

Status and implementation of the AdriaArray Seismic Network

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AdriaArray Seismic Network Working Group

EGU General Assembly, 23. May 2022, GD8.4



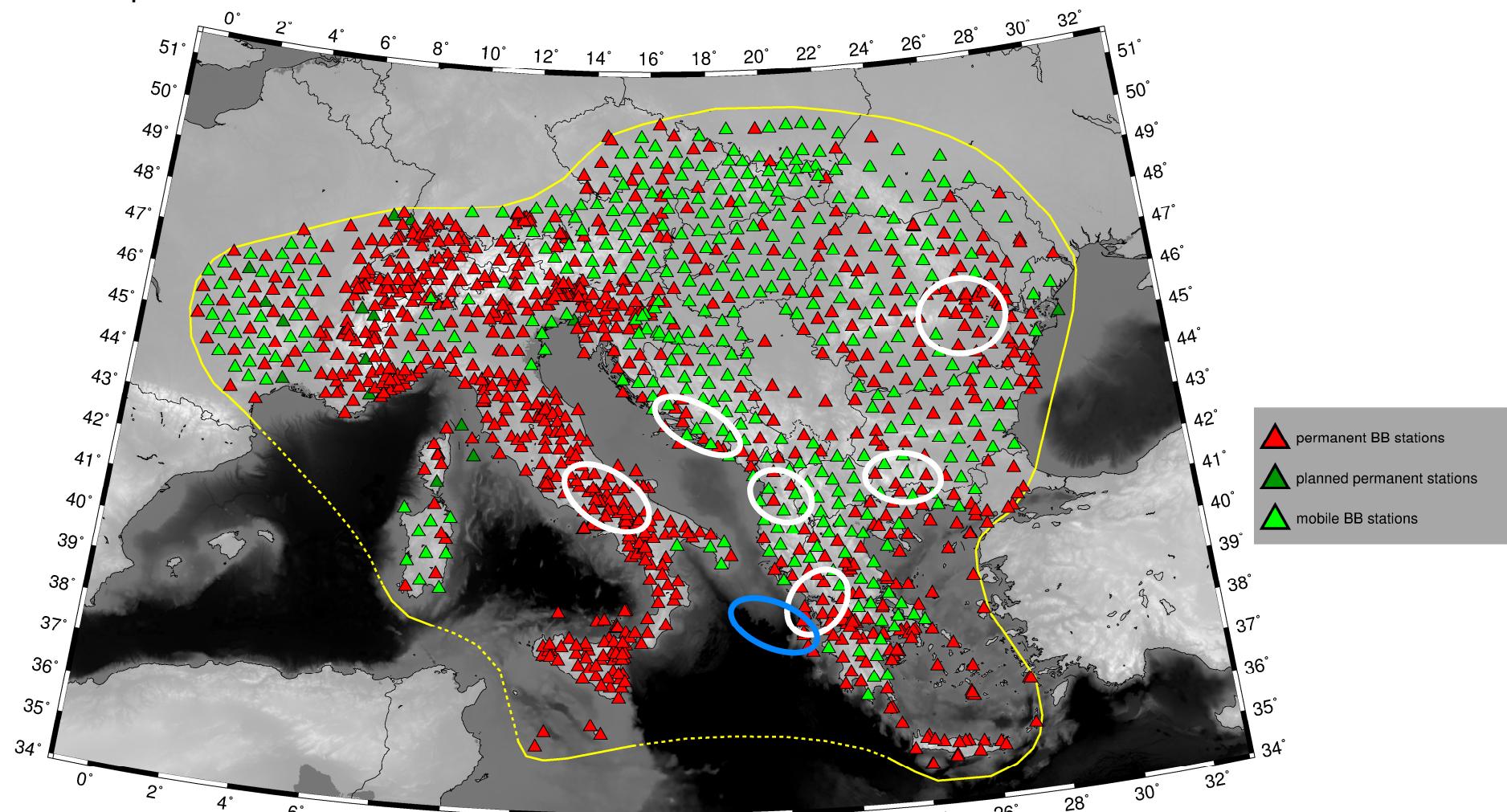
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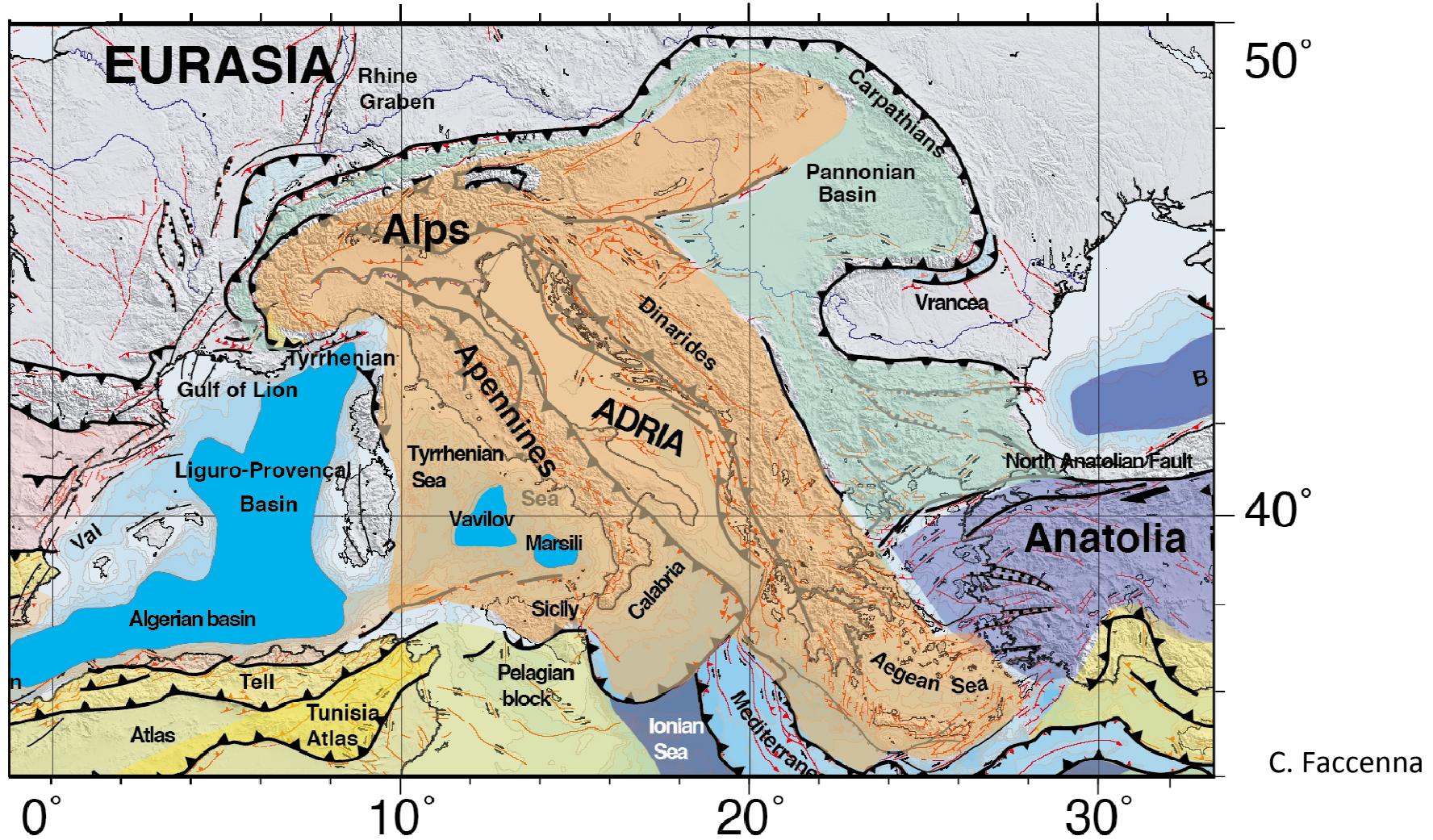
inside AdriaArray region:

BB (>= 30s)	967
SP+SM for upgrade	259
SP+SM others	450
unknown	1
planned permanent	16
total permanent	1677

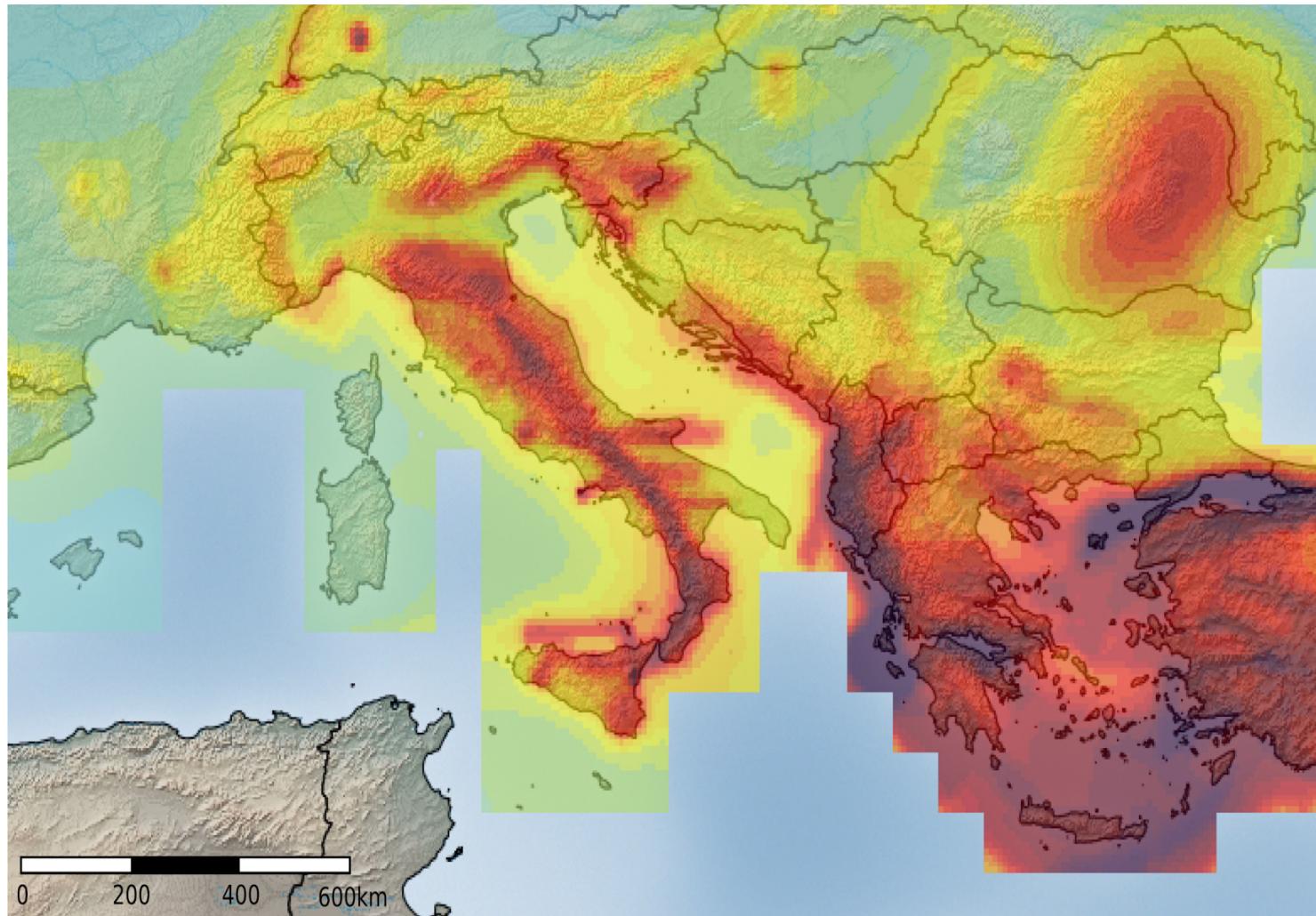
(there are 2300+ stations on the map
including those outside the AdriaArray region)



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- Adriatic Plate: consumed in a double subduction system in the Apennines and Dinarides/Hellenides
- High-resolution plate model
- Geodynamic causes of geohazards
- Model for the evolution and deformation of a continental plate



