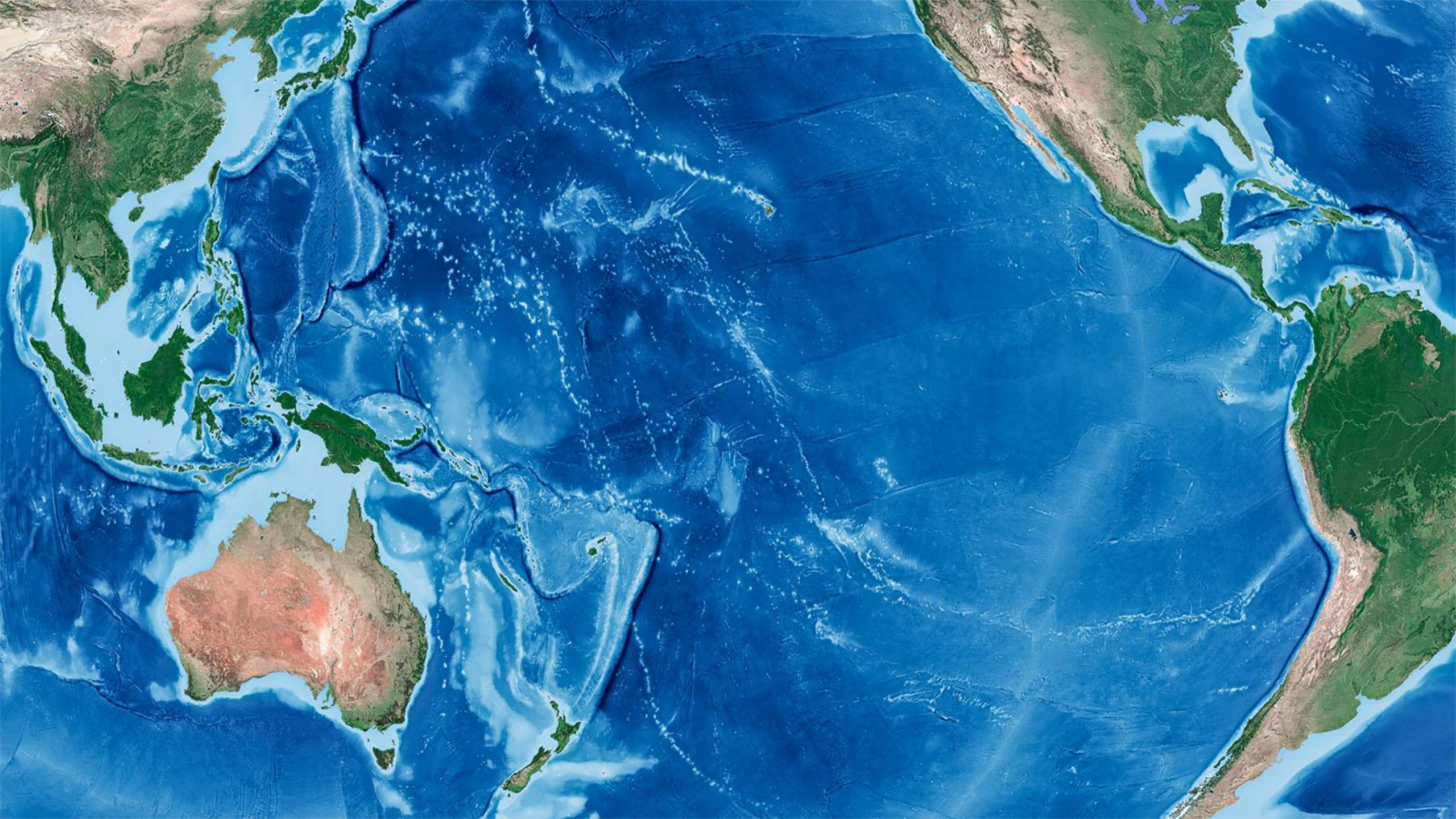
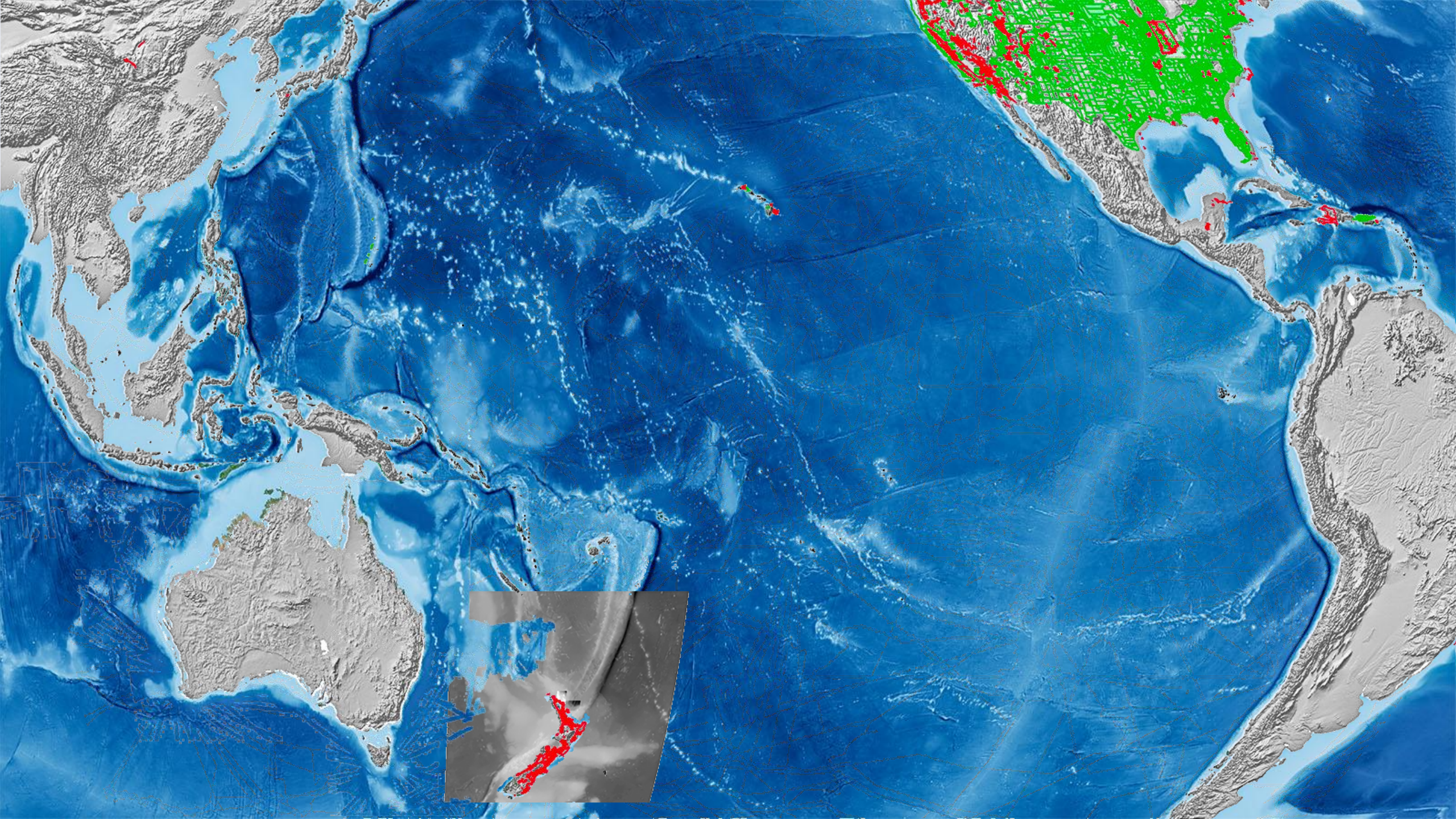


# Wrangling Elevation and Bathymetry Data with GDAL and PDAL

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We  
are  
here





```
D: > pgc-gdal-pdal-workshop-22 > data > gebco > hawaii_bathymetry.vrt
```

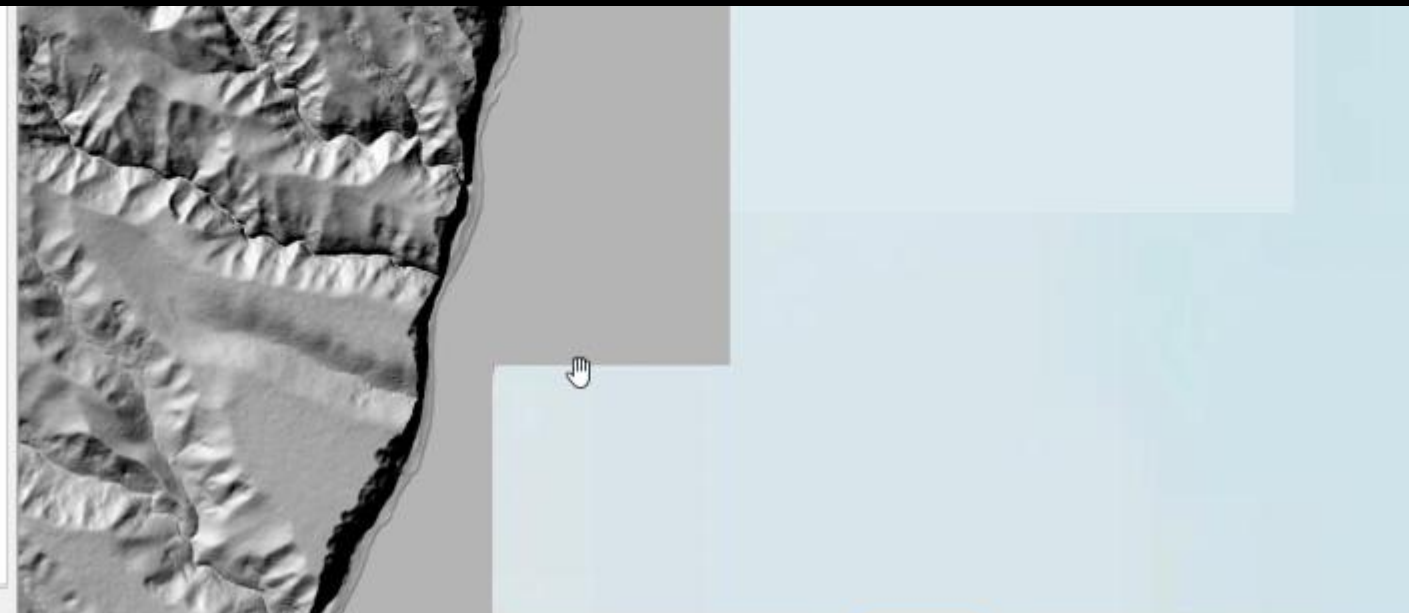
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1 <VRTDataset rasterXSize="2640" rasterYSize="1680">
2   <SRS dataAxisToSRSAxisMapping="2,1">GEOGCS["WGS 84",DATUM["WGS_1984",SPHEROID["WGS 84",6378137,298.257223563,AUTHORITY["EPSG","7030"]],
  AUTHORITY["EPSG","6326"]],PRIMEM["Greenwich",0,AUTHORITY["EPSG","8901"]],UNIT["degree",0.0174532925199433,AUTHORITY["EPSG","9122"]],AXIS
  ["Latitude",NORTH],AXIS["Longitude",EAST],AUTHORITY["EPSG","4326"]]</SRS>
3   <GeoTransform> -1.6400000000000000e+02, 4.1666666666666683e-03, 0.0000000000000000e+00, 2.4000000000000004e+01, 0.0000000000000000e+00, -4.
  1666666666666692e-03</GeoTransform>
4 > <Metadata> ...
