and **initmb.tcl** were updated for this change.

- The following include files were deleted and combined into a single include file, named **odt.h**:

```

odtapi.h        odtextern.h     odtgrid.h
odtlib.h        odtlibdefs.h   odtlibdefs-x.h
odtlibfuncs.h  odtmcidas.h    odtremap.h
odtsst.h

```

- The following modules were updated to correct platform dependent errors found in the ADT (Advanced Dvorak Technique) command:

```

adt.c
mcidas.sh
nvxkalp.dlm
nvxmsg.dlm
nvxmtst.dlm
odtatcfoutputfile.c
odtautomodel.c
odtbulletinoutput.c
odtdata.c
odttexterror.c
odtfft.c
odtfuncs.c
odtgrid.c
odtgsforecastfile.c
odtgsIRimage.c
odtgsmiscopts.c
odtgsstvalue.c
odtgsstpovalvalue.c
odthistory.c
odthistorycomment.c
odthistoryinsertrec.c
odthistorynextrec.c
odtinitialize.c
odtintensityest.c
odtmerror.c
odtmcidas.c
odtmessages.c
odtreadtopofile.c
odtscenemap.c
odtsetdatetime.c
odttopo.c
odtwinds.c

mccomp.sh
nvxabis.dlm
nvxmsat.dlm
nvxmsgt.dlm
odt.h
odtauto.c
odtautomode2.c
odtcoords.c
odtdiagnostics.c
odteyecloudtemp.c
odtfreememory.c
odtgetwindprofile.c
odtgsdomain.c
odtgshistory.c
odtgslocation.c
odtgssttypes.c
odtgsstartstr.c
odtgsversion.c
odthistorybullfmt.c
odthistorydelete.c
odthistorylistfmt.c
odthistorywrite.c
odtintensity.c
odtloadIRimage.c
odtmcgrid.c
odtmcinput.c
odtoutput.c
odtscene.c
odtscenetype.c
odtsst.c
odtwarmeyetemp.c

```

## **McIDAS-XRD**

A new version of the McIDAS-XRD optional sidecar is available with this upgrade. The new version, 2008, contains three new commands, 56 new data files, and four new servers. These changes bring the total number of -XRD 2008 modules to 106 commands, 126 data files, and 18 servers.

The list of -XRD 2008 software is available on the McIDAS Website at <http://www.ssec.wisc.edu/mcidas/software/xrd/2008commands.html> or in the file `~mcidas/data/XRD2008.TXT` that's distributed with -X 2008. To view the file, run the command **SEE XRD2008.TXT** after -X 2008 is installed.

The -XRD 2008 package can only be used in combination with -X and must be installed after -X 2008 has been installed. The -XRD package contains research and development commands, servers and data files that are not part of -X. The -XRD software is provided on an "as is" basis, meaning it is not MUG-supported. The software in -XRD comes from programmers at various MUG sites. The software is added to the package if it may be useful to other sites and it meets some basic code standards.

SSEC McIDAS User Services packages and distributes the -XRD software, but does little or no testing of it and does not provide any documentation. Each command's on-line help is all that's available for documentation. McIDAS User Services will forward all bug reports to the programmer that submitted the software. However, there is no guarantee that bugs will be fixed, as it's up to the programmer to decide whether or not to fix them.

### ***Optional Action:***

Install McIDAS-XRD 2008 by obtaining the files and completing the installation instructions on the McIDAS Website at <http://www.ssec.wisc.edu/mcidas/software/xrd/>.