Planning DSO contribution to EUREF densification project.

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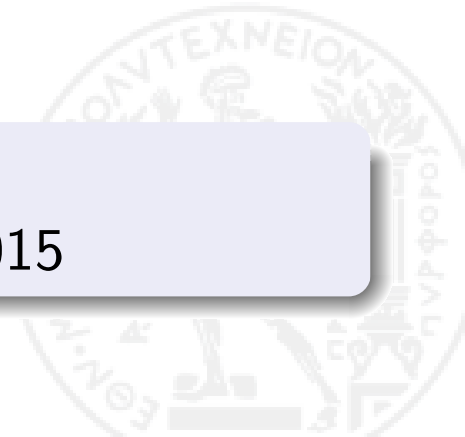
http://dionysos.survey.ntua.gr



EUREF Analysis Centre Workshop
AIU Bern, Switzerland, October 14-15, 2015

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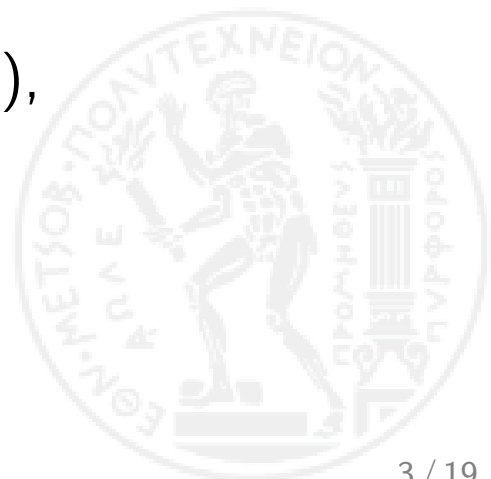
DSO Recent Activity

Dionysos Satellite Observatory (DSO) and Higher Geodesy Laboratory of the National Technical University of Athens, have developed an automated processing scheme to accommodate the routine analysis of all available continuous GNSS stations in Greece.
This daily analysis process, is implemented for the last two years, yielding results which help us further understand the complicated tectonic setting of Greece and nearby regions.
Important results, include:

- the recent volcanic activity in *Santorini* (e.g. [2]),
- the 2014 *Kefallonia* earthquakes (e.g. [4], [3])

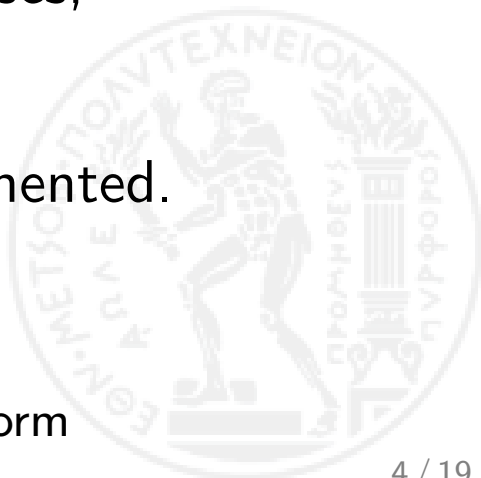


SEISMO Project

In the framework of the SEISMO[1] Project, platform has been upgraded, to include:

- more GNSS stations, divided into sub-networks,
- manipulation, archiving & dissemination of GNSS data files,
- new processing capabilities (e.g. GPS+GLONASS processing),
- automatic archiving and publishing of results (via a dedicated web-site),
- integration with GSAC ([5]) and MySQL databases,
- new results and products

The platform was in practice re-designed & re-implemented.