65 </Metadata>
66 <VRTRasterBand dataType="Int16" band="1" blockYSize="1">
67   <Metadata>
68     <MDI key="grid_mapping">crs</MDI>
69     <MDI key="long_name">Elevation relative to sea level</MDI>
70     <MDI key="NETCDF_VARNAME">elevation</MDI>
71     <MDI key="sdn_parameter_name">Sea floor height (above mean sea level) {bathymetric height}</MDI>
72     <MDI key="sdn_parameter_urn">SDN:P01::ALATZZ01</MDI>
73     <MDI key="sdn_uom_name">Metres</MDI>
74     <MDI key="sdn_uom_urn">SDN:P06::ULAA</MDI>
75     <MDI key="standard_name">height_above_mean_sea_level</MDI>
76     <MDI key="units">m</MDI>
77   </Metadata>
78   <NoDataValue>-32767</NoDataValue>
79   <UnitType>m</UnitType>
80   <SimpleSource>
81     <SourceFilename relativeToVRT="1">gebco_2022_sub_ice_n24.0_s17.0_w-164.0_e-153.0.nc</SourceFilename>
82     <SourceBand>1</SourceBand>
83     <SourceProperties RasterXSize="2640" RasterYSize="1680" DataType="Int16" BlockXSize="2640" BlockYSize="1" />
