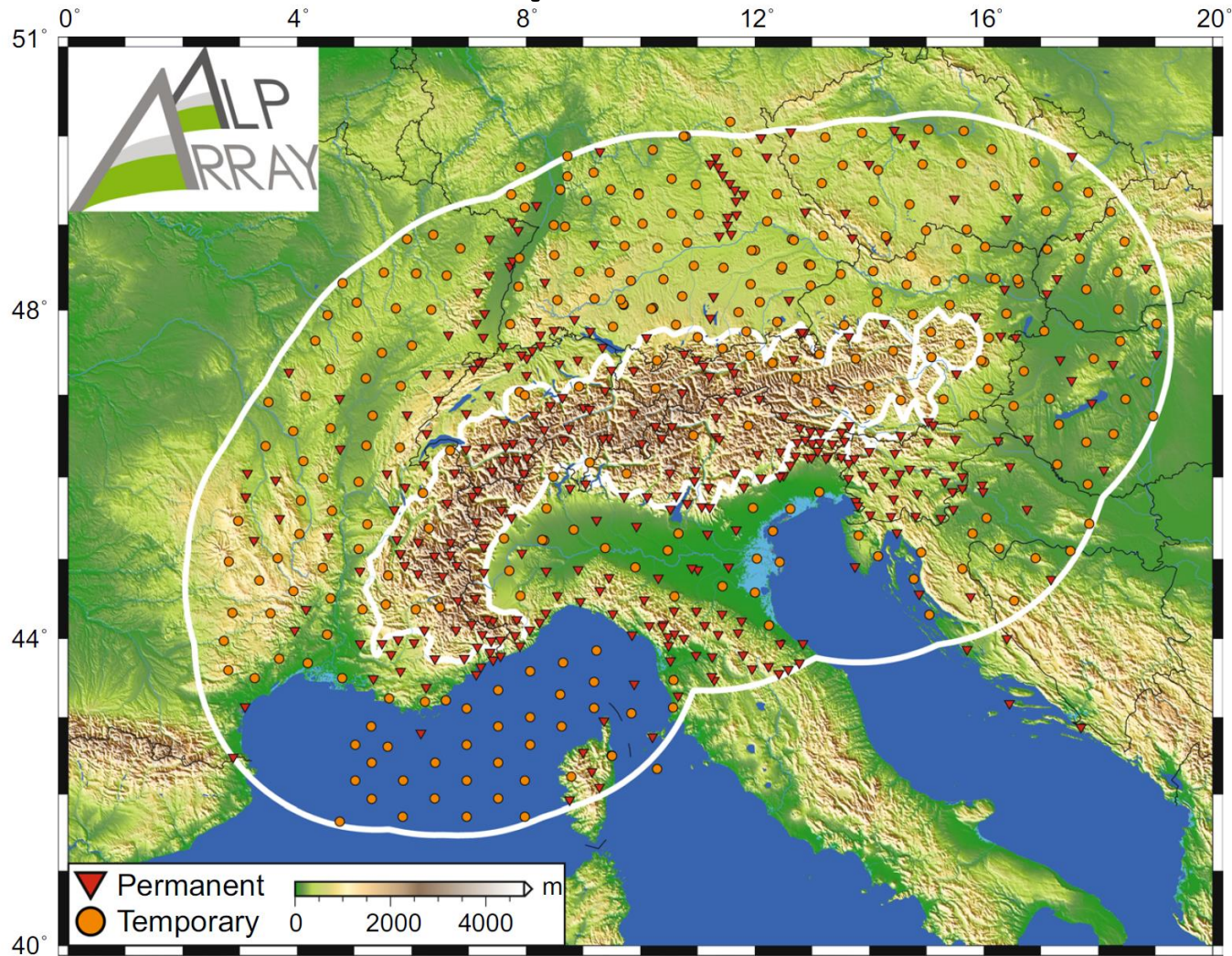


Beyond AlpArray – AdriaArray?!

