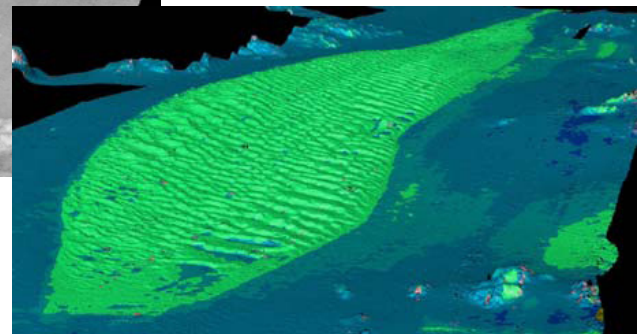
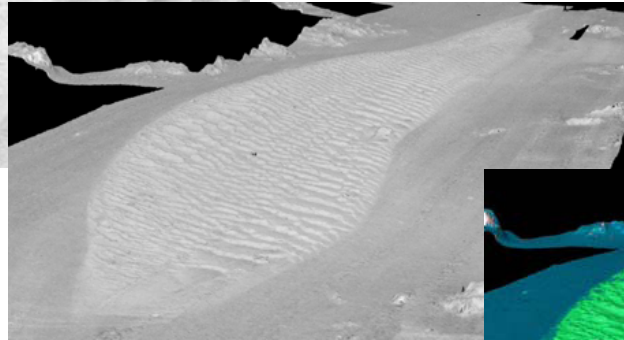
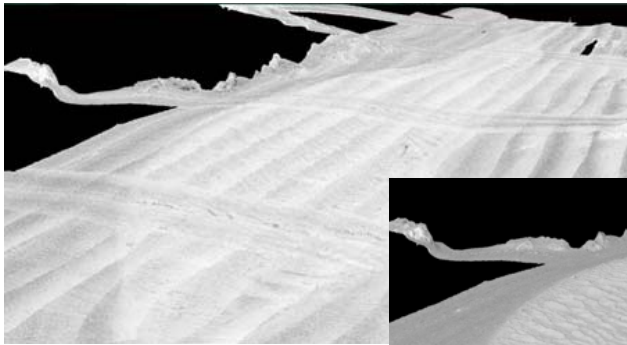


GEOTEXTURE



KONGSBERG



Feb 14

SIDE SCAN DATA PROCESSING AND SEABED CLASSIFICATION SOFTWARE

GeoTexture is a side scan data processing software for normalisation, mosaic creation and seabed classification. The software has been optimised for the analysis of GeoSwath Plus shallow water multibeam side scan data. In addition it interfaces with standard side scan sonar systems.

Description

GeoTexture most common applications are found in civil engineering, geological and environmental site surveys, where high quality seafloor imagery, sediment classification and habitat mapping are key requirements.

The performance of the software has been optimised for the analysis of the GeoSwath Plus phase measuring bathymetric sonar side scan data, although it supports a wide range of side scan and generic image formats.

GeoTexture provides the instruments to accurately correct for range, water column absorption, beam pattern, grazing angle and motion (normalisation), which substantially improve the quality of the mosaic, suppressing vessel track artefacts, and ease image interpretation. Additionally GeoSwath Plus side scan data is corrected for local slope.

The software can be trained to recognise different types of seabed (texture feature extraction). When ground-truthed data is available to guide the training process, the results are maps of the seafloor composition.

Workflow

Side Scan Data Processing

- Bottom tracking detection and editing for water column removal

- Bathymetry filtering (GeoSwath Plus data only)
- Systematic beam pattern reconstruction
- Physics-based seabed response extraction
- Systematic compensation for range, beam pattern, seabed response, motion and slope
- Slant range correction

Mosaic Generation

- Line-by-line or batch processing mosaicing
- Mosaic editing, layer management
- Multiple output formats

Seabed classification

- Supervised feature set extraction and classification
- Build-up library of seabed textures
- Multiple output formats

Highest-quality imagery for GeoSwath Plus

The GeoSwath Plus bathymetric sonar collects co-registered bathymetry and true geo-referenced side scan data. The normalisation algorithms in GeoTexture are optimised for GeoSwath Plus side scan data.

