SATELLITE DATA

EPOS TCS Satellite Data: Observations and Products for Geohazards Analyses

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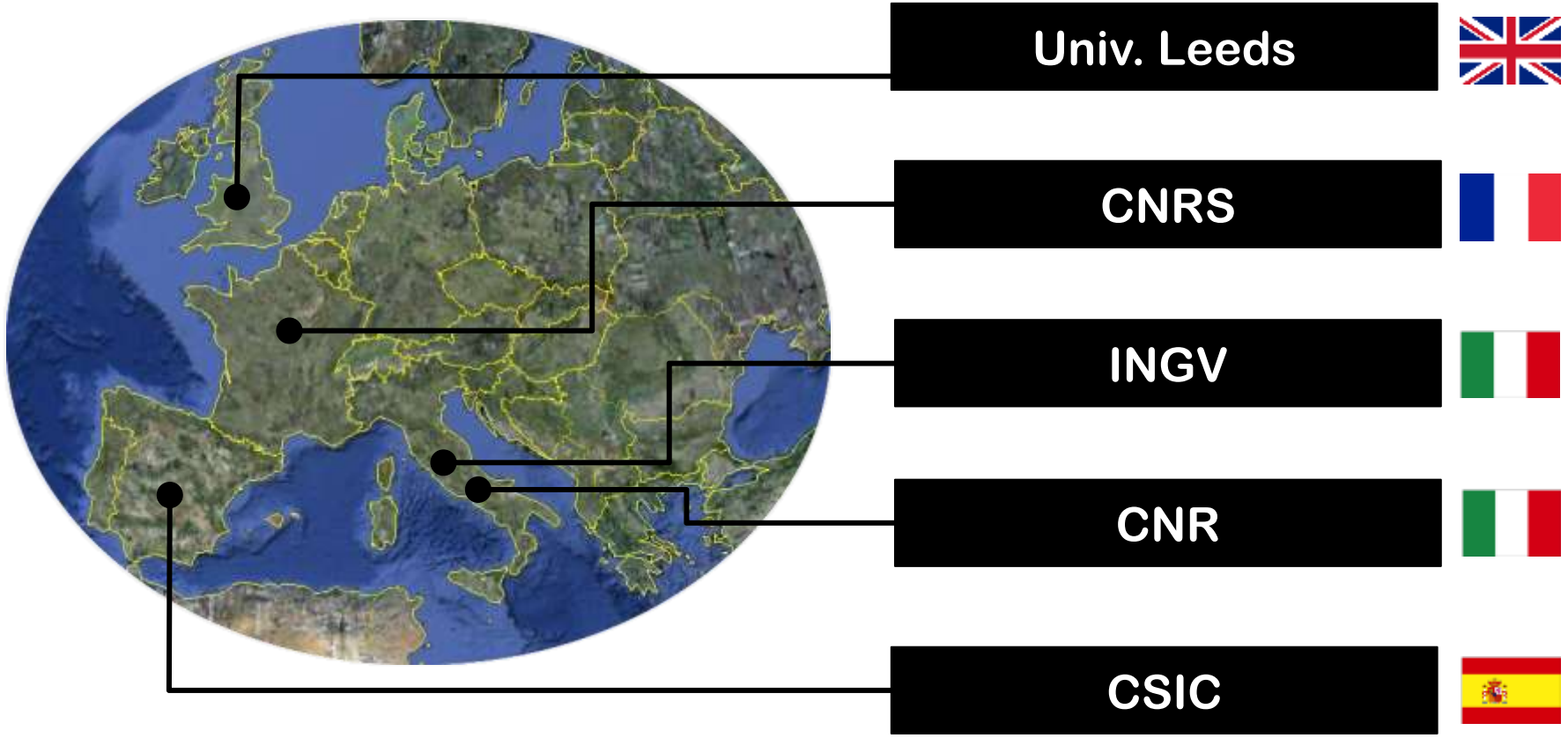
SATELLITE DATA

TCS Satellite Data aims to foster the use and re-use of satellite data and products to establish multidisciplinary research in Earth sciences. TCS SATD widely benefits from the Copernicus Programme to deploy advanced satellite services with a free and open data access policy.



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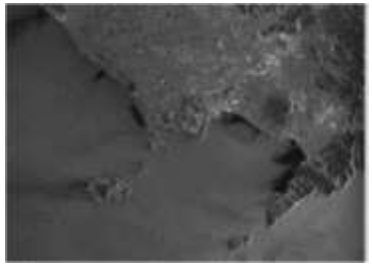
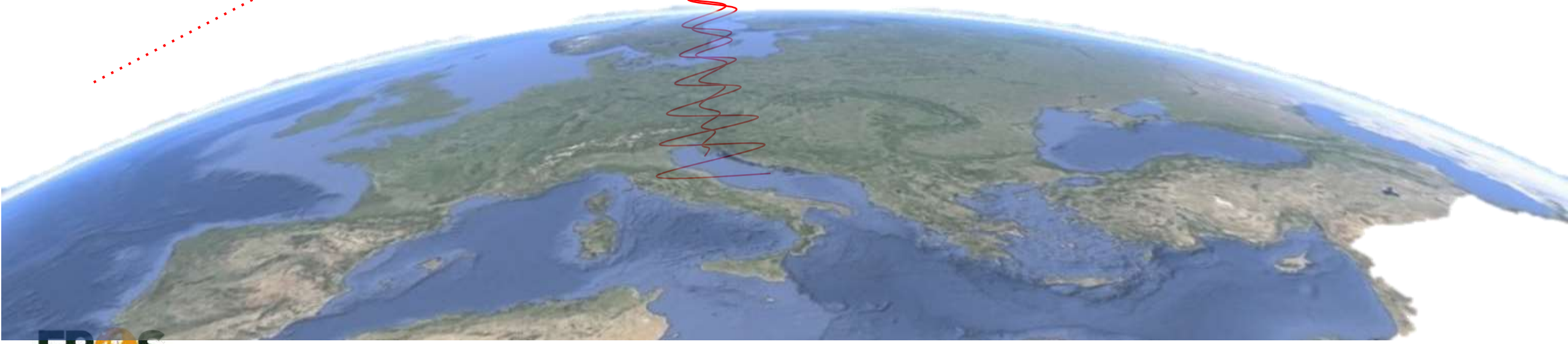
Ground Displacements Measured from the Space