<http://www.efehr.org/en/hazard-data-access/hazard-maps>

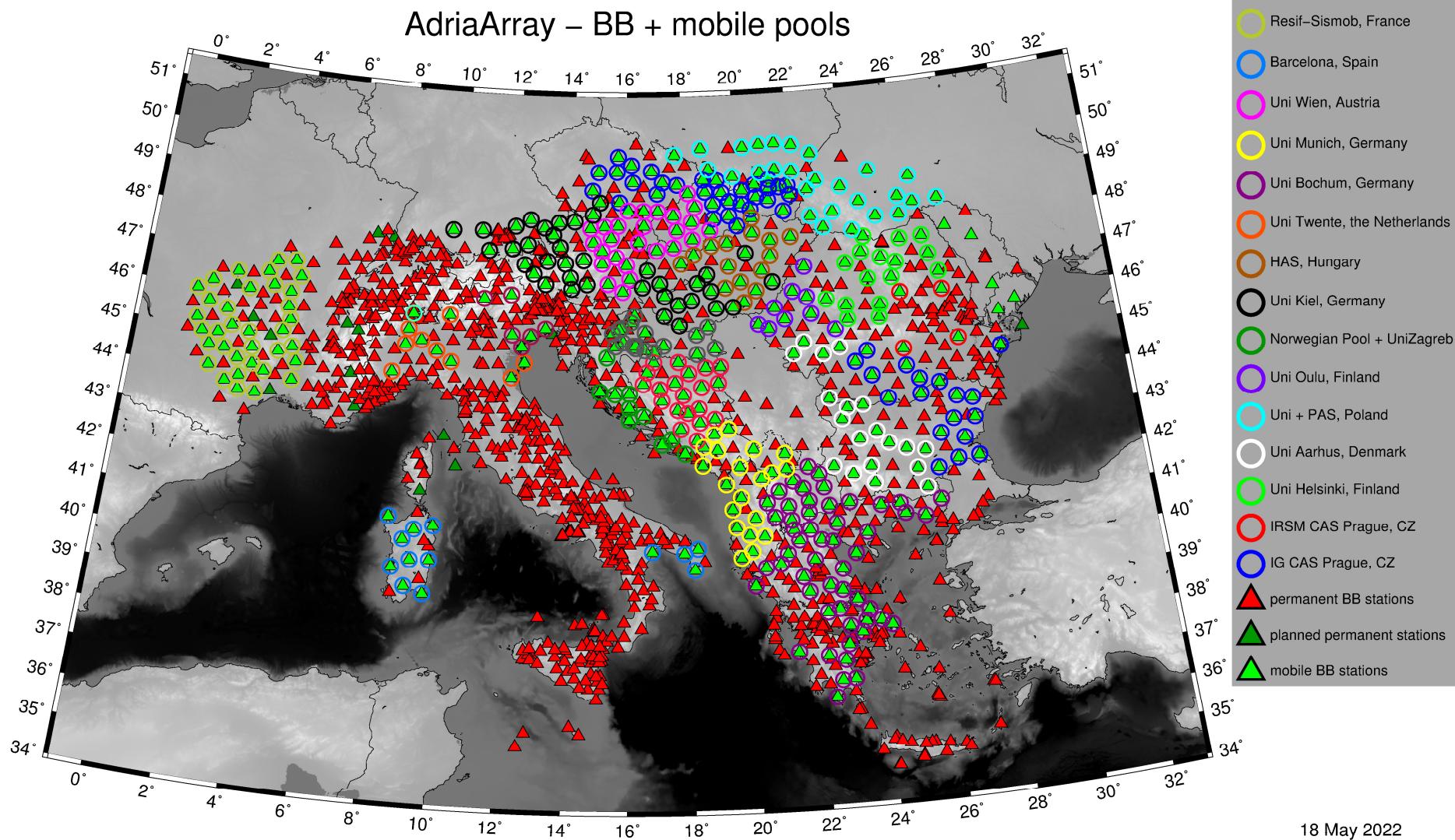
- Study seismicity to identify active faults
- Geodynamic causes of geohazards

mobile pools assigned to the stations

395 BB mobile stations

967 BB permanent stations

--> **1362 BB stations in total**



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AdriaArray

Seismic Network

Working Group

(May, 2022)

50 participating institutions from **27** countries

(alphabetical order by countries)

