

## IRIS 8.10 Release Notes (11 Dec 2005)

These notes cover changes made in IRIS since release 8.09 of 10 June 2005. If you are upgrading from an earlier release, please read those notes also.

### New Features

1. Added support in IRIS for ellipsoidal earth geodes. In the projection menu there is a short hand button used to enter some well known geodes. The **UTM** and **Gaussian Conformal** projections now support ellipsoidal earths. Note that all other projections still used a spherical earth even if you type in differently, so leave the default sphere. These will be added in the future. The **IrisToBuf** and **BufToIris** pipes were upgraded to convert the geode information.
2. The **Lambert Conformal Conic** projection is now available. This projection includes one or 2 standard parallels. It also supports ellipsoidal earth geodes.

### Bug Repairs

1. Fixed broken network pipe output for all pipes except **IrisToEwis**. This was broken in release 8.09.11.

## IRIS 8.09.12 Release Notes (8 Dec 2005)

### Data Format Changes

1. We are in the process of adding new projection support. We are adding the Lambert Conformal Conic projection, as well as support for an ellipsoidal earth shape. As a consequence the **product\_end** structure is augmented to add the equatorial radius of the earth, the earth flattening, and 2 standard parallels. See the *IRIS Programmer's Manual* for the format. Note that if the earth radius is zero, the legacy interpretation is a spherical earth with radius 6371 km. These new fields are also added to the projection configuration menu. As of this release the new fields are not being used, and the Lambert projection is mapped instead to AED.

### Bug Repairs

1. Fixed broken network output of IRIS format data. This was broken in release 8.09.11.

## IRIS 8.09.11 Release Notes (2 Dec 2005)

### New Features

1. The Projection Configuration Menu now allows the user to specify and save a reference latitude for the Polar Stereographic projection. This number is not used in the coordinate transformation.

2. IRIS now supports output pipes which produce multiple output files from one IRIS product. The pipe can control this by writing multiple file name in its meta file.
3. The **IrisToEwis** pipe can now produce multiple polar volumes from one RAW input. Because this feature requires support from the IRIS invoking the pipe, this pipe can only be used on version 8.09.11 or later.

## IRIS 8.09.10 Release Notes (23 Nov 2005)

### Data Format Changes

1. The dwell\_psi\_struct structure has a new field iTargetMergeRange. For legacy data, a value of 0 indicates the previous 3km was in effect. See New Features 3. below

### Bug Repairs

1. The RHIs were constrained to allow no finer than 0.35 degree resolution. This is the finest PPI resolution because of the angle sync table size. Bug introduced on 27 June 2005 in release 8.09.3.
2. The BEAM product produced the wrong display for sector scan inputs, since day one.
3. The WARN output options tool in the QLW was missing the speed option for the Centroid Label.
4. A missing setup\_color.conf file was being signalled under the old file name of COLOR\_SETUP.DAT. This was true for **siris**, **rtdisp**, and **rtest**.

### New Features

1. **Sigbru** now has added a mandatory exclude for directories /proc/ and /sys/.
2. The WARN product display has a new feature. We can now display a white arrow showing the forecasted position of the centroids at the current speed and direction. The forecast time is selected in the WARN specific output options menu in both the QLM and POM menus.
3. The DWELL product configuration menu now has a new option in the Target Detection section. Labelled "Merge", it is the merge range in km, which is used to combine different detected targets which are actually the same target. If two targets are detected for which in input data is within this range, only the stronger is kept. The legacy code used a hard coded 3 km for this number. This was based on bird tracking. For airplane tracking a value of 6 km is better.
4. Added a fault tolerant feature to the IRIS network output. It will now time out on a file transfer after 60 seconds. This is to solve a problem with intermittent networks. If a

network transfer starts, and then the network goes partly down causing some of the packets to be blocked, then IRIS output would block forever.

5. We now have a new scan type in the IRIS task configuration menu. It is called "Exec", and allows the scheduling of a arbitrary shell command from the task scheduler. Before the command is executed, Ingest will release the signal processor control so that a DSP utility such as `zauto` can be run. This feature is available in active mode only.
6. The `tdwr_llwas_int` program was enhanced to allow specification of a minimum gain and loss number which is allowed in IRIS inputs. This is specified in the `runways.conf` file in a format like:  

```
IRIS_IN_WARN_MIN    7.72
IRIS_IN_SLINE_MIN   7.72
```
7. The antenna library now makes named log files that cycle each day at midnight. There is a setup question to choose how many of the old files you want to keep at any given time. Also, the symlink "`antlib.log`" always points to the most recent log file for convenience during manual access, e.g., if you just want to run '`tail`' or '`more`' on the logfile. This file contains messages from all antenna related processes managed by the new `ant_log` process.
8. Extensive changes were made to the antenna library file logging. It is cycled to a new file each day, and only the recent N are retained.
9. Added new BITE history plot to **bitex**. Using this feature you can display a history graph of the state of any of the **bitex** status bits or QBITE values.
10. IRIS network output pipe now have the option of controlling the actual final filename produced by the pipe. It will override the filename selected in **setup**.
11. Announcing a new pipe program **IrisToEwis** available with IRIS. This program converts IRIS products into the legacy Ericsson EWIS format. We also supply a utility program **ewisview** used to examine the EWIS files for testing.

