



IGS reprocessing goals and results from ESA/ESOC

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The IGS reprocessing campaign involves processing all the available GPS data from 1994 to 2008 using the current state-of-the-art techniques. This lofty goal can be proposed and accomplished nowadays due to the availability of cheap high-end computing power and of very efficient new GNSS estimation software.

The aims of this initial reprocessing effort at the IGS derive from the need to have consistent products from the start of the service back in 1994. Once completed the reprocessed products will become the official IGS Final products. The existing discontinuities in the IGS product lines (orbits, clocks, station positions, etc) have occurred as new ITRF versions have been adopted over time, and as we switched from relative to absolute antenna phase center calibrations. Having continuous IGS products will assist all Earth Science research that uses historical GPS data by providing better orbit and clocks and better stations positions fully consistent over the entire IGS timeframe. The IGS reprocessing will have an immediate effect in the ITRF08 definition. The IGS contribution to the new ITRF from the years 2000 to 2008 will be based on the new reprocessed combined station position solutions, which will include better position estimates and more continuously operating stations.

The IGS reprocessing was started during 2008 by the majority of the IGS Analysis Centers and it has proceeded faster than expected to meet the ITRF08 deadline. The effort is still on-going and will be completed by December 2009. A summary of the status and the planning will be presented as well as preliminary results.

At ESA/ESOC we have been at the forefront of the IGS in helping to organize and motivate the reprocessing effort and contributing solutions in a timely manner. A summary of the status and the results of the ESA/ESOC reprocessing will be presented. An analysis of the improvements between the original historical solution and the reprocessed solution from ESA/ESOC will be presented as well as the benefits of this effort.