AdriaArray was officially started on 19. May, 2022

with the establishment of the Steering Committee

coordinated by Thomas Meier

IGEWE-PUT, Tirana, Albania
Uni Vienna, Austria
ZAMG, Austria
SC FHMZ, Sarajevo, Bosnia and Herzegovina
GS Republic of Srpska, Bosnia and Herzegovina
BAS, Bulgaria
CSS, Zagreb, Croatia
Uni Zagreb, Croatia
Charles Uni, Prague, Czech Republic
IG, CAS, Prague, Czech Republic
IPE, Masaryk Uni, Brno, Czech Rep.
IRSM, CAS, Prague, Czech Republic
Uni Aarhus, Denmark
Uni Helsinki, Finland
Uni Oulu, Finland
Uni Grenoble, France
Observatoire Midi Pyrénées, France
Uni Bochum, Germany
GEOMAR Kiel, Germany
GFZ Potsdam, Germany
Uni Kiel, Germany
Uni Karlsruhe, Germany
Uni Münster, Germany
Uni München, Germany
Uni Frankfurt, Germany
NOA, Greece/ORFEUS
Uni Thessaloniki, Greece
Uni Patras, Greece
HAS, Budapest, Hungary
EPSS, Hungary
INGV, Italy
OGS, Trieste, Italy
GS Kosovo, Pristina, Kosovo
Uni Sts. Cyril and Methodius, Skopje, N. Macedonia
Uni Malta
IGS-CES, Chisinau, Moldova
MSS, Podgorica, Montenegro
Uni Twente, The Netherlands
Norwegian Broadband Pool, Norway
IG PAS, Warsaw, Poland
Uni Silesia, Katowice, Poland
Uni Warszawa, Poland
NIEP, Romania
ESI SAV, Bratislava, Slovakia
SSS, Ljubljana, Slovenia
ICTJA-CSIC, Barcelona, Spain
ETH, Zürich, Switzerland
IoG, NAS, Ukraine
ORFEUS

