

National Report of Spain

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Spanish GNSS Reference Stations Network (ERGNSS)

- 46 permanent stations.
 - 3 IGS
 - 23 EPN
- 7 EPN stations with:
 - Galileo observations.
 - Sending RINEX3.
- 7 new stations:
 - ALMO
 - CARG
 - CUEN
 - FUER
 - MOLI
 - MOTA
 - VICA
- Data server:
 - <ftp://ftp.geodesia.ign.es>



Real Time Services of ERGNSS

■ Single-point RTK:

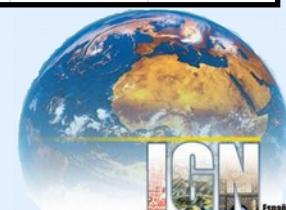
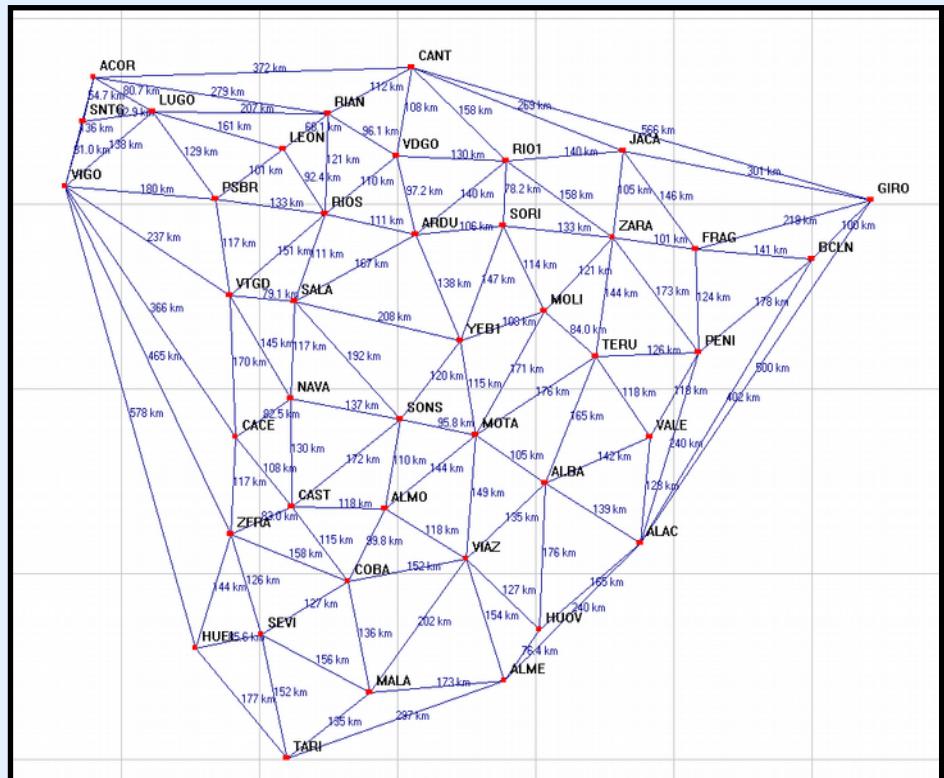
- EUREF-IP Caster.
<http://ergnss-ip.ign.es>

■ Network RTK:

- GNSMART (GEO++).

