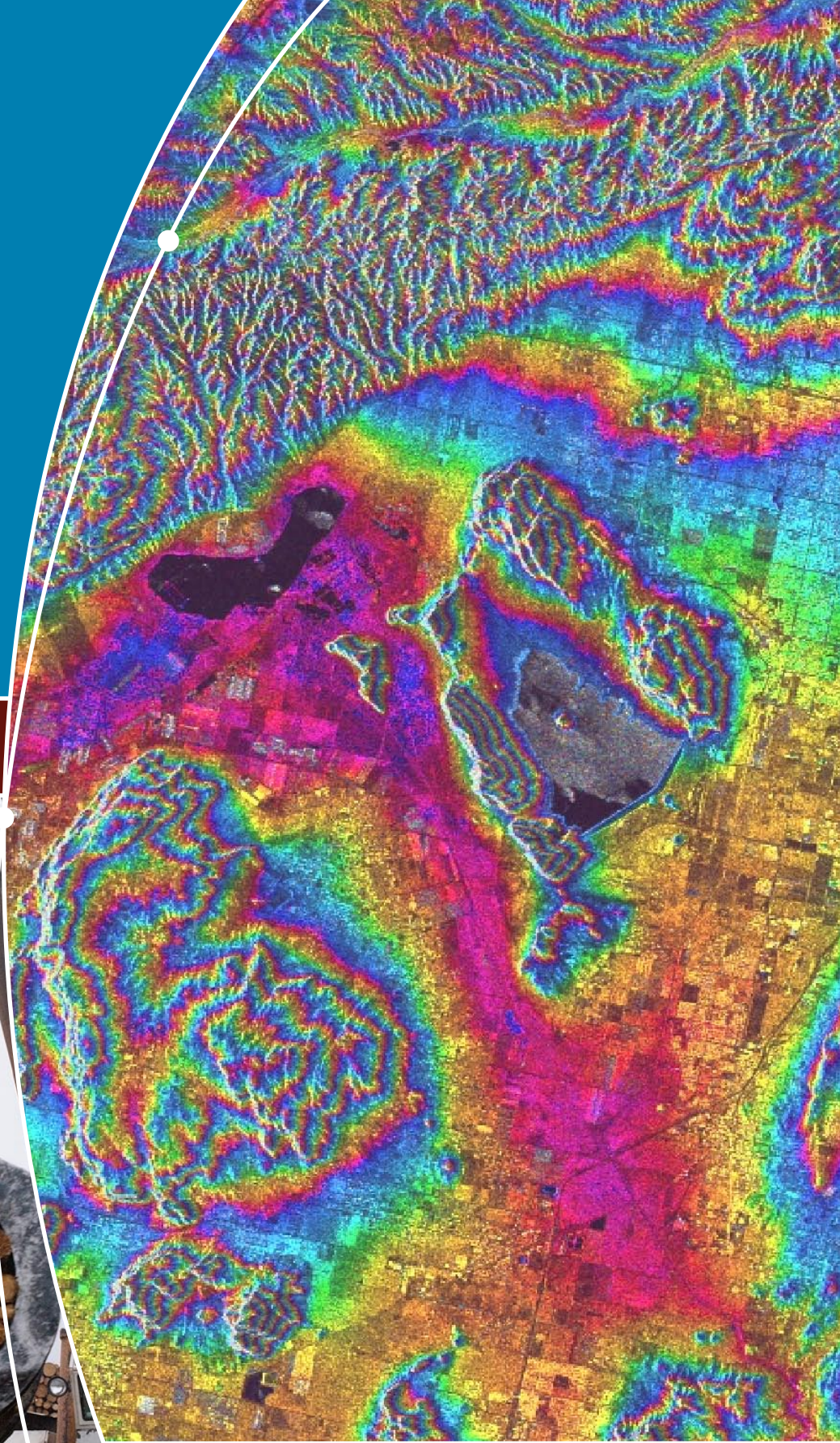
