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Report on the Argentine Component for South America RARS

**National Meteorological Service (SMN) and
National Space Agency (CONAE)**

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Current Status

The purpose of this report is to update the status of the Argentine Component for the South American RARS, which is composed of three Direct Readout Ground Stations located in Argentina and Chile.

ARGENTINA

Córdoba Ground Station (ETC)

- Started operationally in May 2008 for South America RARS, operated by Argentine Space Agency (CONAE) as main node of this Component, performs the following tasks:
 - Processes ATOVS L1c.
 - Concentrates ATOVS L1c from Marambio and Santiago (Chile)
 - Runs bufr encoder of L1c, produced by these three stations.
 - Transfers bufr archives via ftp to UK Met Office and SMN to put them on GTS.
- At present, AAPP version 6.15 and bufr encoding 3.83 are running.
- Timeliness data on GTS and Met Office: average 18 minutes.
- ETC has X band reception capability for receiving Aqua and Terra satellites, but it is not currently equipped for acquisition of NPP.
- Upgrade of the antenna feed or purchase of a new one for receiving NPP (band X) is planned.
- Upgrading the antenna demodulator is needed for receiving Metop-B, but it should be shared with NOAA reception. Priorities would need to be defined.
- Once the decision is made, ETC could be ready to receive NPP and Metop-B in three months.

Base Marambio Station (EBM) in Antarctica

- Started operationally in June 2008 for South America RARS, operated by Argentine Space Agency (CONAE) remotely with local support of the Antarctic Base technical staff.
- Since 7th June 2010 to present is out of service.
The delay in making the repair is due to two issues:
 - 1) Technical problems: the gearbox of the receiving antenna was broken, in the first crossing to Marambio technicians could not

repair it, because this spare part was missing in the kit. A new Air Force crossing, which lasts a few days, will be needed to get the antenna repaired.

- 2) Logistic problems: during 2011 there were very few and irregular crossings to Marambio by Air Force. Most of them lasted a few hours, this made such repair impossible.
 - 3) A new crossing to Marambio is scheduled for March /April 2012.
 - 4) It is planned to have a complete spare parts kit available, to avoid long delays and facilitate the equipment repairs.
- It has no X band reception capability.
 - Metop-B is planned to be received. Upgrading the antenna demodulator is needed.

Chile

Santiago Ground Station (ETS) operated by the Meteorological Direction of Chile

- It became operational for South America RARS in January 2010.
- At present AAPP version 6.13 is running.
- Timeliness L1c data on ETC server: up 30 minutes.
- Direct readout: GOES, TERRA / AQUA and NOAA
- It has X band reception capability, but not to receive NPP:
- Some information will be collected on the investment for upgrading the equipment and feasibility of carrying out it in the coming years.

Punta Arenas and Presidente Frei Station

- For now, it is not feasible to include these stations into the Argentine Component due to the narrow bandwidth for transferring data within the required timeliness (30 minutes). The link would be first through Santiago server and after on to Cordoba server.

Ecuador

Cotopaxi operated by CLIRSEN

- Direct readout: ERS 2, SAC C, and NOAA.
- HRPT Reception System: TELONICS THRPT-6
- X band reception capability for TERRA and AQUA.
- Bandwidth 240 Kb/s, link through Quito.

Cotopaxi station was planned to be operative for 2010, but despite the efforts made, this has not been possible, and basically the technical problems are follows:

- 1) Ingesting system is very old: runs on DOS.
- 2) Memory and network management: the system is unable to ingest data and connect to the network for processing data in other machine at the same

time.

CONAE has already configured the server to process AAPP. The connection and the possibility of bringing their L1c for processing in Cordoba have been tested. They have been working and looking for some solution to handle DOS or find some other alternative of ingestion. Nowadays, they have no near future plans for replacement this system.

Future Planned Station in Argentina

- A station is planned to be installed in Tierra del Fuego (located in the southern part of Argentina) in the near future.
- X and L band will be installed.

Problems of the Argentine Component

The two main problems are:

- Investment: small and limited to low budgets for upgrading or purchasing equipments for receiving, processing and delivering satellite data.
- Communications Infrastructure: insufficient, narrow bandwidth and links very low.