

## IRIS 7.00 Release Notes

These notes cover changes made in IRIS since release 6.19 of 21 August 1998. If you are upgrading from an earlier release, please read those notes also. The current hardcopy versions of the manuals are: *IRIS/Open User's Manual*: 6.12, *IRIS/Open Utilities Manual*: 6.11, *IRIS/Open Installation Manual*: 6.14, and *IRIS/Open Programmer's Manual*: 6.20.

### New window design now available!

Version 7.00 debuts the fully working new IRIS windows. The features of the old quick-look menu are all now built into every output window. This is a dramatic improvement to the ease of use.

### Bug Repairs

1. Many bugs were fixed in the new **windows**: Time list was wrong after toggling products. The color legends were messed up for VVP, and for products which do not have a color legend. The range rings were cached so that the new user selectable ring center did not work right. Cursor data readout was referencing the wrong image after a movie was stopped. Movie loops failed on products with 12 character names. Help was not always popping up on the correct display. The animation performance is improved when other tools are running.
2. The **setup** utility's numeric values now are always shown properly quantized to their respective internal representations.
3. The Polarization effect on velocity and width scales is now correctly handled in IRIS. This included changes in **ascope** and **windows**. **Productx** now shows the PRF and polarization information in the header.
4. Changed the KDP scale by factor of 2 in the documentation and in the **windows**. The data format is unchanged.
5. Repaired a bug related to scheduling of immediate products when the data time of the first sweep exactly matches the volume scan time. Only the first tilt of a wildcard immediate product would be produced. This bug has been there since immediate products were developed.
6. An error was repaired in the routine to lookup a given sweep within a set of ingest data. The routine would get a segmentation error if the first sweep time matched the volume scan time. This error has been present for several years, but was perhaps masked by another error in the product generator that refused to run immediate products on ingest data having this property.
7. **Siris** would exit if a duplicate product was found. Also if the product inventory was full. These errors from 6.00 in November 1996.
8. A number of bugs in **ingest** with PPI continuous scanning, all introduced in 6.15 were fixed. These bugs all have patches available for IRIS 6.16: **Ingest** was not overwriting

the first ray ray of a sweep. Generally IRIS will run a sweep for more than 360 degrees to allow the antenna to settle better, so this caused a time skip in the data. The scan starting algorithm was not checking velocity correctly. The effect of this was to start the scan to soon on an antenna which oscillates for a while before settling at the correct elevation.

9. Fixed **ingest** sweep transition bug introduced in 6.15: When changing elevation angles between sweeps in continuous PPI scans there is a small probability that the antenna angle information from the RVP6 or RVP7 gets out of sync. It will remain bad for the entire sweep. Sometimes it will resynchronize on the next sweep. The first sweep of a volume scan will always work. This typically would not happen until at least 6 hours of operation. These are some of the symptoms:

"Antenna EL position not reached in allotted time" signal

"DSP AZ angles exceed 30 degree span" signal

"DSP EL angles exceed 15 degree span" signal

"Scan stopped after 20 seconds of unusable data" signal

It could take as much as 120 seconds to change elevation angle.

10. A number of bugs were fixed which could cause the product or ingest inventory to be damaged. 1)Ingest inventory was not locked when making a PPI product. 2)Product scheduler was not locked when saving a product configuration file from the menus. 3)Product inventory was not locked when making diagnostic outputs from SLINE or track products. 4) Product inventory was not locked when inserting status products. Any missing locks will now be signaled.
11. Fixed bug in network receiver which caused it to fall behind when many messages arrive at once.
12. A number of changes were made to let archive devices work up to the current limit of 64000 products: Tape inventories now work above 32767 files. ASCII archive inventories on disk and on screen now uses 5 characters for the index. Tape forward positioning was speeded up dramatically.
13. RHI, Cross, and Beam products did not show axes without legend. This was never working!
14. Track text points are now displayed left justified, rather than centered

## New Features

1. More features were implemented in the new **windows**: Cursor and Track tools now work correctly while zoomed. The legend is changed to put more important info just above the max range. The legend is forced on for cross section pop-up displays. The track tool now includes icon drawing and string drawing. Added units conversion buttons to some of the tool menus.
2. Hit protected areas now shown outlined in color, not hatched.

3. Added dim version of the underlay in the area-not-scanned to the **window** displays. This has been available in the real-time display for a while.
4. The **ingest** data simulator has been improved to compute a wind field that has continuous spatial derivatives, and obeys physical continuity constraints. This allows, among other things, the VVP product's output to be checked in more detail.
5. Products will now fill in the Y-scale. Generally it was set to zero before.
6. The **irisnet** utility is now working. It will not lock up when the network goes down.
7. The stored movie loop is now preserved across stopping and other outputs. This saves time when restarting a movie. There is a new movie loading scheme: The movie begins to play as it loads. Added slower loop speed ranging down to 0.2 frames/sec. Increased the maximum pause to 10 seconds.
8. Range rings are drawn darker on multiples of the ring spacing.
9. **Archive** inventory now has Z sizes. Old inventories with CAPPIs on them will get messed up.
10. 3-D CAPPIs are now available, and the user can control the height displayed with an output options menu, or with the cursor keys.
11. The antenna morbid signal now includes the desired angle. This will help users debug why the signal is happening.
12. PCFs are now forced to use the number of colors in **setup** for variable color scales.
13. VVP now records Z count also.
14. The **ingest** clutter map feature can now be used with radars that only measure reflectivity. If a task that is recording only dBT requests that a clutter map be used, then **ingest** will search for a dBT clutter map having the same name as the task, and will apply the criterion to the recorded dBT parameter. For all other tasks, the clutter map feature continues to work in its usual way using dBZ data, and leaving dBT unchanged.
15. The **rays** utility now allows you to specify "0" for the starting range bin, and thus see only the header information.
16. Added highlight colors to the track display: The line is now drawn in the track line color, but the forecast and the current time are drawn in the track highlight color.
17. In support of the new track tool text feature, IRIS has added more fonts. It now supports proportional fonts, and ships with 7 standard fonts with heights of: 7, 9, 10, 13, 16, 20, and 25 pixels. The user can install their own fonts, up to a maximum of 10. These fonts are also available for use in the overlay.
18. Added kick-out of user mode timer. After 5 minutes of no button or key pressing go to auto mode.
19. The version of GNU EMACS has been changed from 20.2 to 20.3.

- 20. Alarm parameters now saved.
- 21. Adding new X program runwayutil.

## **Setup Changes**

- 1. The details of the INGEST data simulator can now be controlled via new questions in the INGEST section of the SETUP utility. The virtual time of the simulation can be moved forward and backward by up to four hours. You can also control how the wind field is synthesized by switching On/Off the 1) horizontal winds, 2) divergent winds, 3) shearline, and 4) fall speed simulation.
- 2. The INGEST data simulator can now generate weather patterns that are centered at a particular earth latitude and longitude, rather than always being clustered around the radar itself. This permits simulated data to be acquired from two (or more) IRIS systems that are a short distance apart, in which each appears to be observing the same physical phenomenon. These data sets can then be used as test input for multiple Doppler analysis.
- 3. Added two new special colors. Track line and track highlight.

## **Retired Features**

- 1. Removed the old Quick-Look menu, also old output and window process.