84     <SrcRect xOff="0" yOff="0" xSize="2640" ySize="1680" />
85     <DstRect xOff="0" yOff="0" xSize="2640" ySize="1680" />
86   </SimpleSource>
87 </VRTRasterBand>
88 </VRTDataset>
89
```

Layers

- VRTs
- merged\_tiles
- Tiles
- Aerial Imagery Basemap



```
gdal_translate merged_tiles.vrt merged_tiles_COG.tif ^  
-of COG ^  
-co COMPRESS=LERC_DEFLATE ^  
-co PREDICTOR=3 ^  
-co NUM_THREADS=ALL_CPUS
```



Layer Styling

merged\_tiles

Hillshade

Band: Bend 1 (Gray)

Altitude: 45.00°

Admuth: 315.00°

Z Factor: 1.00000000

Multidirectional:

Layer Rendering

Blending mode: Normal

Brightness: 0

Saturation: 0

Contrast: 0

Gamma: 1.00

Invert colors

Grayscale: Off

Colorize

Hue Strength: 100%

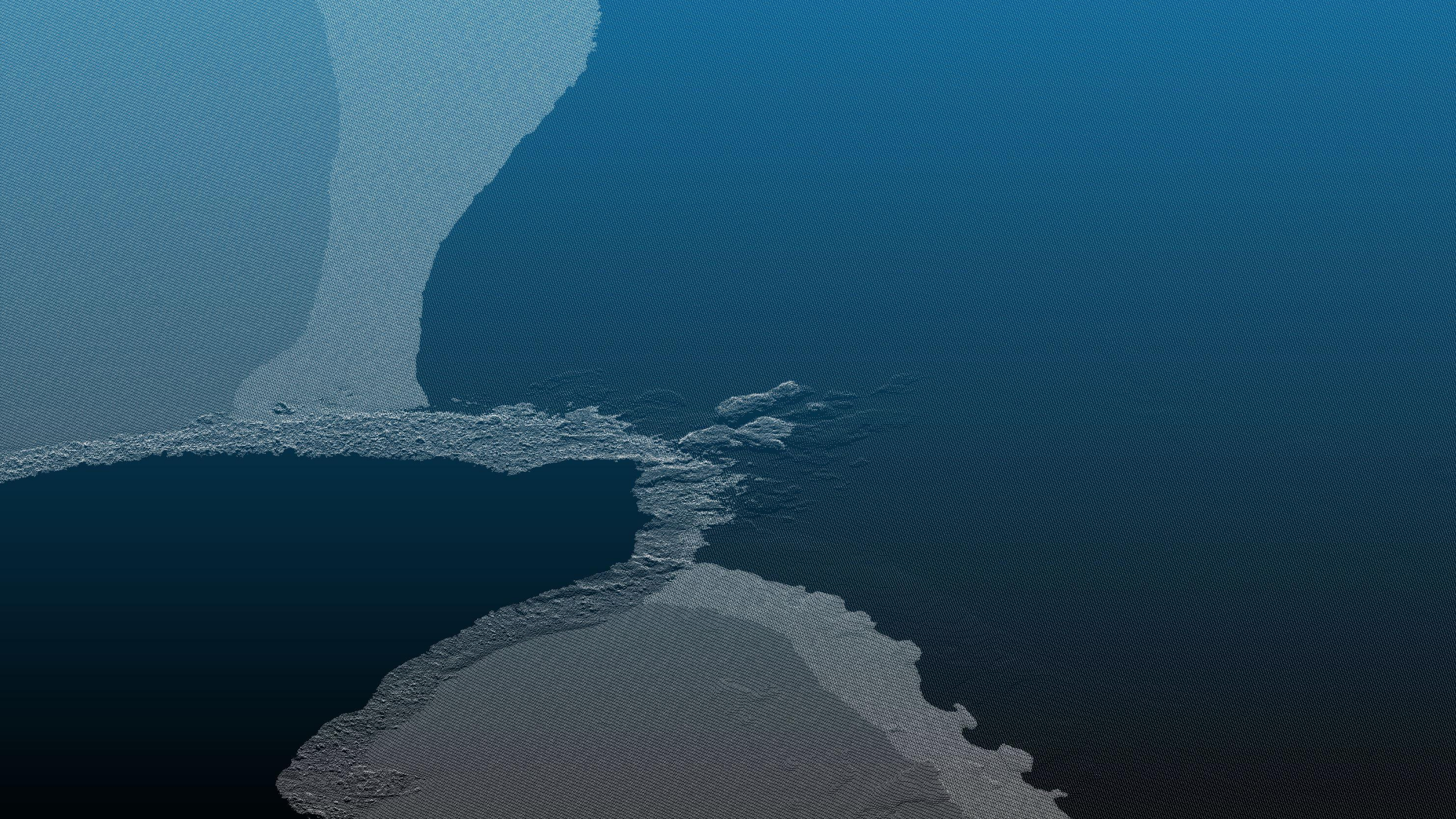
Resampling

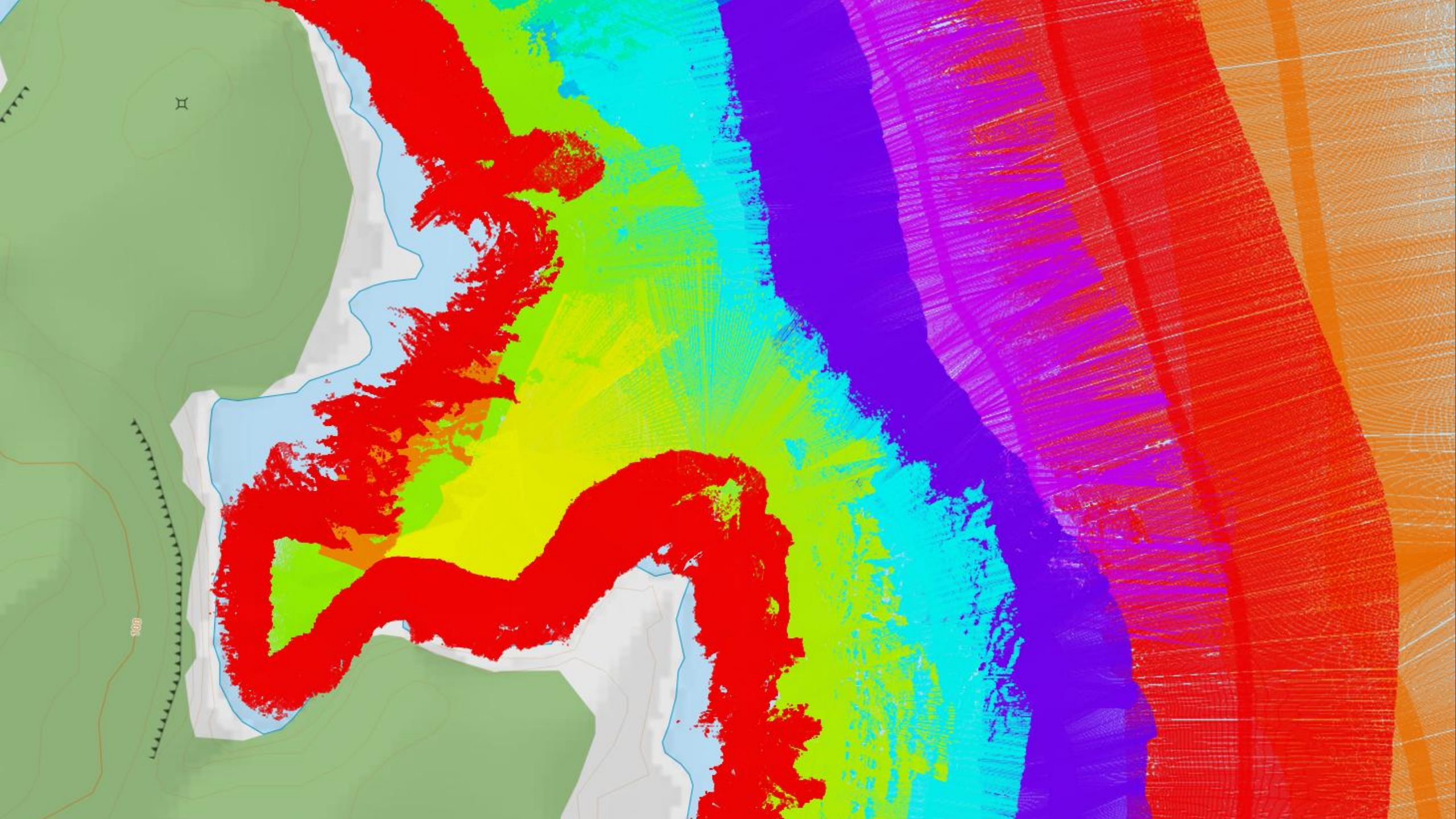
Zoomed in: Cubic

Zoomed out: Bilinear

Oversampling: 2.00

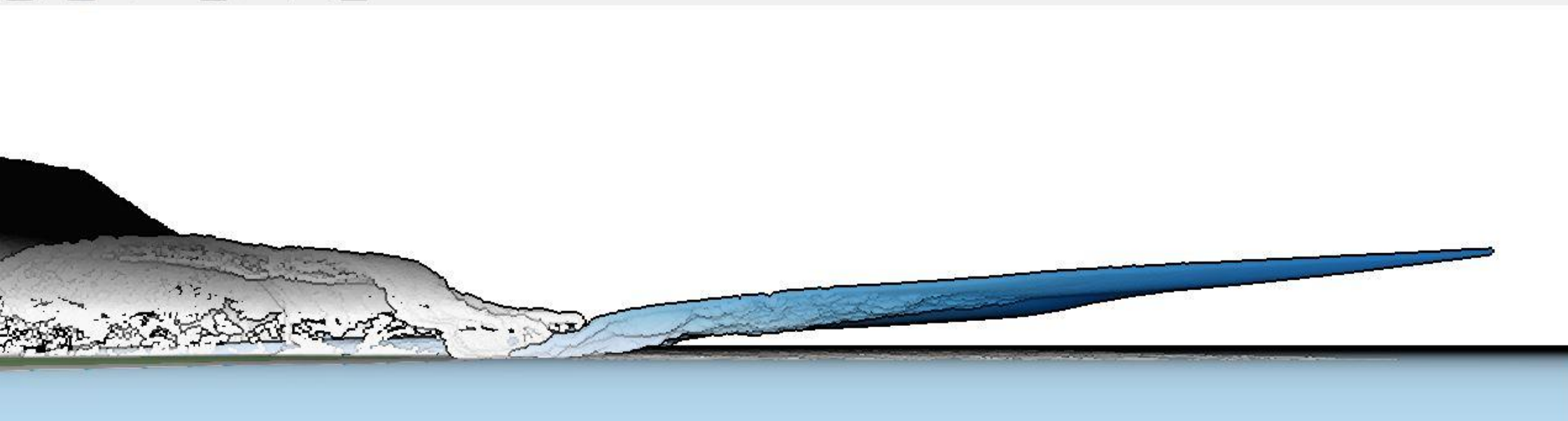
Early resampling



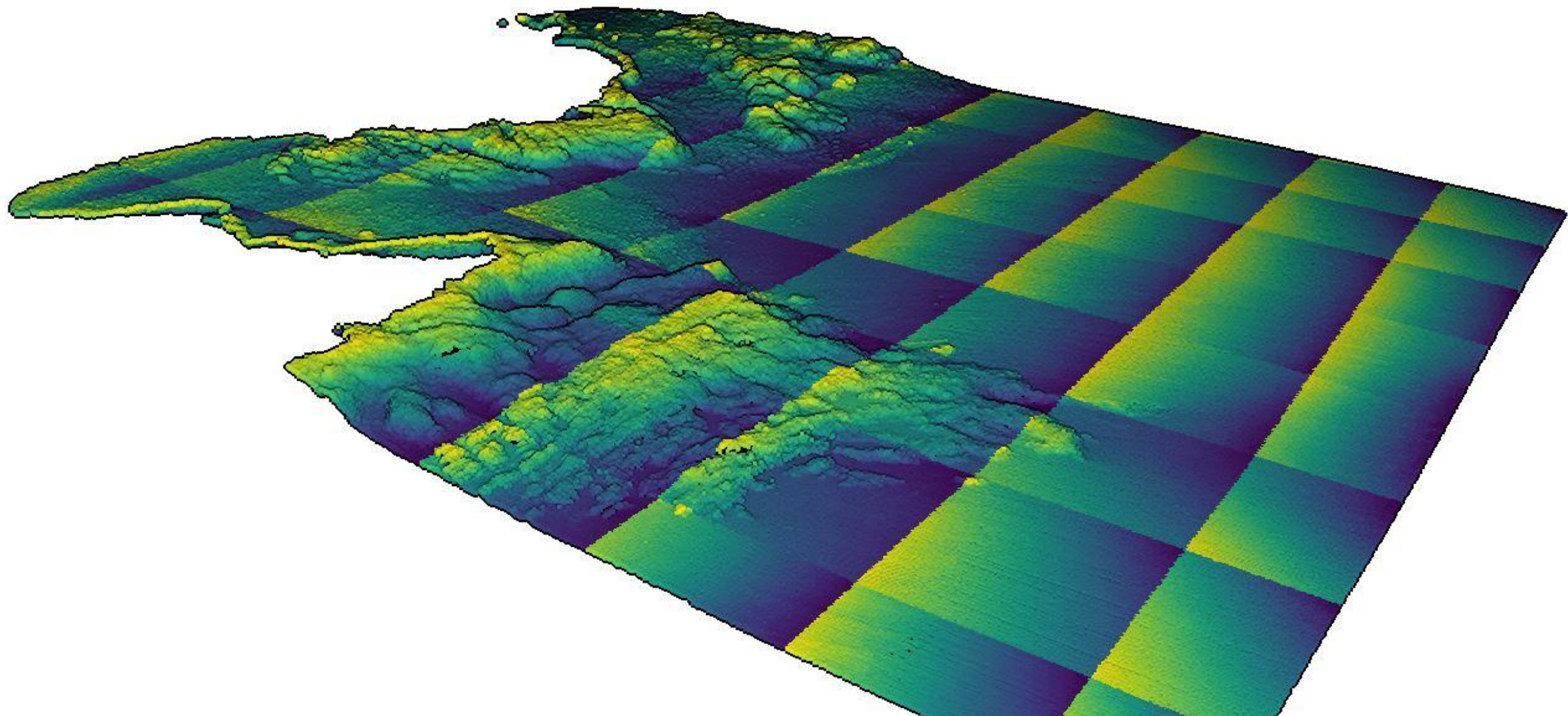




3D Map 1









*The End*