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**Aquarius/SAC-D environmental tests completion and
Launch campaign kickoff for the Argentine new Earth observation satellite**

After nine months of successful space environmental testing, the Argentine EO satellite Aquarius/SAC-D is ready to start the launch campaign. It will be taken on March 29th to the Vandenberg Base, in the United States of America and once there, integrated to the Delta II launcher, to be placed in orbit on June 9, 2011.

The new Argentine Earth observation satellite **Aquarius/SAC-D**, developed by the Argentine space agency, *Comisión Nacional de Actividades Espaciales (CONAE)* in cooperation with the U.S. space agency **NASA**, and with the participation of space agencies of other countries, successfully passed the last stage of environmental testing carried out at the Laboratório de Integração e Testes (**LIT**) of the National Institute for Space Research (**INPE**) in Sao Jose dos Campos, Brazil. Institutions of the Science and Technology National System as well as technology-based companies have participated in the construction of this new satellite of the National Space Plan.

With all the testing previous to the launch completed, SAC-D Aquarius is ready for the integration operations to the Delta II launcher supplied by NASA, as part of the respective cooperation agreement with CONAE, for the development of this satellite mission.

The move to the United States:

The Aquarius/SAC-D satellite, together with all the associated equipment for its monitoring and operation, will fly from the airport of Sao Jose dos Campos city, Brazil, to Vandenberg Air Force Base in the United States, California on two C17 aircrafts provided by NASA. The first flight departed on Saturday March 26th, with most of the satellite's support equipment: computers for testing, measuring instruments, mechanical support equipment and tools.

On the second flight, the integration dolly where the satellite is mounted during testing and manipulation, lifting devices, solar panels –in their corresponding containers- and the rest of the support equipment will be loaded. On Monday 28th, in an operation in charge of 20 people, the loading of the aircraft with 44 tons of equipment –including the satellite- will be completed. The scheduled departure of SAC-D/Aquarius from Brazil is on Tuesday 29th March, at 10:00 A.M. (local time in Argentina).

The aircraft will make a refuelling stop in Puerto Rico, and according to the flight plan, the satellite will arrive at Vandenberg base at around midday on Wednesday 30th March, in California. A team of CONAE, of Vandenberg base, of NASA and of the company responsible for the launcher, among other professionals of organizations that participated in the development of the mission, will receive the spacecraft.

Then, the launch campaign of Aquarius/SAC-D will be started. It includes testing of the satellite and its components after the trip to the launch base. Next, a series of tests will be carried out (functional and mission testing) and the propulsion tank of the satellite will be filled with fuel. Finally, its integration to the launch vehicle will be made. Launch date is scheduled for June 9th.



Aquarius/SAC-D: space observatory for ocean, climate and environment

It is a mission of international cooperation developed by the Comisión Nacional de Actividades Espaciales of Argentina (CONAE) and the National Aeronautics and Space Administration (NASA) of the United States. It includes contributions from the Agenzia Spaziale Italiana (ASI) of Italy, the Canadian Space Agency (CSA) of Canada, the Centre National d'Études Spatiales (CNES) of France, the Agencia Espacial Brasileira (AEB) and the Instituto Nacional de Pesquisas Espaciais (INPE) of Brazil.

At national level, different organizations took part in the satellite's building, agencies of the National System of Technological and Scientific Innovation, such as the Atomic Energy Commission (CNEA), the Faculty of Engineering of La Plata National University, the Argentine Institute for Radio Astronomy (IAR) and the Optical Research Center (CIOP) CONICET, the National Technological University (UTN), the Aeronautical University Institute (IUA) and private national companies such as DTA S.A., CONSULFEM and STI SRL. The main contractor of the satellite has been the company INVAP S.E.

Aquarius/SAC-D will be launched into orbit on Thursday June 9, 2011, from Vandenberg Base, in the USA, by a Delta II launcher. Unlike the previous SAC series satellites (with optical instrumental to acquire images in ranges of infrared visible light), this space observatory carries several instruments being the most important two radiometers and a scatterometer, which operate in the range of microwaves. The Aquarius SAC-D is an achievement of Argentine space technology and the largest and most complex satellite that has ever been built in the National Space Plan framework: it weighs 1,341 kilograms, 2,7 Meter diameter (8,85 feet) and 7 meters long (23 feet).

The main objective of Aquarius/SAC-D is to make global measurements of sea and ocean salinity to develop long-term climate models. It will also measure soil moisture on a large scale, data that will help to elaborate early warning of floods and onset and/or spread of disease. Knowledge of seas salinity is of vital importance to study climate change and understand the effects of interactions between the water cycle, ocean circulation and climate.

To fulfil its Earth observation mission the satellite carries eight instruments onboard. The "Aquarius" will carry integrated radiometer and scatterometer (L band), which will measure sea salinity, and which have been provided by NASA with an investment of two hundred million dollars. The Italian Space Agency (ASI) provides the "ROSA" instrument to capture atmospheric profiles and the French space agency CNES, the "Carmen 1" to determine micrometeorites and space debris. The other five instruments make up the payload under the responsibility of CONAE: the "MWR" microwave radiometer to measure on the sea surface: sea ice distribution, wind speed, precipitation and liquid water content and water vapor in clouds. The infrared camera "NIRST"(in collaboration with the Canadian Space Agency CSA) to monitor fires and volcanoes, and the surface temperature of the sea and earth, the "HSC" high sensitivity camera for night observation (street lighting, vessel detection), the "DCS" system of environmental data collection from platforms on land, and the "TDP" a GPS receiver to determine satellite position and other data.

More information and graphics:

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