On the stability of regional reference frames in Greece using GNSS permanent stations.

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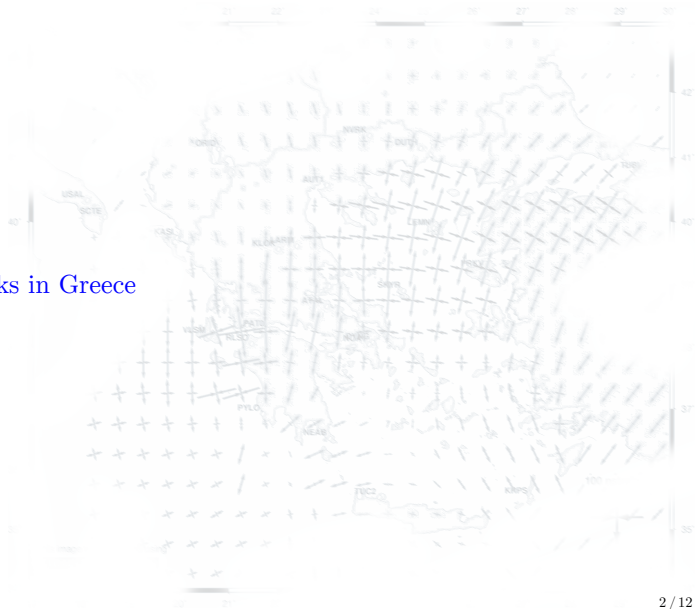🏠http://dionysos.survey.ntua.gr/   ✉danastasiou@mail.ntua.gr

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Presentation Structure

Introduction

GPS/GNSS Networks in Greece

Processing

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. **papoutsis**),
- the 2014 *Kefallonia* earthquakes (e.g. **sarkefalonia**, **sakkas**)

Motivation

Via our contribution to EUREF and interaction with its community, we hope to:

- expand & modernize our research activity,
- contribute to the GNSS community,
- take part in ongoing/future projects,
- expand our knowlegdbase,
- improve our academic services (NTUA is a University)

Densification Network Selection

To contribute to the Densification we have to establish a credible dataset (network). This has proven to be rather challenging !

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).

COMET/NTUA Network

- established along the Hellenic Arc

- homogenous (geodetic type) equipment

- credible time-span (early 2004 - late 2011)

- data aquisition stoped at late 2011
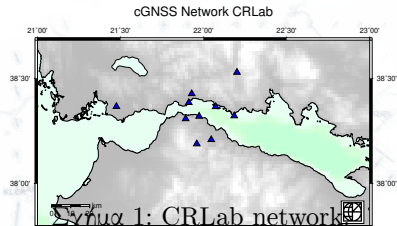
- equipment is old & GPS-only

- needs repairing

cGNSS Network COMET
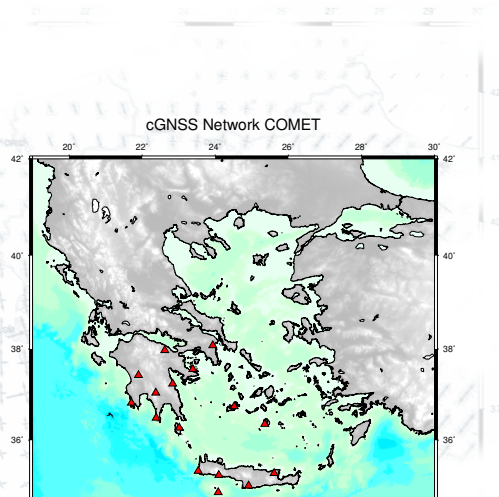
Can be used for EUREF densification "as is".

Local Networks

Corinth Rift.

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

Σχήμα 1: CRLab network

Santorini Network. Most of the stations installed post-2011 to monitor the *inflation episode.*

- localized
- limited time-span