

IGE Analysis Centre Report in E-GVAP

Instituto Geográfico Nacional

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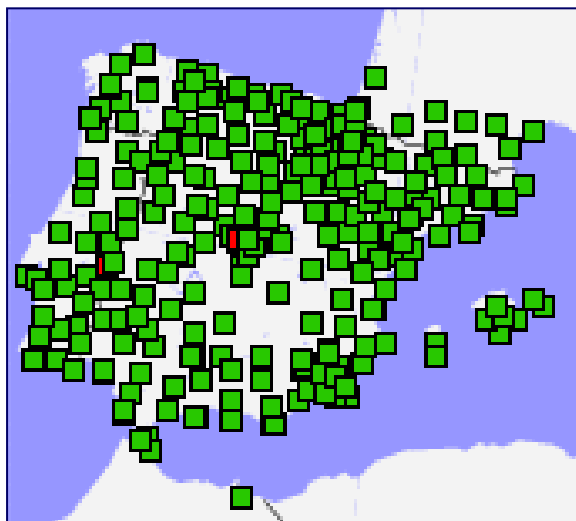
IGN-E background

- IGN managing GNSS national network.
 - About 110 stations.
 - 27 of them integrated in IGS / EUREF.
 - And... using 150 additional stations for RTK national service.
 - In total almost 400 stations for EPN-D -> used for E-GVAP.
- EUREF Local Analysis Center since 2001
 - Processing subnetwork 85 EPN stations.
 - Final and rapid solutions.
 - BSW 5.2, GPS+GLONASS+GAL.
- IGE, E-GVAP Analysis Centre since 2008.
 - ~ 400 stations for Spain & Portugal.

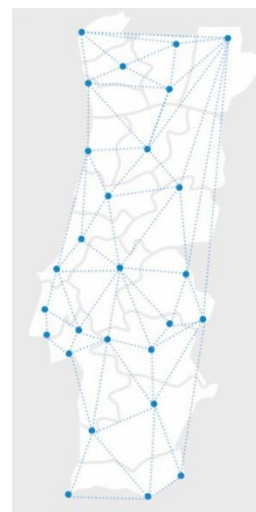


EGVAP analysis

- No relevant changes since last meeting in IGE2 solution:
 - Number of stations has grown up slightly (from 370 to ~ **390 stations**).
 - Hardware: 16 core server; hourly process takes **4-5 min.**
 - No new GNSS networks have been installed in the area in the last years. Only some stations for densification.
 - All networks existing in Spain... **but not all in Portugal** ☹



2014 ≈ 2019



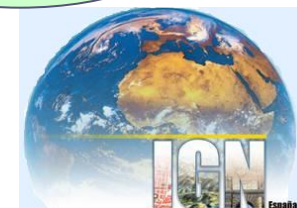
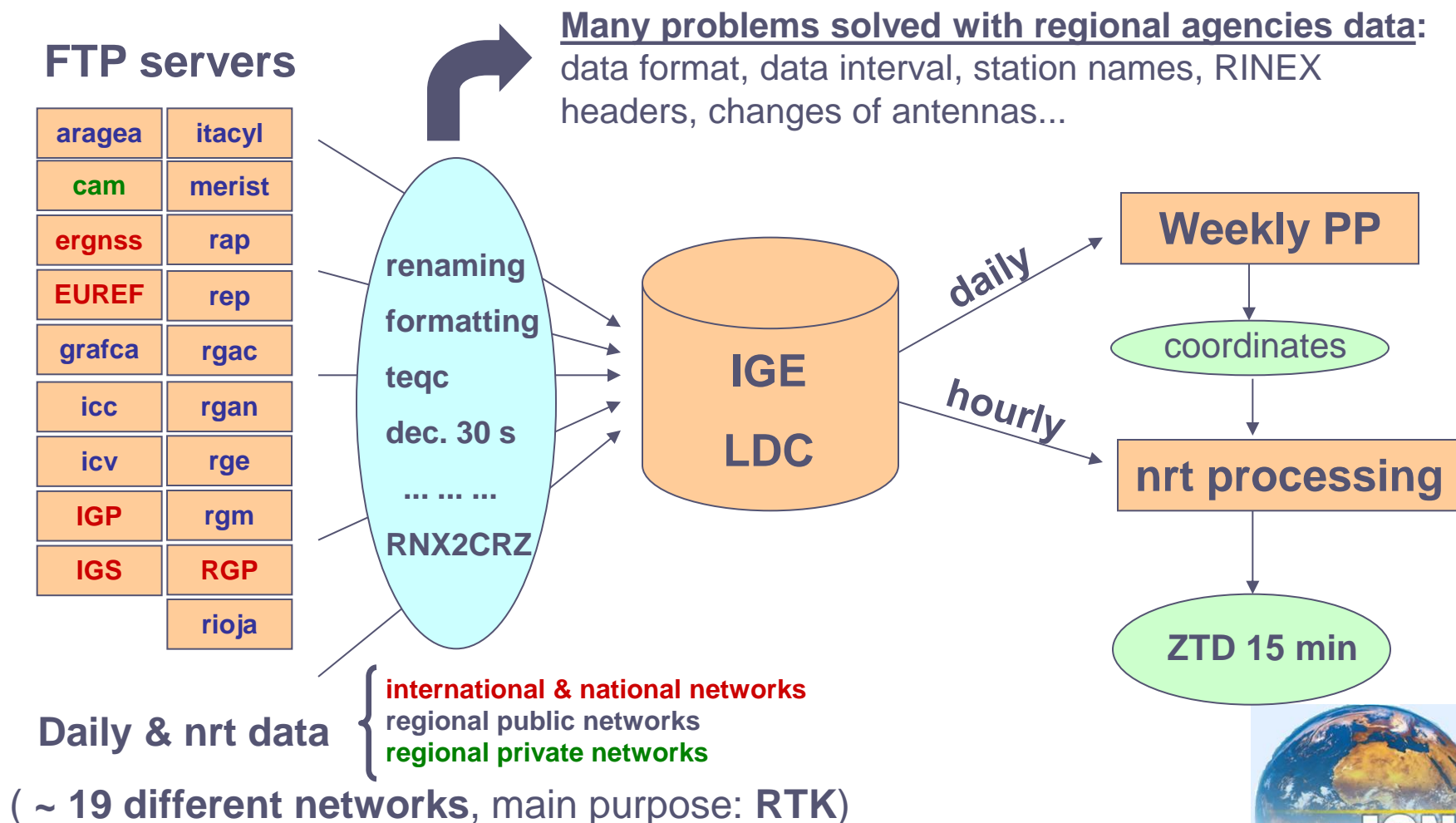
SERVIR (militar, under payment)