SATELLITE DATA

SAR scene @ **T0** MASTER





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Ground Displacements Measured from the Space

SATELLITE DATA

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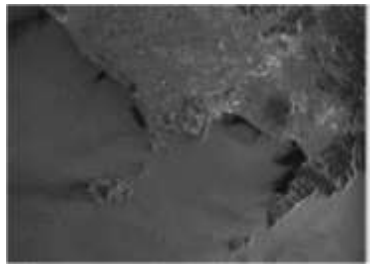
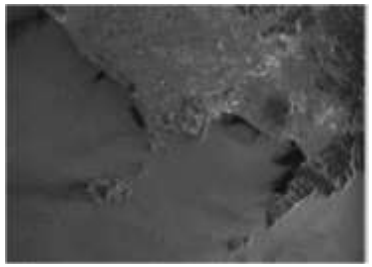


SAR scene @ **T1** SLAVE



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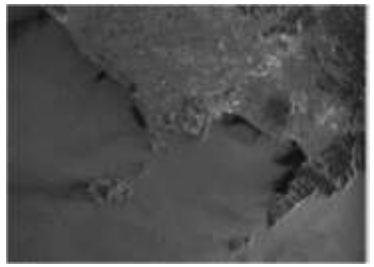
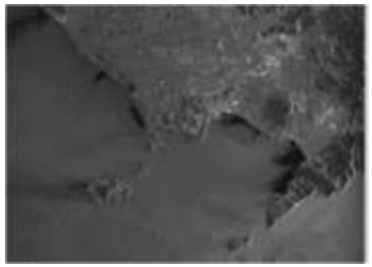
Ground Dispaclements Measured from the Space

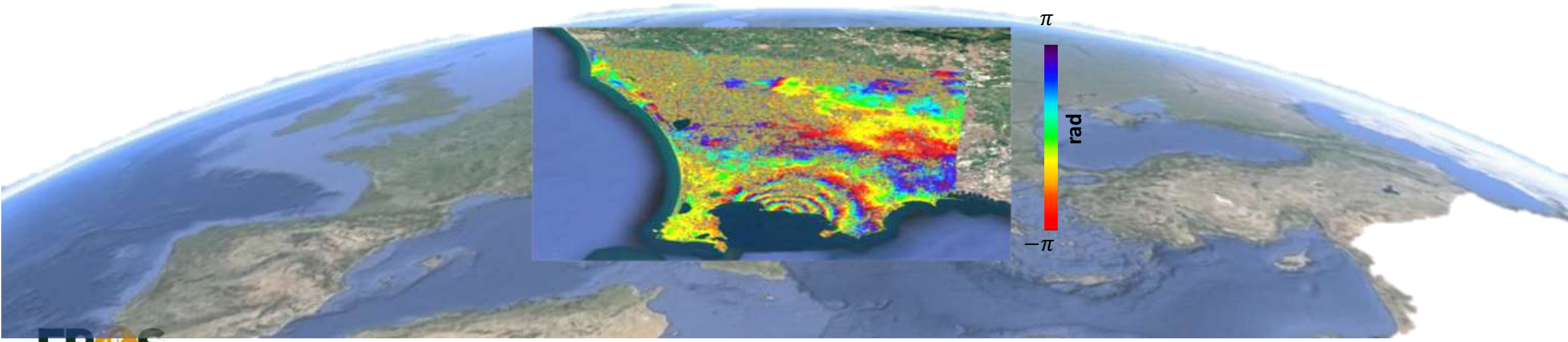
SATELLITE DATA

SAR scene @ **T0** MASTER



SAR scene @ **T1** SLAVE





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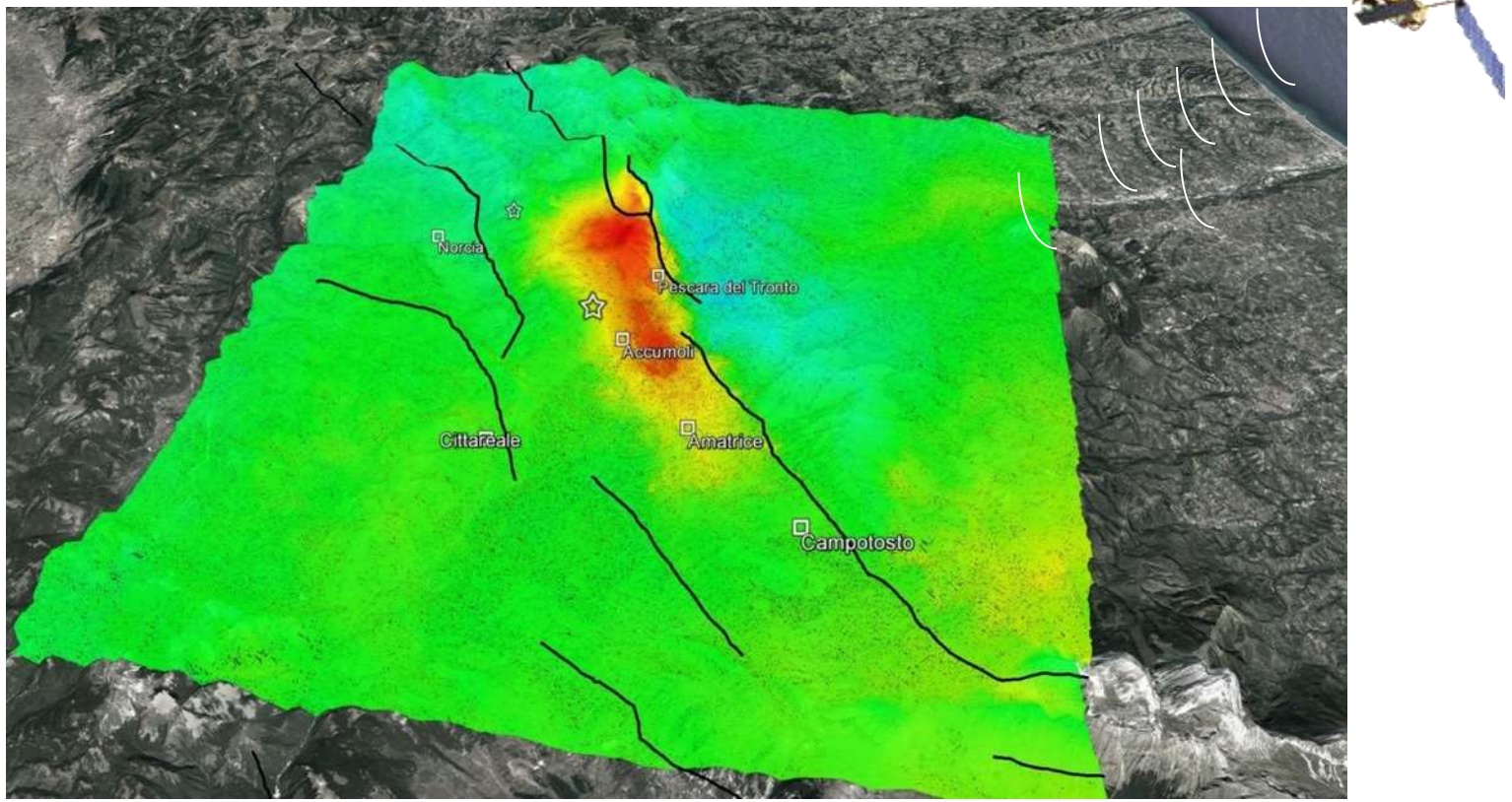
Ground Displacements Measured from Space

