Improvement of the IGS station coverage in Latin America



Américas



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After the strong earthquake in the Chilean Region Maule on February 27, 2010, a huge percentage of existing IGS reference frame stations in South America suffered an irreparable discontinuity in their time series. Coseismic displacements between 5 m at the Pacific Coast and 2 cm at the Atlantic Coast in Argentina and Uruguay were detected. Postseismic movements after the main earthquake and its aftershocks are also evident in the station position time series. Thereby, the reliability of the recently launched ITRF2008 and IGS08 reference frames decreased considerably in South America; and the affected stations are no longer usable as a basis for the GNSS data analysis or to guarantee the longterm stability of the ITRF in this region.



SIRGAS stations to be included in the IGS Repro2.

Considering the achievements reached within the regional reference frame SIRGAS and the planned second reprocessing campaign of the IGS global network, a set of continuously operating SIRGAS stations satisfying the IGS requirements was proposed to be included in this reprocessing with the main objective of improving the IGS station coverage in Latin America. This selection was evaluated by the IGS Reference Frame Working Group, and after some interaction with the IGS Global Analysis Centres, it was decided to include 36 SIRGAS stations not only in the IGS reprocessing but also in the present routine IGS processing. Metadata and all existing observations (historical and present data) of these stations are available at the IGS data centres since January 2012. The next step is to manage, together with the IGS Network Coordinator, the formal integration of these stations in the IGS network.

Main characteristics of the SIRGAS stations selected to be included in the IGS Repro2.

