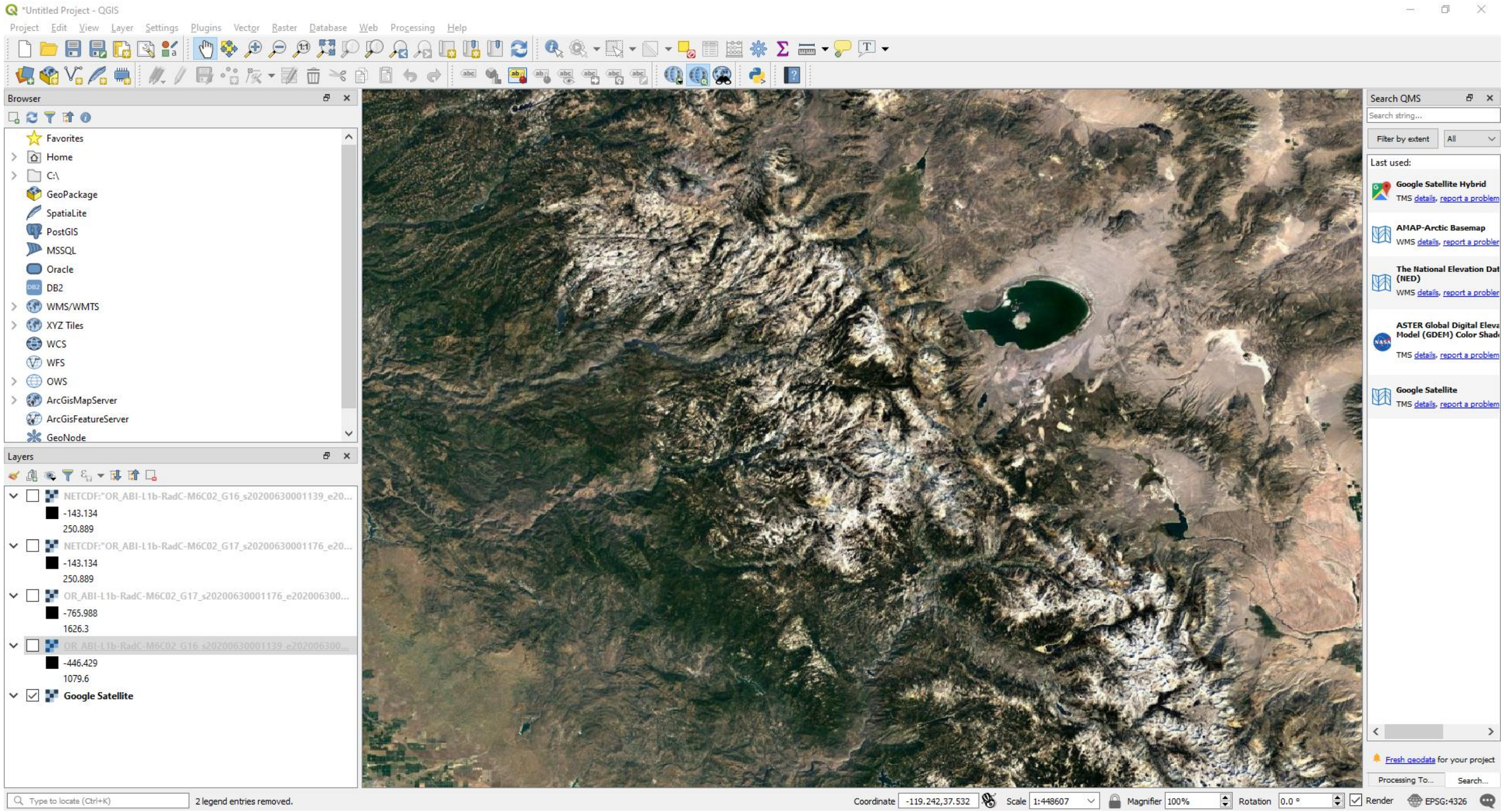