## IRIS 8.09.9, 8.08.8, 8.08.7 Release Notes

No such releases was made

## IRIS 8.09.6 Release Notes (2 Sep 2005)

### Data Format Changes

1. The NDOP product is enhanced to allow the user to select the site name for the output product. This now matches the COMP product. After upgrading, the NDOP product will continue to run as before, that is by using the site of the first input as the output site. The `ndop_psi_struct` is augmented to add this field. All customers should remember to interpret a zero in this field as the old format and use the first input.

## Bug Repairs

1. Fixed bug in **sigbru** Backup Mode when changing the File name. This would cause the Start pushbutton to become insensitive and pressed in.
2. Fixed a bug in the IRIS Task Configuration Menu. When Selecting Scan Mode of PPI Sector and pressing the Azimuth pushbutton. The Popup was missing it's resource file label. The same was true for RHI and pressing Elevation pushbutton.
3. The Product Configuration Menu COMP Product was missing the XY Smoother (km) label. This was caused by Widget array overrun from the change to the "Combine By" option menu. Bug introduced on 3/27/01 in Version 7.24.2.
4. Fixed bug preventing mounting DVDs on RHEL4.
5. In the **RainbowToIris** pipe, the scan file name was clipped at 15 characters. It now can go to 79 characters.
6. When displaying an NDOP product in the QLW, the Output Options Tool fields for controlling the maximum string length and wind quality threshold were broken. The same control fields in the POM worked correctly. This was broken in 8.05.2.
7. Fixed another uninitialized projection problem in the product generator dating back to release 8.00. The NDOP product was sometimes getting the signal "Invalid argument to mpj\_pin\_region". When the happened, the NDOP product was not produced, and an input file was left open causing an open file leak which eventually will stop the product generator from running.
8. When running IRIS in the new Batch mode ingest was turning off the Doppler data range unfolding by setting the max range to 0. Thus no velocities or widths were produced. It is now set to 600 km by default.
9. Added a new possible message. "Radiate control not responding" means that IRIS tried to turn off the radiate before a polarization change or pulse width change and the radiate did not go off. If this happens, IRIS will not change the polarization or pulse width. This change was required to prevent arcing on systems which have manual override on the radiate control.
10. The wind barb displays used in VVP, WIND, and NDOP products are changed to now switch sides in the southern hemisphere. Also fixed a missing pixel in wind barb triangles.
11. Fixed a bug in the GIF underlay drawing. If you specify more than one GIF underlay in the file, it was always drawing the first one even if that layer was turned off. It now draws the first underlay GIF which is enabled.
12. **Sigbrush** had a bug in tape archiving when using the list command. **Sigbru** uses the **sigbrush** list command to make an inventory. The initial tape index was 1 record to many. Problems which you might have seen are:
  - Never being able to list a very small tape archive less than 8k.

- Sometimes needing to enter the list command twice to get a tape archive list.
13. The DWELL, RAIN1, RAINN, and TRACK products were changed to allow up to 2km of radar motion between their inputs. This helps these products run on input products centered on slowly moving ships.

## **IRIS 8.09.5 Release Notes (27 July 2005)**

### **Data Format Changes**

1. The server format used between IRIS and the menus has changed. This means that you will not connect the POM, ISM, and ARC menus to previous versions. One up side to this change is that the POM list size is smaller, so the maximum number of files you can see is 1000, up from 574.

### **Bug Repairs**

1. When loading the RST menu from a saved file, it is possible that the saved POM configuration file is missing. In this case, it would not load any POM config at all, and no error was signalled. This is repaired so now it generates a message. All other sub-menu load errors are signalled.
2. Repaired a color count compression bug in VtvCompressColors2(). When using a colorful IRIS underlay, the total number of colors needed on the screen could exceed 256. This needs to be compressed down, and the routine doing this was failing in some cases. It would produce a picture with crazy colors, or potentially crash the output process.
3. The IRIS menus were crashing in the Product Configuration Menu when pressing the "Type" pushbutton in WARN, COMP, TRACK, FCAST and DWELL. Introduced on 16 May 2005 in release 8.08.13.
4. It is possible now to configure the COMP product to use a blank projection configuration file name. This means to take the center from the first input, and take the pixel size and maximum range from the Product Configuration Menu. Previously it set the center to lat=0 and lon=0, and took the size and range from the first input.