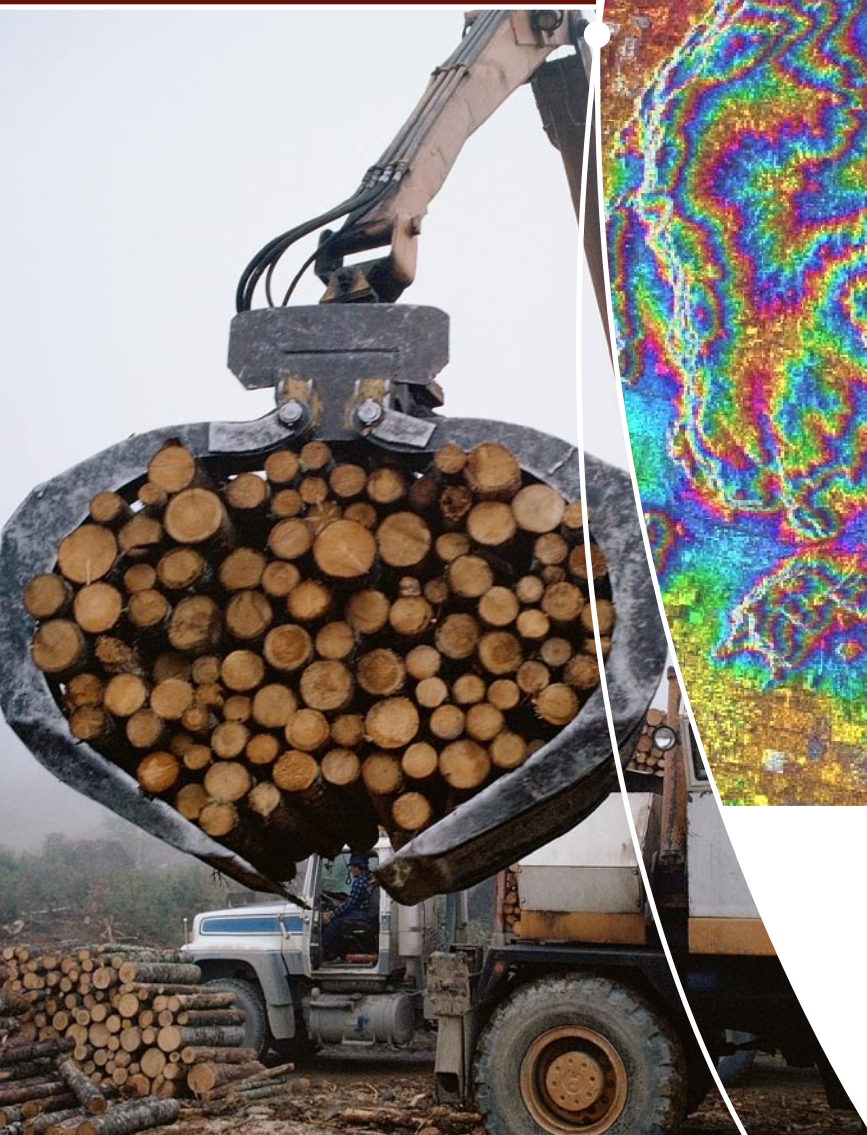