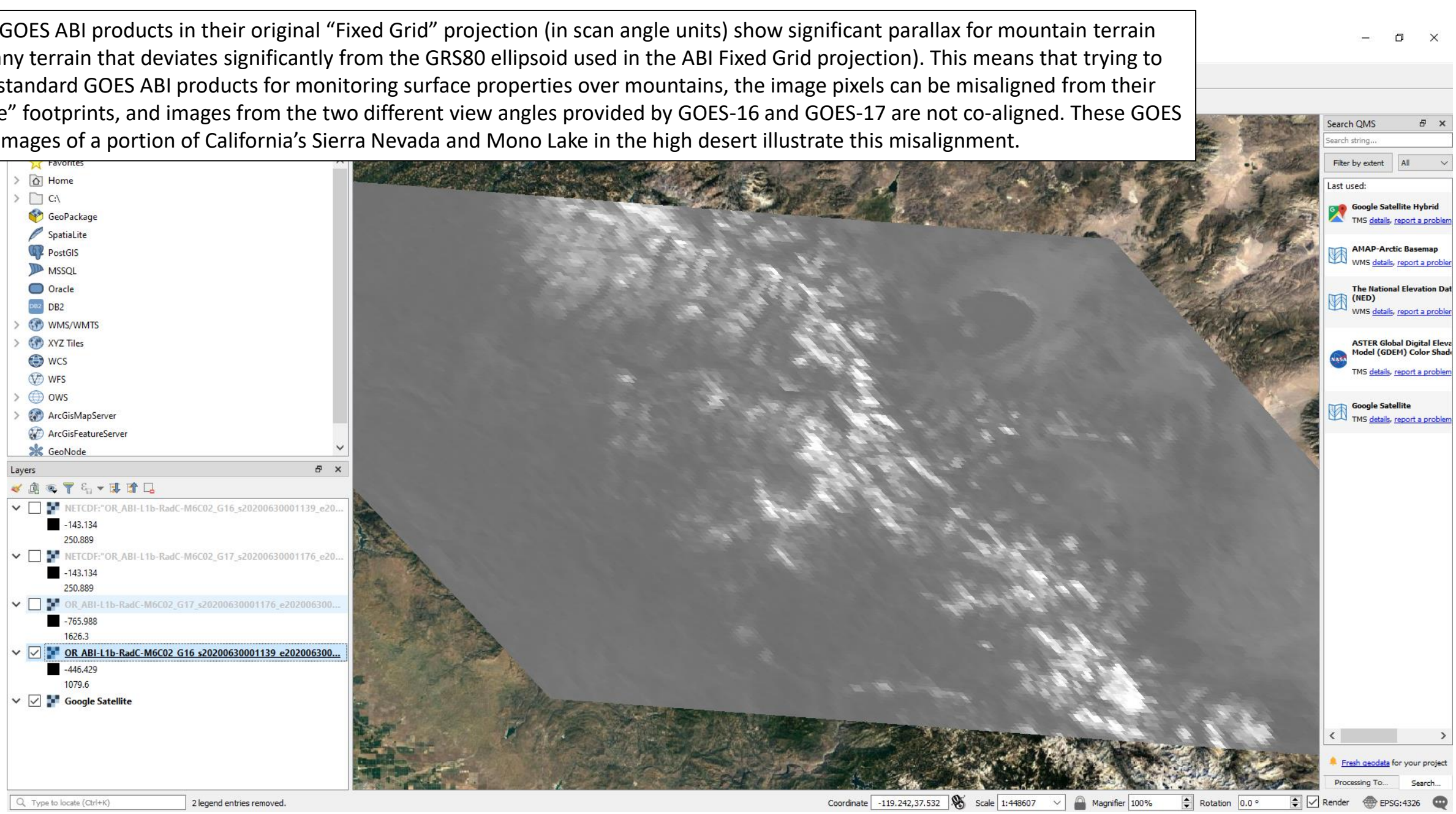