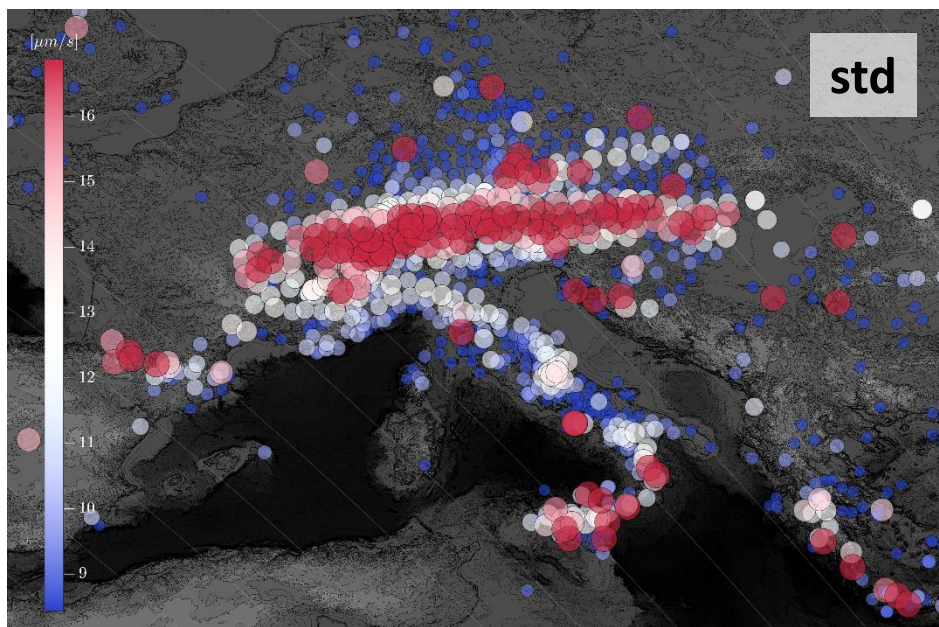
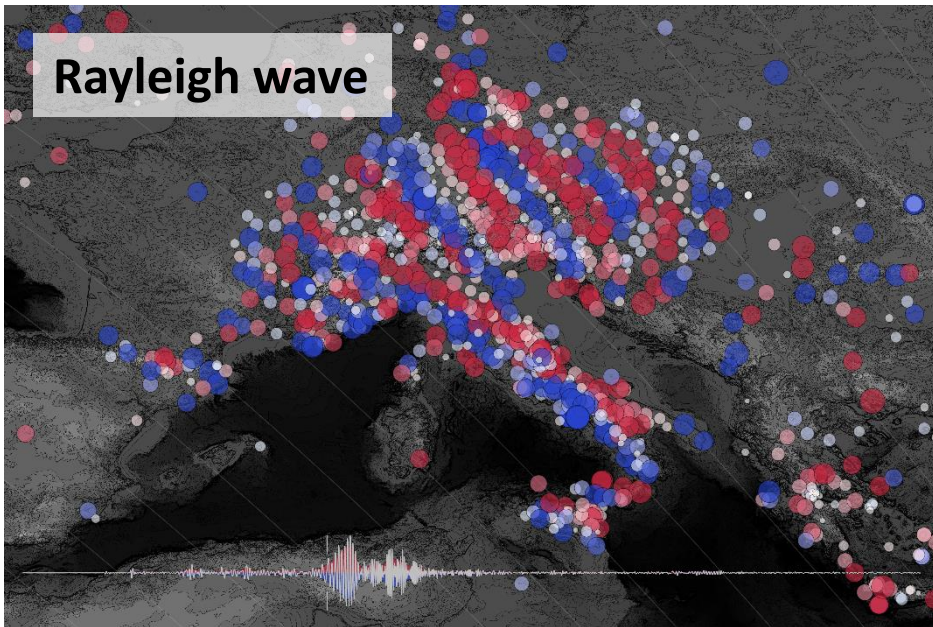
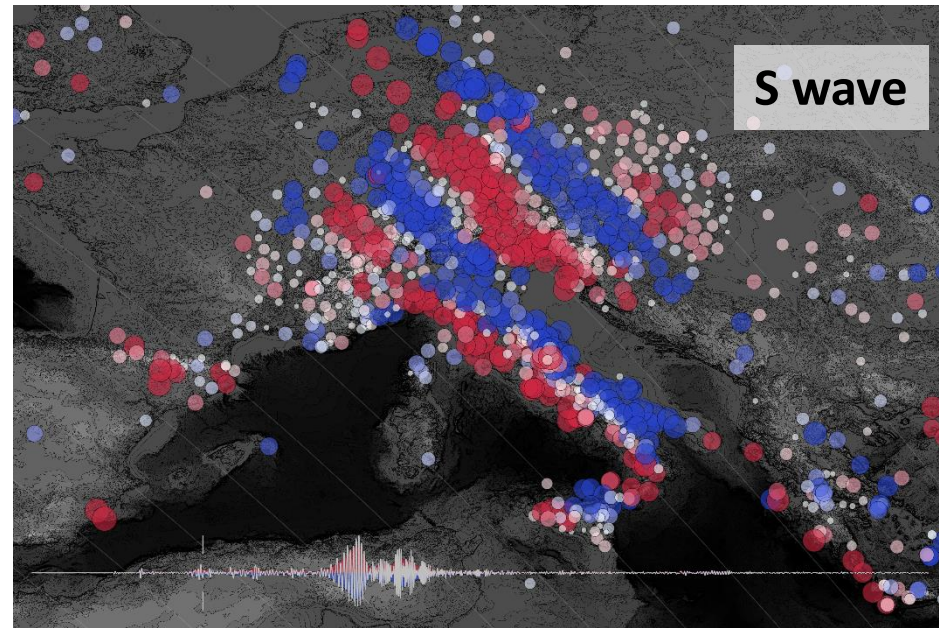
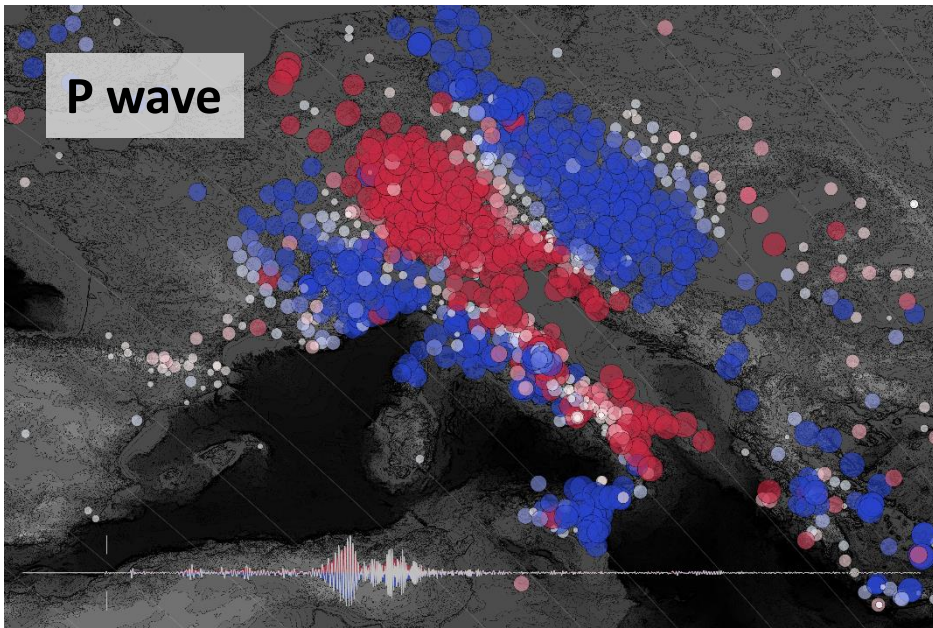
*T. Meier (U. Kiel), P. Kolínský (U. Vienna),
AdriaArray Preparatory Committee & Seismic
Network Working Group*

