**Archiving AMES Stereo Pipeline products**

In this guide we will be covering how to take products from Nasa Ames Stereo Pipeline (ASP) done using these scripts https://github.com/bwwjohnson/asp_dem_creation. The products are for OpenTopography (OT) so we are interested in *point clouds* and *orthophotos*

Convert point cloud to .laz file
1. Navigate to: `$wdir/asp/$runid/$out`
2. Run the ASP tool *point2las* on `trans-trans_reference.tif` which is the point cloud aligned to the global DEM
3. Run the lastools tool *laszip64.exe* on the resultant point cloud to get the .laz file
4. Upload to OT

Compress the raw TIFF orthophoto using [1]
1. Navigate to `$wdir/asp/$runid`
2. Ortho file is `*_pansharp_out_2.tif`
3. Convert to Cloud Optimised Geotiff (COG). To capture all 4 bands of imagery create two images (b1,b2,b3 & b1,b4,b3, for example):

```
gdal_translate \
  -b 1 -b 2 -b 3 \
  -of COG \
  -co COMPRESS=JPEG \
  -co QUALITY=50 \
  *_pansharp_out_2.tif b123.tif

gdal_translate \
  -b 1 -b 4 -b 3 \
  -of COG \
  -co COMPRESS=JPEG \
  -co QUALITY=50 \
  *_pansharp_out_2.tif b143.tif
```

4. Upload to OT

**Glossary**
*Point cloud* -- collection of points in 3d space which together form a landscape in our case. ASP outputs these as TIFF files, but these are normally viewed as .las or zipped version .laz
*Orthophoto* -- a true or false color image of the landscape viewed from above. The projection is such that distances are scaled the same across the image, like a map. This is build by tiling raw images for photogrammetry, or projecting a single raw image onto the DEM built using photogrammetry
**References**
[1] https://blog.cleverelephant.ca/2015/02/geotiff-compression-for-dummies.html