

Environment Monitoring



Racurs company's business mission is to provide the world-wide geospatial community with advanced and cost-effective digital photogrammetry solutions and services for creation of wide range of output products from the available remote sensing data.

Racurs company has 20 years long history of success on Russian and worldwide geo-informatics market.

Since its foundation in 1993 the company has been developing an innovative digital mapping software for processing aerial, space and terrestrial imagery. Racurs' flagship product PHOTOMOD was one of the first digital photogrammetric systems on the market that was designated for working on off-the-shelf PCs. Today PHOTOMOD is the most popular digital photogrammetric software in Russia and well known all over the world. For radar data processing an independent software from PHOTOMOD family 'PHOTOMOD Radar' could be used.

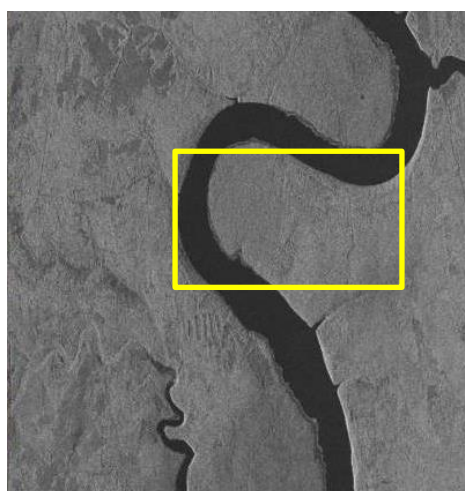
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KOMPSAT-5 change detection analysis by Racurs



Test site : Irkutsk Region, Russia

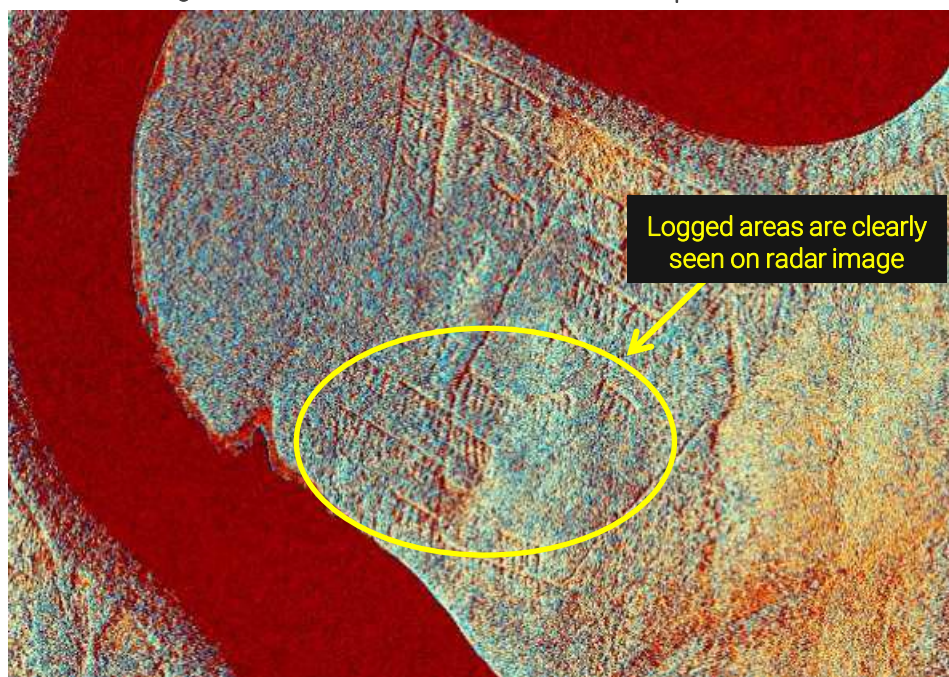
Detecting logged areas



August 2016



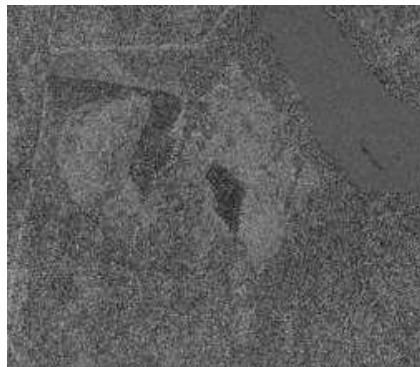
September 2016



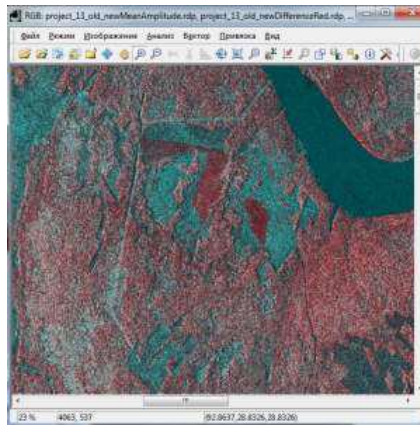
Detecting changed areas and coherent combining

PRODUCTS USED

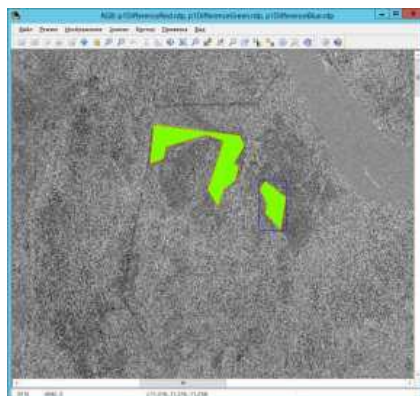
- KOMPSAT-5
- SAR satellite
- Scenes : 4
- Imaging mode: ST
- Resolution: 3m
- Polarisation: HH
- Interferometry with 28 days period: end of August 2016 – end of September 2016



Difference visualization



Difference in false color image



Vectorization

For this case "coherent co-registration of SAR images" PHOTOMOD Radar tool has been used.

Coherent co-registration tool's main task is to provide the possibility for user to generate the set of images matched mutually with high accuracy. The matching is performed on base of pixel's phase values analysis. It means that the input images for processing should have complex format and be acquired under conditions of interferometric imagery. Since the characteristics of radar signal backscattering on the Earth surface depends on the surface geometry in the scale of radar wavelength there is a possibility to detect changes at different scale. The joint processing of two complex interferometric SAR images gives a coherence image. The analysis of the coherence image shows changes occurred both in intensity and in phase of backscattered signal.

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