Google Satellite background for reference

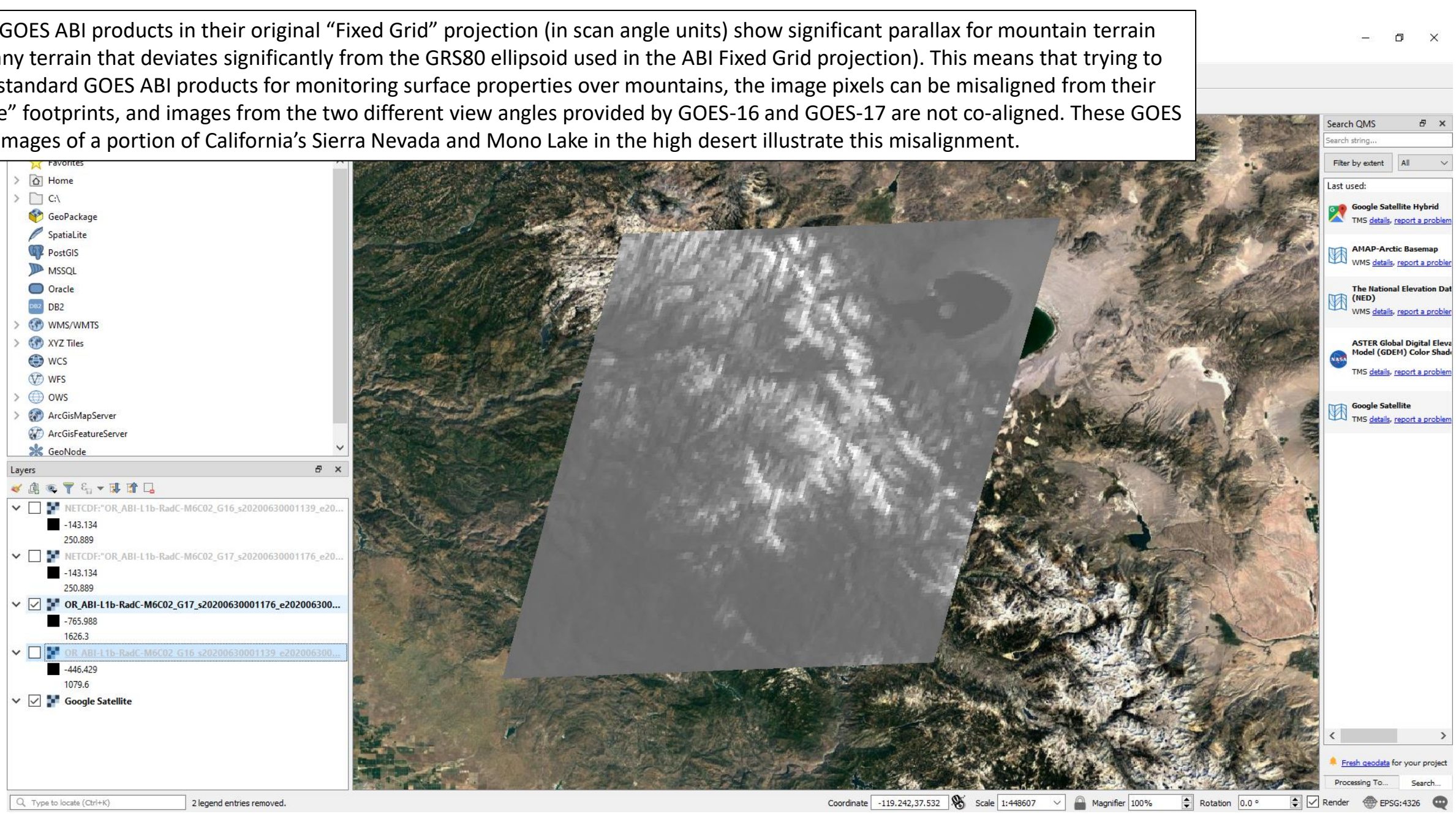
The GOES ABI products in their original “Fixed Grid” projection (in scan angle units) show significant parallax for mountain terrain (or any terrain that deviates significantly from the GRS80 ellipsoid used in the ABI Fixed Grid projection). This means that trying to use standard GOES ABI products for monitoring surface properties over mountains, the image pixels can be misaligned from their “true” footprints, and images from the two different view angles provided by GOES-16 and GOES-17 are not co-aligned. These GOES ABI images of a portion of California’s Sierra Nevada and Mono Lake in the high desert illustrate this misalignment.