IMAGINE Radar Mapping Suite



IMAGINE Radar Mapping Suite

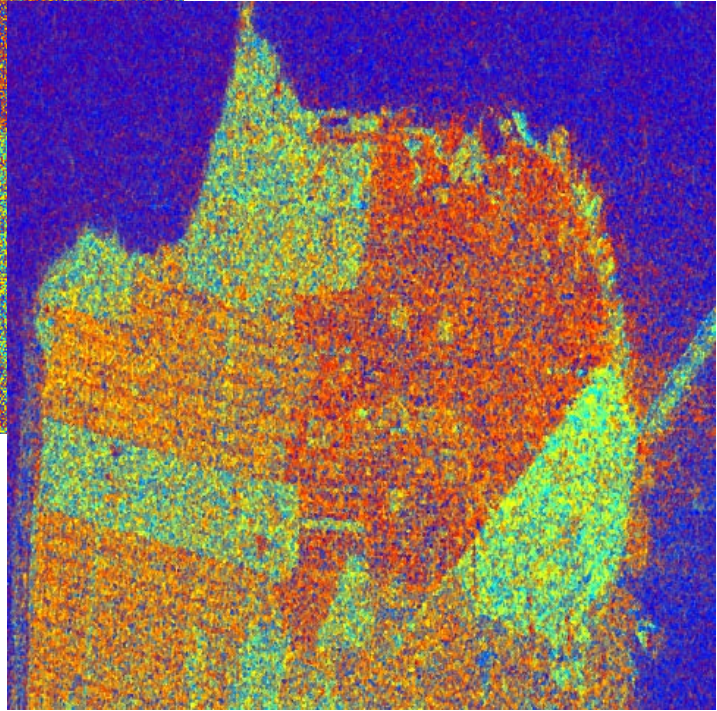
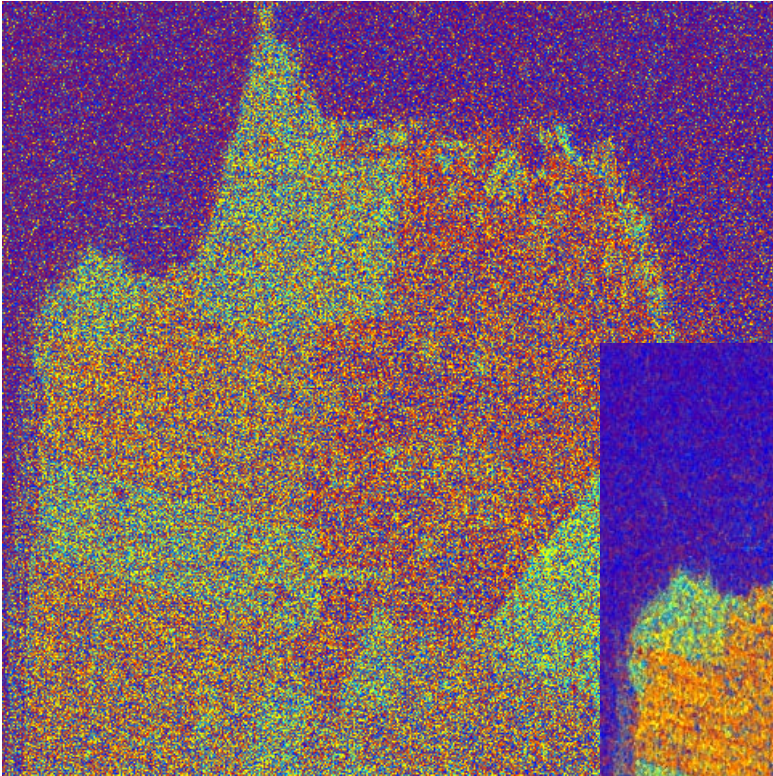
Over the last four years, five high resolution radar satellites have been launched. Of the 15 new satellites being launched in the next four years, one third of these are radar satellites. With an expanding volume of new radar data being captured and an increasing number of organizations recognizing the importance of radar image processing, radar applications are transitioning from research to operational.

Radar imagery has been traditionally useful in complementing optical systems when cloud cover is an issue, as radar can penetrate clouds. Radar is also independent of sunlight, thus may be captured both day and night. This is significant in time critical emergency mapping situations, in areas with high cloud cover where one can not wait for a cloud-free optical collection, or for the sun to rise.

Radar imagery is now being utilized for a broad range of applications, including Defense and intelligence surveillance, oil and gas exploration, ice monitoring, agricultural and environmental monitoring, disaster response (spills and floods) and much more. Meeting the growing needs from our radar mapping customers; ERDAS continues to enhance IMAGINE Radar Mapping Suite.

IMAGINE Radar Mapping Suite is an extensive set of tools that provide a wide range of radar specific capabilities within the ERDAS IMAGINE® environment. IMAGINE Radar Mapping Suite's comprehensive radar processing capabilities are further enhanced by the image processing, visualization, cartographic and GIS capabilities of the ERDAS IMAGINE product suite.

Robust science, intelligent user interfaces, wizard workflows and data-derived defaults are included throughout IMAGINE Radar Mapping Suite, ensuring accurate information extraction in a user-friendly environment.



Before (above) and after (right) images of San Francisco using the IMAGINE Radar Interpreter despeckle module. The right image is a classified vegetation map derived from Radarsat II Fine Quad-Pol data.