AlpArray Seismic Network + Complementary Experiments

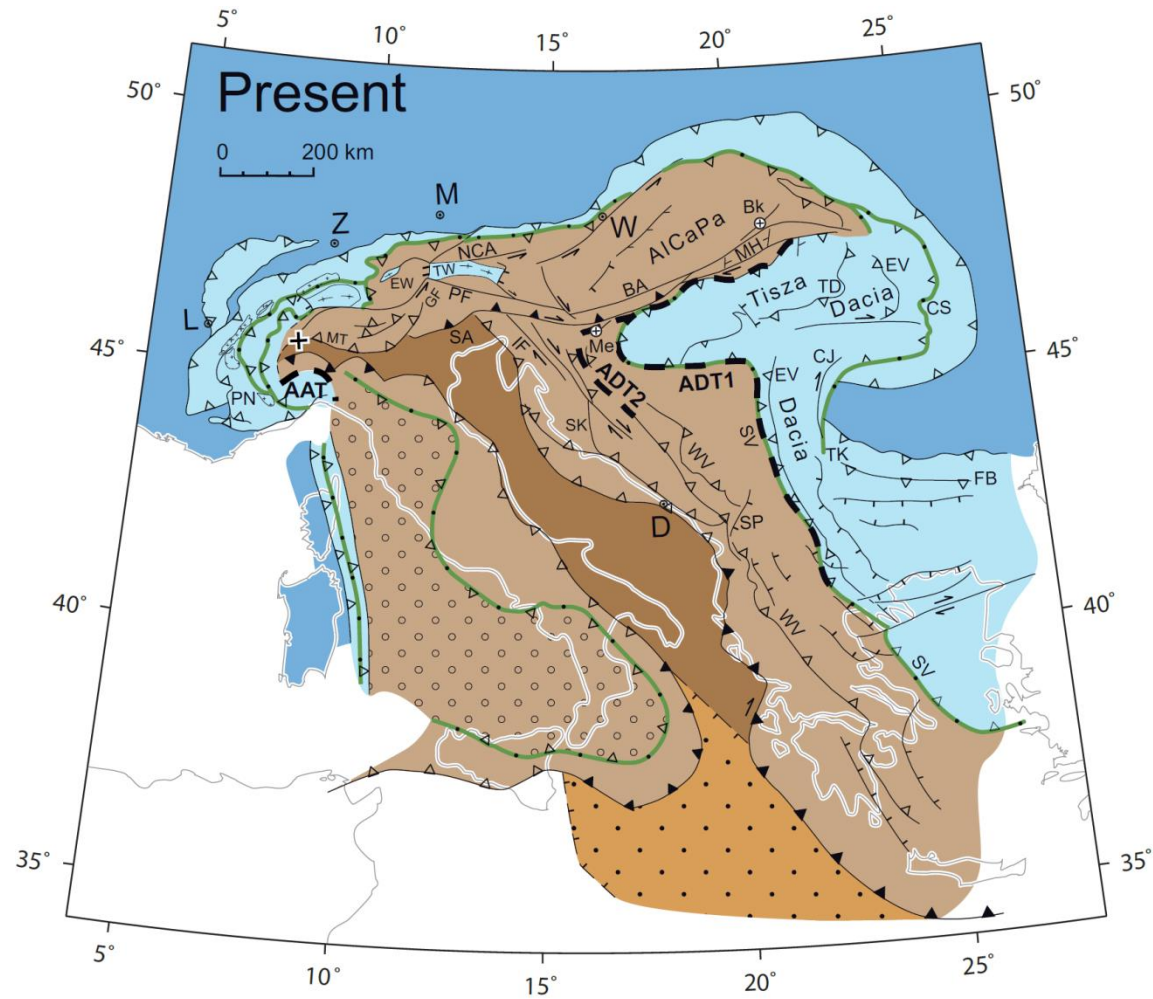


Hetenyi et al. (2018)

Wavefields AlpArray + European networks (Mw 7.6, southern Chile, 2/25/2016)



Adriatic Plate and its margins



Handy et al. (2015)

Subduction

- Opposite dipping subduction systems: Apennines – Dinarides/Hellenides, Calabrian – Hellenic subduction zones
- Continental: Alps, Apennines, Dinarides, Hellenides
- Oceanic: Calabrian + Hellenic + Carpathian subduction zones

Orogeny

- Stagnating continental collision: Alps
- Advancing: Dinarides
- Retreating: Hellenides