SATELLITE DATA

With the **DInSAR** (or **InSAR**) technique, we can measure ground displacements with centimeter to millimeter accuracy by combining two SAR acquisitions collected at different times

Displacement map relevant to the 2016 Amatrice earthquake (Italy)



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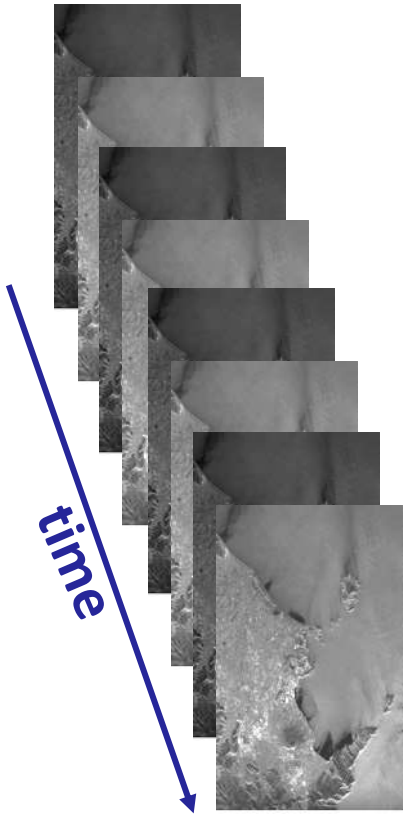
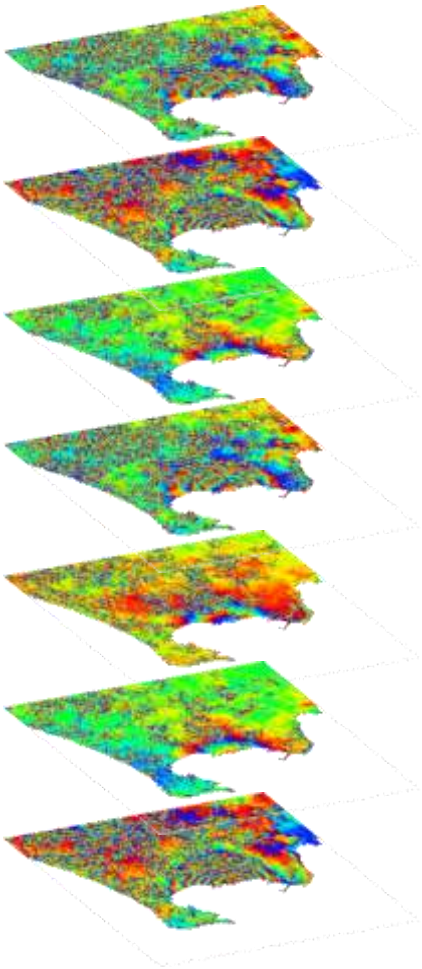
Advanced DInSAR Products