[1] South Aegean Geodynamic And Tsunami Monitoring Platform

Status

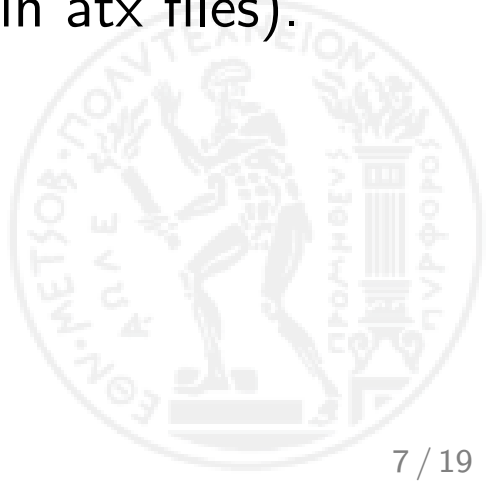
Motivation

- expand & modernize our research activity,
- contribute to the GNSS community,

Data

Currently we process whatever we can get our hands on ...
Problems:

- Inhomogenous dataset (RINEX, raw files, etc).
- Various maintainers, different mentalities.
- Different aquisition methods/rates.
- Hardly any log files.
- Wide variety of equipment (not always included in atx files).



Data

Network installed/maintained by COMET[2]& NTUA.

- established along the Aegean Arc
- homogenous (geodetic type) equipment
- credible time-span (early 2004 - late 2011)
- data aquisition stoped at late 2011
- equipment is old & GPS-only
- needs repairing

[1]Center for Observation and Modeling of Earthquakes, `http://comet.nerc.ac.uk/`

Data

Network maintained by GEIN/NOA[3]. Sites established by various institutes (NTUA, UNAVCO, MIT).

- covers (sparsely) all of Greece
- credible time-span (newest stations at 2012)
- inconsistent providers (for some stations)
- no log files

[1] National Observatory of Athens
http://www.gein.noa.gr/services/GPS/noa_gps.html

Data

Network installed/maintained by Tree-Company[4].

- dense network, covers all of Greece
- homogenous (geodetic type) equipment
- limited time-span (late 2013 onwards)
- no log files
- comercial usage oriented

[1] URANUS network `http://www.uranus.gr/`

Data

Network installed/maintained by HEPOS[5](Greek Cadastre Service).

- dense network, covers all of Greece
- homogenous (geodetic type) equipment
- credible time-span (late 2013 onwards)
- limited access (∼5 stations)!!

[1] http://www.hepos.gr/

Data

Network installed/maintained by CRLab[6].

- credible time-span
- only covers the Corinth Rift
- inconsistent providers
- no log files & equipment changes

Santorini Network.