Formation of new lithosphere in back-arc basins

- Continental: Pannonian Basin
- Transition to oceanic: Tyrrhenian Sea

Geohazard

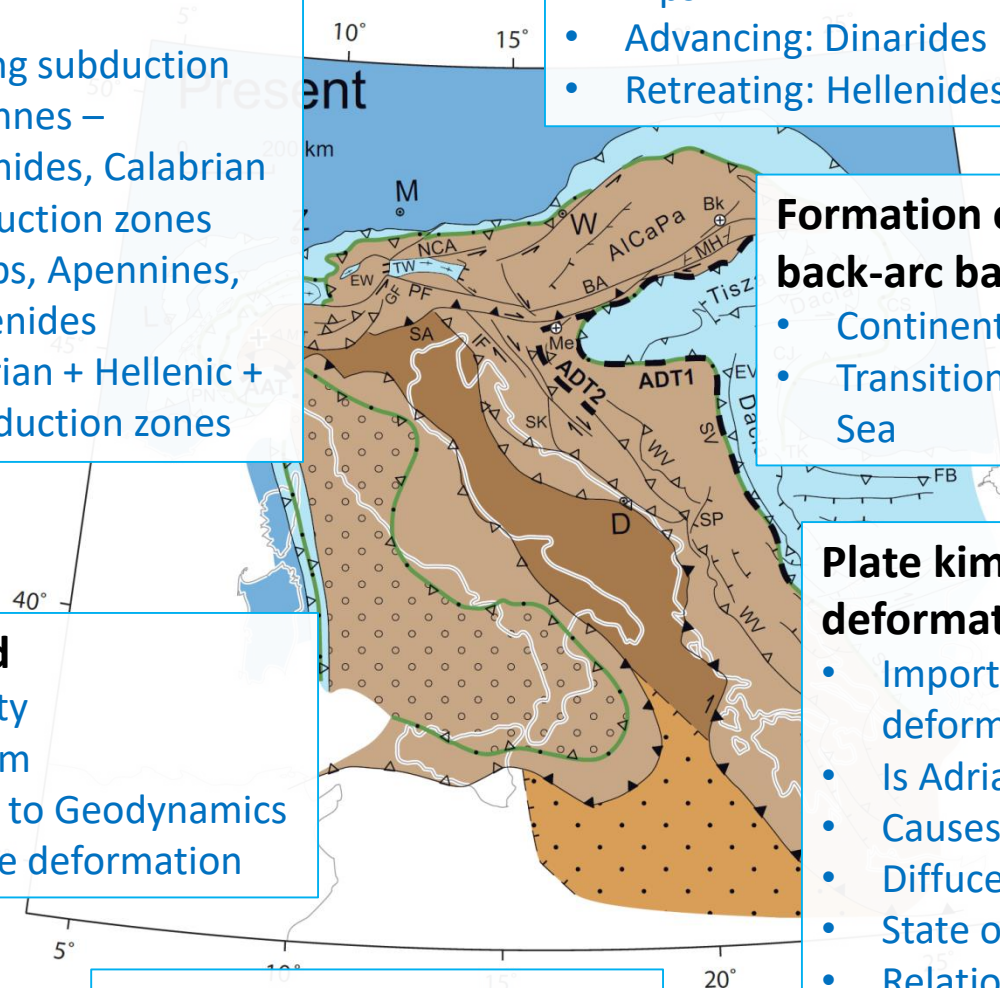
- Seismicity
- Volcanism
- Relation to Geodynamics and plate deformation

Plate kinematics vs. plate deformation

- Importance of internal plate deformation?
- Is Adria pushed by Africa?
- Causes of rotation?
- Diffuse vs. localized deformation?
- State of active faults?
- Relation between tearing and STEP fault?

Ionian Sea

- Oldest oceanic lithosphere



Handy et al. (2015)

Beyond AlpArray - AdriaArray

(Understanding Active Deformation of the Adriatic Plate and its margins)

- **Aim:** international, multi-disciplinary project to understand plate deformation and geodynamic causes of geohazard
- Cover Adriatic Plate and its margins by an **seismic array**: AlpArray + Italian stations + temporary array in south-eastern Europe + **complementary experiments in key areas**
- **Capacity + community building**
- AlpArray Science Meeting – Session “Beyond AlpArray” (**Zurich** August 2018)
- Meeting in **Thessaloniki** (May 2019)
- ORFEUS Workshop **Belgrade** (June 2019)
- Task in **EPOS SP** (start April 2020)
- Preparatory Committee, Seismic Network Working Group (September 2019)

