



Corinth Rift Laboratory

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**European Plate
Observing System**

<https://www.epos-eu.org/>

Corinth Rift Observatory



March, 19, 2021

Subject: Monitoring of the recent seismic crisis in the Corinth Rift Laboratory area, the Western Corinth Rift (Greece)

Dear Colleagues,

We would like to inform you about the new ongoing seismic crisis in the western Corinth Gulf, i.e. the main monitoring area of the Corinth Rift, Near Fault Observatory (NFO), which is a high seismically active area in Greece. For those not familiar with the area please have a look at the European Plate Observing System (EPOS) - NFO's description at <https://www.epos-eu.org/tcs/near-fault-observatories/overview-contact> or at <http://crlab.eu/>. The seismic crisis has been developing for more than three months; it depicts clear signs of seismicity migration, and, up to now, it has been expressed with small and moderate size events ($M_w \sim 5$).

In detail, two moderate size events occurred in 2021, while the overall number recorded by Greek national agencies, during the last three months, is of the order of 3000. Our team, consisting of more than 25 scientists from three European countries, has already started studying the sequence using all available data (seismic, GNSS and satellite observations). The seismological data suggest a "cascade type" of rupture, starting close to the northern coast of the Gulf (Fig.1) and propagating towards east and west over 30 km. Pore pressure diffusion could also have contributed to the sequence, as it has been already proposed for other sequences in the area. Focal mechanisms suggest rupture on EW trending normal faults but interestingly on strike-slip faults as well. Although it is difficult to assign the seismicity to specific faults, it seems that both the north- and south-dipping faults have been activated throughout this period. Geodetic data from the strongest events are available and their preliminary analyses show a small associated deformation.

With this letter we would like to draw the attention of the EPOS and NFOs community to this seismic activity, since we believe that it has a potential to elevate the seismic hazard by possibly increasing the stress and loading to the major faults in the area, e.g. the Psathopyrgos fault. Societal aspect is important, since Patras city is situated in close proximity, as well as smaller cities like Nafpaktos, Aigion, etc. We would like to invite all interested parties to contact us in order to collaborate and contribute to the study of this sequence (using data available through EIDA and RESIF nodes) and possibly plan to visit the CRL/NFO and install additional equipment.

Unfortunately, the COVID pandemic has made the network maintenance tasks even more difficult but we are trying our best to keep everything working in an acceptable level.

You can find the recipients' and the signees' and lists at the annex.

You can find more and up-to-date information at: <https://nfo.crlab.eu/the-2020-2021-trizonia-lambiri-sequence>

The CRL team

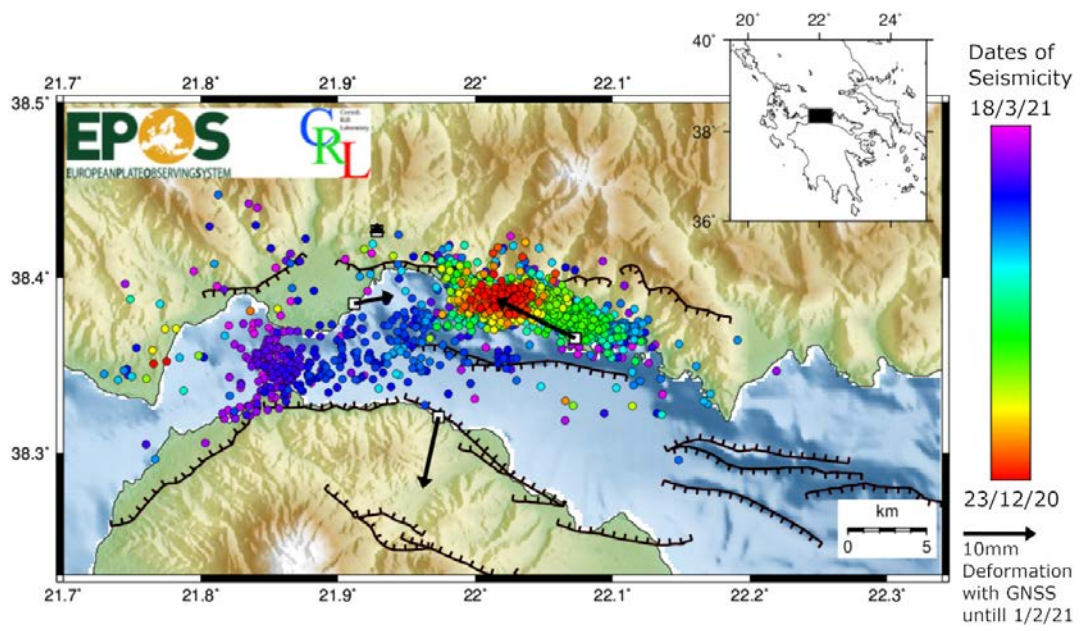


Figure 1: Seismicity since December 23, 2020 and the GNSS deformation vectors until February 1, 2021 in the CRL area.

Appendix

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