Processing flow for Sentinel 1 data

Subset

We extract a subset of the Sentinel-1 GRD products by specify a rectangle or polygon. If it is a polygon or coordinates make sure what version of SNAP you are using.

Note: when working with SNAP 8.0 and Geo regions, make sure to change

```
#SNAp 7.0
WKTReader = snappy.jpy.get_type('com.vividsolutions.jts.io.WKTReader')

                                To:

#SNAp 8.0
WKTReader = snappy.jpy.get_type('org.vividsolutions.jts.io.WKTReader')
```

Apply orbit file

Thermal Noise Removal

Calibration

Calibrated SAR images are essential to quantitative use of SAR data.to SAR images so that the pixel values of the SAR images truly represent the radar backscatter of the reflecting surface. The radiometric correction is also necessary for the comparison of SAR images acquired with different sensors, or acquired from the same sensor but at different times, in different modes, or processed by different processors.

Speckle filtering

Speckles are caused by random constructive and destructive interference of the de-phased but coherent return waves scattered by the elementary scatters within each resolution cell. Speckle noise reduction can be applied either by spatial filtering or multi-looking.

Terrain correction

Linear to dB conversion