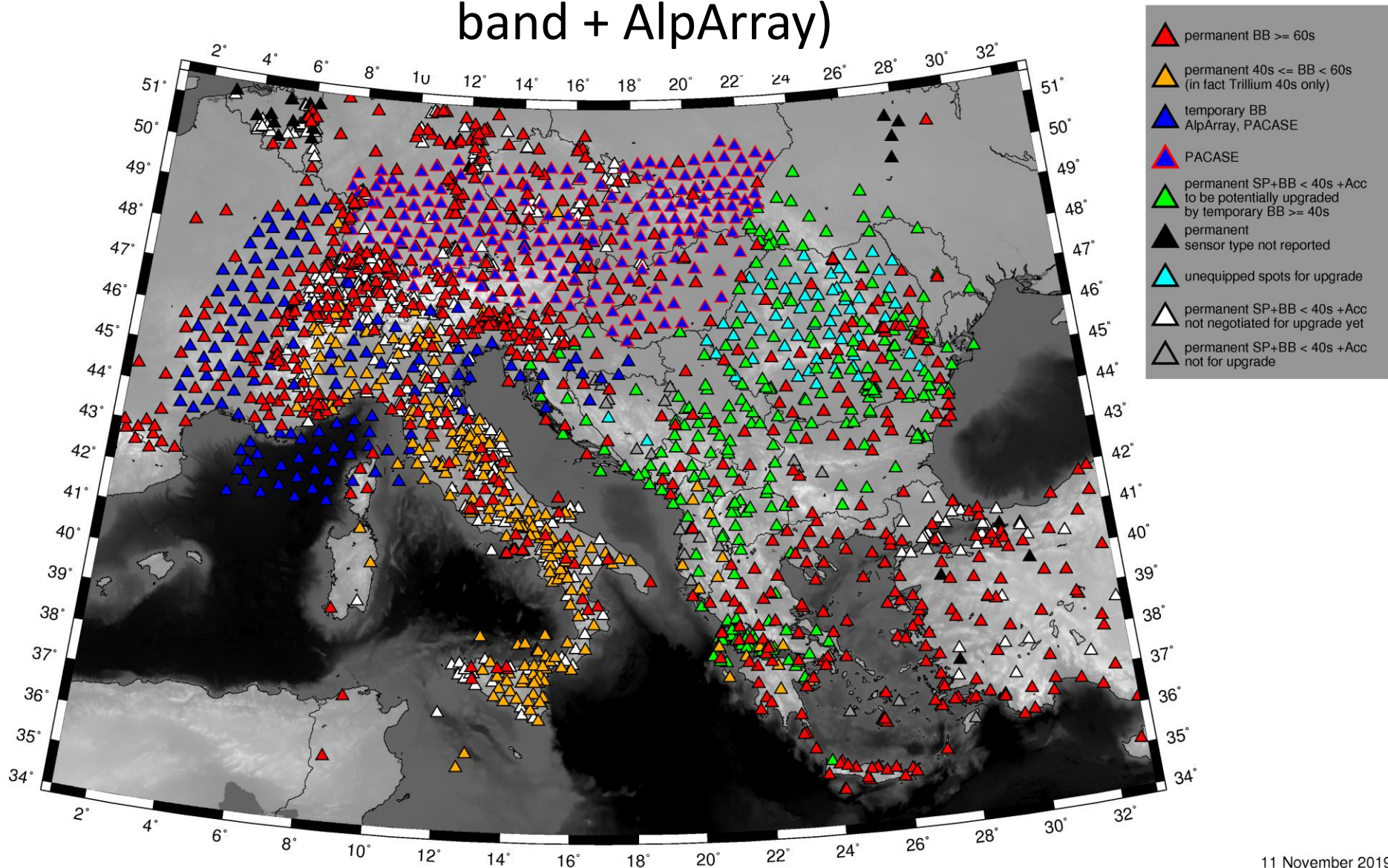
AdriaArray Preparatory Committee

(November 14, 2019)

22 members

Name	Institution
Bokelmann, Götz	Univ. Vienna, Austria
Bondar, Istvan	HAS, Budapest, Hungary
Cauzzi, Carlo	ORFEUS/ETH Zurich, Switzerland
Dimitrova, Liliya	BAS, Bulgaria
Faccenna, Claudio	Univ. Rome, Italy
Hetenyi, György	Univ. Lausanne, Switzerland
Ionescu, Constantin	NIEP, Romania
Kopp, Heidrun	GEOMAR, Kiel, Germany
Meier, Thomas	Univ. Kiel, Germany
Molinari, Irene	INGV, Italy
Nagel, Thorsten	Univ. Aarhus, Denmark
Paul, Anne	Univ. Grenoble, France
Papazachos, Costas	Univ. Thessaloniki, Greece
Piromallo, Claudia	INGV, Italy
Plomerova, Jaroslava	CAS, Prague, Check Republic
Rietbrock, Andreas	Univ. Karlsruhe, Germany
Rondenay, Stephane	Univ. Bergen, Norway
Rossi, Giuliana	OGS, Trieste, Italy
Sachpazi, Maria	NOA, Greece
Stipcevic, Josip	Univ. Zagreb, Croatia
Tilmann, Frederik	GFZ Potsdam, Germany
Whipp, David	Univ. of Helsinki, Finland

Existing stations (short period + broad band + AlpArray)



11 November 2019

P. Kolinsky

Next steps

- First suggestion for station distribution (end 2019)
- EPOS/AdriaArray **Workshop Sopron (May 20-22, 2020)**

“Understanding Active Deformation of the Adriatic Plate and its Margins: AdriaArray - Science, Infrastructure, & Community Building”

- Preparation of COST proposal
- Preparation of national, InterReg + other proposals
- Anticipated deployment of mobile stations: 2021-2023

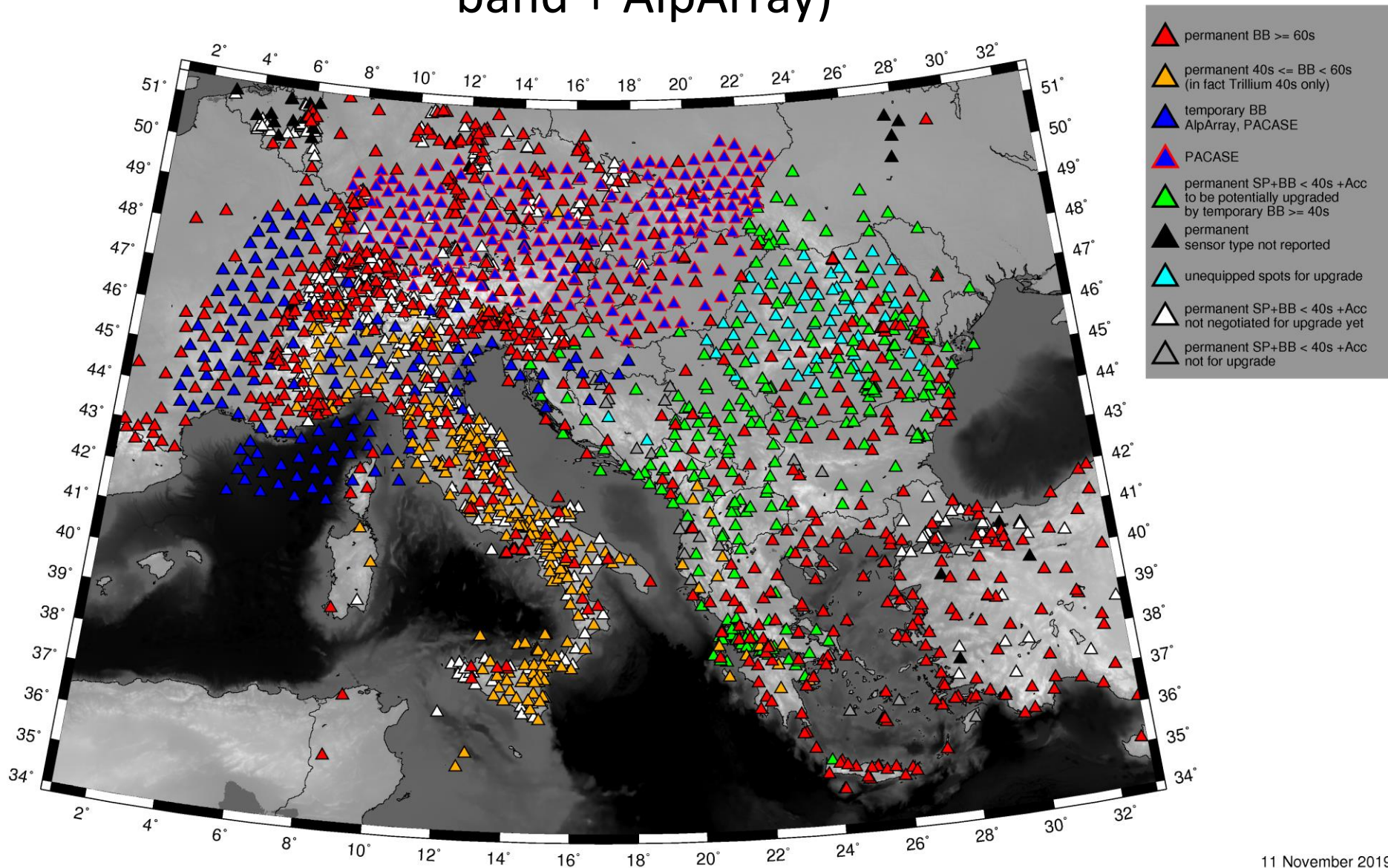
AdriaArray Seismic Network Working Group

