

EUREF 2014 Symposium

National Report of Austria

by

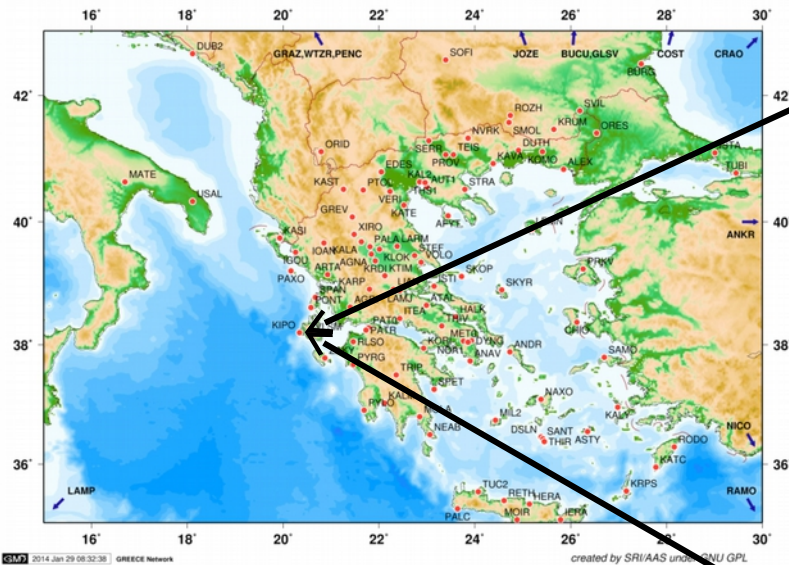
G. Friedl, P. Mitterschiffthaler, D. Ruess, G. Stangl, H. Titz, Ch. Ullrich, E. Zahn

Vilnius, Lithuania

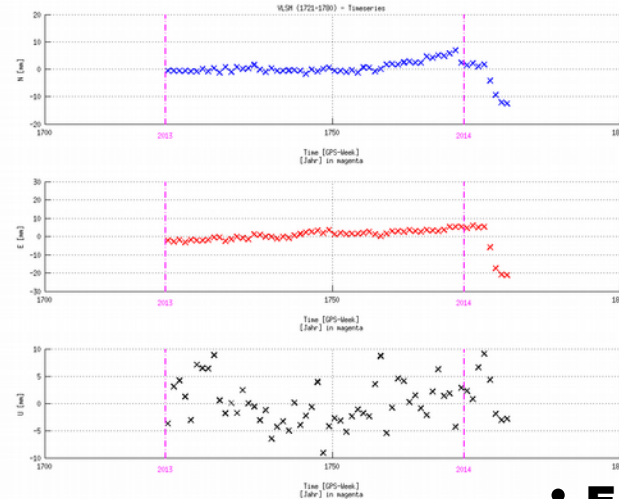
June 04 - June 06, 2014

Permanent Networks

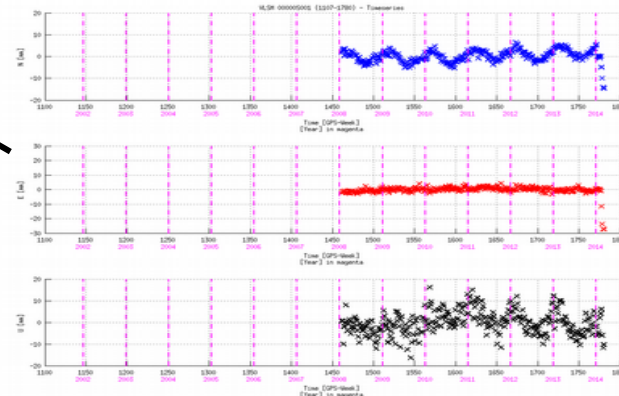
At present 5 : AMON, CERGOP, EPN, GREECE, MON



