GNSS@TG from SONEL: GLOSS Core Network status overview

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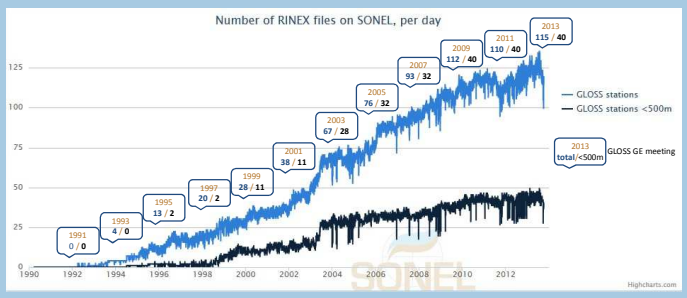
CONTEXT: As GLOSS GNSS Data Assembly Center, SONEL collects, analyses and distributes GNSS at tide gauge (and especially at GLOSS tide gauges) information and observation data. On SONEL, 593 tide gauge sites are identified for which a GNSS station is nearby (within 15km). This corresponds to 724 GNSS stations, from which 531 are active or dormant (no data for the last 30 days) at 480 tide gauges, 89 are decommissioned and 104 have no data available.
From these 593 tide gauges, 289 are in the GLOSS Core Network, 191 are collocated with a GNSS station, but 19 of them are collocated with a GNSS station from which no data is freely available.

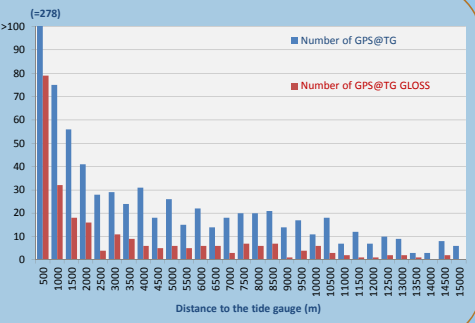
Number of RINEX files of GNSS@GLOSS TG on SONEL



Distances to tide gauges

44% of GLOSS tide gauges collocated with GNSS closer than **1000 m**
For OXUM@PUERTO ANGEL, no GNSS data available.

19% of GLOSS tide gauges collocated with GNSS closer than **100 m**



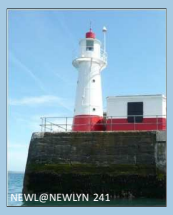
GLOSS Stations

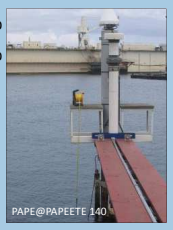
289 GLOSS tide gauges

98 are not collocated with any GNSS station.

19 are nearby a GNSS station, but no data are freely available.

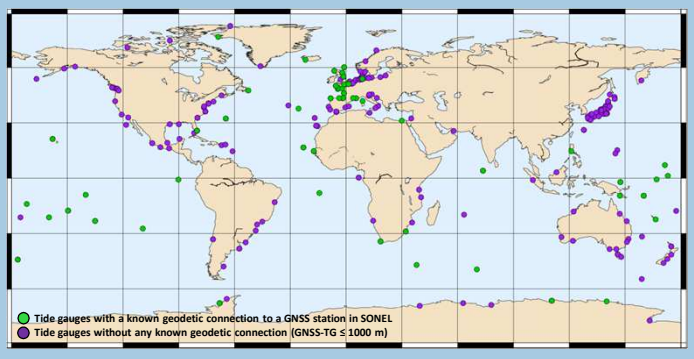
Examples of GNSS on tide gauges stations





GNSS – Tide gauge ties

Status on SONEL: 'Stability of the datums' field



60 tide gauges have a known geodetic link to the nearby GNSS station (40 belong the GLOSS network).

201 tide gauges < 1km from the GNSS, without any identified geodetic tie.

Main limitations and perspectives

- **A map with only green or orange stations.** In respect to the GLOSS Implementation Plan requirements for the core network stations upgrade the continuous GNSS stations at TG network: perform at least 1 GNSS station, with data, at each GLOSS tide gauge.

- **Free and open access to the GNSS observations** in line with the IOC/UNESCO Oceanographic Data Exchange Policy.
- **Report updates on the equipment changes** or any change of its immediate environment (metadata) to the SONEL network station manager, Ing. Elizabeth Prouteau (elizabeth.prouteau@univ-lr.fr).
- **Undertake repeated leveling connections** for at least 5 years, for satellite altimetry comparisons or calibrations.

References : SONEL website: http://www.sonel.org, Contact: sonel@sonel.org including corresponding author: elizabeth.prouteau@univ-lr.fr