OR_ABI-L1b-RadC-M6C02_G16_s20200630001139_e20200630003512_c20200630003542.nc

**GOES-16** ABI-L1b-RadC C02 (original , clipped to lat/lon bounds)

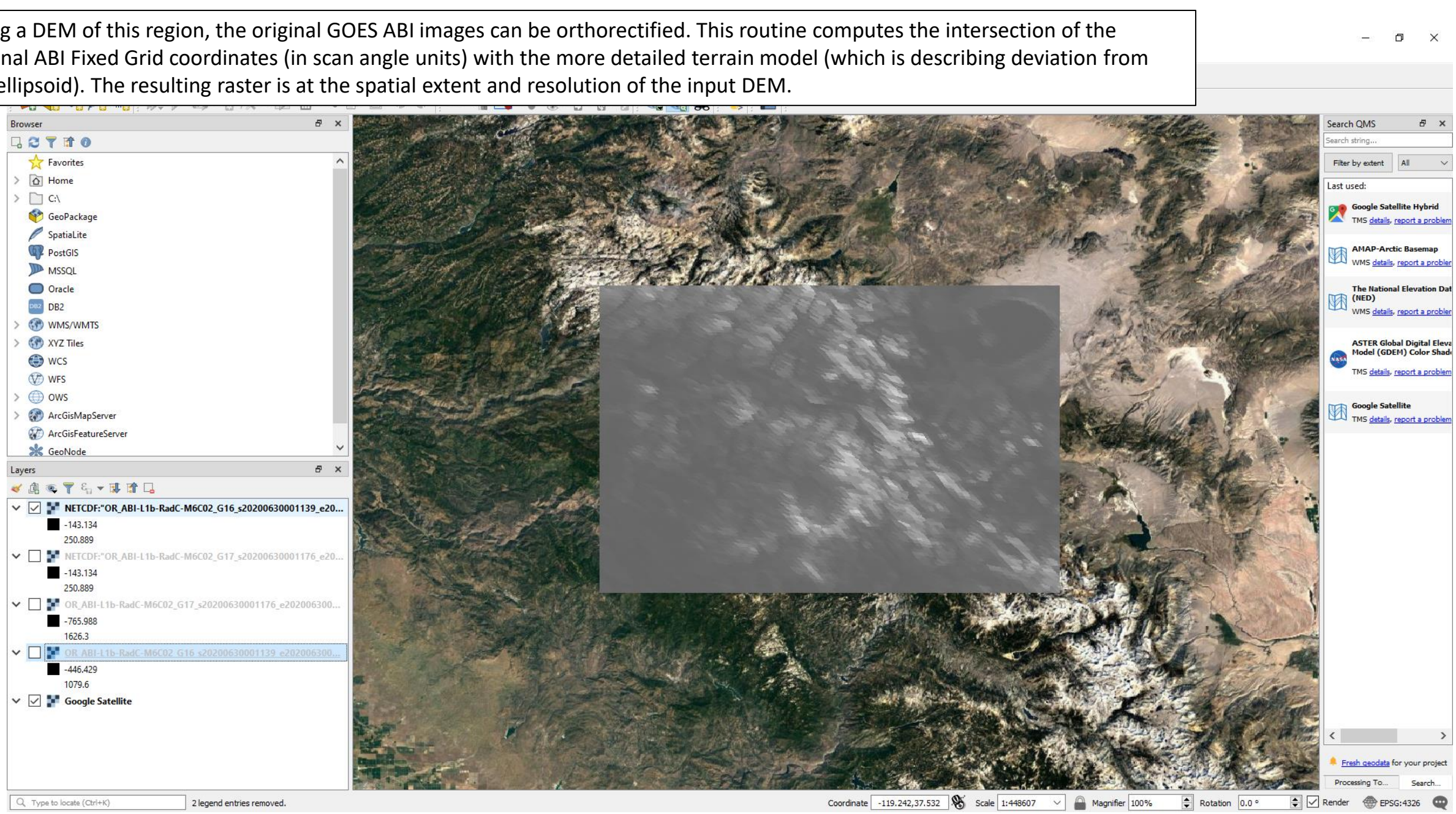
The GOES ABI products in their original “Fixed Grid” projection (in scan angle units) show significant parallax for mountain terrain (or any terrain that deviates significantly from the GRS80 ellipsoid used in the ABI Fixed Grid projection). This means that trying to use standard GOES ABI products for monitoring surface properties over mountains, the image pixels can be misaligned from their “true” footprints, and images from the two different view angles provided by GOES-16 and GOES-17 are not co-aligned. These GOES ABI images of a portion of California’s Sierra Nevada and Mono Lake in the high desert illustrate this misalignment.