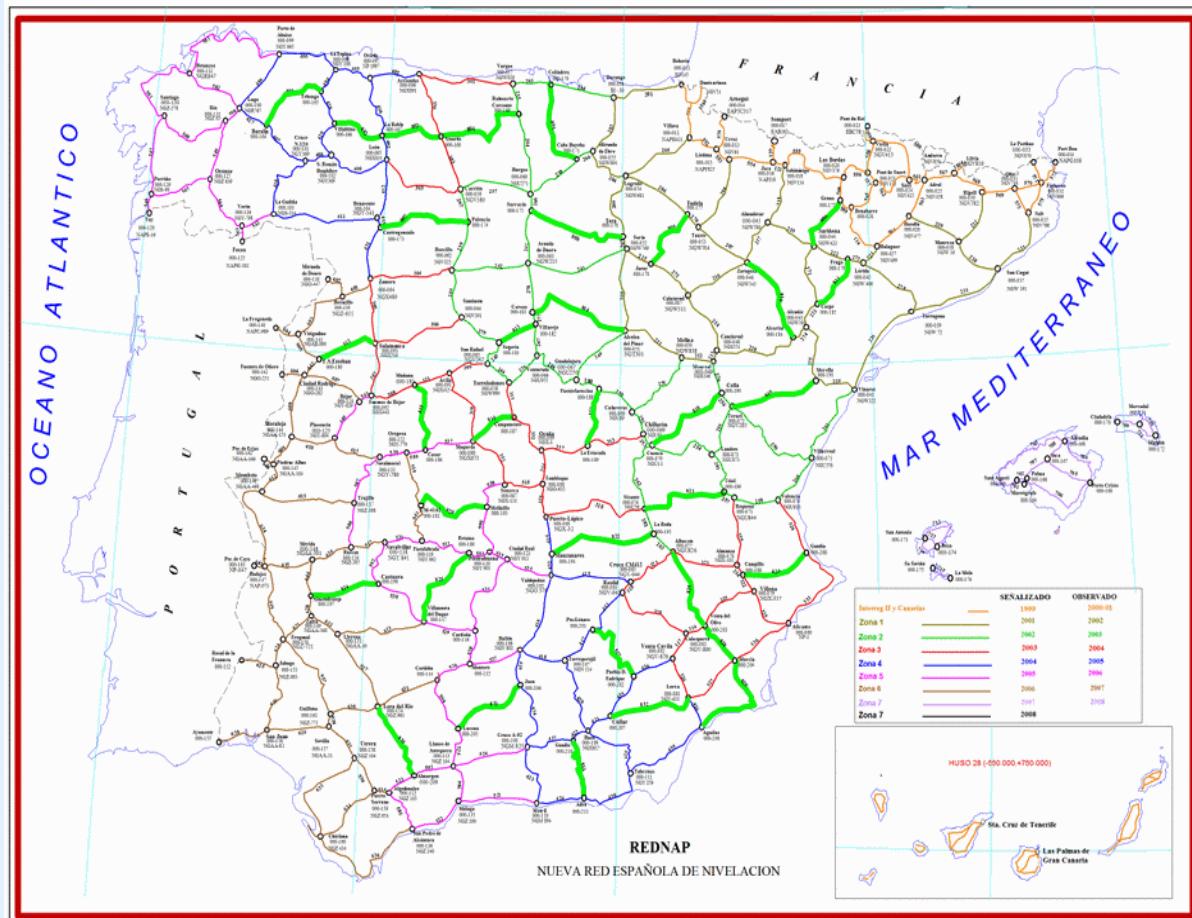
■ Current status: Testing.

- Comparison between the RTK and post-processing positioning.
- Test distances between network stations were 100-250 km.
- The network corrections used were:
 - FKP, VRS, PRS, MAC.
 - Only GPS & GPS+GLONASS)
- The discrepancies obtained were better than 5 cm.



Spanish Vertical Reference Network (REDNAP)

- Total: 19.500 Km
- Final densification stage.
- Levelling lines to ERGNSS / tide gauges.



IGE Analysis Centre

As a Local Analysis Centre of EUREF

- From 1130 gps week.
- EPN Rapid Analysis project (since 1418 gps week).

As Analysis Centre

- IBERRED Project (Iberian Region) → About 370 stations.
- E-GVAP Project (Iberian Region) → Same stations.