Supported Sensors

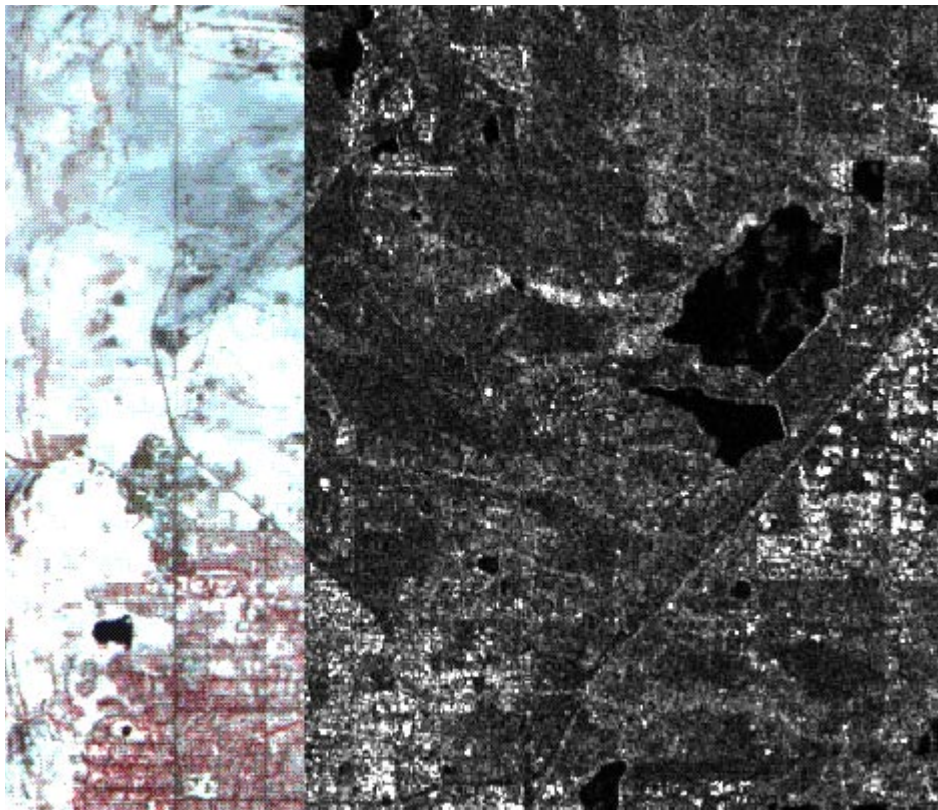
IMAGINE Radar Mapping Suite supports a variety of different radar sensors, including RADARSAT-1/2, ERS-1/2, ENVISAT ASAR, ALOS PALSAR, TerraSAR-X, and COSMO-SkyMed. For most of these sensors, a direct read capability allows visualization and evaluation of imagery without importing. In addition, a very flexible generic import capability is supplied. This enables IMAGINE Radar Mapping Suite to handle radar imagery from unsupported sources. IMAGINE Radar Mapping Suite utilizes scene-specific metadata to model the sensor model, imaging geometry; develop intelligent processing default parameters, all allowing the extraction useful information products. See table at the end of this document for more details on sensor support.

IMAGINE Radar Mapping Suite Modules

IMAGINE Radar Mapping Suite may be purchased as a bundle of modules or as individual modules. These modules include IMAGINE Radar Interpreter™, IMAGINE OrthoRadar™, IMAGINE SAR Interferometry™ and IMAGINE StereoSAR DEM™. Each module is outlined below:

IMAGINE Radar Interpreter™

IMAGINE Radar Interpreter provides fundamental tools to preprocess radar images or enhance them for visual interpretation. Because it is data source independent, IMAGINE Radar Interpreter allows you to work with any SAR imagery.



SPOT orthoimage (left) and radar orthoimage (right) overlay precisely.

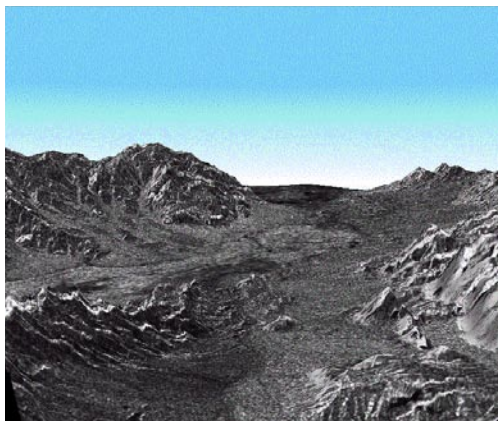
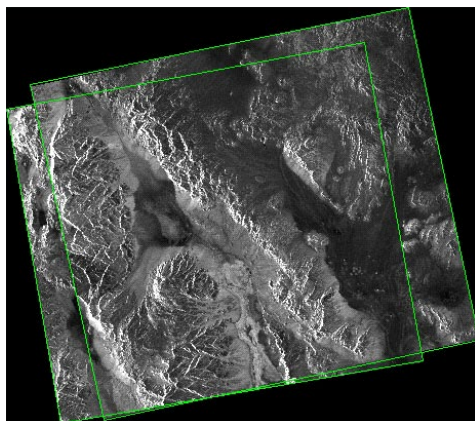
IMAGINE OrthoRadar™