- GREECE too short for reliable velocities
- Subset in MON since 2008

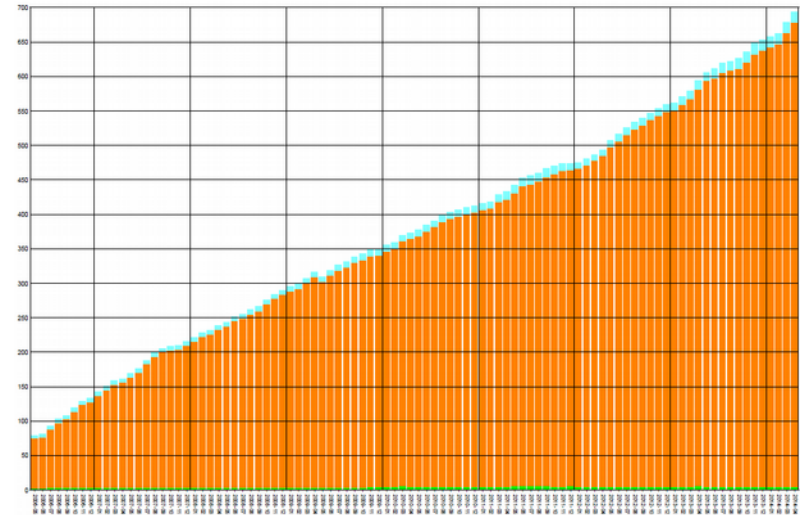
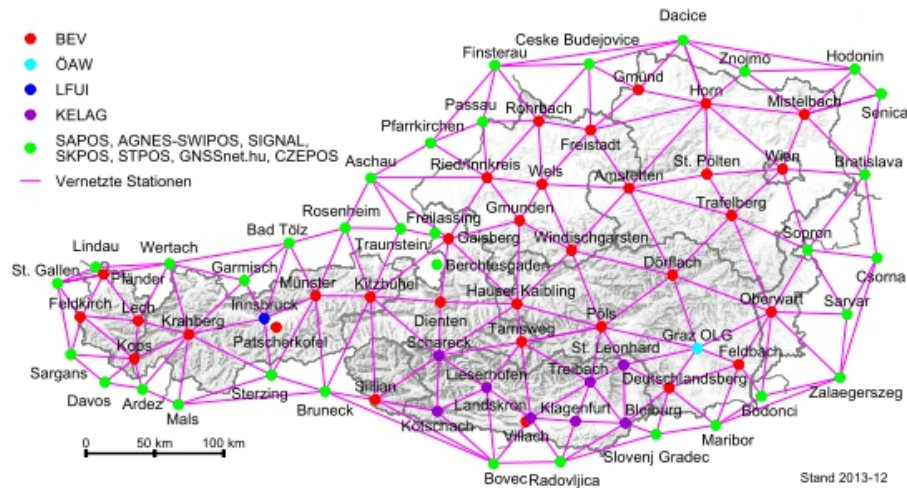


• Earthquake offset 2008



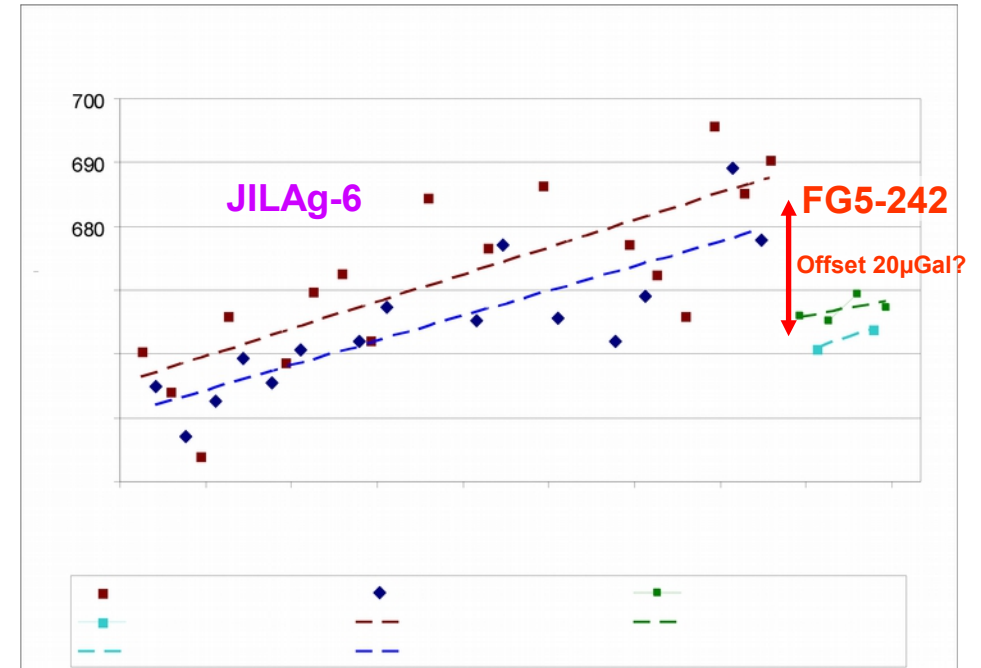
- For reference and geokinematics
- All processed according to EPN guidelines