(November 14, 2019)

43 members

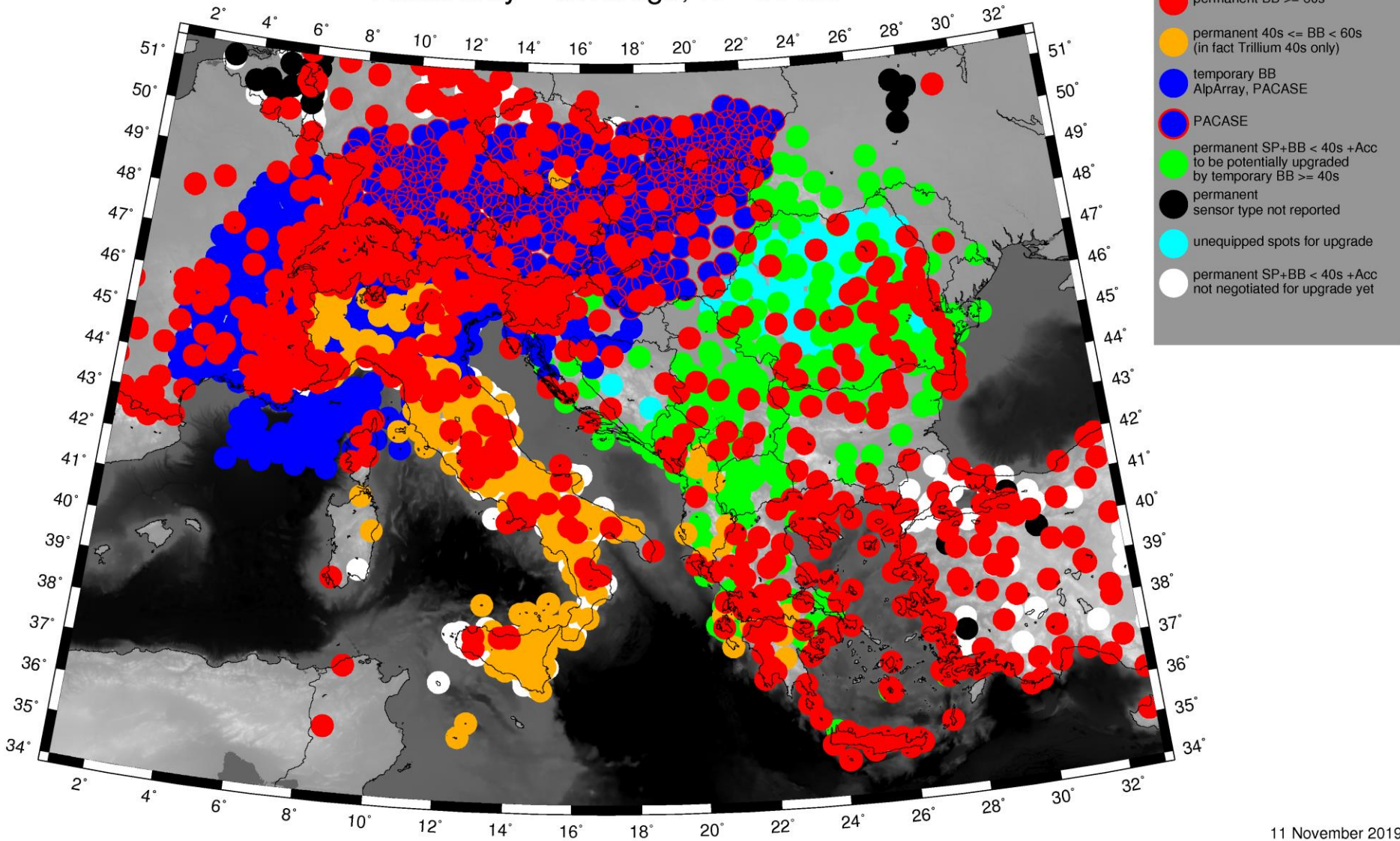
Name	Institution
Borleanu, Felix	NIEP, Romania
Brllek, Ivan	SC Sarajevo, Bosnia and Herzegovina
Chernih-Anastasovska, Dragana	University Sts. Cyril and Methodius, Skopje, Northern Macedonia
Cvijic-Amulic, Snjezana	GS Republic of Srpska, Bosnia and Herzegovina
Czuba, Wojciech	IG PAS, Warsaw, Poland
Danececk, Peter	INGV, Italy
Diaz, Jordi	ICTJA-CSIC, Barcelona, Spain
Dimitrova, Liliya	BAS, Bulgaria
Dushi, Edmond	Univ. Tirana, Albania
Evangelidis Christos	NOA, Greece/ORFEUS
Fiket, Tomislav	CSS, Zagreb, Croatia
Friederich, Wolfgang	Univ. Bochum, Germany
Govoni, Aladino	INGV, Italy
Kandic, Randovan	MSS, Podgorica, Montenegro
Kolínský, Petr	Univ. Vienna, Austria
Marmuraenu, Alexandru	NIEP, Romania
Lukešová, Renata	IRSM, CAS, Prague, Czech Republic
Kopp, Heidrun	GEOMAR Kiel, Germany
Meier, Thomas	Univ. Kiel, Germany
Mustafa, Shemsi	GS Kosovo, Pristina, Kosovo
Nagel, Thorsten	Univ. Aarhus, Denmark
Paul, Anne	Univ. Grenoble, France
Papazachos, Costas	Univ. Thessaloniki, Greece
Piomallo, Claudia	INGV, Italy
Pesaresi, Damiano	OGS, Trieste, Italy
Plicka, Vladimír	Charles Uni, Prague, Czech Republic
Plomerová, Jaroslava	CAS, Prague, Czech Republic
Rietbrock, Andreas	Univ. Karlsruhe, Germany
Rondenay, Stephane	Univ. Bergen, Norway
Rümpker, Georg	Univ. Frankfurt, Germany
Sakellariou, Dimitris	HCMR, Athens, Greece
Sokos, Efthimios	Univ. Patras, Greece
Solakov, Dimcho	BAS, Sofia, Bulgaria
Stipcevic, Josip	Univ. Zagreb, Croatia
Špaček, Petr	IPE, Masaryk Uni, Brno, Czech Republic
Thomas, Christine	Univ. Münster, Germany
Tiira, Timo	Univ. Helsinki, Finland
Valcic, Dejan	SSS, Belgrade, Serbia
Valoroso, Luisa	INGV, Italy
Van der Meijde	Univ. Twente, The Netherlands
Verbytsky, Serge	IoG, NAS, Ukraine
Weber, Zoltan	HAS, Budapest, Hungary
Zivcic, Mladen	SSS, Ljubljana, Slovenia

