



Changes to Google Earth Export & PNG Format

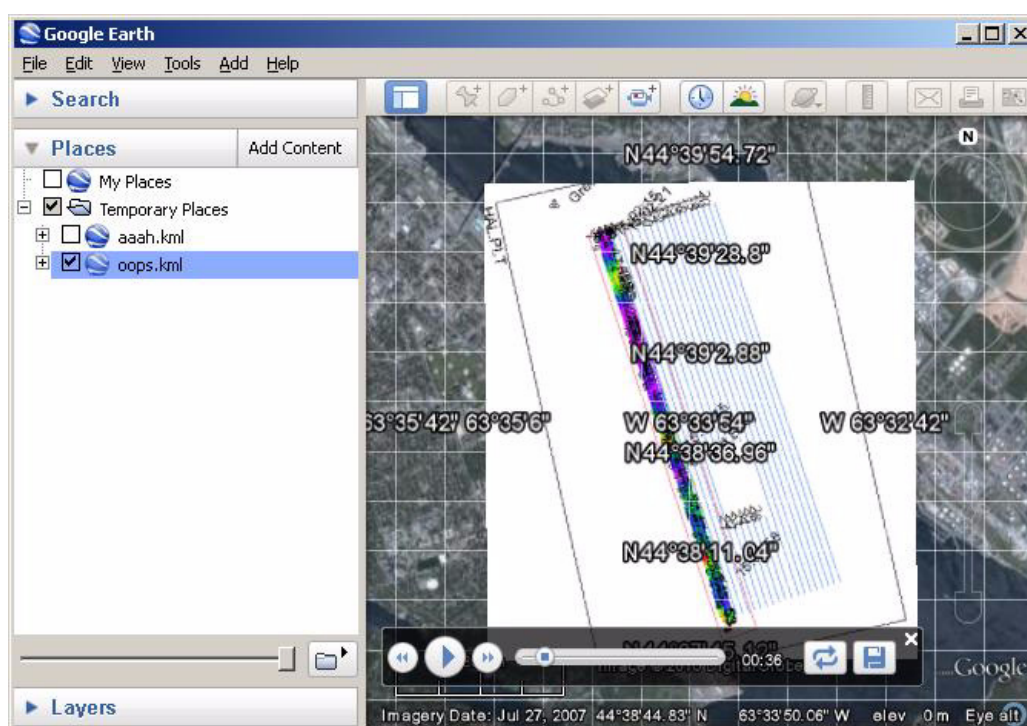
By Bill Bergman

We have addressed a few issues concerning HYPACK's export of data to Google Earth™. The following pictures show both what we have fixed and why.

KML CHANGES

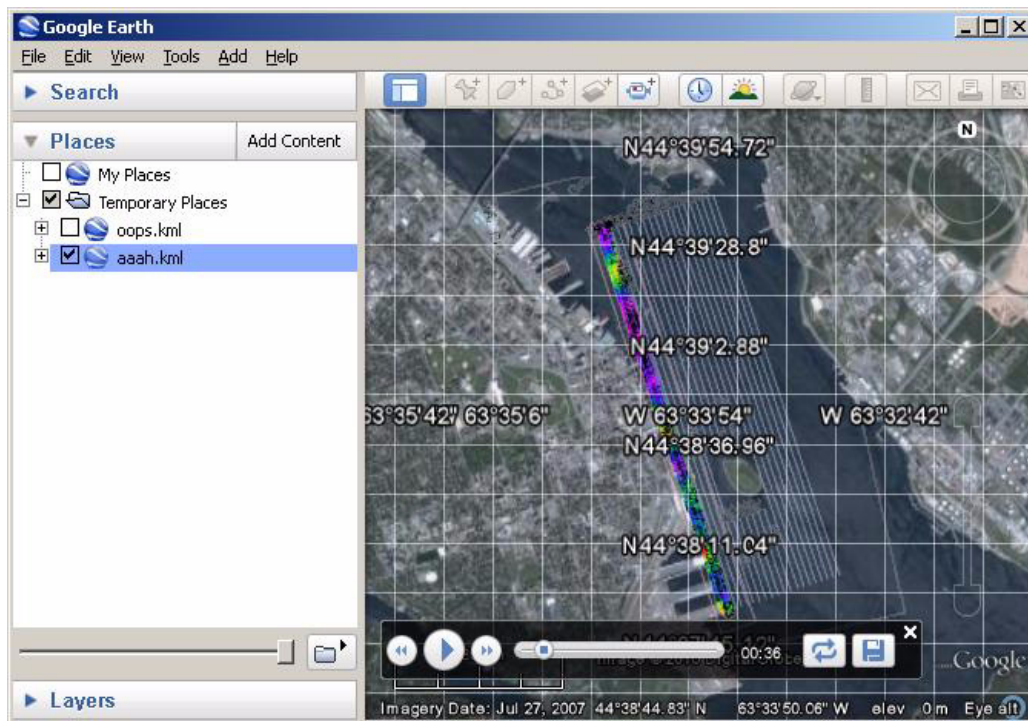
The existing HYPACK® export of raster data looked like this:

FIGURE 1. Problematic TIF Image in Google Earth™



Areas of non-data were covered in white. This unpleasant artifact was caused by sending TIF images to Google Earth™. Even though it supports the format, there was no way to transmit an intended transparent color. Neither the TIF format nor the Google Earth™ KML scripting language have a facility for storing this piece of information. We looked for solutions and decided on the PNG (Portable Network Graphics) format as the answer. This is a lossless graphics format with decent compression capabilities which has become ubiquitous on the web. It has many nice features including a number of ways to store transparency. With a little coding magic the results look like this:

FIGURE 2. PNG Displayed in Google Earth™



Another change in Google Earth™ export, which we hope will solve some tricky alignment problems when exporting large areas, is the way we encode the image in KML. We are now taking advantage of a newer (but not too new!) extension to this language. This allows us to specify the Latitude, Longitude coordinates of the quadrilateral which defines the picture. Google Earth™ will then handle the rotation and stretching/compression of the image as required.

What do you need to do in order to get this working? Firstly, you will need an update to the HYPACK® software. I know, you just received the 2010 CD, but new development and bug fixes are happening continuously. As far as the mechanics of using the program to export data, you need to do nothing different! HYPACK® will silently convert your TIF images to PNG format behind the scenes and write an updated KML file.

PNG IN HYPACK®

A little more on the PNG format. We liked it so much, support for this format in HYPACK® is on level with that of TIF's. This means it can be loaded as a background file. An associated world file is used to position the image in the real world. This file is identical to a TFW world file but, following naming conventions, it is given the extension PGW. We had intended to convert TIF images to the 24-bit version of PNG's, which has storage for a single fully transparent color. Though this is supported in our software, Google Earth™ has a bug (since 2007 from internet posts) where it ignores this value. Until Google Earth™ can fix it, we are exporting the 32-bit version, using the Alpha channel to obtain transparency. The downside is the images are larger than they really need to be.
