EGU22-4196

Repeated mapping and geological sampling of Mt Etna's submerged continental margin:

First results from RV Meteor expedition M178

Center for Ocean and Society

HazELNUT

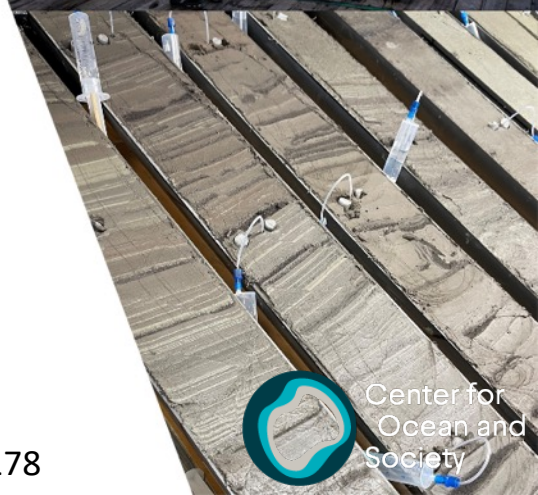
Felix Gross, Henriette Kolling, Rachel Barrett, Emma Hadré, Mirja Heinrich, Alessandro Bonforte, Salvatore Gambino, Florian Petersen, Lea Morgenweck, Peter Matzerath, Josephin Wolf, Sven Heinrich, Jannes Vollert, Marie Hundsdörfer, Christian Filbrandt, and Morelia Urlaub

Objectives of M178 - HazELNUT:

1) Investigation of the relationship between volcanic earthquakes and small- to medium-scale mass movements at Mt Etna‘s continental margin

2) Performing a repeated bathymetric survey to identify potential changes in geomorphology over the past 10 years

3) Investigation of Mt Etna‘s unstable flank by uploading data from seafloor geodetic stations



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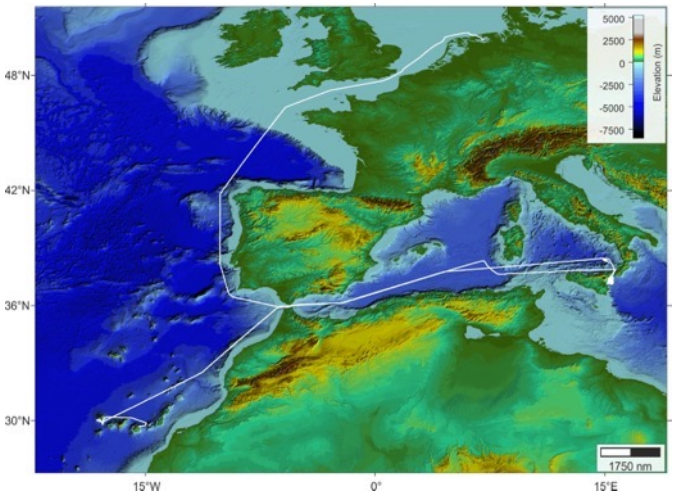
The Expedition M178 - HazELNUT

