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Ecology

Results of the demonstration project show that a new information service of satellite monitoring of oil contamination, navigation and ice situations with a capability of real time delivery of final products to end user through a web-interface has been created in Russia. Implementation of information service into practical operations will allow taking balanced administration decisions and raising the level of awareness about the condition of offshore zones. One can easily notice the modern tendency of growing ecological responsibility, in particular, among oil companies engaged in field exploitation within Russian shelf. Besides, real time information about the condition of sea surface is of vital importance for support of efficient operation of port areas. This is confirmed by a continuing project of "ScanEx" RDC and Novorossiysk sea port administration (http://www.scanex.ru/en/news/News_Preview.asp?id=n21377164).

The project of monitoring of five Russian seas convinced even more those interested in receiving corresponding data for ecological control of offshore zones condition. Employment of space information in conjunction with technologies of real time data processing provides timely delivery of unbiased information to the user.

Space monitoring centre at Southern Federal University

(Source: "ScanEx" RDC press-service)

"UniScan" ground receiving station was commissioned at Southern Federal University (SFU) at Rostov-on-Don on December 12, 2008. This station will be the core in setting up Space Monitoring Centre with SFU.

"UniScan" reception complex is an internationally competitive development by "ScanEx" Research and Development Centre. Thanks to the "UniScan" complex the University will get access to images from the US Terra satellite with MODIS camera system (Moderate Resolution Imaging Spectroradiometer), which receives information in 36 spectral bands with a resolution of 250 m, 500 m and 1000 m. The station is complete with software enabling to resolve reception, primary processing, archiving, classification tasks and creation of thematic products with further export to popular GIS formats. Along with "UniScan" station, RDC "ScanEx" specialists installed at SFU the geoportal developed on the basis of a popular kosmosnimki.ru service. Its basic coverage is made on the basis of images with a resolution of 5.8 meters (data from Indian IRS satellites) and covers the territory of the whole Rostov Region. Within the geoportal frame, IKONOS high resolution mosaics (resolution 0.8 m) covering Rostov-on-Don and

adjacent areas are accessible, as well as data of Landsat program (resolution 15 m) for the territory of the whole Southern Federal Region.

The geoportal engine, ScanEx Web Geo Mixer, allows combining in one on-line project of various types of data, working simultaneously with raster and vector formats, connecting metadata bases and performing the search by this data. "UniScan" reception complex, in its turn, will make it possible to complement and update geoportal data in real time.

- Selection of functions built on the basis of ScanEx Web GeoMixer technology allows us to create an information retrieval system for solution of a wide range of applications, - says Mikhail Potanin, RDC "ScanEx" "Kosmosnimki" department manager.

According to SFU development program for 2007-2010, "modernization of scientific and research process is aimed at creation of conditions for quality professional training in high priority scientific and educational schools, formation of scientific and educational elites in the region and in Russia as a whole, improvement of scientific activity".

- Students of department of high technologies, department of mathematics, mechanics and computer sciences, department of geology and geography of SFU are waiting impatiently for the possibility to acquire habits of independent work with reception equipment and data of real time space imagery, - says Fedor Surkov, Director of I. I. Vorovich Science and Research Institute for Mechanics and Applied Mathematics, Head of Chair of Global Information Systems at the Department of High Technologies within SFU. "Classes for seniors of these departments at the Space Monitoring Centre within SFU are planned for the very next, spring, semester of 2009. All this became possible only thanks to coordinated work by rectorate of Southern Federal University and all its auxiliary services."

Space Monitoring Centre with SFU will allow solving both educational tasks (training and refresher training of specialists having present knowledge of RS and GIS) and problems of monitoring the territory of the region (the radius of station footprint exceeds 2000 km).

- We hope that in the future space monitoring centres will become a traditional structural element at all federal universities of our country, - says Olga Gershenzon, ScanEx RDC vice-president. "This will let us be one step closer to creation of economy based on knowledge".