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Regional Support Office of UN-SPIDER in Ukraine

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Within the framework of the UN Office for Outer Space Affairs (UNOOSA) towards popularizing the use of satellite data for problem solving in the area of Earth Observations activities focused on the implementation of mechanism for operational support of the international community with satellite data in the case of disasters and emergencies (UN-SPIDER program) are implemented.

UN-SPIDER Regional Support Office (RSO) in Ukraine is established on the basis of the Space Research Institute of the National Academy of Sciences of Ukraine and the State Space Agency of Ukraine.

The Institute signed the cooperation agreement with the United Nations Office of Outer space Affairs (UNOOSA) during the forty-seventh session of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space (COPUOS) on 10 February, 2010 in Vienna, Austria.

UN-SPIDER aims at providing universal access to all types of space-based information and services relevant to disaster management

UN-SPIDER RSO is a regional or national centre of expertise that is set up within an existing entity by a Member State or group of Member States that has put forward an offer to set up and fund the proposed regional support office.

The main tasks of the UN-SPIDER RSO are the following:

- popularisation information on UN-SPIDER program;
- development opportunities for Ukraine in the field of satellite data usage in emergency situations monitoring and reducing their consequences;

- testing procedures for receiving satellite data within UN-SPIDER program for the operational response to natural disasters and emergencies;
- satellite data processing and services development and products creation for the monitoring of natural disasters and emergencies;
- trainings.
- Among activities of UN-SPIDER RSO activities thereis support of numerous services:
- operational winter wheat yield forecasting at oblast level (on satellite data) ;
- operational snow and flood satelite monitoring for Kiev and Kiev region and among international charter;
- сервіси моніторингу стану довкілля (вирубка лісів, пожежі тощо).

Among latest activities of RSO there are several secommended practices on the exploitation of satellite imagery for disaster risk management and emergency response [3]. These practices were discussed at the 5th UN-SPIDER RSO-Meeting 13 and 14 February 2014 in Vienna, Austria, and were disseminated through the UN-SPIDER Knowledge Portal.

The first practice is devoted to the use of SAR satellite imagery for flood mapping [3]. The practice shows the use of ESA NEST software for pre-processing and processing of SAR imagery using a threshold method for deriving flood extent. The QuantumGIS software is used to visualize the results of image processing.

The second practice is focused on using NDVI values derived from MODIS to build a linear regression model for crop yield forecasting [4, 5, 6]. It is shown how QuantumGIS software can be used to extract average NDVI values over administrative regions. This data is further integrated with official statistics on crop yield to build a regression model. For this purpose, any statistical package can be used.

Current state and activities will be reported at the conference.

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