Existing stations (short period + broad band + AlpArray)



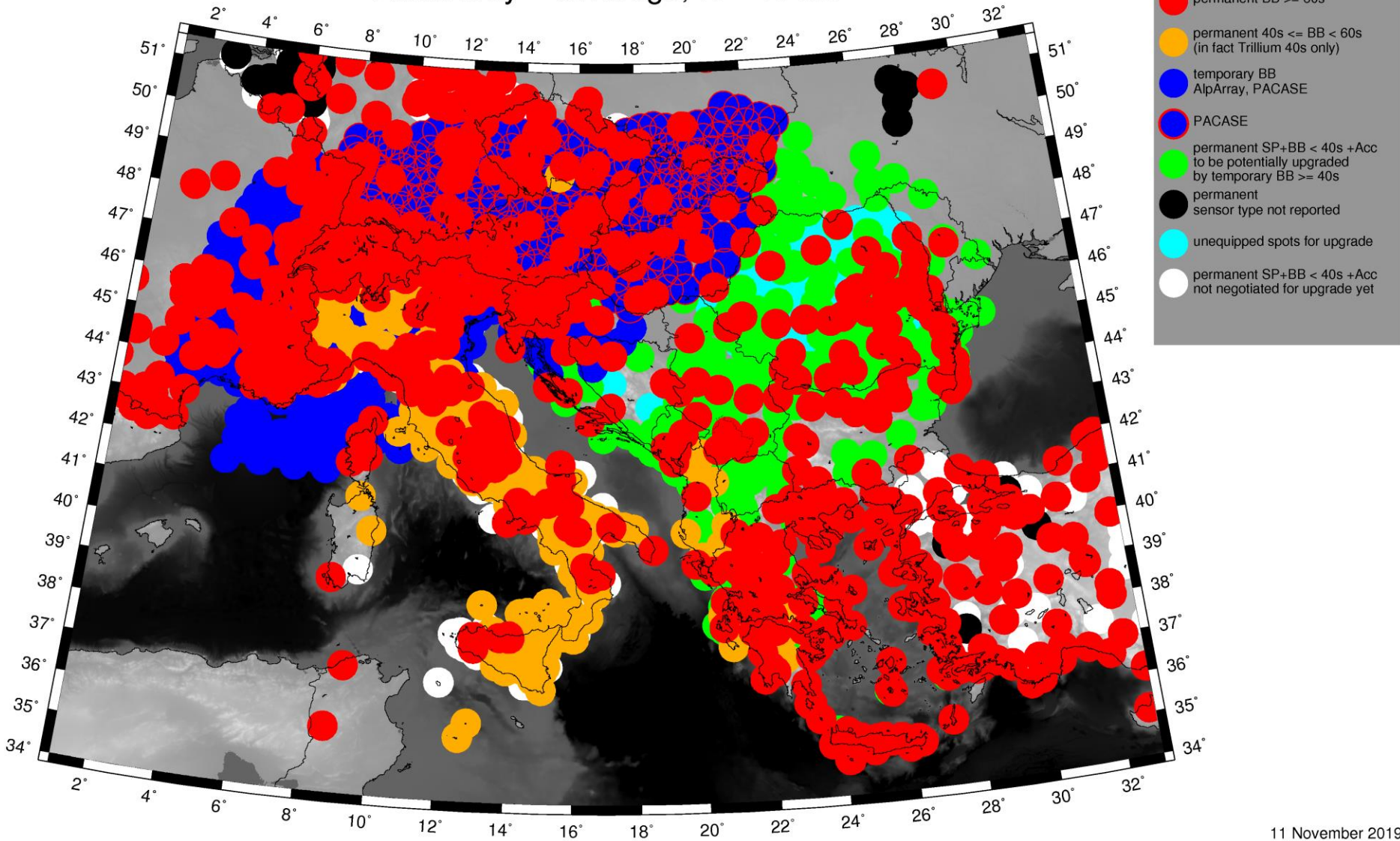
11 November 2019

AdriaArray – coverage, R = 30 km



11 November 2019

AdriaArray – coverage, R = 40 km



11 November 2019

mobile stations

- Austria 30?
- Croatia: 10?
- Czech Republic: 50?
- Denmark: 20?
- Finland: 20?
- France: HEPHAISTOS (100) + 30?
- Germany: 100 – 120?
- Greece: 20?
- Netherlands: 10?
- Norway: 20?
- Poland: 30?
- Spain: 20?
- Switzerland: 20 – 30?

