Supported Navigation Units in Isis

The XTF format supports only Degrees (Lat/Long) or meters, it is not correct to store feet in an XTF file.

Logging the data in Isis

Some navigation computers may output navigation units in US survey feet, in that case it is important to use the **F** (Upper case F) token in the Isis navigation template; Isis will then compute and store the navigation in the XTF file as meters.

For example, the following ASCII navigation string in US Survey feet:

12/16/2009 23:54:45 1234567.8 12345678.9

Should properly be decoded with this template:

FDMYHISEN

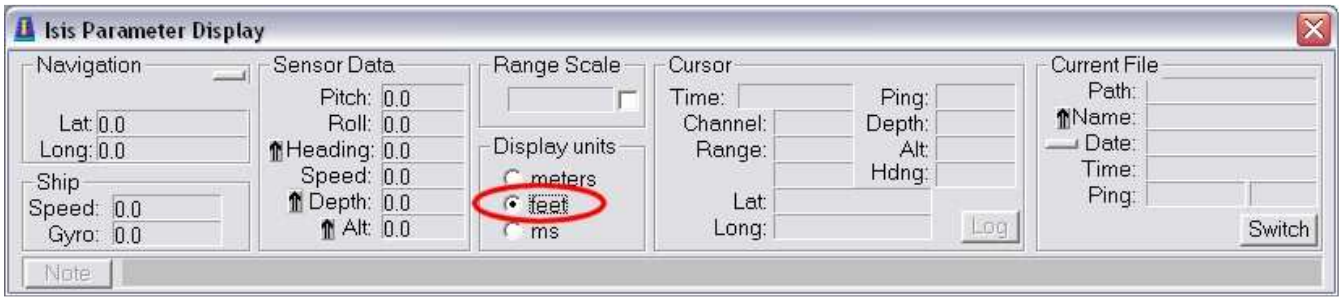
- F = Convert Eastings and Northings to meters
- D= Day
- M = Month
- Y = Year
- H = Hours
- M = Mins
- S = Secs
- E = Easting
- N = Northing

The conversion used by Isis is US Survey feet * 12/39.37 = meters.

The logged XTF file will have navigation stored in meters.

Processing the data in Mosaic Basic

Mosaic Basic has the ability to work in both meters and feet. For example, a file logged with the **F** token as described will by default, generate a side scan mosaic in meters. However it is possible to generate the mosaic and subsequent GeoTIFF with coordinates in US Survey feet. This is achieved by checking the "feet" radio button in the Isis parameter display when creating the Mosaic:



See the associated guide on Mosaic Basic for more details.

If the navigation data in the file had been in Degrees (Lat/Long) then Isis will also convert that to US Survey feet instead of meters using whatever projection has been set in the **Preview Mosaic > Projection** settings. You should set this up first and you also need to play back a few pings of a file before the Projection option becomes available.

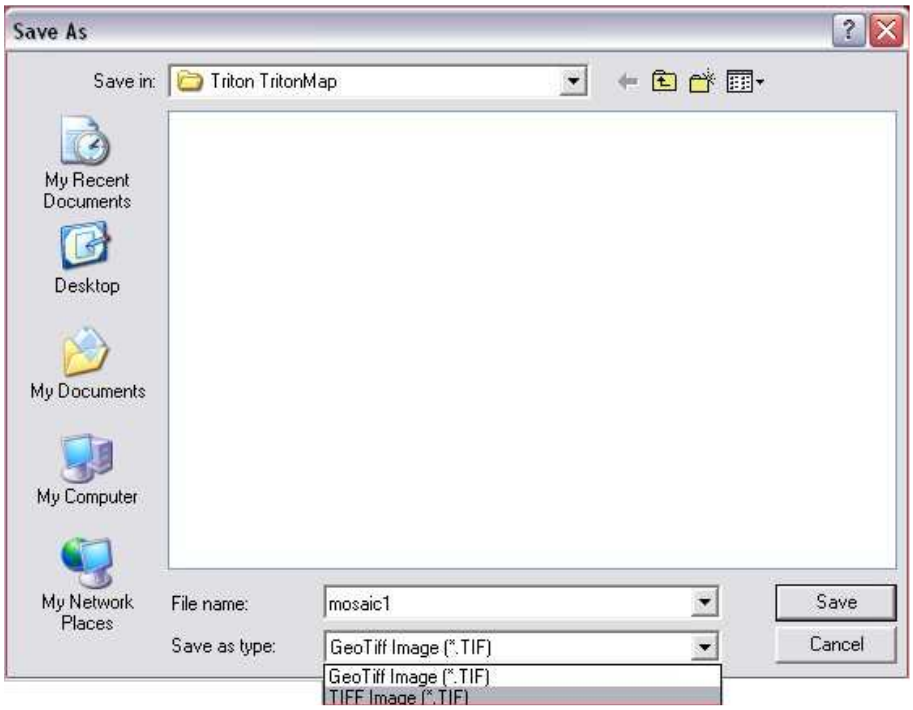
You can export this data from Mosaic Basic as a GeoTIFF and the associated .TFW file will be Survey feet in whatever projection was selected during the mosaic creation.

Processing the data in Triton Map

Triton Map does not support US Survey feet as a navigation unit. You should not use this option if you are creating a mosaic

using Triton Map. Also, saving the Mosaic from Mosaic Basic as a DDS_VIF file will NOT work; the local coordinates will be OK (labeled as meters) the computed Latitude and Longitude will be incorrect.

If a TritonMap mosaic is needed you should process everything in meters, and then create a GeoTIFF. When you export the GeoTIFF from Triton Map choose the option TIFF Image (*.TIF):



The TIFF will be created (without the internal GeoTIFF tags) also the .TFW file. If the final GeoTIFF needs to be in US Survey feet, manually convert the values in the TFW file from meters to feet:

(TFW files are text files, open/edit them with Notepad or Word Pad) a typical .TFW file for a mosaic with 0.25m resolution has:

0.25000000000000 (X dimension of each pixel)
0.00000000000000
0.00000000000000
-0.25000000000000 (Y dimension of each pixel)
333426.37500000000000 (X coordinate of the upper-left pixel)
6253369.62500000000000 (Y coordinate of the upper-left pixel)

multiply each value by 39.37/12 to convert to US survey feet:

0.8202083
0.00000000000000
0.00000000000000
-0.8202083
1093916.300000000000
20516263.0000000000000