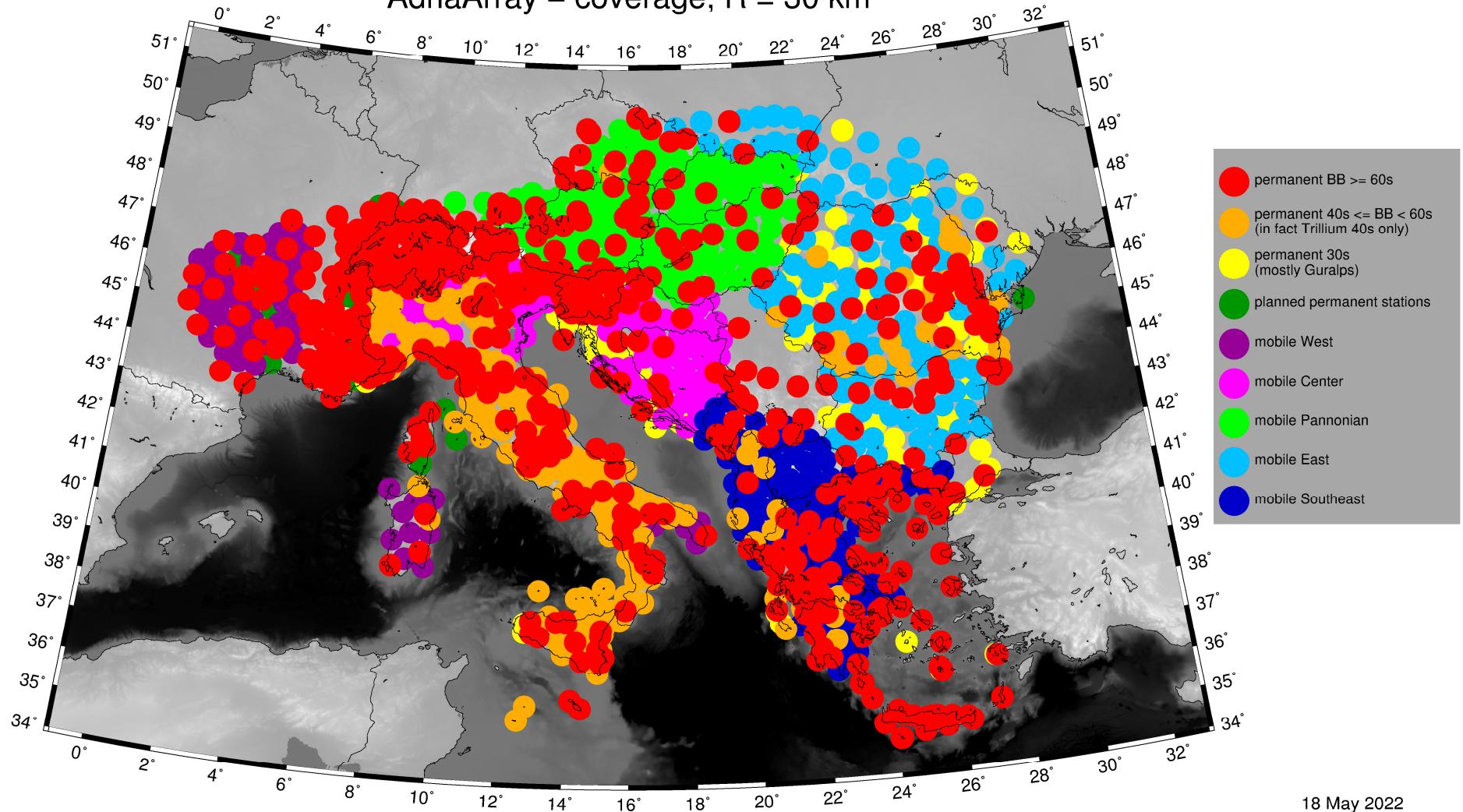
mobile stations available

Uni Vienna, Austria	30
Croatian Seismological Survey	19
IG, Czech Republic	50
IRSM, Czech Republic	4 + local experiment
Uni Aarhus, Denmark	19 + local experiment
Uni Helsinki, Finland	20
Uni Oulu, Finland	10
Resif-Sismob, France	35
Germany DSEBRA+	114 + local on-shore/off-shore experim.
Hungary	15
OGS, Italy	6
INGV, Italy	local experiment
INGV, Italy, Bologna	1
Uni Twente, the Netherlands	7+
Norwegian Broadband Pool+UniZagreb	12+
IG+Warszawa+Silesia, Poland	29
Barcelona, Spain	10
ETH, Switzerland	20
total available	401+ mobile stations

