

COMMISSION FOR BASIC SYSTEMS
OPEN PROGRAMME AREA GROUP ON INTEGRATED OBSERVING SYSTEMS

EXPERT TEAM ON SATELLITE UTILIZATION AND PRODUCTS

ITEM: 12.2

SEVENTH SESSION

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DATA DISSEMINATION AND IGDDS UPDATE

RARS (as seen from end-user point of view)

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Summary and Purpose of Document

A brief description of the Russian participation in the RARS system (more specifically the EARS system, i.e. the EUMETSAT component of the WMO RARS) is given. Proposals for further contribution to the EARS are outlined. RARS data usage is discussed.

ACTION PROPOSED

The seventh session is invited to:

- (a) Note the importance of the RARS (including EARS) services to the end user community;
- (b) Discuss the enlargement of the RARS coverage by inclusion of additional HRPT stations, for example through the participation of Siberian and Far Eastern SRC Planeta stations in the EARS system.

REFERENCE: [Regional ATOVS Retransmission Service \(RARS\)](#)

DISCUSSION

The State Research Center Planeta is a satellite-related division of Russian Federal Service for Hydrometeorology and Environmental monitoring (known as ROSHYDROMET). We are a leading organization in Russia for development and exploitation of meteorological satellites. In Planeta we have a ground segment for Russian meteorological and environmental satellites, and we also receive large amounts of foreign satellite data, working 24/7. We have three major receiving centers in Russia, for the European (Moscow), Siberian (Novosibirsk) and Far Eastern (Khabarovsk) part of our country. These centers give us full coverage over the territory of Russian Federation. For the Moscow region we have our main facility and divisions located in nearby towns Dolgoprudny and Obninsk. All the data and products are being distributed to our federal and regional users in real-time, as required for nowcasting purposes and numerical weather prediction schemes.

Traditionally, polar satellite data have been received via two methods: by orbit data download from the spacecraft to the central ground station of the satellite operator, or by direct transmission from the satellite to a HRPT ground station. The first mechanism provides global coverage data to end users, but with delays of three to six hours after the time of measurement. The second mechanism provides the data in near real-time, but the geographical coverage is limited to the region around the HRPT reception station. The EARS (EUMETSAT Advanced Retransmission Service) provides improvements on both of these methods by offering a large geographical coverage, combined with timely retransmission. This is achieved by establishing a network of existing HRPT stations and rapid distribution of the collected instrument data to end users.

ROSHYDROMET has become a member of the EARS system in 2009, according to a bilateral agreement between the agencies. A EUMETSAT Product Processing Node was installed in SRC Planeta, Moscow, in 2010. MEOS Polar HRPT station by Kongsberg Spacetec AS in Moscow is currently being used for EARS programme purposes. Other SRC Planeta centers are also equipped with MEOS stations. All of them are for both X and L band reception. The stations proved to be extremely reliable. The Moscow EARS station was named as the one having the minimum number of failures per year in 2012. The acquisition schedule is based on a list of priorities, taking into account the requirements of ROSHYDROMET and the coordination within the EARS project.

Satellite data are regarded as very important for numerical weather prediction. In ROSHYDROMET we are currently using AMSU-A, AMSU-B, MHS data that are available through the EARS programme, together with many other satellite datasets such as AMV-GEO, AMV Polar, ASCAT, COSMIC, GRAS, GRACE and others. Studies have been made that show significant improvements in the forecast quality when satellite data are ingested.

Not only the timeliness is important, but also the data coverage. With the EARS programme all WMO Members are now able to use the data acquired over the Northern Hemisphere except for the Siberian and Far Eastern parts of Russia. In SRC Planeta we are ready to provide the information received by our centers there. Last year together with EUMETSAT tests were performed for Novosibirsk and Khabarovsk HRPT stations showing that the data were compliant with the EARS standards. For the benefit of the community it seems reasonable to facilitate participation of Siberian and Far Eastern HRPT stations in the EARS project on an operational basis.