21. Nov. – 19. Dec. 2021
Emden -> Las Palmas

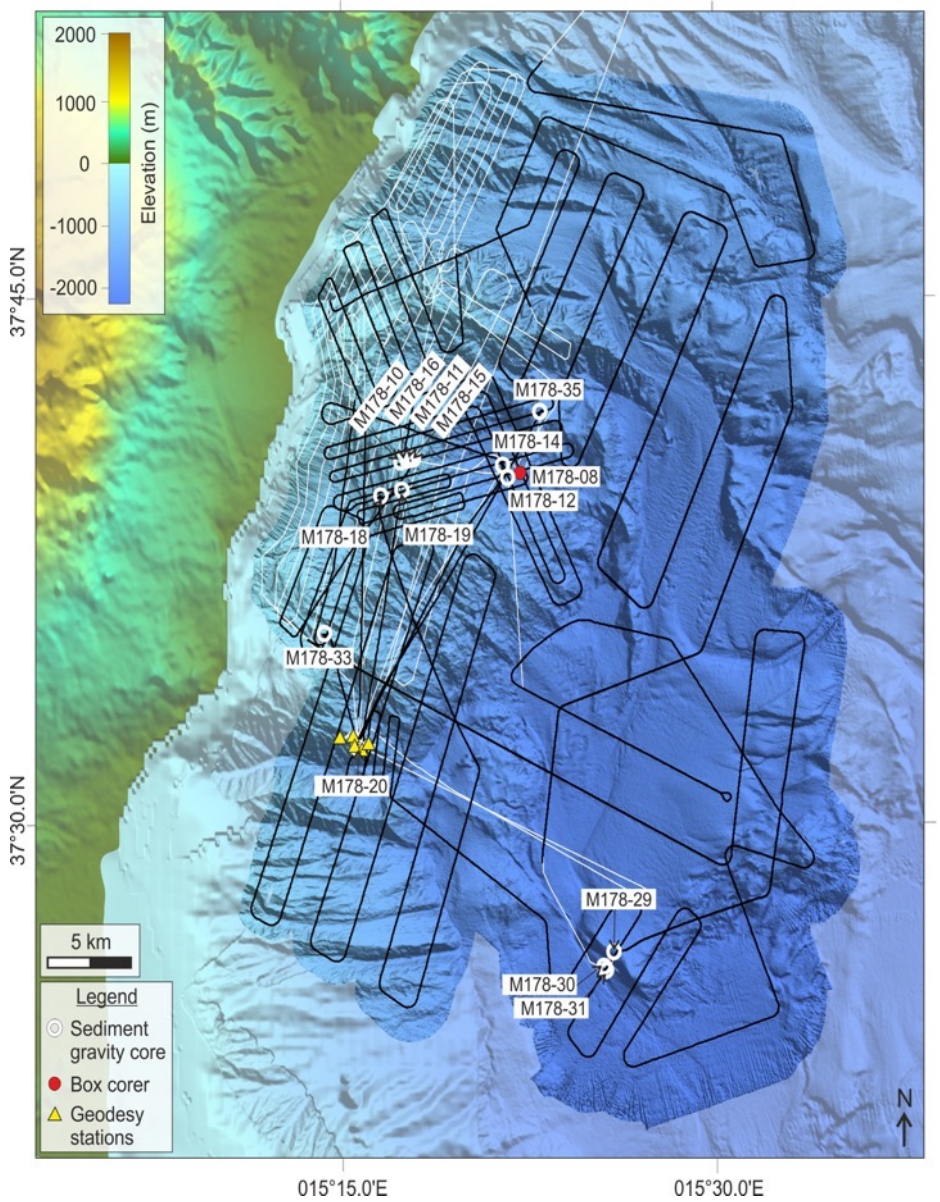


Multibeam Surveying:
EM122 and EM710

Parametric Echosoundings:
Teledyne Atlas P70

Gravity Coring:
15 m gravity corer

Marine Geodesy:
GEOMAR Marine Geodesy Stations