coverage

30 km

AdriaArray – coverage, $R = 30$ km

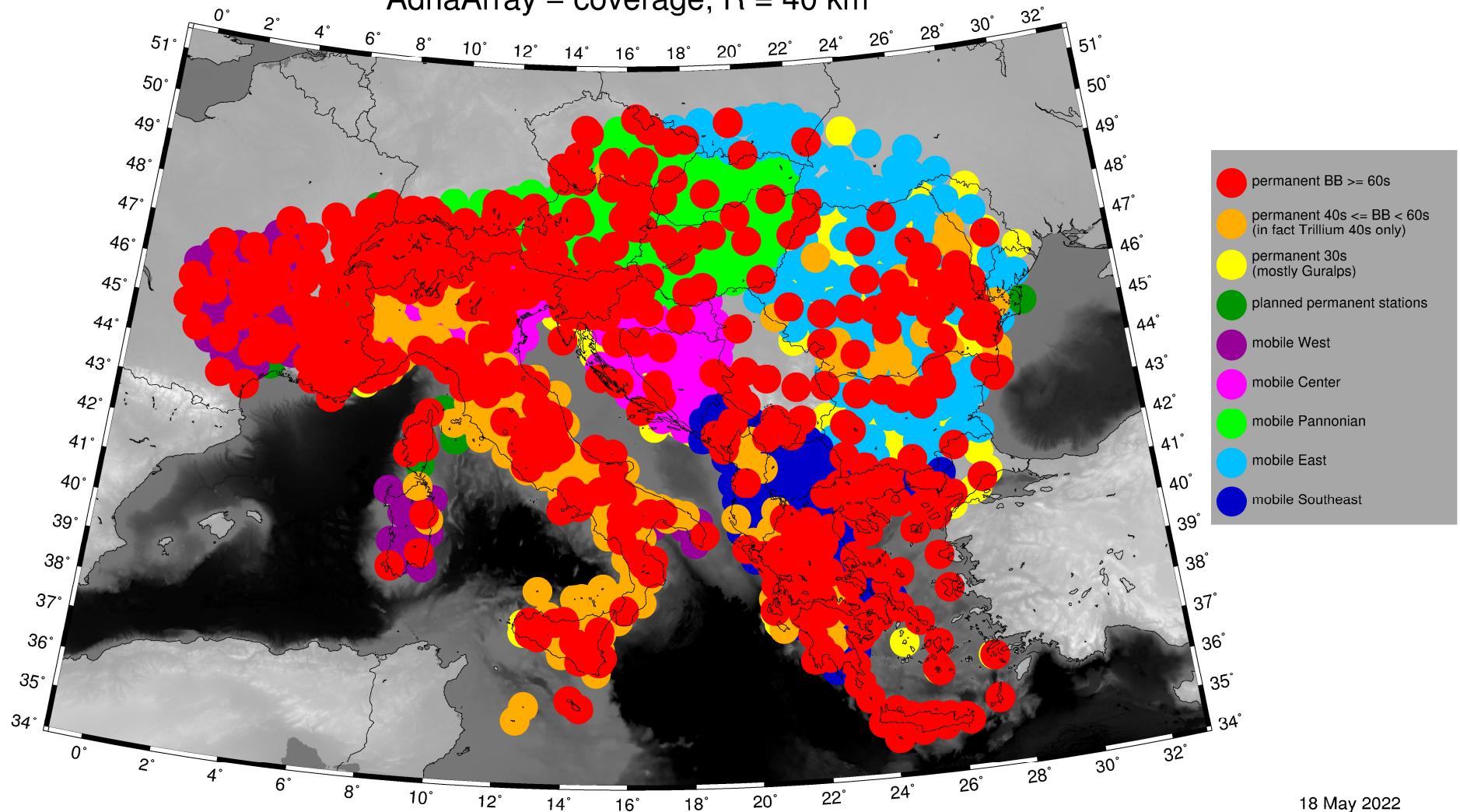


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coverage

40 km

AdriaArray – coverage, R = 40 km



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ORFEUS + EPOS

support from Orfeus/EPOS is crucial for the AdriaArray

AdriaArray idea and Orfeus/EPOS are aiming
in the same direction, focusing on different aspects

infrastructure + science + networking

- archival of data at regional EIDA nodes
- support to AdA workshops via EPOS SP

Datacenter ID	Description and Focus Region
ODC - KNMI	European-Mediterranean, Netherlands
GFZ	European, Global, temporary deployments
RESIF	France + Global temporary deployments
INGV	Italy, European-Mediterranean (MedNet)
ETHZ	Switzerland
BGR	Germany
LMU	Germany (BayernNetz)
NIEP	Romania
KOERI	Turkey
NOA	Greece
UIB - NORSAR	Norway
ICGC	Spain

from the Orfeus web page:

ORFEUS Observatories & Research Facilities for European Seismology

ORFEUS is the non-profit foundation to coordinate and promote digital, broadband seismology in the European-Mediterranean area.

EIDA is the European Integrated Data Archive infrastructure within ORFEUS to provide access to seismic waveform data in European archives.

- guidelines for quality control and data management being developed



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Orfeus EPOS
EUROPEAN PLATE OBSERVING SYSTEM

status:

- overview of permanent stations in the region is ready (and continuously updated)
- the mobile stations are existing and available
- the local network operators are willing to accept and support

the installation of the mobile stations

- the local networks and the mobile pool operators are willing to exchange data
within the AdriaArray Initiative
- some groups have got already funding
- suggestion of mobile station distribution is ready (with some redundancy)

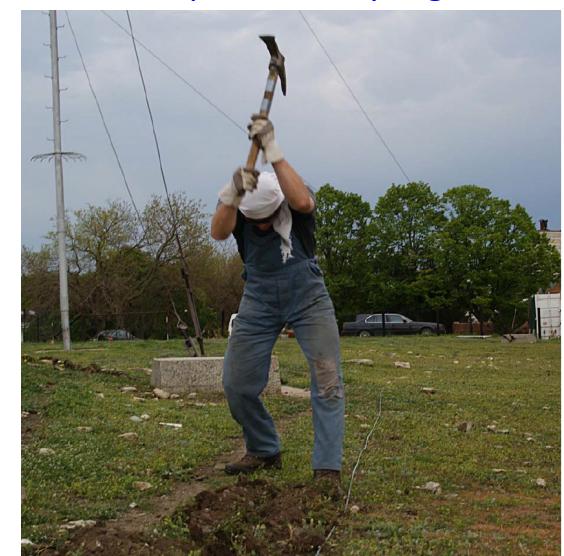
memorandum of collaboration (MoC):

- to be signed on June 17, 2022

plans:

- other groups are in the process of applying for funding this year (2022)
- the anticipated time for the installation of the mobile stations
is 2 years within 2022-2024
- the plans have to be adjusted according to the pandemic

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fieldwork:

- starts in June 2022 – two weeks from now
Romania, Bulgaria, Bosnia and Herzegovina, ...

AdriaArray splinter meeting at EGU:

Thursday, 26. May, 15:10 – 18:30, Room 2.61



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