

## **Earth remote sensing data is not used sufficiently in the Far East**

*The Seminar “Potential of the space imagery and the processed products for economic and socio-economic development of Primorsky Territory” took place in Vladivostok. RIA “Vostok-Media” correspondent reported from the site. The seminar was organized in order to implement the resolution of Third international environmental forum “Nature without borders” with the purpose of planning coordinated efforts and improving the efficiency of using satellite-based data by the authorities and organizations, involved in the control and management of the natural resources, anthropogenic and natural emergencies prevention and response, research and development work.*

*The seminar was organized by: Primorsky Territory Administration, Natural Resources and Environmental Protection Administration of Primorsky Territory, Presidium of the Far East Branch of Russian Academy of Science, the Institute of Automation and Control Processes with the Far Eastern branch of Russian Academy of Science, ScanEx R&D Center (Moscow).*

**Below is full text of the resolution adopted based on Vladivostok seminar results.**

The resolution of Primorsky Territory interagency specialized seminar “Potential of the space imagery and the processed products for economic and socio-economic development of Primorsky Territory”. The resolution has been adopted by the Presidium of FED RAS on June 26, 2009 in Vladivostok.

The resolution of Third International Environmental Forum “Nature without borders”, with the purpose of planning coordinated efforts and improving the efficiency the executive power and organizations, involved in the control and management of the natural resources, anthropogenic and natural emergencies prevention and response, research and development work, use the satellite data, the Territory interagency specialized seminar: «Potential of the space imagery and the processed products for economic and socio-economic development of Primorsky Territory» took place 25-26 June 2009.

The seminar was organized by: Primorsky Territory Administration, Natural Resources and Environmental Protection Administration of Primorsky Territory, Presidium of the Far East Branch of Russian Academy of Science, the Institute of Automation and Control Processes with the Far Eastern branch of Russian Academy of Science, ScanEx R&D Center (Moscow).

In recent years, the satellite based methods have been used extensively for monitoring and control purposes by state regulatory agencies, regional administrations and municipal organizations. These results in significant reduction of material and labor cost, improves the data integrity, extends the coverage area of the supervisory agencies and improves their efficiency.

At the seminar, the specialists in satellite data downlink, processing and interpretation from various departments of Vladivostok, Moscow and Omsk made an extensive status report on the current state of Remote Earth Sensing and the potential for the real-time use of space measurements for various economic applications. Such applications include design and construction, implementation of environmental protection projects, mitigation of damage due to natural disasters, navigation support, determination of significant sea pollutions and other fields. Around 80 representatives of executive authorities, local municipal governments, science, academic institutions and business of Primorsky Territory and other constituents of the Russian Federation, including Khabarovsk, Omsk, Yakutsk and Moscow took part in the seminar.

Over 20 presentations have been made at the seminar, covering the following issues of the real-

time satellite data application:

- Status of land use planning documentation in various Russian regions;
- Base-map plan of the area – the basis for territorial planning schemes of municipal districts and general residential layouts;
- TriaTerra – land and real estate management system;
- Satellite data use in geographical research;
- Spatial data use in socio-economic development of the area and practical issues of efficient spatial data use;
- Emergency prevention, damage assessment and emergency response;
- Use of satellite data in real-time operations of Primorsky UGMS (hydrometeorological service);
- Monitoring of dangerous and disastrous events at sea based on satellite microwave measurements;
- Tropical hurricanes: review of the Russian and western experience of satellite monitoring;
- Practical application of the real-time satellite monitoring data in Russian EMERCOM system in Far East Federal district;
- Remote Earth sensing application in forest management;
- Specifics of the forest classification in Primorye;
- Monitoring of offshore oil pollution;
- Monitoring of specially protected natural areas;
- Satellite RAS interferometry: potential for the monitoring of construction facilities, new construction sites, seismic hazard assessment, landslides, etc. (based western and Russian surveys);
- RES data use in fishing;
- Integrated monitoring of Peter the Great Bay based on satellite remote sensing and ground surveys;
- Earth remote sensing based on the high resolution satellite imagery: the applications and data support (project);
- Regional Center of satellite data reception and processing for Primorsky Territory management and development (from the image to the full-scale geoservice);
- The available experience of ocean and atmosphere satellite monitoring in the Far East;
- The specifics of remote monitoring of illegal felling and forest reserves land use in Far East Federal district.

**The seminar participants noted the following:**

- The presentations demonstrated the current high potential of the assets and the methods of Earth remote sensing. There is good potential for satellite monitoring of natural and human-induced events, as well as environmental conditions at sea, in the atmosphere and in the ocean.
- However, there is a paradox - an information “starvation” goes along with the information “explosion”. It is extremely difficult to get access to the collected data, including the satellite data; the satellite data exchange and the access are extremely impeded.
- Satellite-based data IT arrears is due not only or solely to the lack of adequate reception facilities, but also insufficient understanding of their destination and the application in general.
- Earth remote sensing has not been used efficiently in the Far East for the economic applications and the forecast of emergencies.

**The seminar participants ruled the following:**

- Recommend the Administration of Primorsky Territory, per the resolution of Third international environmental forum “Nature without borders” review the establishment of Far Eastern Interagency Satellite monitoring center with the purpose of planning coordinated efforts and improving the efficiency of using satellite-based data by local authorities and organizations, involved in the control and management of the natural resources, anthropogenic and natural

emergencies prevention and response.

- Recommend the Presidium of Presidium of the Far East Branch of Russian Academy of Science prepare a interagency cooperation plan (FED RAS, EMERCOM, RosHydroMet, Roskartografiya, ScanEx R&D Center, etc.), for the purpose of organizing the satellite data support for all users in the Far East by the time of the Fourth international environmental forum “Nature without borders” (October 6-8, 2009).
- Review publishing the seminar materials in the mass media outlets.
- Inform the public in Primorye and throughout the Far East about the potential and the necessity for the satellite monitoring for the regional management purposes and natural disaster damage prevention.
- Organize seminars on the potential and the effects of the satellite monitoring in the Russian Far East on regular basis (at least one seminar in three years) and, in prospective, upgrade the seminar to the Asia-Pacific international meeting.
- In order to fill shortage of the skilled personnel with the background in (space) surveying, as well as geophysics and the processing of experimental research data, recommend Primorsky Territory universities (DVGU, DVG TU, Admiral G.I.Nevelsky MGU, S.O.Makarov TOVMI, DALRYBVTUZ, VGUES and others):
- Include the course in environmental remote sensing and monitoring in various specialist training programs.
- Conduct educational courses in environmental remote sensing and monitoring for the governmental authorities of Primorsky Territory, municipal formations of Territory and territorial agencies of federal executive authorities, based on the best practice in satellite data application.

The seminar participants would like to thank the speakers and seminar organizers for the preparation and the realization of the seminar.

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