SATELLITE DATA

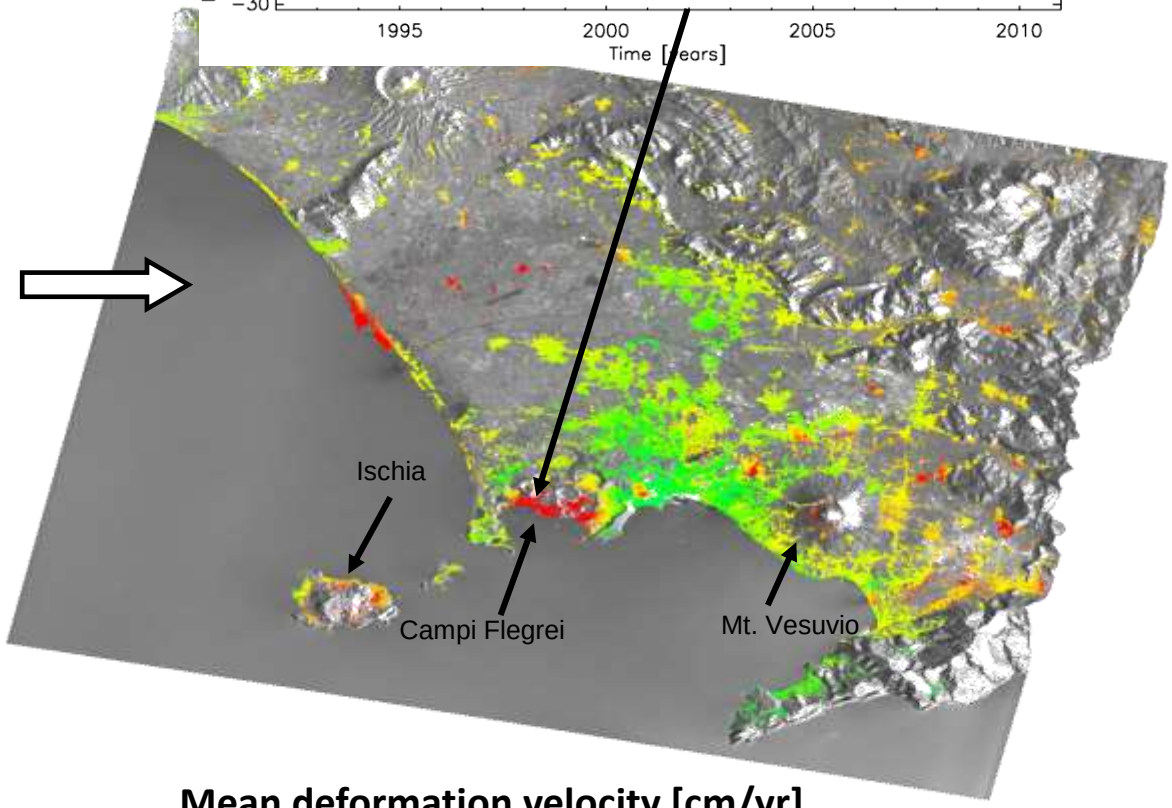
Satellite SAR Images



Interferograms



ERS/ENVISAT images (1992 – 2010)



Mean deformation velocity [cm/yr]

<- 0.75 > 0.75

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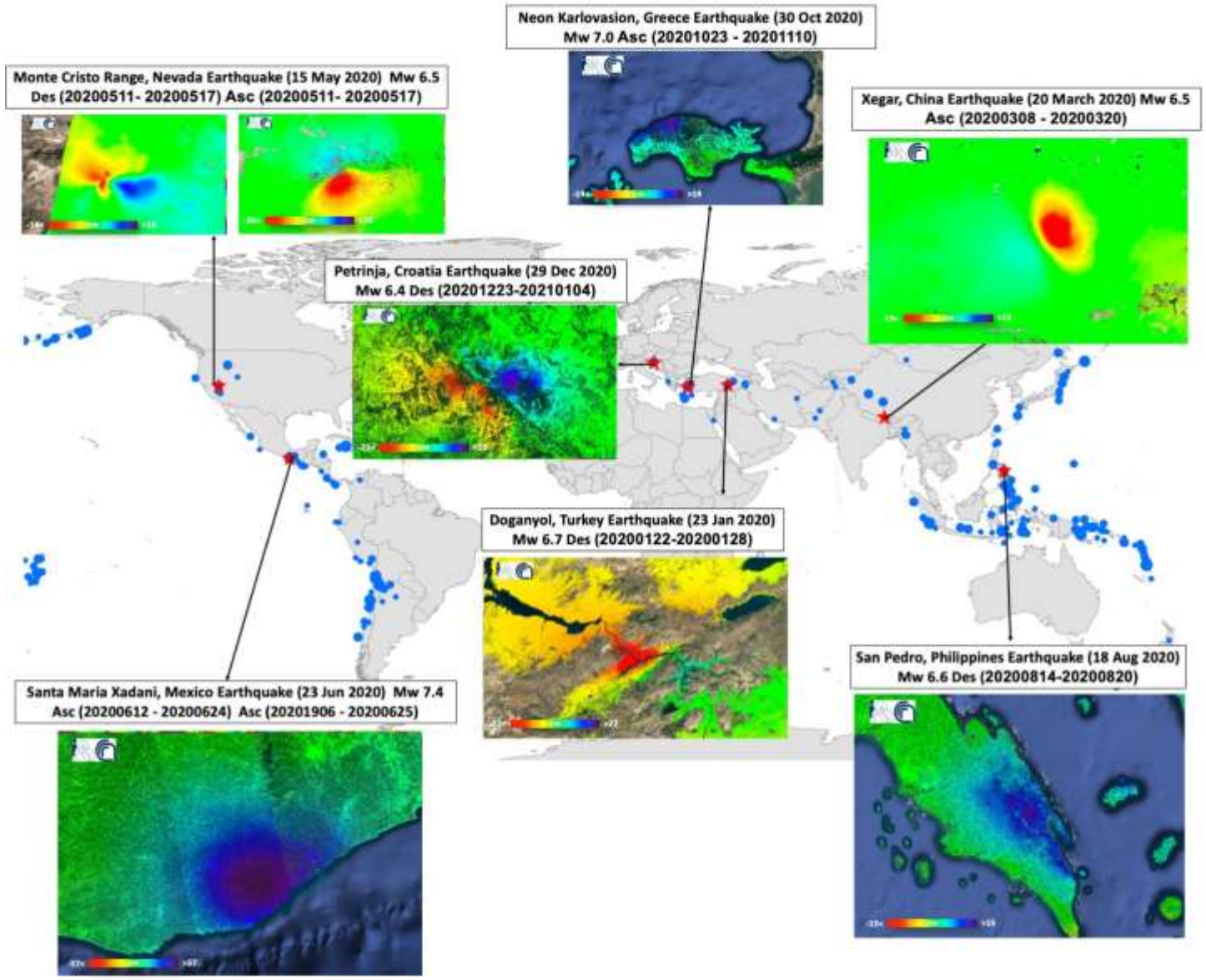

EPOSAR service

Copernicus Programme provides quasi-real-time satellite images. EPOS exploits this service to make updated displacement maps for each seismic event (Mw >5) on land available to the user community.