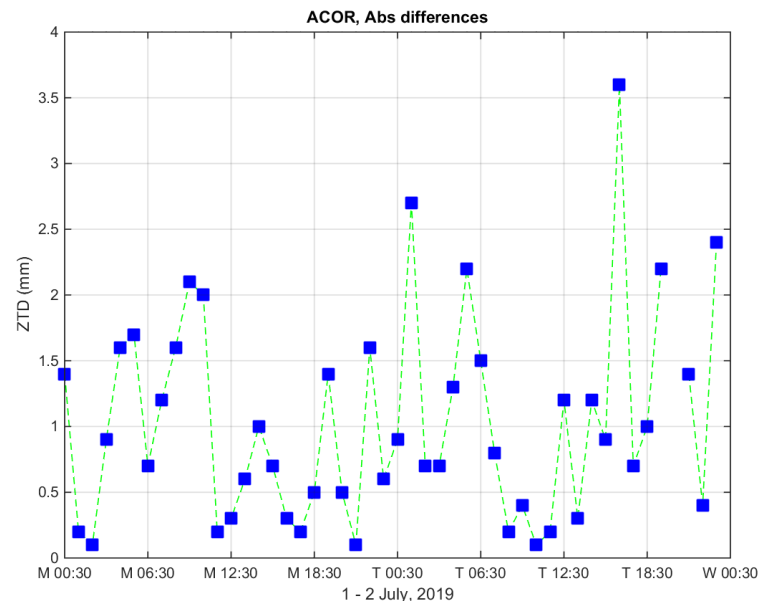
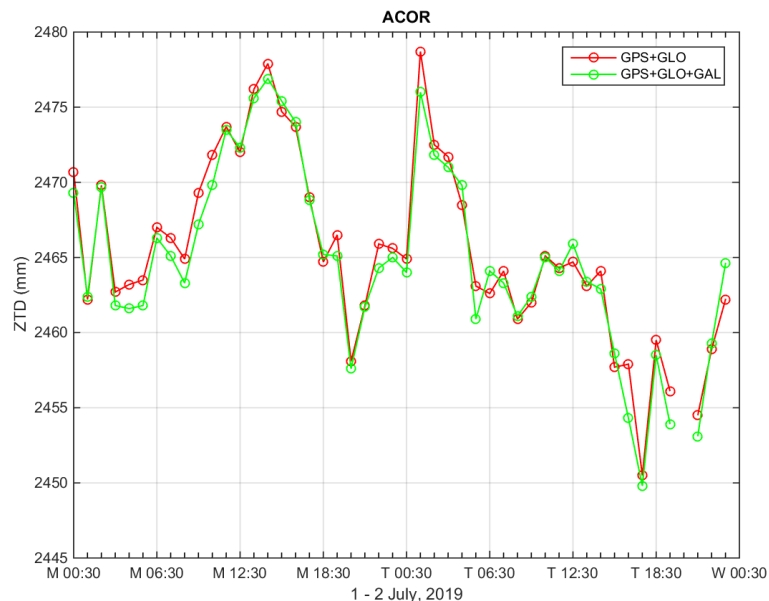
REPRAA (Azores)



