

National Report France

**Operational contribution to the national and global
geodetic infrastructure**

EUREF 2015 Symposium, Leipzig , 3rd – 5th June 2015
National Report of France

National geodetic infrastructure

GNSS permanent network (RGP 1/3)

Goal:

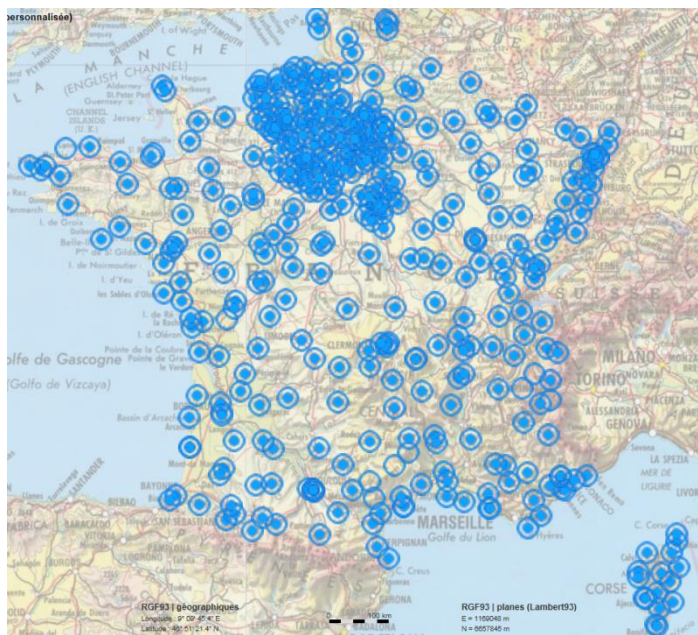
- to contribute to National Reference System determination
- to provide access to the National Reference System to GNSS users
- to pool permanent stations owned and managed by numerous organisations

Network:

- 414 stations (331 GPS+Glonass, 34 GPS+Glonass+Galileo)
- 25 EPN (+ 1 proposed), 12 IGS, 4 MGEX
- 25 stations owned by IGN, all others integrated in RGP via partnership

Partners:

- local authorities
- schools, universities, research organisms
- private companies, including real-time networks
 - **296 stations belong to real-time networks**

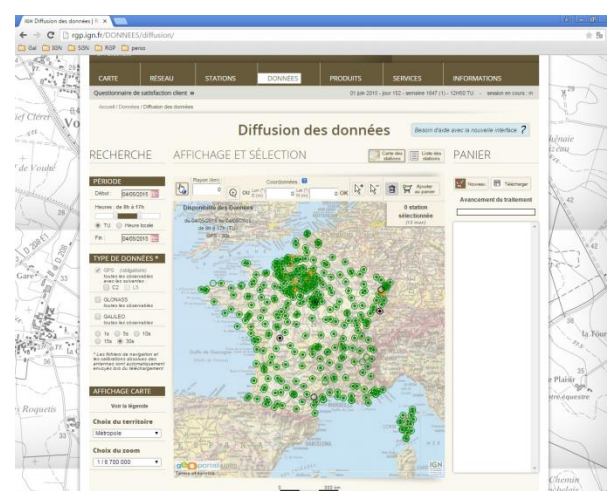


National geodetic infrastructure

GNSS permanent network (RGP 2/3)

Actions :

- Determine and provide station coordinates in the National Reference System (RGF93)
- Diffuse Rinex Observations (hourly and daily) for post-processing
- Archive data
- Control data quality and station stability using hourly, daily and weekly computations
- All the data, products (including coordinates) and station informations are freely available on ftp servers and web site : <http://rgp.ign.fr> ; <ftp://rgpdata.ign.fr> and <ftp://rgpdata.ensg.eu>



