



→ 6th ESA ADVANCED TRAINING COURSE ON LAND REMOTE SENSING

Snow Mapping and Monitoring

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Instructions for Practical Session - *Snow Mapping & Monitoring*

- We will use SNAP to compare mosaicked backscatter values acquired at different times in the springtime melting season
- Terminology:
 - GTC: Geometrically Terrain Corrected
 - TFTC: Terrain Flattened Terrain Corrected

Exercise #1: Mosaic multiple GTC images

1. Display single GTC100 images using dB, VH cross-pol scales best from -26dB (black) to -1dB (white) – use basic display range to set
2. Use the SNAP Radar SAR-Mosaic tool to create a mosaic covering the maximum region acquired by a set of the available gtc100 images
 - Note any radiometric effects you see along the scene edges, esp. between ascending/descending pairs
3. Use the SNAP Radar SAR-Mosaic tool to create a mosaic covering the maximum region acquired by a set of the available tftc100 images
 - Note the radiometry along the scene edges, flattening still undergoing improvement in SNAP
 - N.B. opposing ascending/descending influences on fore/back slopes

Exercise #2: Stack images and display RGB overlays

1. Create a stack using the tool Coregistration – Stack tools – Create a stack
2. Open an RGB view of different subsets of 3 GTC images
 - Note how the time of the image affects the height level in the Alps of the “dark” wet snow region – include images from early, mid, and late in the springtime melting season
 - Try including both ascending and descending images in another RGB view
3. View of the available TFTC images
 - Create a stack, scale to dB, then display as RGB overlay

Exercise #3 (for those finishing quickly), Extra

- a) Using graph builder, run terrain correction on full GRDH product to generate higher resolution version, e.g. 5x5 multi-looked: 50m resolution
 - Using the SNAP graph builder, calibrate gamma nought, multi-look and terrain correct VH-pol.
- b) Repeat for second GRDH product
- c) Highlight effects caused by differing scene geometries (ascending/descending) using mosaic and stack tools