## **IRIS 8.09.4 Release Notes (18 July 2005)**

### **Important Upgrade Changes**

1. For web server customers only: We changed the path to access the servlet from `irisservlets/servlet/WebLookWinServlet` to `irisservlets/WebLookWinServlet`. After upgrading, Web Server customers need to manually edit a line in the file

/etc/httpd/conf/workers2.properties. Change from “uri:/irisservlets/servlet/\*” to “uri:/irisservlets/\*”.

## Data Format Changes

1. The ingest\_configuration structure is changed to add a flag word `ilcfFlags`. Currently just bit zero is used in this word. If set to one, it indicates that the first ray is not centered on zero degrees azimuth. Instead it is centered half the azimuth resolution clockwise. This feature was added to interface to such systems. Sigmet does not recommend that customers use this feature.
2. The server\_filter structure used to pass information in the IRIS menus POM, ISM and Archive is changed. This means you cannot connect new and old versions.

## Bug Repairs

1. The network receiver now treats TRACK product specially. It will always overwrite a previous track product with a newly received one.
2. The three Sigmet supplied RTD data formatting routines (`rtd_v1_xmt`, `rtd_v2_xmt`, and `rtd_nids3_xmt`) were not detecting a configuration change within a volume scan. Such changes are not done in IRIS, but are done in other applications. We now detect changes and set the appropriate header information.
3. **Tsarchive** was enhanced to call the `rvp8tsEndCurrentAcqMode()` function between cuts when playing back data. This should force an immediate timeout ray, which allows the application to detect the change quickly. Similarly `tsarchive` will wait a minimum of 500 ms before inserting the first pulse of the new cut. This allows the application time to prepare for it.
4. Changes were made in IRIS passive TS-Playback mode. It will now synchronize the sweeps at playback time with the sweeps originally recorded. This is done by detecting the end of a sweep with either a timeout ray, or a change to the task ID structure. IRIS will always end its sweep if it detects an original end. Similarly once IRIS has ended it's sweep it will continue to read extra rays from the original data until the end arrives. Appendix C of the *IRIS Radar Manual* for is revised to cover the new passive features.
5. Fixed a bug introduced in the product generator on 17 Dec 2004 in release 8.00. The product generator had uninitialized memory when using named projections. This could have the effect stopping or producing the wrong results in the COMP, NDOP, SLINE, and any other product using named projections. A typical error message might be “Invalid argument to `mpj_pin_region`” or “Product contains invalid size (0x0)”.
6. In general IRIS is designed to be tolerant of single missing rays in it's ingest data. This is now extended to the seam of PPI continuous scans. If a sweep is missing just one ray between the start and end ray, it will no longer be flagged as an incomplete scan. This is particularly helpful with time series playback.

## IRIS 8.09.3 Release Notes

No such release was made

## IRIS 8.09.2 Release Notes (23 Jun 2005)

### Installation Changes

1. IRIS speech no longer uses the dictionary. After upgrading be sure to upgrade your /usr/sigmet/config/profile file to match the /usr/sigmet/config\_template/init/profile file. This includes removing the IRIS\_DICTIONARY env variable. You should also remove the dictionary from your config directory as follows:

```
$ cd /usr/sigmet/config
$ rm -r dict
```

### New Features

1. The maximum number of minor tasks in an IRIS hybrid task was raised to 26 from 3. This will allow much more complicated volume scans such as the NEXRAD VCP, and can use all suffixes from “\_A” to “\_Z”. We also raised the maximum number of tasks in the task scheduler from 16 to 100. The maximum number of major tasks remains at 8.
2. Improvements in ingest related to detecting the end of a sweep in continuous PPI scans. It will now stop as soon as the sweep is filled. Previously ingest would require 1 or 2 extra rays after filling the full 360 degrees. This is particularly important in passive mode where there may not be any extra rays.
3. In passive ingest, the end of sweep detection is improved for time series playback. It will now also force an end if we detect a 1 second gap in the time series, or if we detect a change in the sweep number.
4. The **rays** utility now displays Batch mode options and point clutter options.

### Bug Repairs

1. The **tsarchive** utility was inserting a small pause between files when playing back a group of files. The pause was after the first pulse rather than before it.

## IRIS 8.09.1 Release Notes (19 Jun 2005)

### Data Format Changes

1. We have added new fields in the task\_calib\_info structure to support configuring the NEXRAD point clutter removal algorithm. Similarly the task\_dsp\_info structure has

new fields to specify the configuration of the NEXRAD Batch mode. You can see the *IRIS Programmer's Manual* for more details.

## New Features

1. CATCH products are now kept 24 hours longer than other products in the product inventory. This is how RAIN1 and RAINN products are handled.
2. **Tsview** is enhanced to display average header information at the end of its list. This included the average elevation angle, azimuth speed, and maximum and minimum PRTs.
3. In the task configuration menu, we now have added a pop-up to allow selection of mode specific options for the Nexrad Batch Mode.
4. In the task configuration menu, we now have added a pop-up to allow control of the Nexrad point clutter removal algorithm.