- localized
- limited time-span

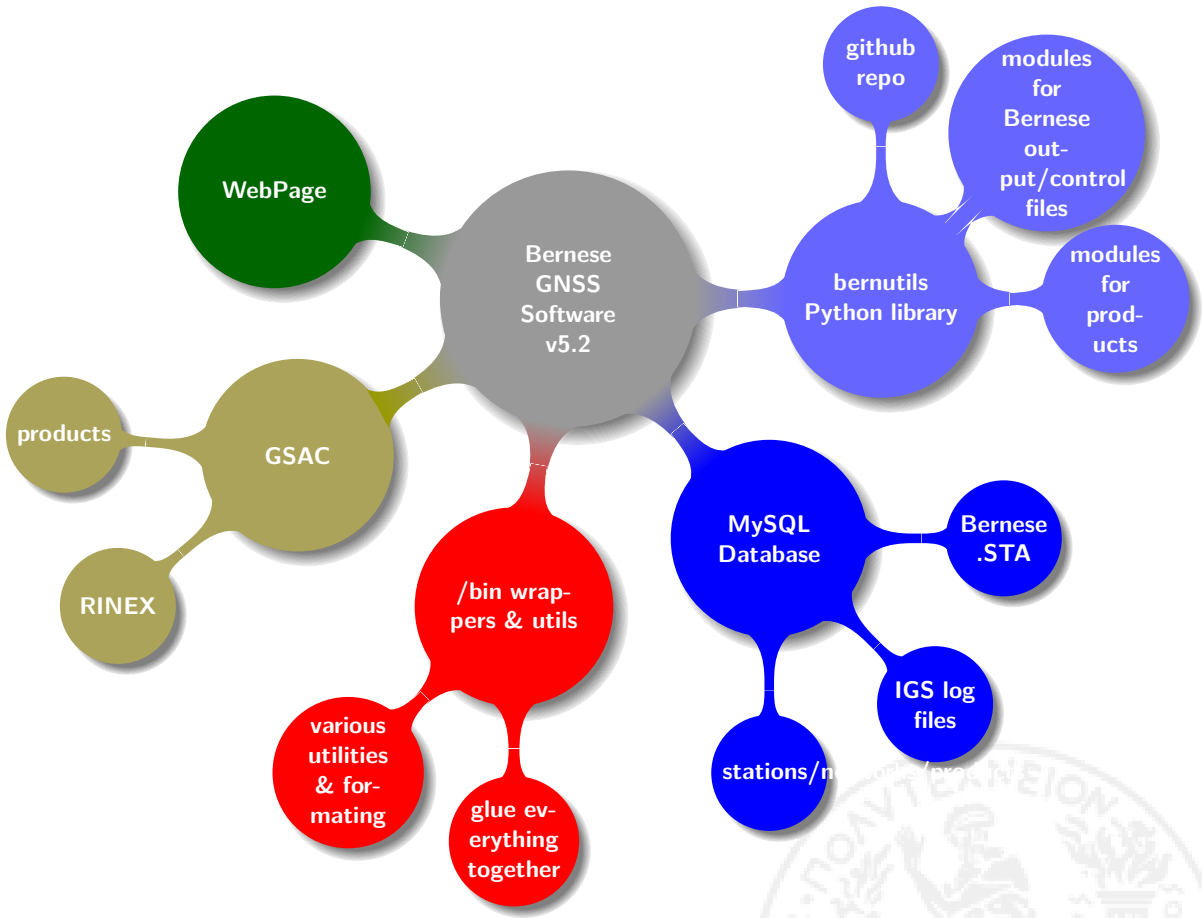
[1] Corinth Rift Laboratory `http://webobs.crlab.eu/`

Processing

The core tool/software is Bernese GNSS Software v5.2[**?**].

Integration with

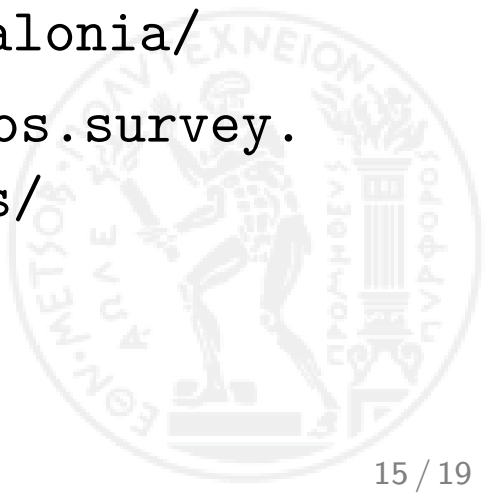
- MySQL database,
- Python library
- GSAC
- wrappers (shell)



Web Resources

Visit, Browse, Interact, Comment

- **Dionysos Satellite Observatory** http://dionysos.survey.ntua.gr/
- **GSAC repository** http://dionysos.survey.ntua.gr/dsoportal/_datacenter/gsacrepos.html
- **Ftp site** http://dionysos.survey.ntua.gr/dsoportal/_datacenter/ftpdata.html
- **Kefallonia earthquake** http://dionysos.survey.ntua.gr/dsoportal/_projects/supersites/cephalonia/
- **Ionospheric Remote Sensing** http://dionysos.survey.ntua.gr/dsoportal/_projects/IonoRemSens/



Thank you very much for your attention !

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Mapping inflation at Santorini volcano, Greece, using GPS and InSAR
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The February 2014 Cephalonia Earthquake (Greece): 3D Deformation Field and Source Modeling from Multiple SAR Techniques

Seismological Research Letters, Vol.86(1), 2015

UNAVCO

GSAC – Geodetic Seamless Archive Centers: Open-source Software for Geodesy Data Repositories

available at `https://www.unavco.org/software/data-management/gsac/gsac.html`

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