OR_ABI-L1b-RadC-M6C02_G17_s20200630001176_e20200630003549_c20200630003571.nc

**GOES-17** ABI-L1b-RadC C02 (original, clipped to lat/lon bounds)

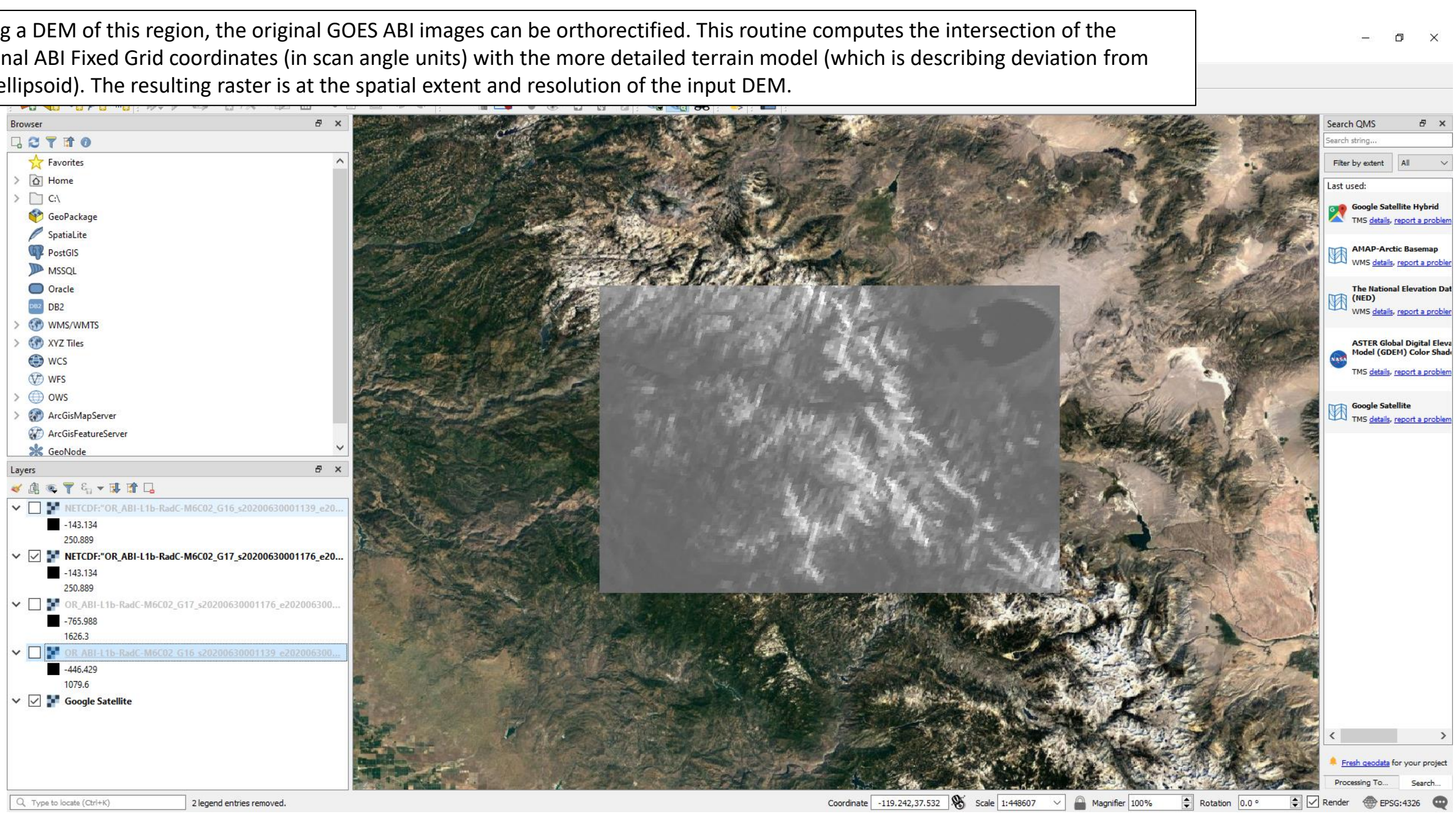
Using a DEM of this region, the original GOES ABI images can be orthorectified. This routine computes the intersection of the original ABI Fixed Grid coordinates (in scan angle units) with the more detailed terrain model (which is describing deviation from the ellipsoid). The resulting raster is at the spatial extent and resolution of the input DEM.




OR_ABI-L1b-RadC-M6C02_G16_s20200630001139_e20200630003512_c20200630003542.nc

**GOES-16** ABI-L1b-RadC C02 (orthorectified and clipped to DEM bounds)

Using a DEM of this region, the original GOES ABI images can be orthorectified. This routine computes the intersection of the original ABI Fixed Grid coordinates (in scan angle units) with the more detailed terrain model (which is describing deviation from the ellipsoid). The resulting raster is at the spatial extent and resolution of the input DEM.




OR_ABI-L1b-RadC-M6C02_G17_s20200630001176_e20200630003549_c20200630003571.nc

**GOES-17** ABI-L1b-RadC C02 (orthorectified and clipped to DEM bounds)

See https://github.com/spestana/goes-ortho/tree/master/examples/orthorectify_abi_example.ipynb for an example of orthorectifying and creating RGB images from GOES ABI bands 1-3.