National geodetic infrastructure

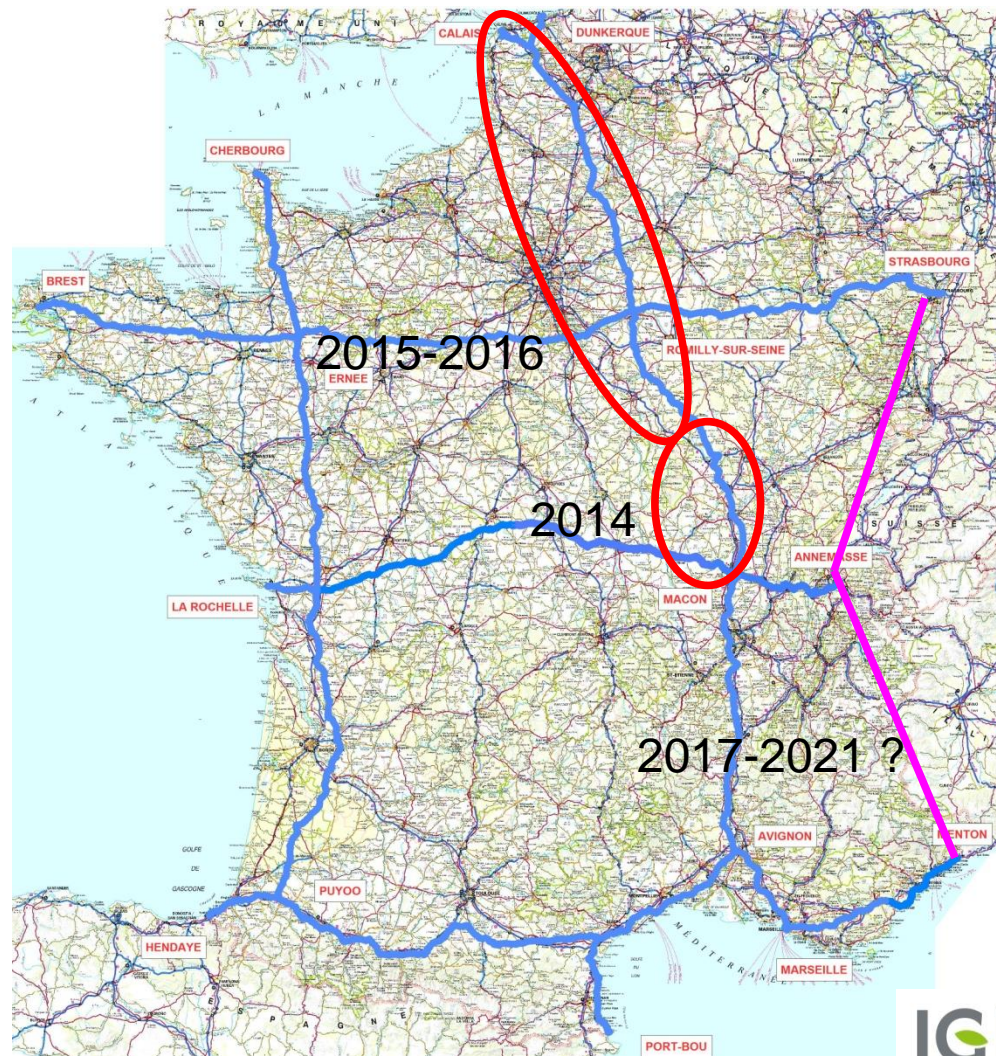
GNSS permanent network (RGP 3/3)

Real Time :

- 1 NTRIP Caster with :
 - 25 IGN stations
 - A few partners' stations
- 8 stations EUREF-IP, 8 stations IGS-IP
- Streams are used by IGN and real time network partners; they can also be provided on request for non commercial applications (only)
- Real-time networks represent 296 of the 414 RGP stations
- Real Time streams and services from these stations are fully managed by partners, but their integration in the RGP guarantees end users coordinates in the National Reference System.

National geodetic infrastructure

Scientific leveling network (NIREF)



National geodetic infrastructure

Gravimetric reference network

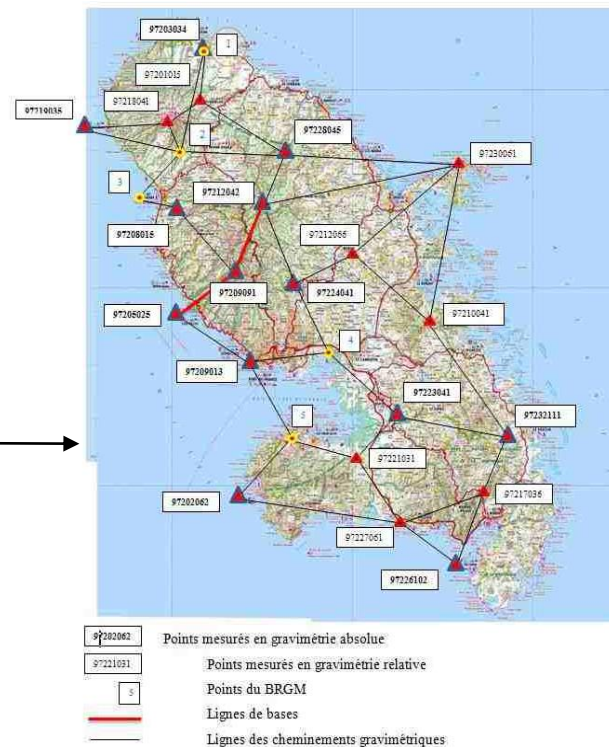
➤ Maintenance of the existing network :

- 7 absolute remeasures
- 44 relative remeasures

➤ New networks

- 2014 : Guadeloupe
- 2015 : Martinique
 - 13 absolute
 - 19 relative
- 2016 : Guyane
- 2017 : Mayotte – Ile de la Réunion