APOS - Austrian Positioning Service



- New station Schareck (Carinthia) by KELAG (4 Qu. 2013)
- Upgrading to Trimble® Pivot Platform v2.5.9 software update leads to more accurate results compared to the former VRS³Net 1.4.8 solutions
- Development / testing of 3D height interpolation in the region Innsbruck-Garmisch (co-operation with SAPOS-Bavaria)
- APOS - commercial aspects: about 700 customers (1600 accounts) > growth rate 21% comp. with 2013

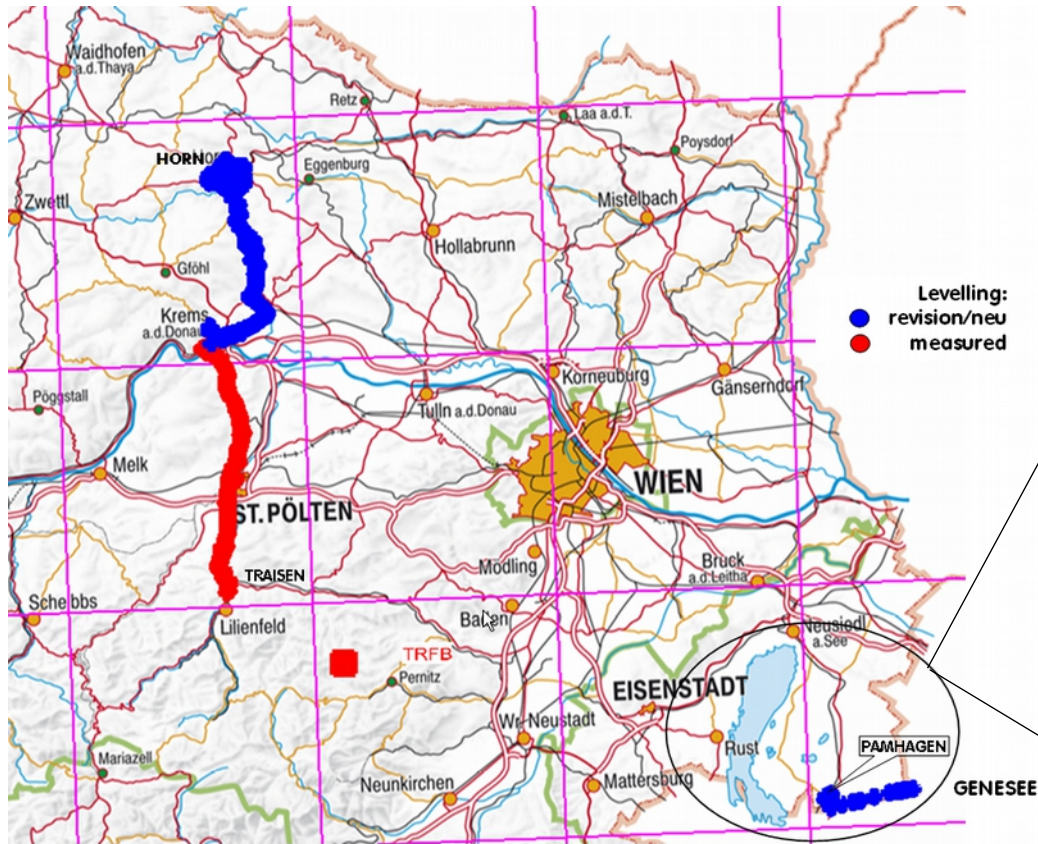
27 years absolute gravity monitoring in Obergurgl / Tyrol 1935 m