EPOSAR works at a global scale

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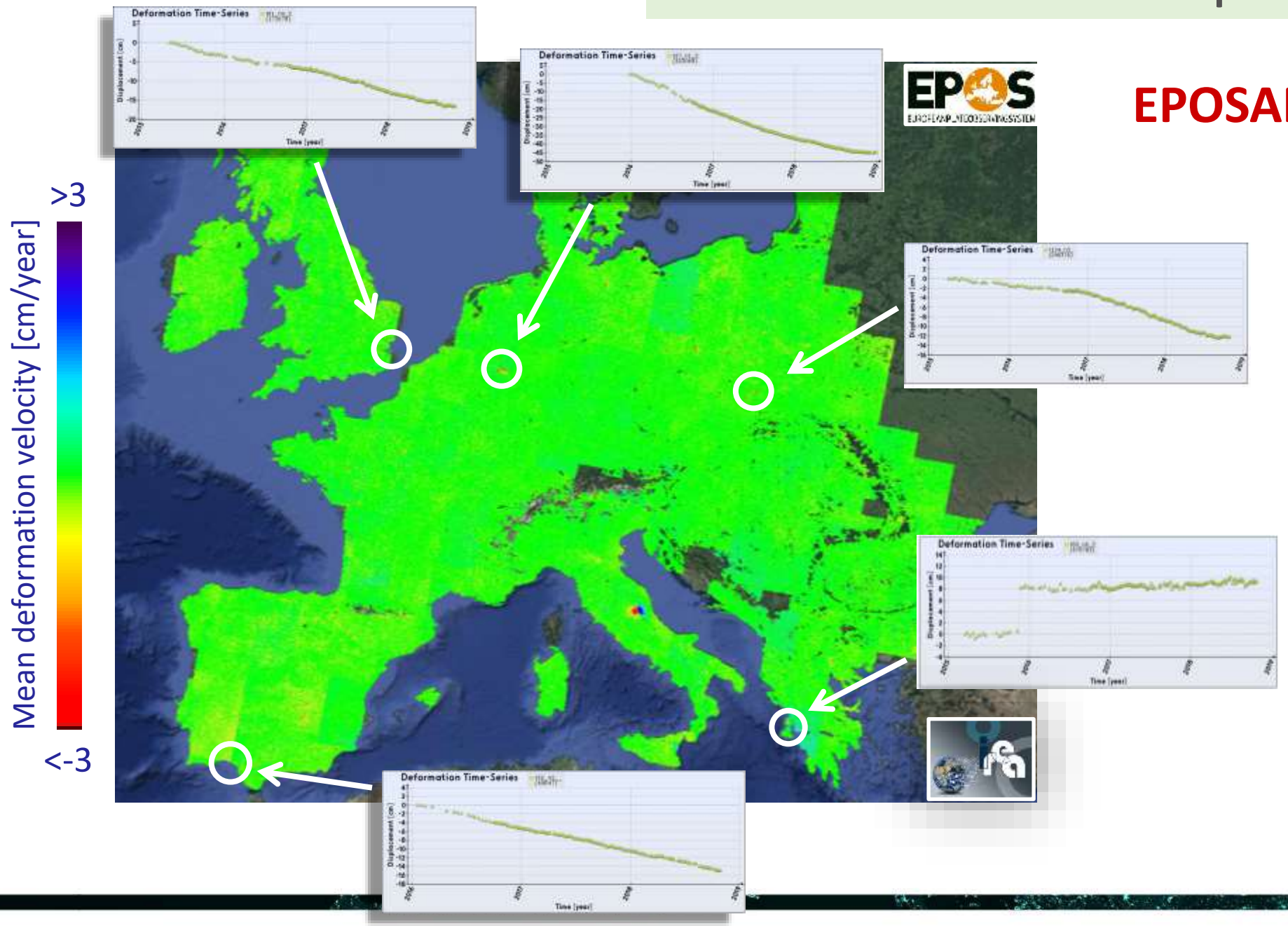
EPOSAR service over Reykjanes area (Island)

TCS Satellite Data Operative Services

SATELLITE DATA

EPOSAR service



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TCS Satellite Data Operative Services