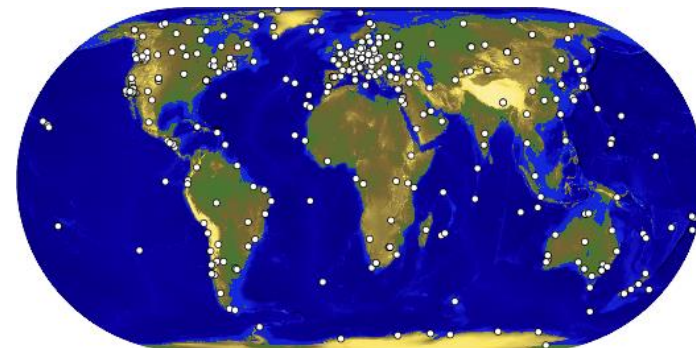
➤ Acquisition of a new absolute gravimeter



IAG services and commissions

➤ IGS (International GPS-GNSS Service)

- IGS combination center (coordinates & ERPs)
and Global Data Center
IGS2014 (late 2015)
New Website (late 2015) <http://webigs.ign.fr/en/>



IGS network

➤ ITRF :

- 15 local ties (doris – newly installed REGINA stations)
New website (mid 2016)

➤ EUREF :

- Analysis center
Local data center



REGINA network



- Partnership with SHOM and research laboratories
- Aims : providing high-quality continuous measurements of sea and land levels at the coast using tide gauges (relative sea levels) and modern geodetic techniques (vertical land motion and absolute sea level) to study long-term sea level trends (but also calibration of satellite altimeters, etc.)
- Sonel serves as GNSS data center for the Global Sea Level Observing System (GLOSS)

Role of IGN

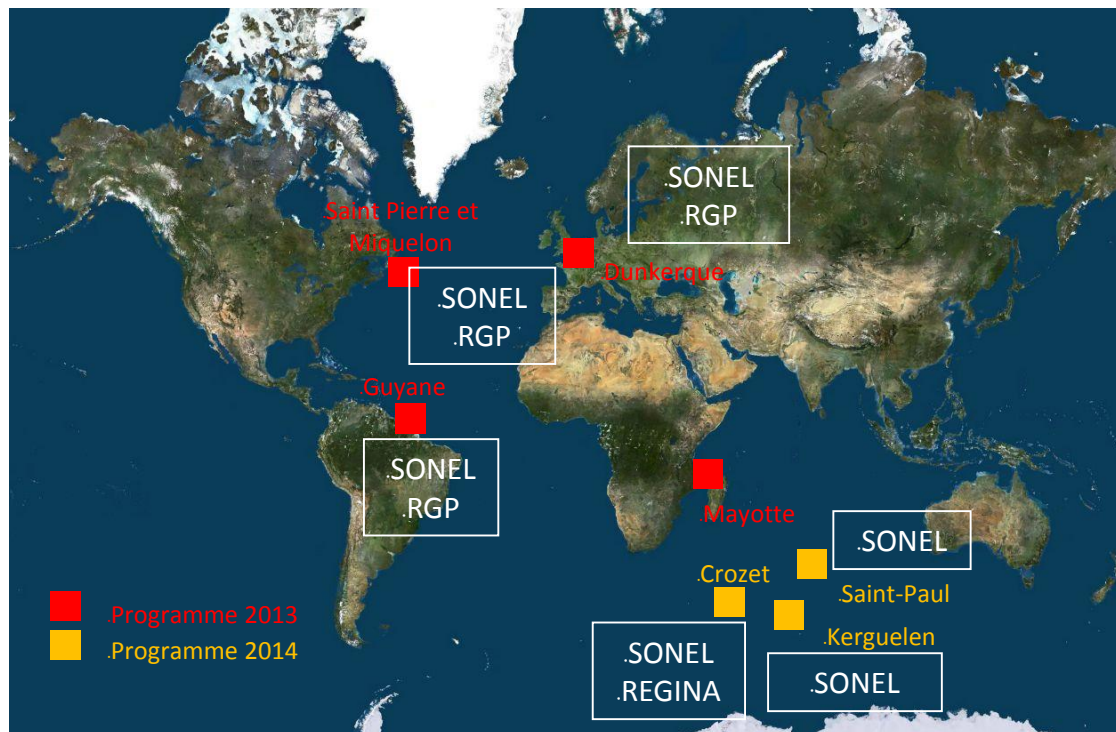
- Set up and administration of GNSS stations close to permanent tide gauges
- Local ties

Tide gauge – GNSS / Doris station

Tide gauge – national leveling network

Contributions to the global geodetic infrastructure

SONEL



2015 : Pointe-à-Pitre, Nouméa, Cherbourg, Dieppe, Toulon

<http://www.sonel.org/?lang=en>