Comparisons of
absolute gravimeters
at BIPM
2003 / 2007 and in
Walferdange 2011:
Offset $\pm 2 \mu$ Gal

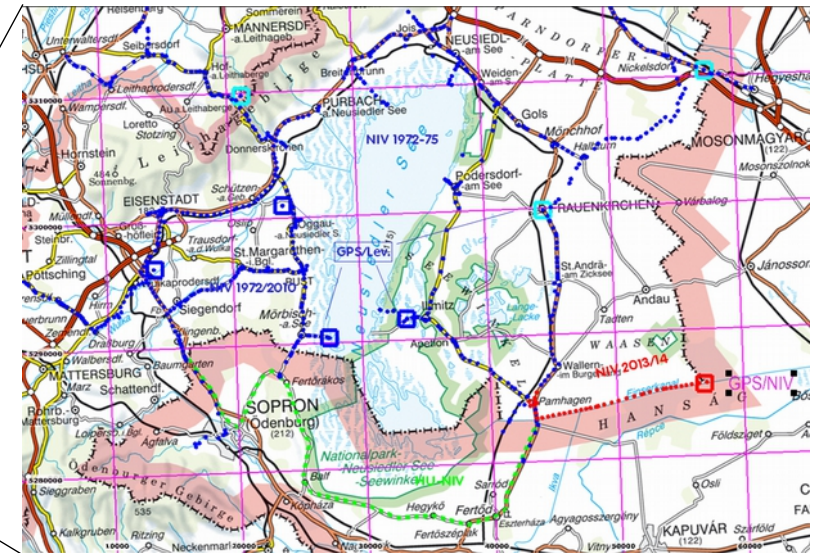


Preparation for repeated Precise Levelling: Krems – Horn (EVRS Datum Point Hutbigl)



Repeated Precise Levelling: Traisen – St.Pölten – Krems

A/Hu Project GeNeSEE: improvement of the hydrological situation of the Neusiedlersee region