SATELLITE DATA

LiCS
LOOKING INSIDE THE CONTINENTS FROM SPACE

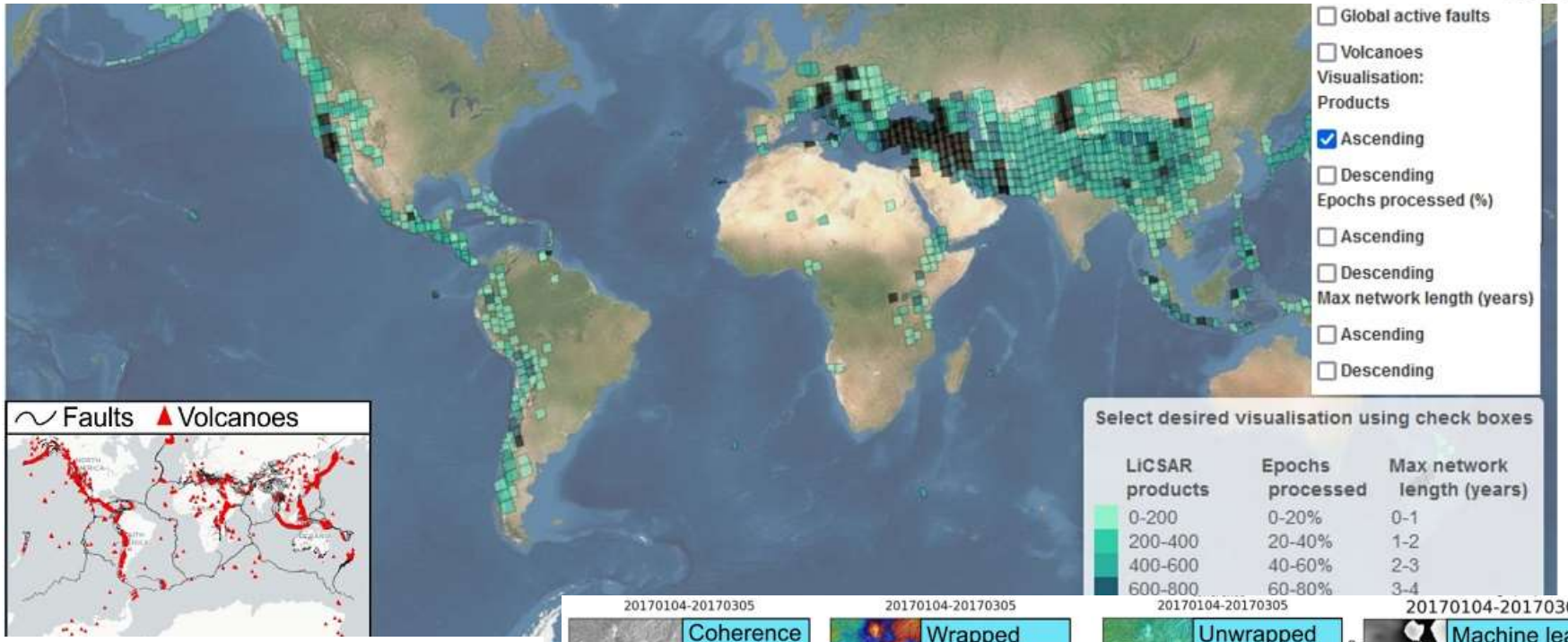
COMET-LiCS Sentinel-1 InSAR portal

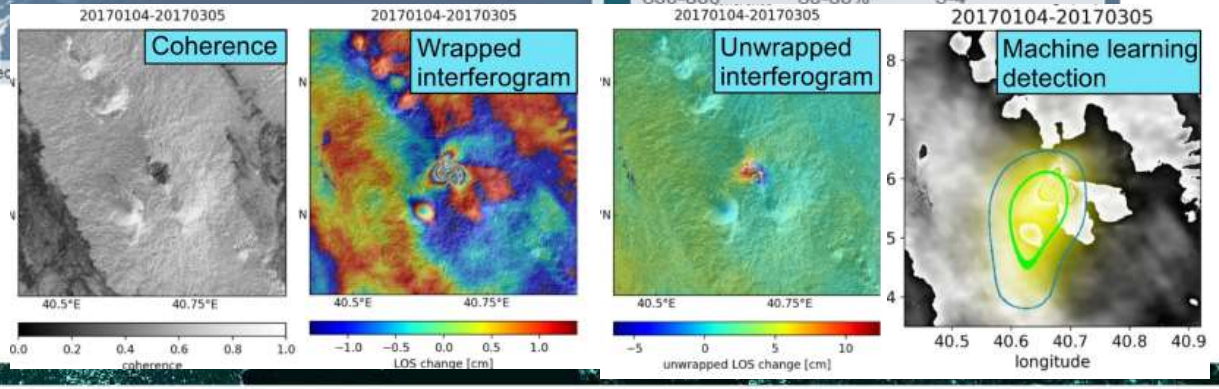
https://comet.nerc.ac.uk/comet-lics-portal

COMET

UKRI Natural Environment Research Council

EUROVOLC





As of May 2022:

Number of	
Frames	2400
Processed S-1 acquisitions	279,000
Generated interferograms	830,000

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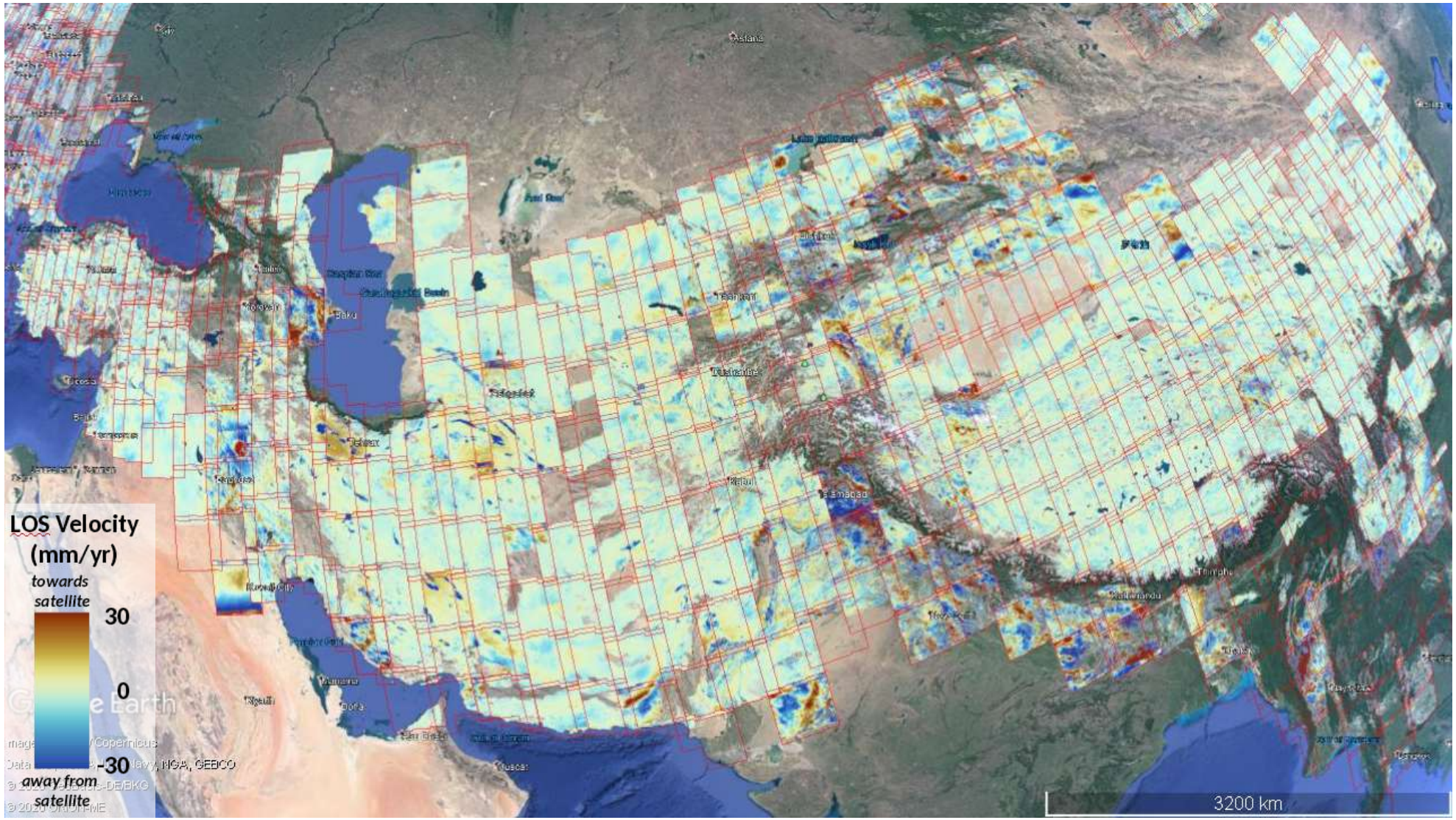
LOS velocity over Alpine-Himalayan Belt from Sentinel-1 interferograms



