

# Seismogenic faults investigation and monitoring

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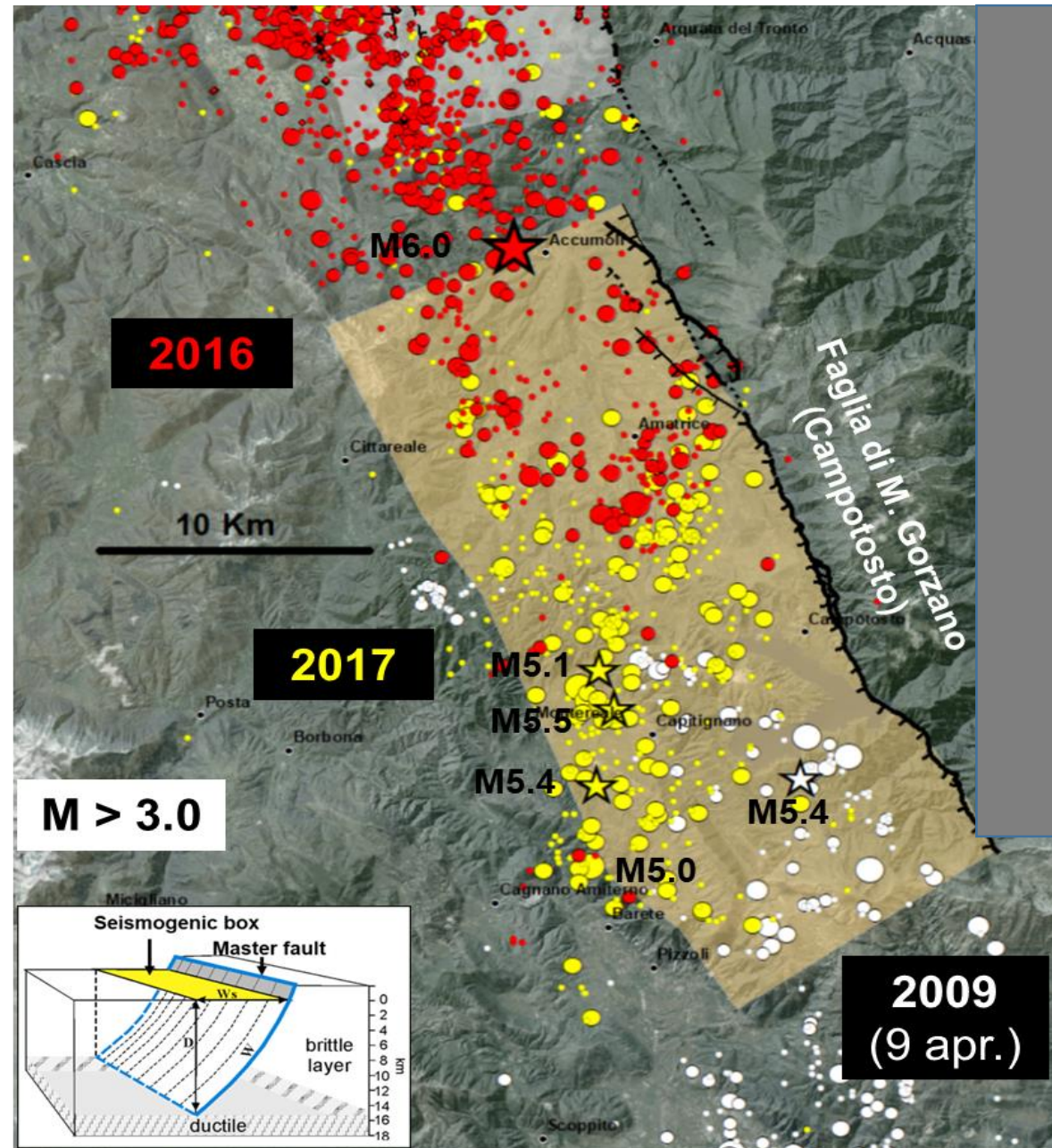
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# Objectives

- To obtain surface displacement measurements using DInSAR technology to investigate the current state of the deformation field around the Gorzano fault, which is part of the complex extensional fault system of the Italian Appenines.