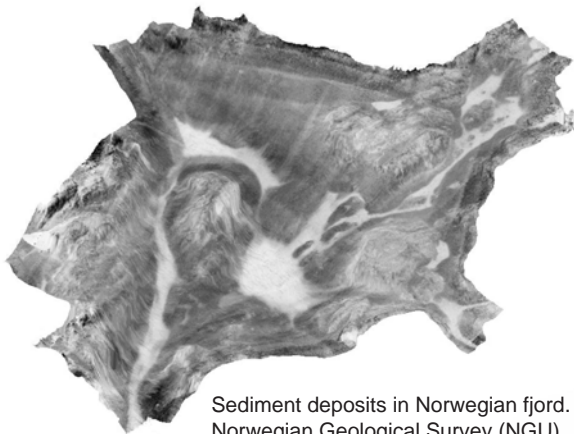
The results are high-contrast waterfalls and mosaics with minimal artefacts.

FEATURES

- Side scan data processing, including high-contrast normalisation
- Minimisation of the vessel track artefacts in the mosaics
- Side scan mosaicing and classification
- Repeatability and easy interpretation of the results
- Wide range of input formats
- Optimised for GeoSwath Plus side scan data

TECHNICAL SPECIFICATIONS

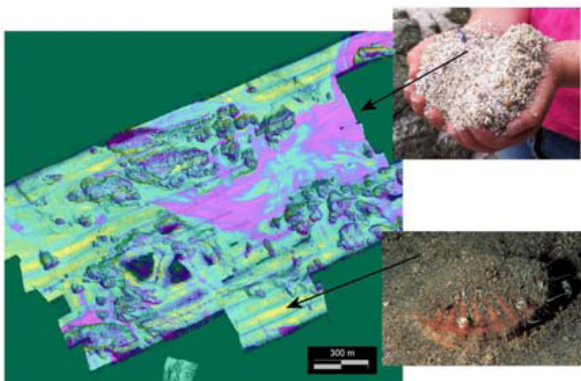
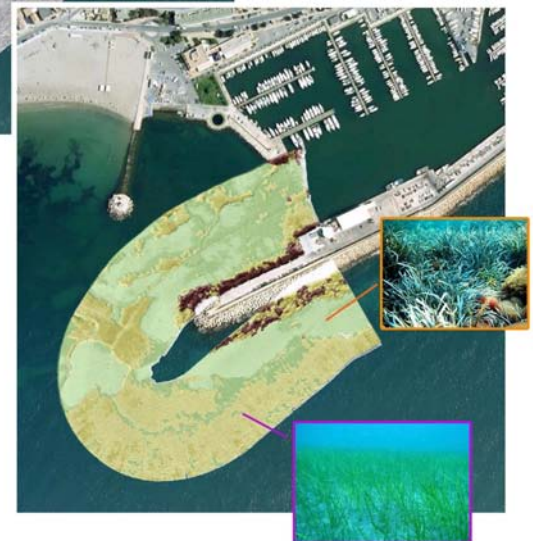
- Windows OS
- User selectable resolution
- Side scan processing to pixel level: bottom tracking, bathymetry filtering, beam pattern reconstruction, normalisation, slant range correction, 1D and 2D filters, mosaic generation and editing
- Corrections for range (spreading and absorption), grazing angle, beam pattern, transducer motion and seafloor slope
- Classification method: supervised texture feature based
- Input data formats: .XTF, .jpeg, .bmp, .tif, .png, .tga, .pcx, .psd, and GeoSwath .swp .mof, and Sonar 2094 Digital .gcf
- Output data formats: XTF, .kml, .jpg, .png, .tif, ASCII
- Mosaic ASCII export in dB for compliancy with 3rd party seabed classification packages



Sediment deposits in Norwegian fjord.
Norwegian Geological Survey (NGU)



Posidonea Oceanica habitat in the Mediterranean Sea.
Kongsberg GeoAcoustics Sonar 2094 Digital data.



Classified mosaic showing marine habitats with ground truth samples - Norwegian Geological Survey (NGU)

Specifications subject to change without any further notice.