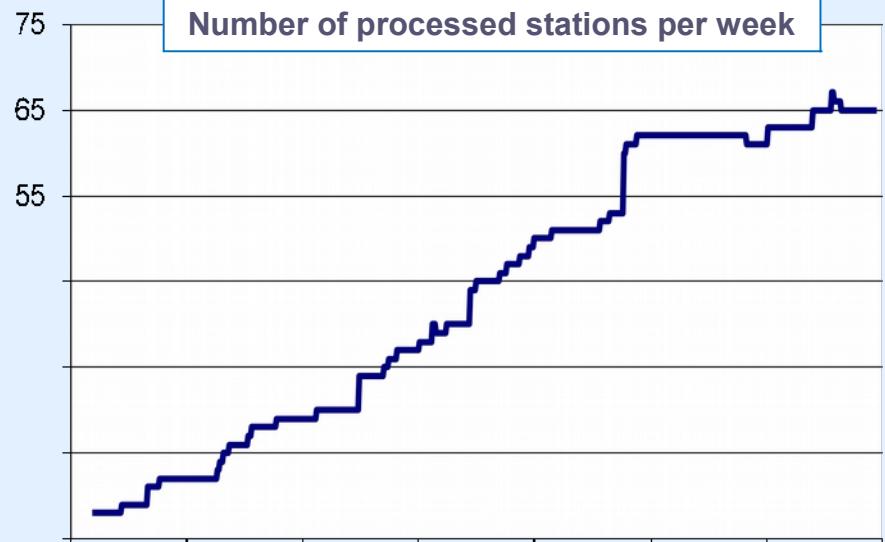
Processing with Bernese 5.0 and 5.2.