# Rationale

- Was/is the Gorzano seismogenic box completely filled by the recent sequences in the area or there is still a seismic gap?



# What we saw with the SBAS Ground Motion Service

The screenshot shows a web browser window with the URL `geohazards-tep.eu/geobrowser/?id=cnfrea#`. The page displays a map of the Rome region, Italy, with a red arrow pointing to a text box that says "Unfortunately nothing". The map shows a dense cluster of purple dots representing ground motion data points around Rome. The right sidebar shows the "Processing Services" section with details for a job named "Gorzano\_22\_descending\_2019\_2021\_6g\_07\_box -resubmitted 2 - AlessandroMondini".

**Processing Services**

**Gorzano\_22\_descending\_2019\_2021\_6g\_07\_box -resubmitted 2 - AlessandroMondini**

**Job Info**

Name	Gorzano_22_descending_2019_2021_6g_07_box -resubmitted 2 - AlessandroMondini
Id	8069c1c4-3bf5-4184-ac04-41996a52bb97
Remote Id	7336d746-b7e0-4318-8dab-67a530212ead
Processing service	CNR-IREA P-SBAS Sentinel-1 processing on-demand
Service version	1.7.0
Started at	Dec 15th 2022 14:14
Finished at	Dec 19th 2022 12:00
Created by	Livio Donnini
Status/Result Location	<a href="#">↗</a>
Status	Success
Visibility	restricted
Share	<a href="#">↗</a>
Share with public url	<a href="#">↗</a>

**Parameters**

Name	Value
1 - S1	<a href="https://catalog.terradue.com/sentinel1/series/nsar/search?format=json&amp;uid=S1B_IW_SLC_1SDV_20181203T051059_20181203T051126_013873_019B88_0C42">https://catalog.terradue.com/sentinel1/series/nsar/search?format=json&amp;uid=S1B_IW_SLC_1SDV_20181203T051059_20181203T051126_013873_019B88_0C42</a>
2 - S1	<a href="https://catalog.terradue.com/sentinel1/series/nsar/search?format=json&amp;uid=S1A_IW_SLC_1SDV_20181209T05134_20181209T051201_024944_02BFA8_0D04">https://catalog.terradue.com/sentinel1/series/nsar/search?format=json&amp;uid=S1A_IW_SLC_1SDV_20181209T05134_20181209T051201_024944_02BFA8_0D04</a>
3 - S1	<a href="https://catalog.terradue.com/sentinel1/series/nsar/search?format=json&amp;uid=S1B_IW_SLC_1SDV_20181215T051058_20181215T051125_014048_01A13E_9935">https://catalog.terradue.com/sentinel1/series/nsar/search?format=json&amp;uid=S1B_IW_SLC_1SDV_20181215T051058_20181215T051125_014048_01A13E_9935</a>
4 - S1	<a href="https://catalog.terradue.com/sentinel1/series/nsar/search?format=json&amp;uid=S1B_IW_SLC_1SDV_20181215T051058_20181215T051125_014048_01A13E_9935">https://catalog.terradue.com/sentinel1/series/nsar/search?format=json&amp;uid=S1B_IW_SLC_1SDV_20181215T051058_20181215T051125_014048_01A13E_9935</a>

Total results: 1  
Lon: 11.483 Lat: 42.411

# Possible reasons / problems

- Very high vegetated area, we tried to lower the minimum coherence, but all runs failed
- We tried with different temporal windows, same results
- We only processed images acquired during descending orbits
- Possible presence of snow in the area of interest in winter time. We were not able to find snow cover maps for confirmation

# The highlights of any benefits to society derived from the project

- Difficult to ascertain: maybe we found a limit in the application of the service. This test case probably requires a different band (L?), a different resolution, or the application of a different interferometric process