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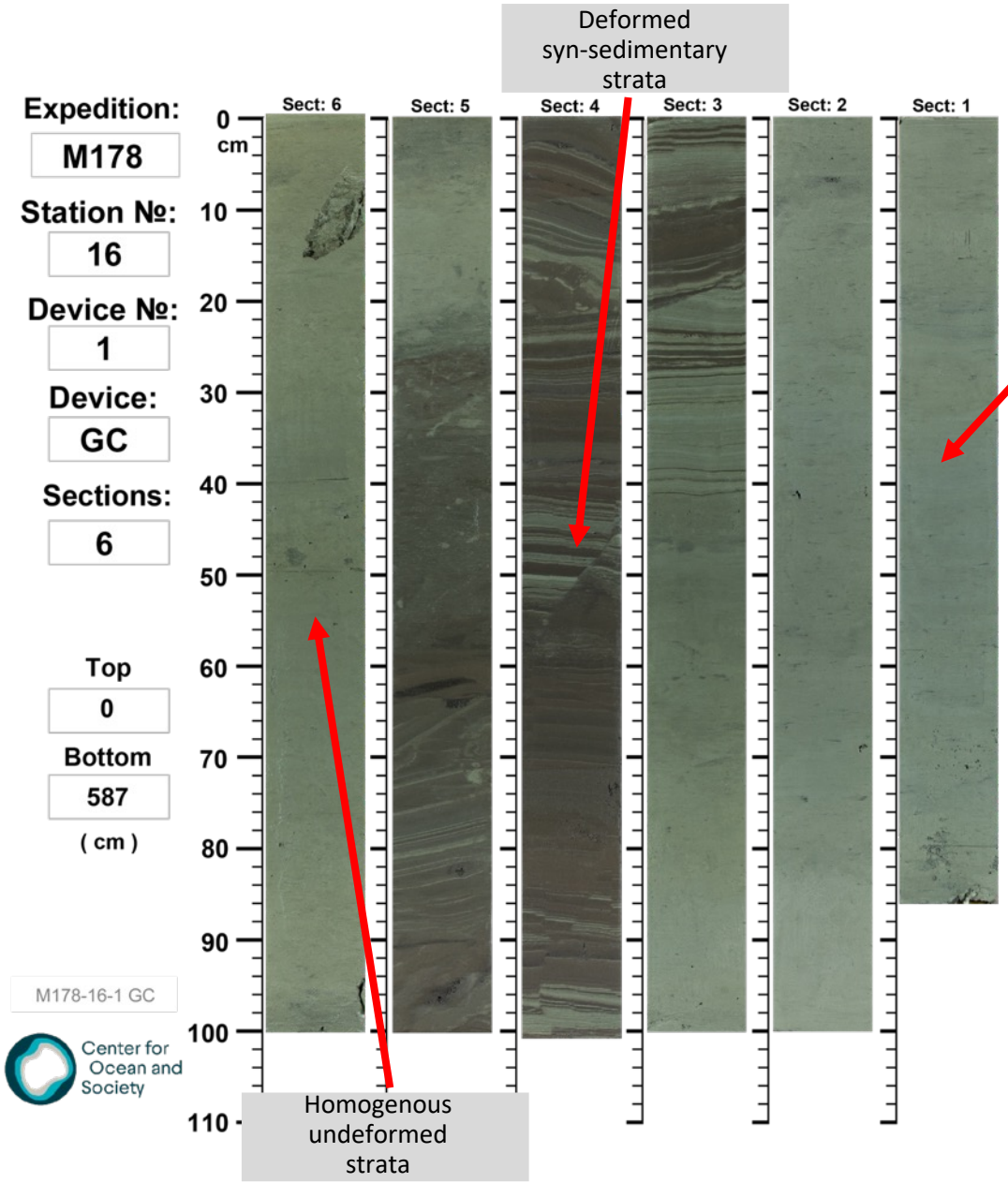
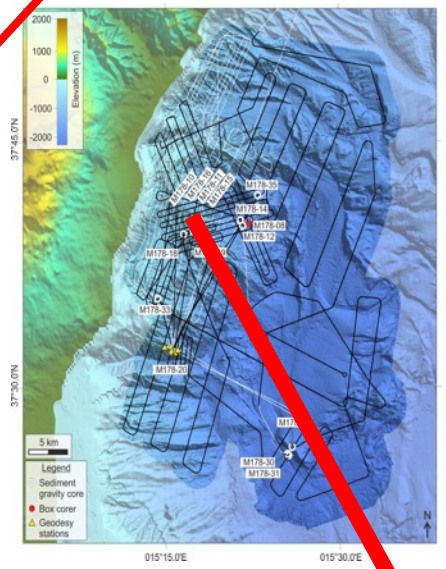
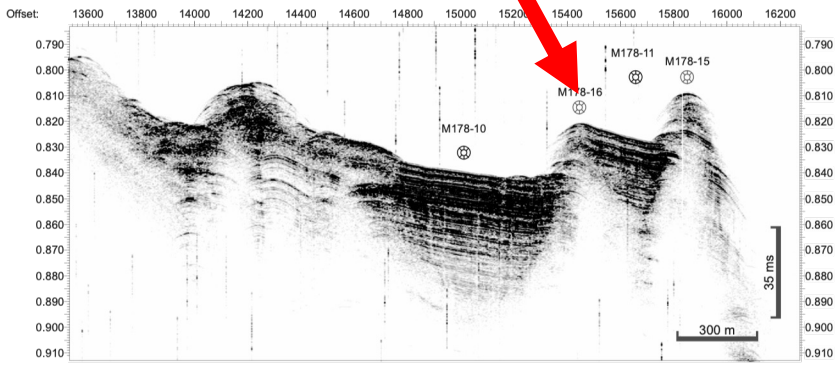
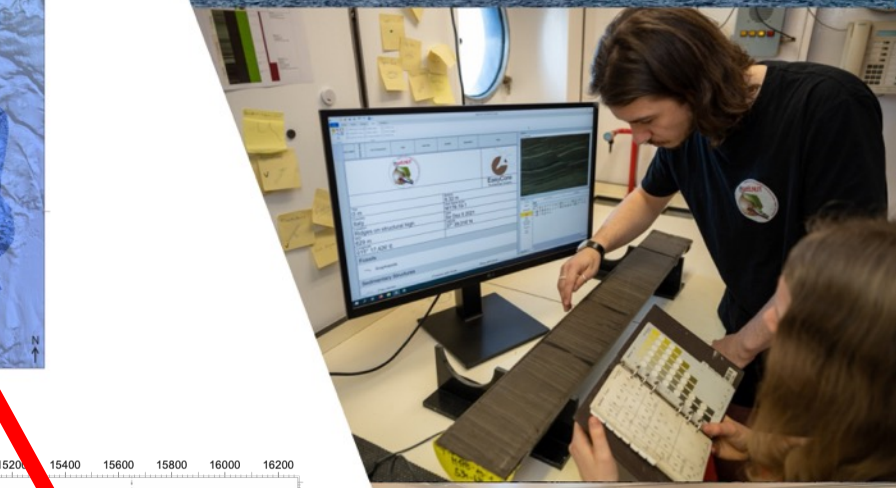
First results geological Sampling:

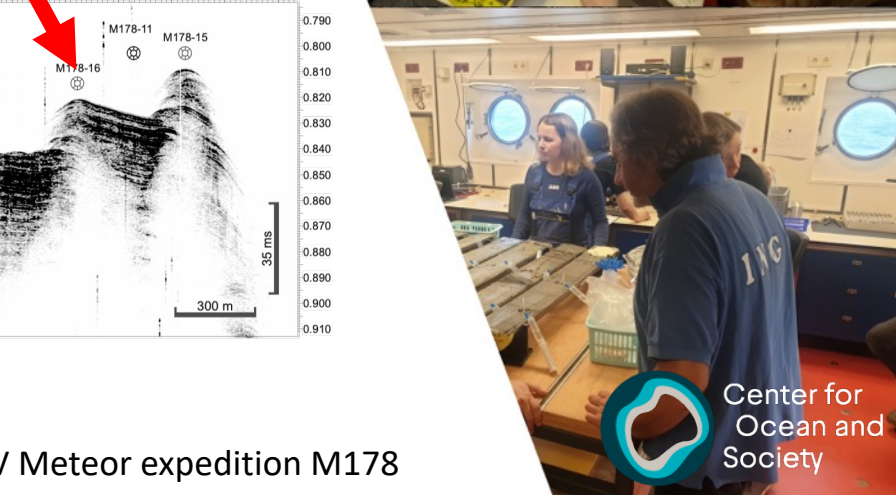


undeformed strata









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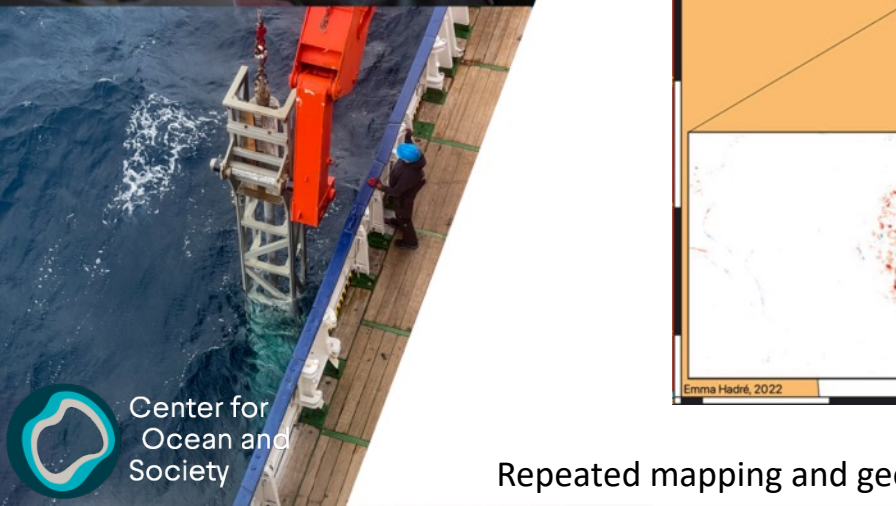
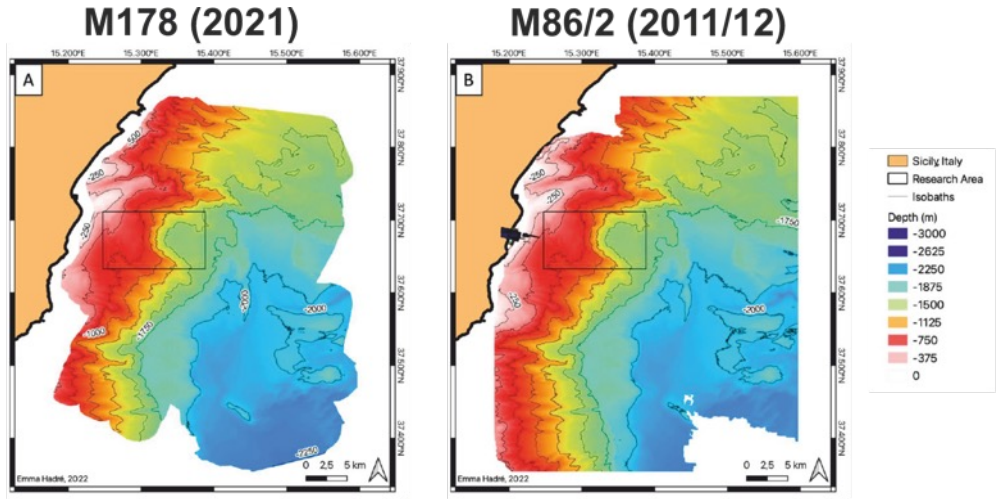
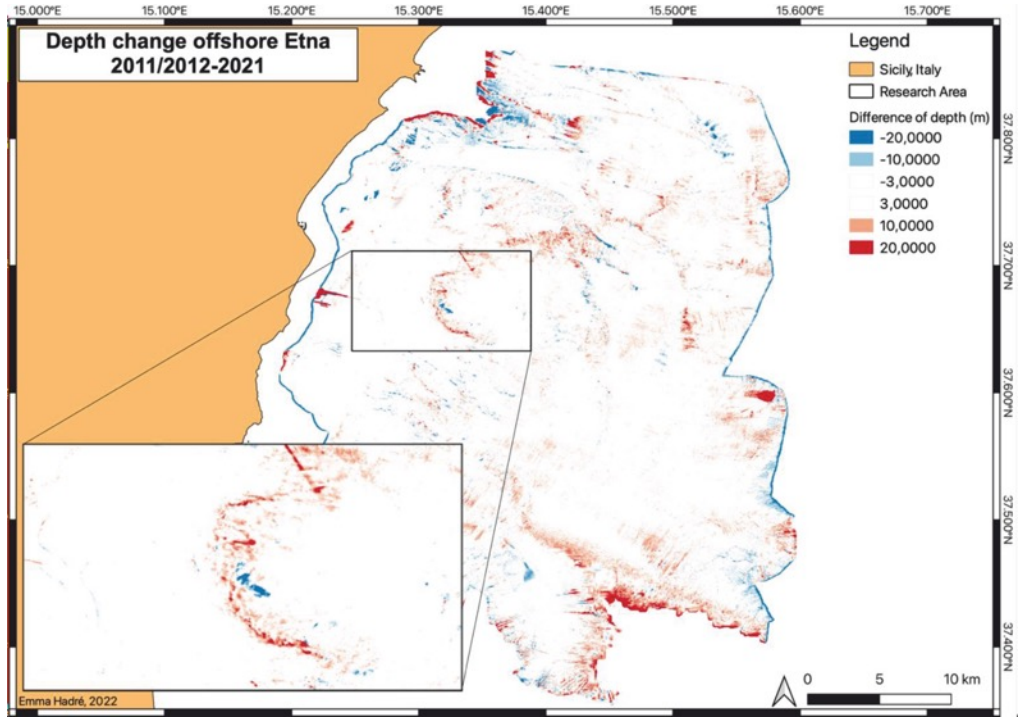


Repeated Bathymetry (Preliminary):

Two Datasets, which were collected with the same vessel and same systems are compared





Artifact or Real?

Highest differences in the vathymetries occur at steep slopes

-> further processing needed for robust interpretation

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Learn more about M178 - HazELNUT

https://www.youtube.com/watch?v=q2ztEQCaYwM&list=PLCM-s9LVQXnkeGNkWmkd91ySH7WLvk8Dc

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