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TCS Future Services:
On-demand InSAR Processing

SATELLITE DATA

EARTH CONSOLE

Progressive
EXPRESS YOUR GENIUS

EPOS
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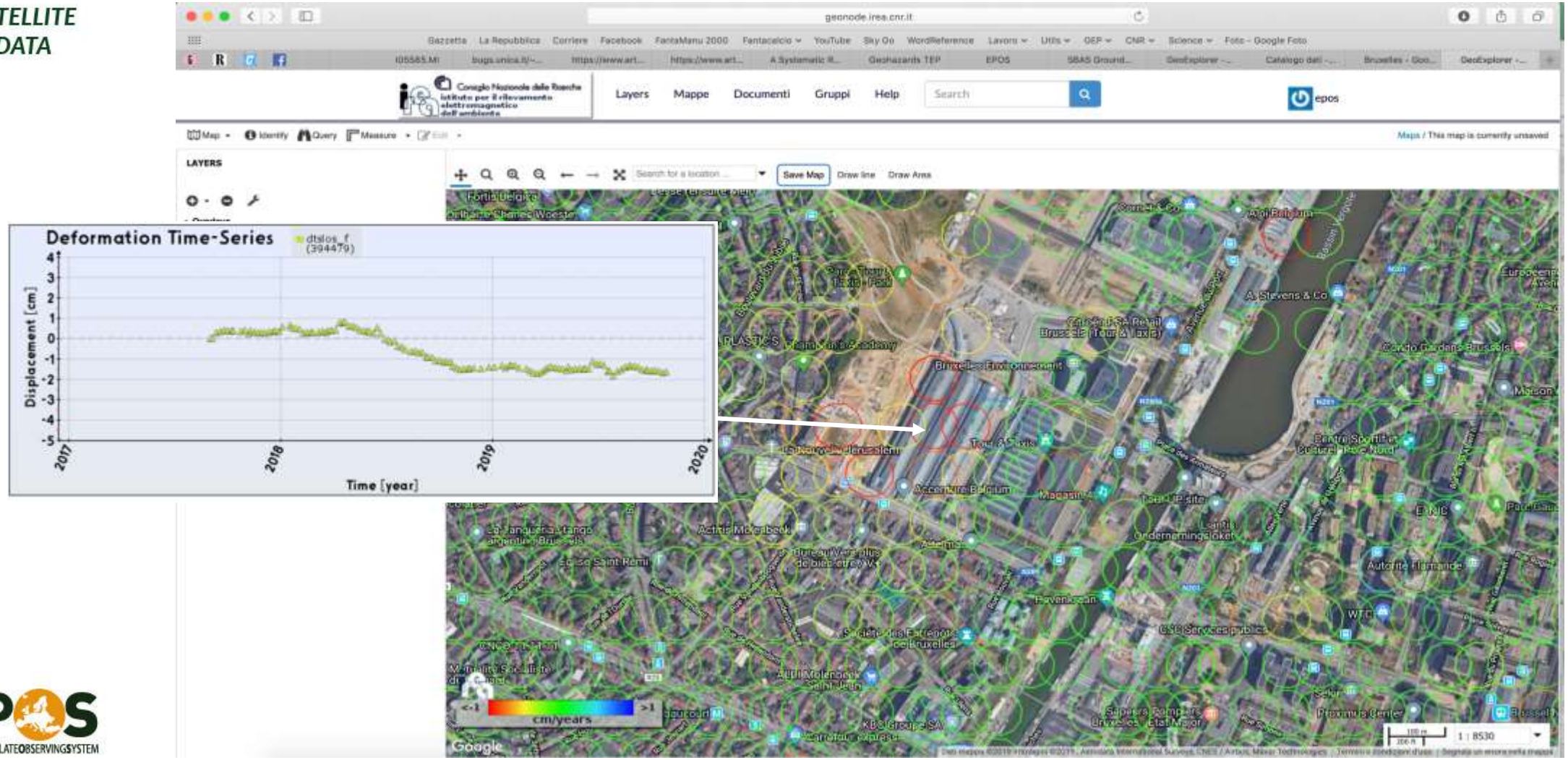
SATELLITE DATA

TCS Future Services: On-demand InSAR Processing

Gare Maritime in Bruxelles (BE)



