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The German Antarctic Receiving Station GARS O'Higgins: Remote sensing as core for a broader range of activities

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Since 1991 the German Antarctic Station GARS O'Higgins is operated by the German Aerospace Center (DLR) in cooperation with the Federal Agency for Cartography and Geodesy (BKG). The station is located about 30 km west of the northern tip of the Antarctic Peninsula in the direct vicinity of the Chilean Antarctic Base General Bernardo O'Higgins.

The most important scientific instrument of the station is the 9-m antenna system which is used for the reception of satellite data, telecommanding of satellites and also for geodetic radiotelescope measurements. The antenna has been designed for use in extreme Antarctic conditions. With this antenna system a wide range of Earth observation data of European and German satellite missions (ERS-1/-2, TerraSAR-X, TanDEM-X) are recorded since 1991. These data provide important insights into the climate and environmental changes at the Antarctic Peninsula since 20 years now.

Since the beginning of 2010 the station is operational and manned year-around in a 7/24 schedule. Future plans envisage a development towards an observatory for environmentally relevant research. That means that the portfolio of the station will be expanded including the development of the infrastructure, in particular the construction and operation of new scientific instruments that will be focused on long-term measurements.

The paper presents an introduction to the GARS O'Higgins station, the current state and future plans.