❖IGE EUREF LAC

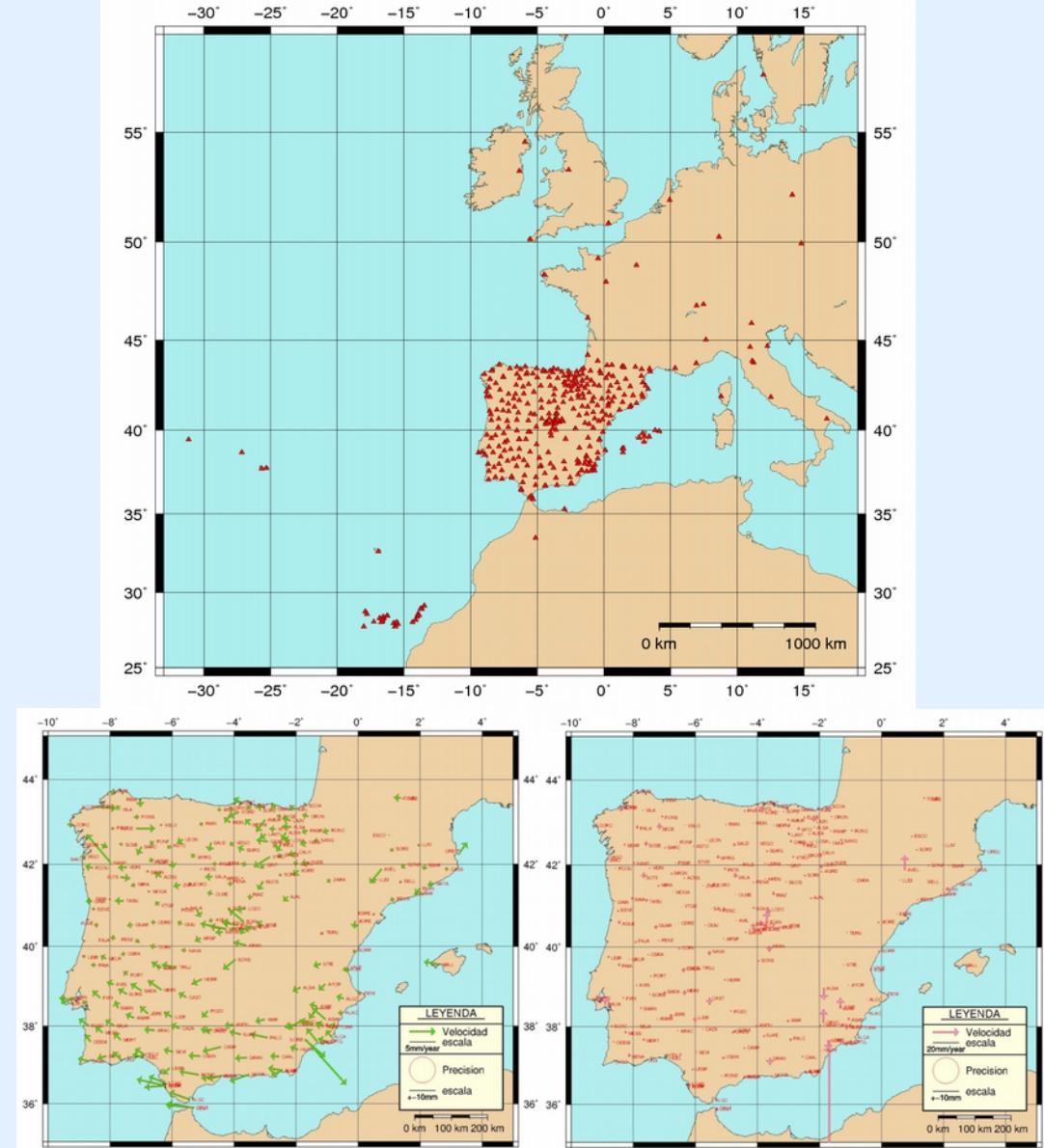


- Bernese 5.2
- 65 stations.
- 2 proposed.
- 23 of them belong to IGN.
- 44 are GPS+GLONASS.
- 8 individual calibrations.



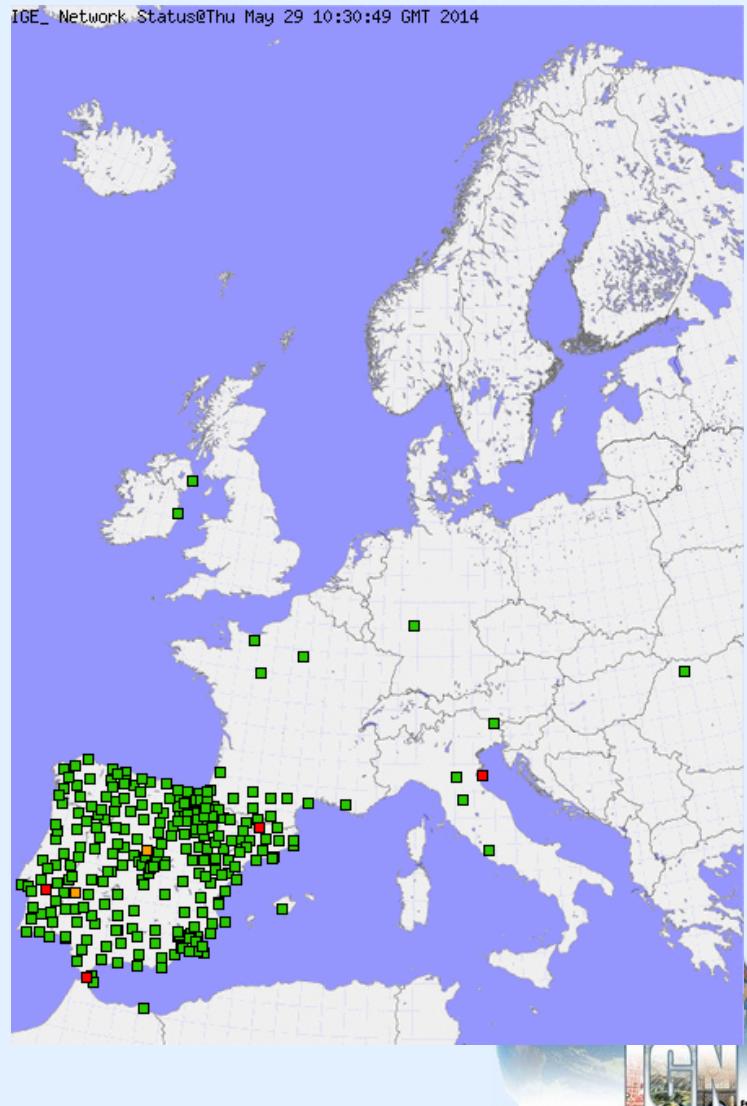
IBERRED

- Bernese 5.0.
- About 370 stations.
Objectives →
 - Positions requested by GNSS active networks.
 - Coordinates to EGVAP hourly processing.
 - Monitoring of reference systems.
 - Atmosphere products.
 - Time series.
- Preliminary velocity maps in Iberian Peninsula (ETRF2000).



E-GVAP

- Intention to get the same IBERRED stations.
- Hourly NRT processing (using coord. from IBERRED process).
 - Objective → ZTD
 - Double differences.
 - Ultra rapid IGS and CODE products.
 - Finally → last 6 h combined.
- Processed with Bernese 5.0 and 5.2.
- Collaborating in COST ES1206 action.



Thank you for your attention

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