

IMAGINE SAR INTERFEROMETRY

IMAGINE SAR Interferometry is a single, cost-effective module that fully integrates ERDAS IMAGINE's advanced interferometric processing capabilities. With this package even the radar novice can extract high-quality DEMs, generate coherence change products or map surface displacement at the centimeter level.

EXPERTISE STRENGTHENED THROUGH PARTNERSHIP

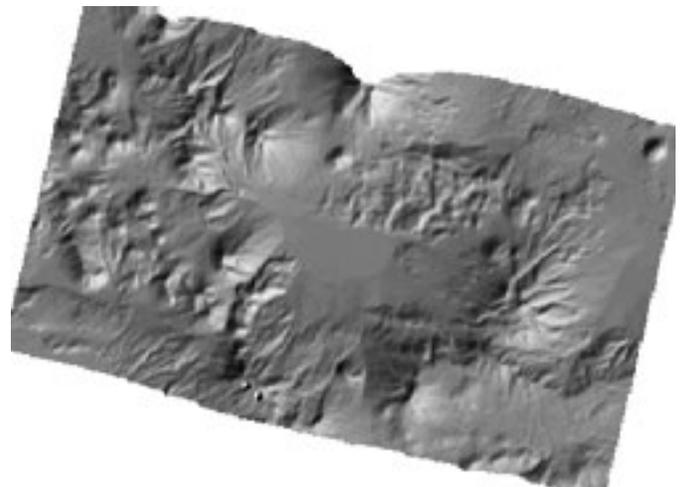
Recognizing the need for user-friendly, robust and technically sophisticated interferometric tools, Hexagon Geospatial partnered with the German Aerospace Center (DLR) to create this product. World-renowned for their development of the SRTM/X-SAR and the TerraSAR-X satellite, this collaboration leveraged both organizations' expertise to produce state-of-the-art algorithms. The technology that processed Space Shuttle Radar Topography Mission (SRTM) interferometric images now forms the heart of IMAGINE SAR Interferometry.

ONGOING ENHANCEMENTS

The Hexagon Geospatial-DLR team continues to incorporate mode-specific frequency filters into the IMAGINE SAR Interferometry module. Because of the integrated design of ERDAS IMAGINE®, these new capabilities will automatically improve the InSAR, Coherence Change Detection and D-InSAR capabilities in IMAGINE SAR Interferometry. There is no additional work or knowledge required from the analyst.



Phase Unwrap Wizard in Expert Mode



5-meter DEM calculated from full TerraSAR-X scene in fully automatic mode



INTERFEROMETRIC SAR (INSAR)

By exploiting the information contained in the radar phase the InSAR capability can quickly extract high-quality Digital Elevation Models (DEM). InSAR includes a user-friendly wizard workflow. The analyst simply steps through the wizard, accepting or modifying the default parameters. The software then automatically processes input images to DEM products while the analyst is free to work on other tasks.

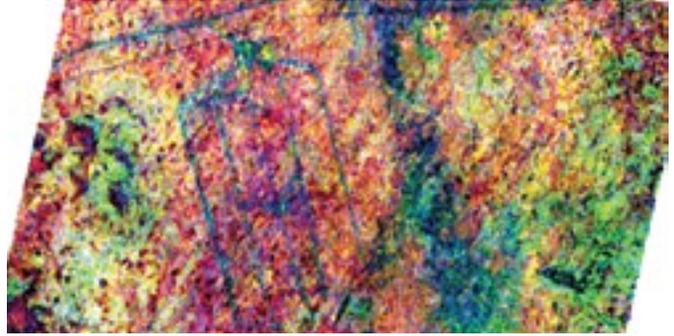
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COHERENCE CHANGE DETECTION (CCD)

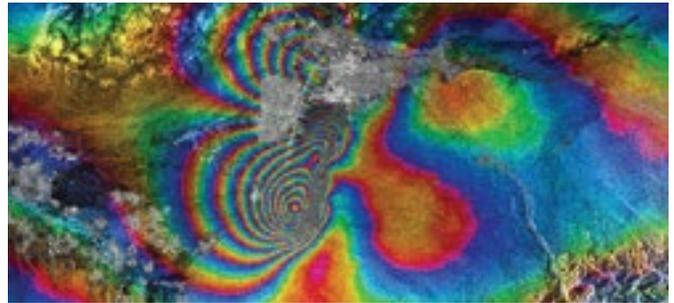
By comparing two radar images taken at different times, the Coherence Change Detection functionality can detect changes at the wavelength scale. This means that surface change of an inch or less can be detected over areas of hundreds of square miles. This provides regional monitoring at a previously unattainable level.

DIFFERENTIAL INTERFEROMETRIC SAR (D-INSAR)

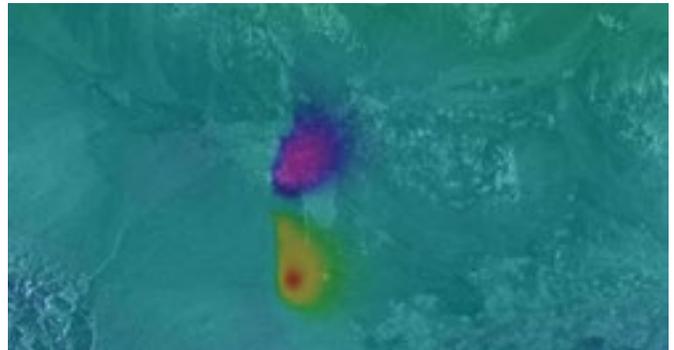
Combining the capability of InSAR and Coherence Change Detection, the D-InSAR capability quantitatively maps surface change at the sub-wavelength scale. D-InSAR provides the analyst with the ability to precisely map surface displacement, anywhere in the world, from space. This opens up the potential to create regional subsidence maps in areas of oil and gas production, aquifer depletion, sub-surface mining or tunneling. Natural phenomena, such as earthquakes or volcanoes, can be monitored or evaluated for relief efforts.



3-Color CCD map revealing travel patterns on unpaved roads



Interferogram of earthquake in Bam, Iran. Note loss of coherence in the center due to building collapse.



Bam, Iran: Color-coded vertical displacement map fused with radar image.

ABOUT HEXAGON GEOSPATIAL

Hexagon Geospatial combines the best photogrammetry, remote sensing, GIS and cartography technologies available. Flowing seamlessly from the desktop to server-based solutions, these technologies specialize in data organization, automated geoprocessing, spatial data infrastructure, workflow optimization, web editing, and web mapping. The Producer Suite enables you to intelligently author, analyze, process, and map multiple sources of data.



ABOUT IMAGEM

Simplified information helps us focus and solve complex issues. At Imagem we help improve communications and accelerate business by simplifying big data around us into personalised information. We provide intelligent, innovative and dynamic solutions that help people make smarter decisions. Our hybrid solutions on location-based information, spatial analytics and business intelligence help policy makers, managers and end users be more responsive to the ever changing world. Imagem is premium partner of Hexagon Geospatial, and distributor for the Netherlands, Belgium and Luxembourg. For more information visit imagemnl.com.

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