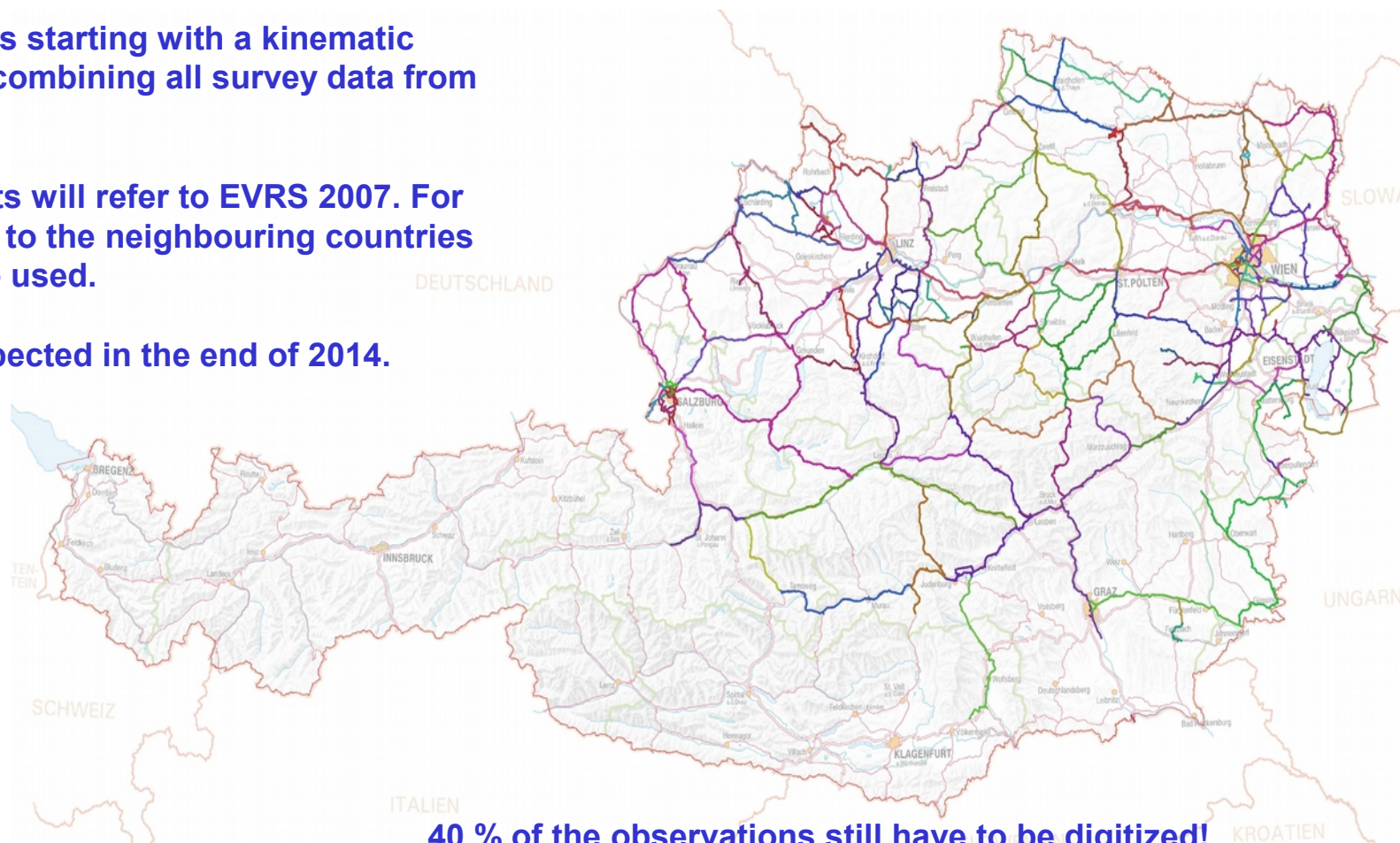
Levelling network and GPS/Lev points

Kinematic Height Adjustment

The Federal Office is starting with a kinematic Height adjustment combining all survey data from the last 75 years.

The adjusted heights will refer to EVRS 2007. For that the connection to the neighbouring countries and to UELN will be used.

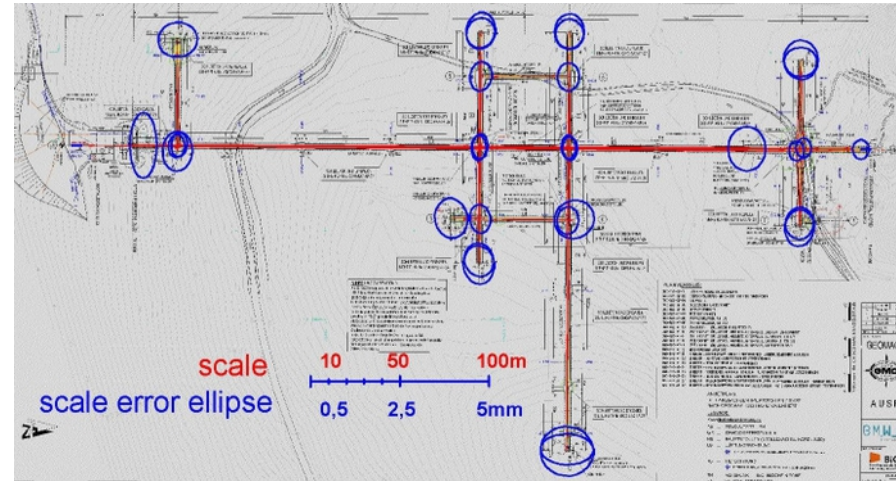
First results are expected in the end of 2014.



Precise Geodetic and Astronomic Measurements at the Geomagnetic Observatory (GMO) of ZAMG



Pillars for geo-magnetic observations



Survey network and error ellipses



Simultaneous observation 24h-GPS and terrestrial

Heights: 52 benchmarks, levelling length ~ 1600 m, loop error 0,15 mm

Survey network: 33 network points+ 29 detail points

Observations: Distances: ~230 Angles: horizontal ~250, vertical ~250

Reached accuracy:

- Semi major axis of error ellipse of network points between 0,3 and 0,7 mm. The result reflects the expectations created by a previous simulation.
- Azimuth southern to northern portal $\pm 1,3''$. The observation of two survey points (northern portal and Bettelmannkreuz) is still not finished. The result will be improved.