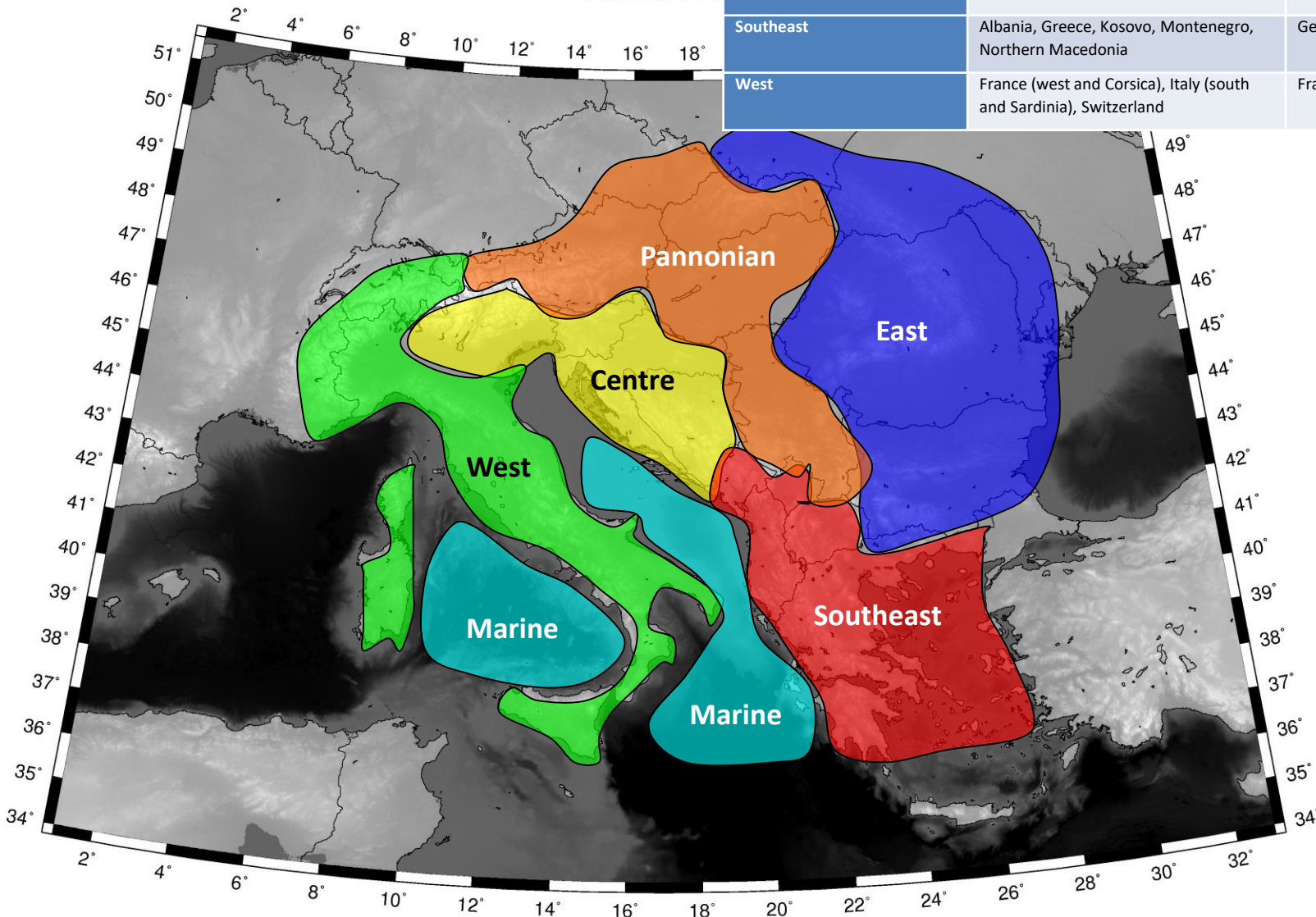
total ? ca. 400 ?

Deployment of mobile stations (first suggestion)

Subgroup	Region	Mobile pools
Centre	Bosnia and Herzegovina, Croatia, Italy (north), Slovenia	Croatia, Italy, Norway, Switzerland: 50?
East	Bulgaria, Moldavia, Poland, Romania, Ukraine	Czech Republic, Denmark, Finland, Poland: 100?
Marine	Adriatic, Ionian, Tyrrhenian Seas	France, Germany, Italy, UK?
Pannonian Basin	Austria, Hungary, Czech Republic, Serbia, Slovakia	Austria, Czech Republic, Germany, The Netherlands: 105?
Southeast	Albania, Greece, Kosovo, Montenegro, Northern Macedonia	Germany, Greece, France: 105?
West	France (Southeast), Italy (south and Sardinia), Switzerland	France, Italy, Spain: 50?

AdriaArra

Subgroup	Region	Mobile pools
Centre	Bosnia and Herzegovina, Croatia, Italy (north), Slovenia	Croatia, Italy, Norway, Switzerland: 60?
East	Bulgaria, Moldavia, Poland, Romania, Ukraine	Czech Republic, Denmark, Finland, Poland: 110?
Marine	Adriatic, Ionian, Tyrrhenian Seas	France, Germany, UK?
Pannonian Basin	Austria, Hungary, