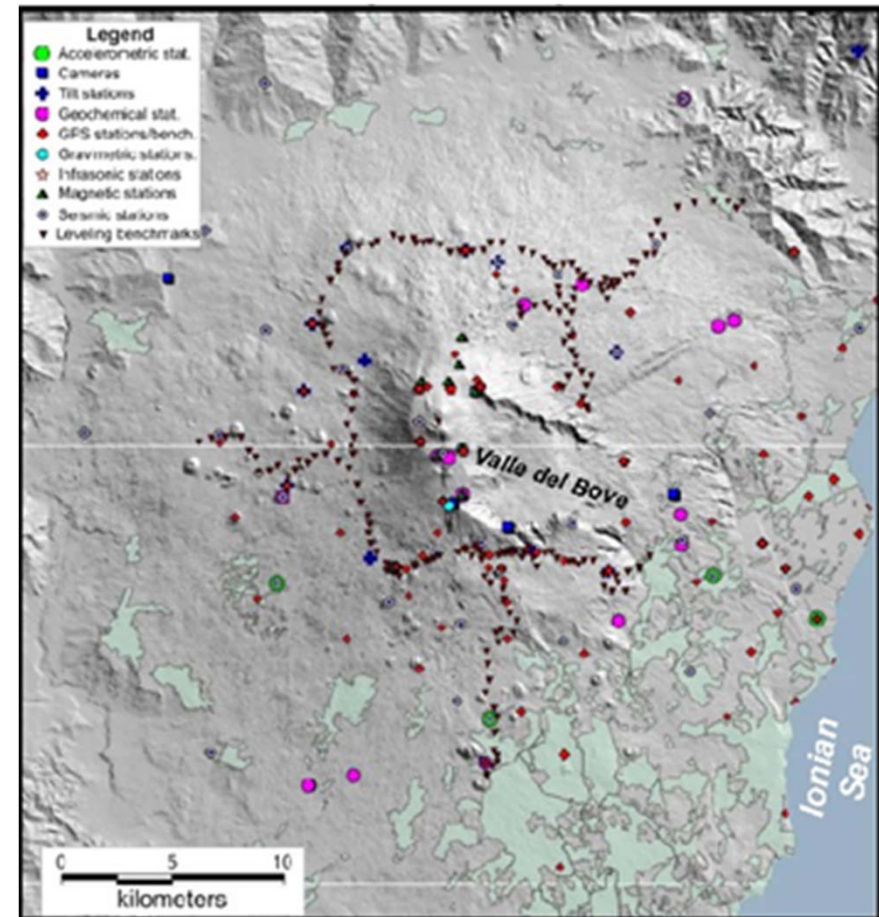
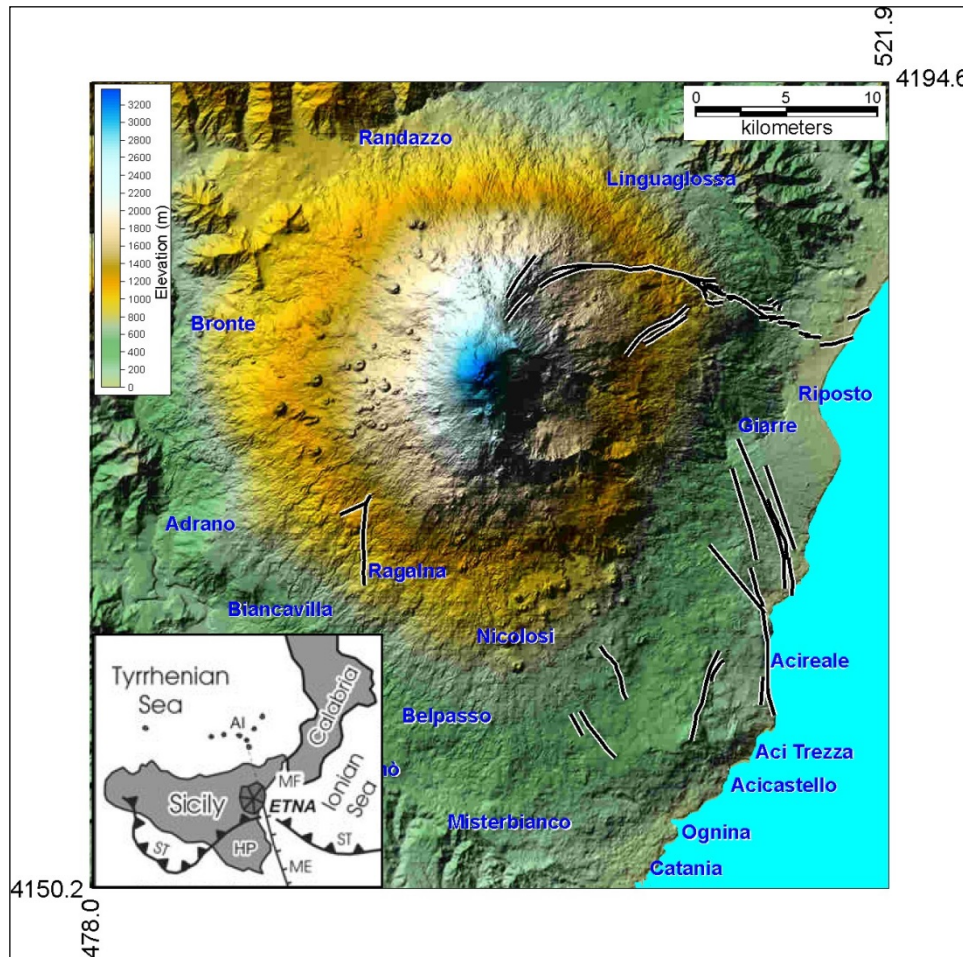


Mt. Etna Supersite

July 2016 – May 2018 Activity

The volcano and monitoring system



Main threatening phenomena

- Volcanic Ash Dispersion
- Lava flows
- Continuous degassing at the summit craters
- Landslides and collapses
- Opening of Eruptive Fractures
- Earthquakes



Type of data	Data provider	How to access	Type of access
Seismic waveform	INGV	Link to Network Italian Seismic Network Web Service through MED-SUV Portal Search	Limited to registered users
Seismic events	INGV	Link to Network Italian Seismic Network Web Service through MED-SUV Portal Search	Limited to registered users
GPS data	INGV	MED-SUV GSAC server	Limited to registered users
GPS data survey (1994- 2013)	INGV	MED-SUV direct link NEW	Public
GPS coordinates / displacement vectors	INGV	MED-SUV File Manager	Limited to registered users
Hydrophone / OBS waveform	INGV	MED-SUV File Manager	Limited to registered users
Thermal cameras	INGV	MED-SUV File Manager	Limited to registered users
Tilt	INGV	MED-SUV File Manager	Limited to registered users

Type of data	Data provider	How to access	Type of access
ERS-1/ERS-2	ESA	Direct link to http://eo-virtual-archive4.esa.int/?q=Etna or through the MED-SUV Portal	Registered public
ENVISAT	ESA	Direct link to http://eo-virtual-archive4.esa.int/?q=Etna or through the MED-SUV Portal	Registered public
Sentinel	ESA	Direct link to https://scihub.copernicus.eu or through the MED-SUV Portal	Registered public
TerraSAR-X	DLR	Direct link to https://supersites.eoc.dlr.de or through the MED-SUV Portal	GSNL scientists
COSMO-SkyMed	ASI	Through the ASI server of the MED-SUV Portal	GSNL scientists
RADARSAT-2	CSA	PoC requests access from CSA for individual users; a specific CSA server is under implementation on the MED-SUV Portal	GSNL scientists
Landsat 8	USGS	Direct link to http://earthexplorer.usgs.gov or through the MED-SUV Portal	Registered public
AVHRR	NOAA	Direct link to http://earthexplorer.usgs.gov or a sub-set is available through the MED-SUV Portal File Manager	Registered public
MODIS	NASA	Direct link to http://modis.gsfc.nasa.gov/data/ or a sub-set is available through the MED-SUV Portal File Manager	Open

Misunderstanding in the tasking of TSX

Delay in signing agreement

MED-SUV e-Infrastructure

Supersites accessible through the e-infrastructure

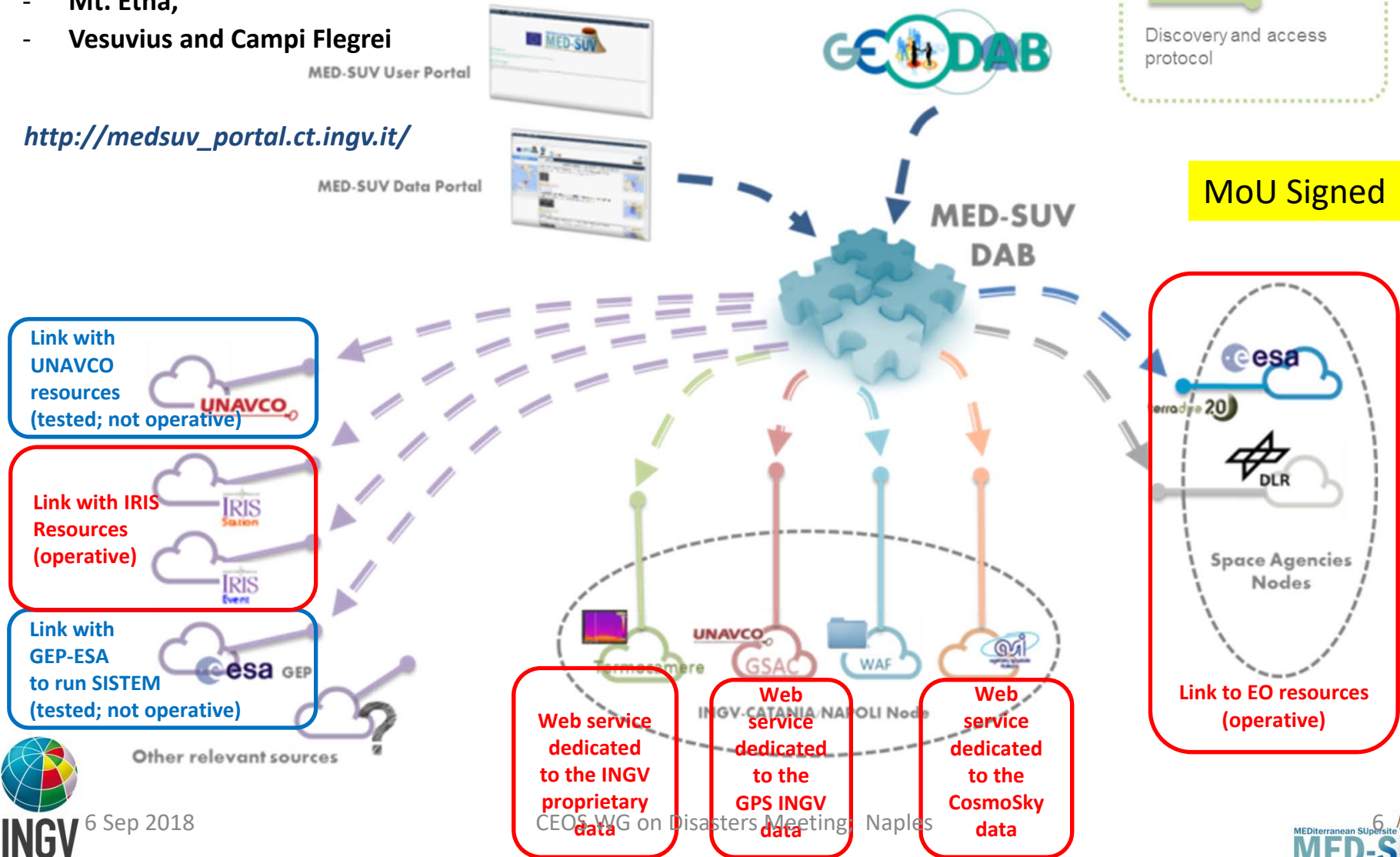
- Mt. Etna,
- Vesuvius and Campi Flegrei

http://medsuv_portal.ct.ingv.it/

MED-SUV User Portal

MED-SUV Data Portal

Discovery and access protocol



MED-SUV data portal

Posta in arrivo (10.867) - Progetto - Google Drive - Posta in arrivo (75) - pug - Google Calendar - genna - Search | Med-Suv Portal

medsuv_portal.ct.ingv.it/search

Home File Manager Search ASI GSAC Documents TNA TDX F.A.Q. Contact us My account Log out

Home / Search

Data sources

In situ data

Satellite data

Supersites

Mt. Etna

Vesuvius / Campi Flegrei

START SEARCH

Constraints

Search terms

Start time

Results Charts

Matching results: 9.956

1 2 3 4 5

Entity ID: LC81890312016123LGN00, **Acquisition Date:** 02-MAY-16, **Path:** 189, **Row:** 31

Query results for series medsuv-landsat8

Start time: 2016-05-02 09:40:23

End time: 2016-05-02 09:40:54

[MORE INFO](#) [DOWNLOAD](#) [ATOM](#) [PNG](#)

ERS-2 SAR IM 1999-10-08T09:31:25 L0 V/V 1999-10-08T09:31:25 1999-10-08T09:39:21

Query results for series medsuv-ers-sar

Start time: 1999-10-08 09:31:25

End time: 1999-10-08 09:39:21

[MORE INFO](#) [TAR GZ](#) [ATOM](#)

Earthquake localized in Messina

Magnitude value	Depth	Lat	Lon	Time
0.7	12800.0 m.	37.9158	14.6163	2017-05-28T07:32:27Z

Region	Magnitude type	Event type	Author	Contributor
Messina	Ml	Earthquake	Survey-ingv	-

[FULL QuakeML](#)

S2A S2MS1C INSNOBS Level1C 079 161109T095222-161109T095222

Query results for series medsuv-insnoobs

Start time: 2016-11-09 09:52:22

6 Sep 2018

ASI-meeting-13N...pptx SkypeMeetingsApp.msi Ricorso Zuccarellopdf

GEO-Web on Disasters Meeting; Naples

Mostra tutto

Mt. Etna results

The December 2015 eruption Bonforte, et al. (2017), Fringe 2017 Workshop, Helsinki

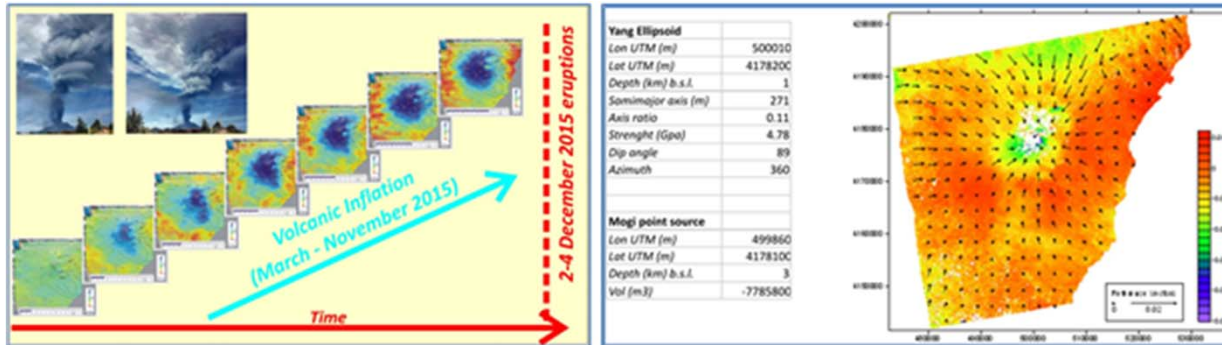


Figure 1. Interferograms showing the inflation before the “Voragine” crater explosive activity (left); results of the inversion of the integrated deformation pattern relevant to the “Voragine” activity (right side)

Long-term (2003-2010) deformation for human settlement risk assessment

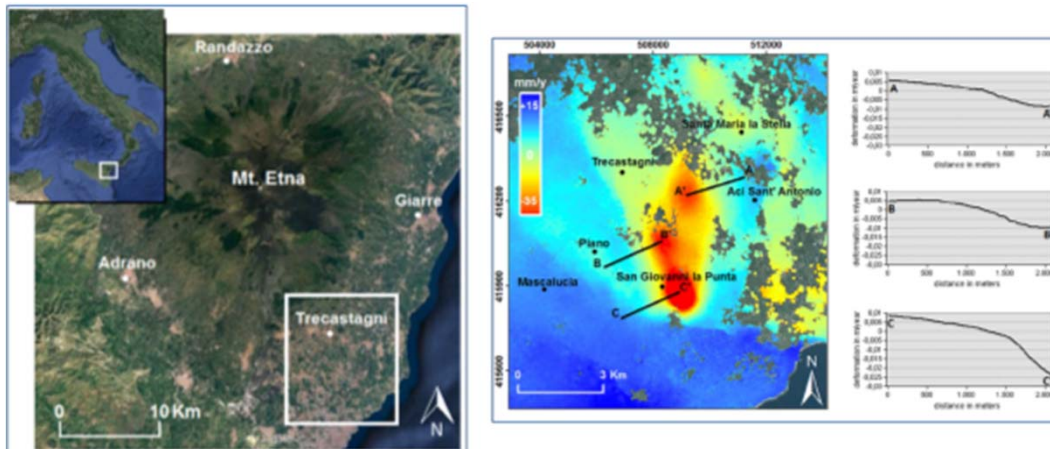
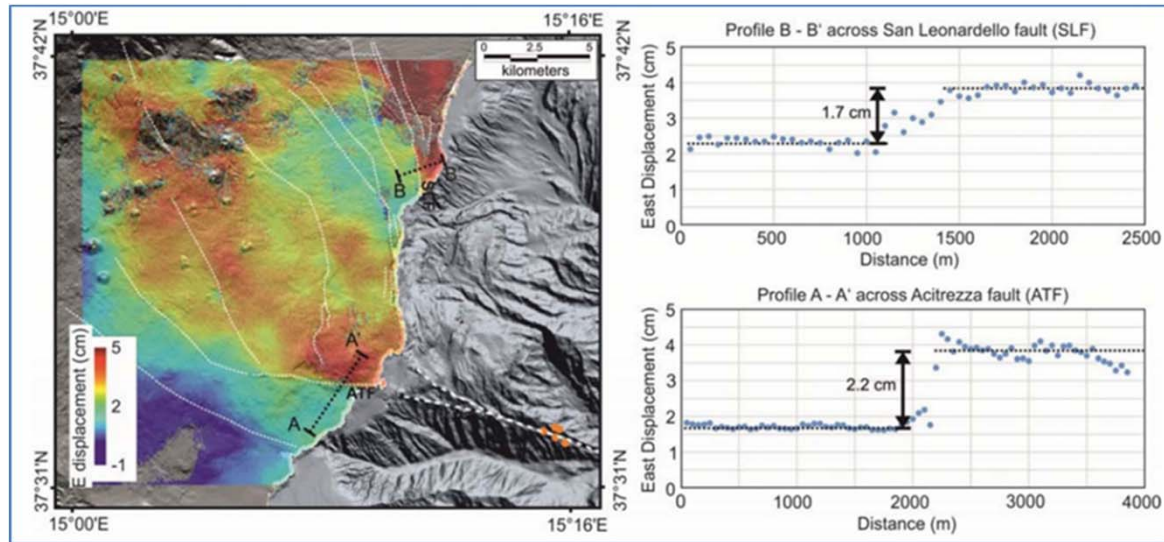


Figure 1. Location map of the south-eastern flank of Mt. Etna and investigated area (left); ISLOS deformation rate from ENVISAT images, from 2003 to 2010; Sections AA', BB', CC' are shown as black lines along with their corresponding surface deformation diagrams (right).

Limited number of results
Reasons? to the lack of the
vigorous eruptive activity and
to the concomitant ending of
the EC FP7 MED-SUV project...

.... Promotion of the cross-
domain studies

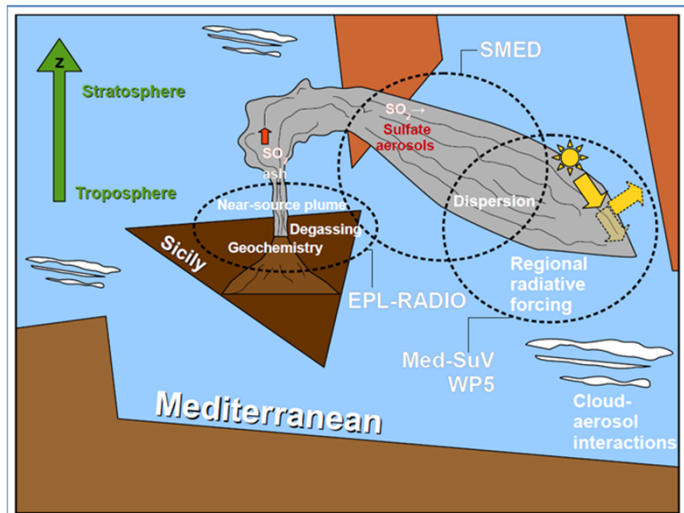
Mt. Etna results



Integration between in-land and off-shore deformation data


Eastward displacement of the south-eastern flank of Mount Etna from April 2016 to July 2017. The map is obtained by integrating GPS and InSAR analysis using the SISTEM method. White dashed lines show principal faults. Orange dots show locations of the seafloor geodetic transponders.

Urlaub, et al. (2018), Science Advances, in press



Characterization of the magmatic feeding system of Mt. Etna by gas chemical composition and aerosol burden in the frame work of the ENVRIPplus project physical access (TNA) to M. Etna Supersite. This study promoted the researcher to use S5 to compare the in-situ & EO data with models.

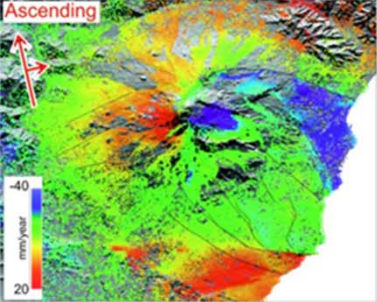
&
New products %


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Mt. Etna SAR

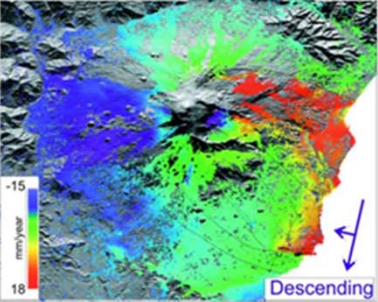
Sentinel-1A/1B
BETA Version

Ascending



-40
mm/year
20

Descending



-15
mm/year
18

About this map

This interactive map provides access to EU Copernicus Sentinel-1 A-DInSAR products made by INGV-OE Remote Sensing Lab. SENTINEL 1 TOPSAR data are provided by ESA to Mt. Etna Volcano Supersite, in the frame of GEO-GSNL initiative. Data were processed by the GAMMA software, using a spectral diversity method and a procedure able to co-register the TOPSAR SLC pairs with extremely high precision (< 0.01 pixel). The DInSAR results are analysed and successively used as input for the time series analysis using the StaMPS package (Hooper, 2008). In order to optimize the time processing, a new software architecture based on the hypervisor virtualization technology for the x64 versions of Windows has been implemented.

All Sentinel-1 results that are available for download are Derived Works of Copernicus data (2015-2016), subject to the following use conditions: "Terms and conditions for the use and distribution of sentinel data and service information".

Credit


This service has been implemented in the frame of INGV-FISR project (Sale Operative integrate e Reti di Monitoraggio del futuro: FINGV 2.0)


Please cite the following publication if you use data from this service:

Guglielmino, Francesco; Bonforte, Alessandro; D'Agostino, Marcellor; Puglisi, Giuseppe (2016). **Mt. Etna Ground deformation imaged by SISTEM approach using GPS data and SENTINEL-1A TOPSAR data**. ESA Living planet symposium, Prague, 2016, HAZA-113 Poster Session

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 E: francesco.guglielmino@ingv.it


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