Data flow



Impact of GALILEO observations on ZTD (I)

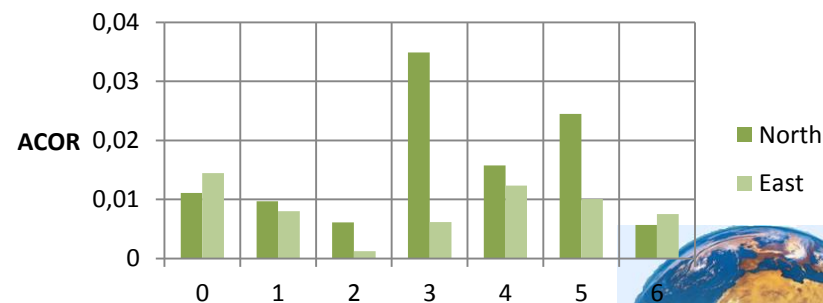
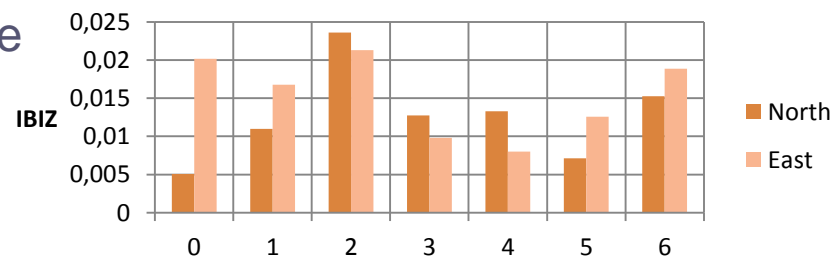
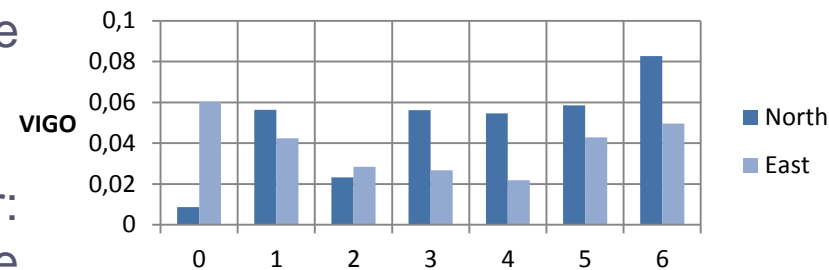
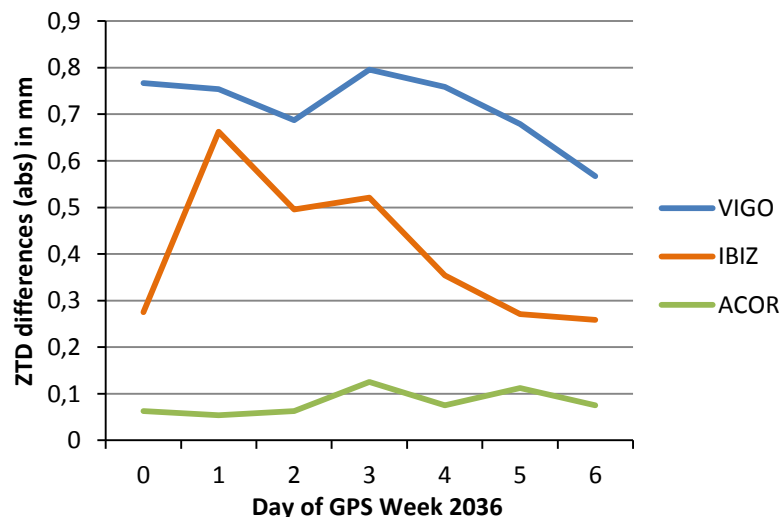


- Two parallel processings with and without Galileo .
- **Baselines forced** to minimize the network effect.
- GFZ ultra-rapid orbits used and ZTD has been estimated hourly during a week.
- No relevant differences. The 95% confidence interval for the mean of the ZTD differences in the stations with Galileo is (0.95, 1.34) mm, but further analysis will be necessary due to the station and weather dependence.
- **Still not possible to introduce GAL** because not all regional networks produce RINEX3 (only about 25% of stations) -> encourage them to do it !!
- Also old receivers not capable of GAL tracking.



Impact of GALILEO observations on ZTD (II)

- No relevant variations in ZTD, in the most of the cases variations < 1 mm.
- Influence in gradients slightly bigger: differences of 8% of the gradient value were found in some stations, but the results are highly station dependent.



Thank you for your attention

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