IMAGINE OrthoRadar performs precision georeferencing and orthorectification of SAR images, using SAR sensor models, satellite orbit models and digital elevation models (DEMs). The Analyst has the option to ortho-calibrate the image, leaving it in original pixel space, or to resample and create a new ortho corrected image. The resulting ortho-corrected images are highly accurate and free from the significant distortions inherent in radar imagery. Fully integrated into the ERDAS IMAGINE® environment, IMAGINE OrthoRadar easily handles GCPs, DEMs and map projections.

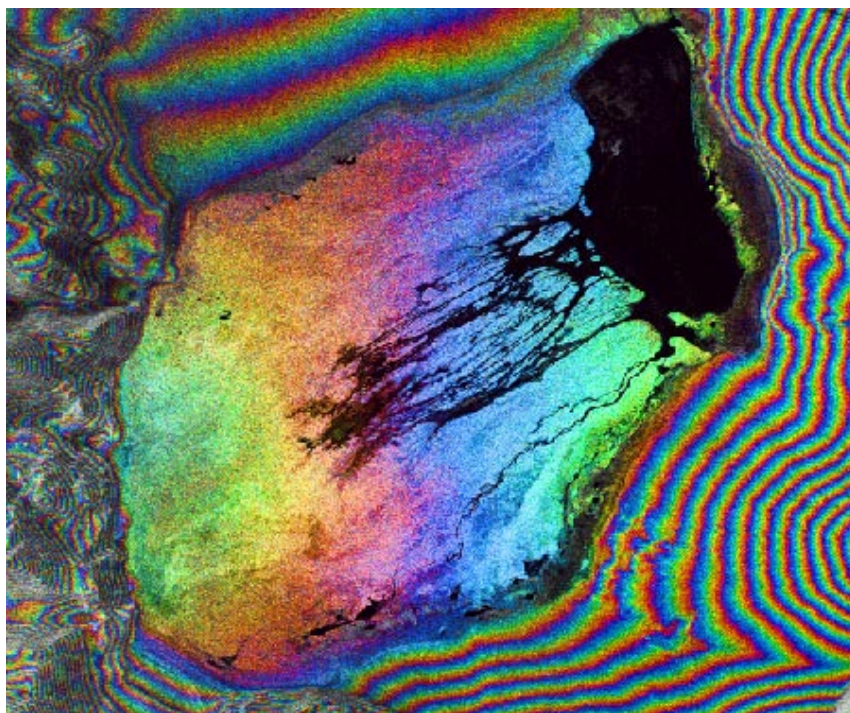
After ortho-calibration or ortho-resampling, the radar images can be used to map ground features. The ERDAS IMAGINE viewer uses sensor information to display radar images as “up is up” (shadow is down) for rapid image interpretation.

IMAGINE SAR Interferometry™

Recognizing the need for user-friendly, robust and technically sophisticated interferometric tools, ERDAS partnered with the Remote Sensing Technology Institute at the German Space Agency (DLR) to create IMAGINE SAR Interferometry. World-renown for their development of the SRTM/X-SAR and the new 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.



Left, a RADARSAT Stereo-pair. Right, layover corrected RADARSAT overlain on DEM.



Color-coded interferometric fringes overlain onto the radar magnitude image. Imagery from TerraSAR-X sensor.

The IMAGINE SAR Interferometry module includes: Interferometric DEM Generation (InSAR), Coherence Change Detection (CCD), and Differential Interferometric Displacement Mapping (D-InSAR) capabilities.

IMAGINE StereoSAR DEM™

Advanced radar sensor modeling is a unique capability of IMAGINE StereoSAR DEM. It enables ERDAS IMAGINE users to extract terrain height information from stereo pairs of RADARSAT-1 and moderate resolution RADARSAT-2 to generate accurate DEMs.

For more information about IMAGINE Radar Mapping Suite, please visit www.erdas.com or call 1 877 GO ERDAS.