Provenance

Lake Depth Calculations

Sermeq Kujalleq (Jakobshavn)
Landsat Scenes
DOI: 10.6084/m9.figshare.2062737.v1

↓

Jakobshavn_landsat_processing.m
call MTL_parser.m
Blue/Red Lake Threshold = 1.5
DOI: 10.5281/zenodo.18707

↓ ↓

Top of Atmosphere Reflectance   Lake Mask

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Manual Cleaning, QGIS (qgis.org)

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Lake Mask

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Jakobshavn_lake_sieve.m
DOI:

↓

Sieved Lake Mask

Landsat 8 OLI g-values
(Pope et al., TC, 2016)
DOI:

→ Jakobshavn_lake_depth_calc.m
DOI: ←

Scene Specific
Reflectance of Deep Water

↓

Lake Depths (Bands 4 & 8 Average)
DOI: 10.6084/m9.figshare.2063313.v2

↓

Jakobshavn_lake_volume.m
DOI:

↓ ↓

Figure 5
(Pope et al., E&SS, 2016)

Jakobs_lake_vol.mat
DOI: 10.6084/m9.figshare.2063313.v2

Lake Depth & Elevation Analysis

90 m resolution GIMP DEM
(Howat et al., 2014; Howat et al., 2015)
DOI: 10.5067/NV34YUIXLP9W

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GIMP_PolarStereo.txt
DOI:

↓

metadata_for_gimp_reproj.m
Calls MTL_Parser.m
DOI:

↓

Landsat file list and metadata
DOI: 10.6084/m9.figshare.2062737.v1
→
GIMP_reproject_gdal.txt
DOI: 10.5281/zenodo.18707

↓

Code formatting (spaces & commas)

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Subsetted GIMP DEMs

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Jakobshavn_lake_elev_stats.m
DOI:

↓ ↓

Figure 4
(Pope et al., E&SS, 2016)

Jakobs_lake_elev_depth_stats.mat
DOI: 10.6084/m9.figshare.2063313.v2