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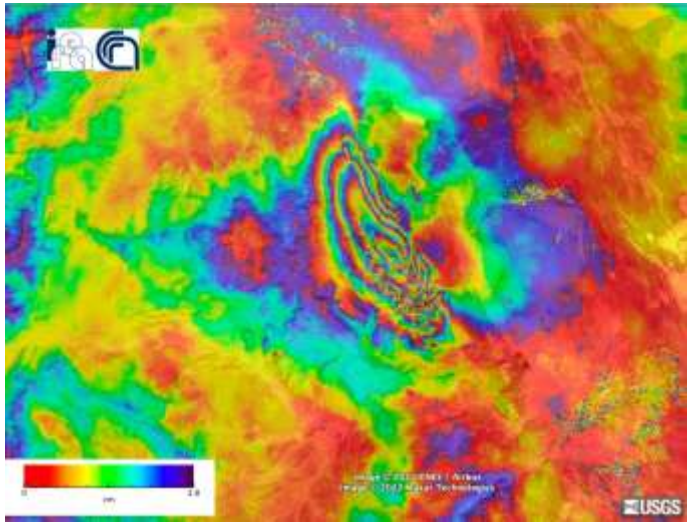
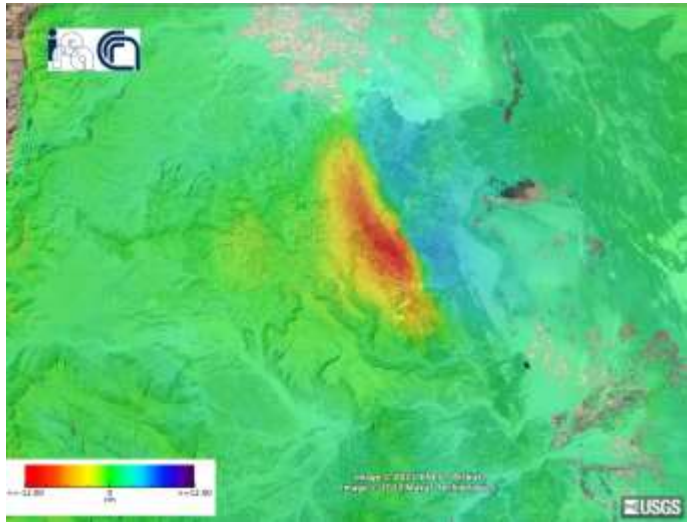
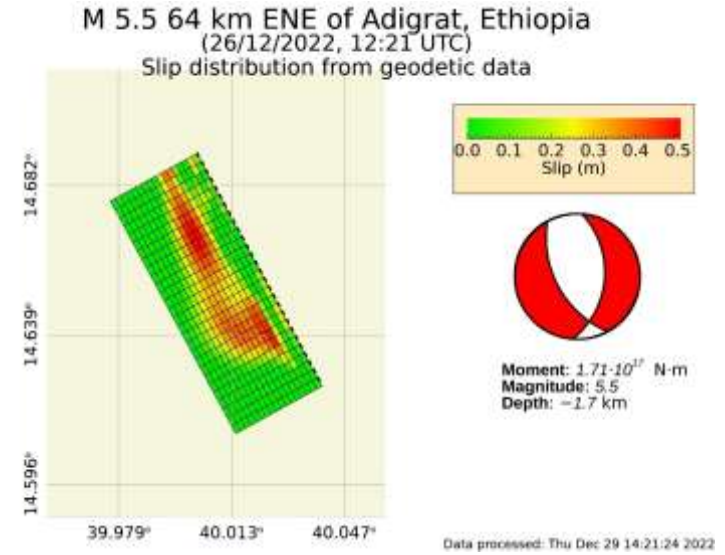
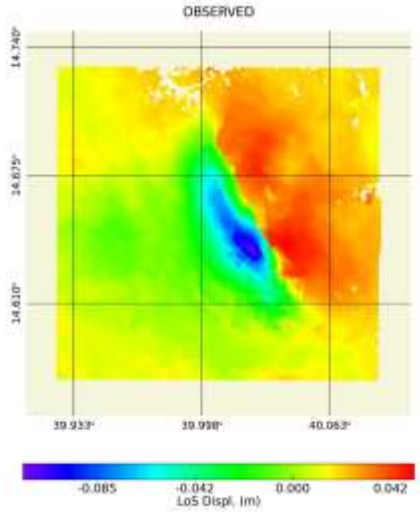
TCS Future Services:
Seismic Source Automatic Modeling

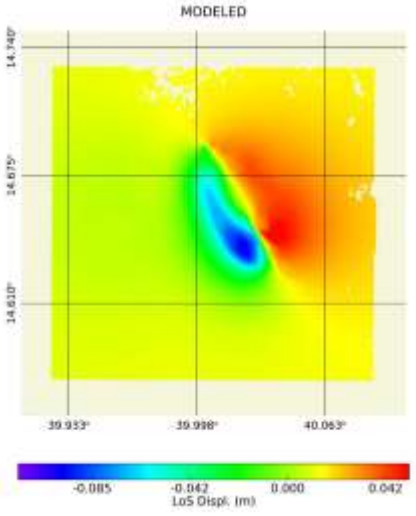
SATELLITE DATA

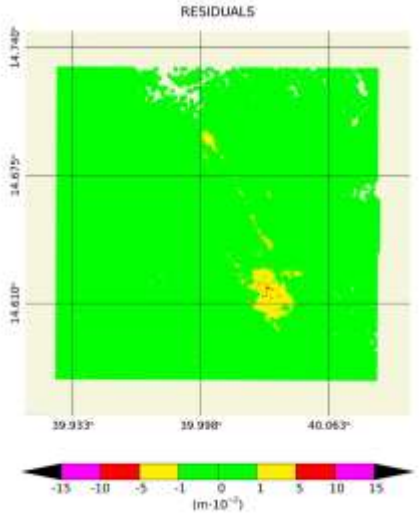


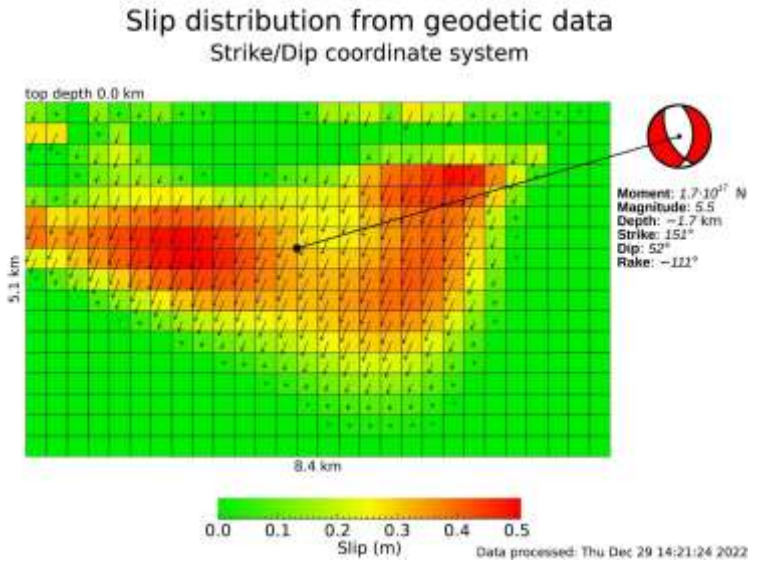












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Thank you!!!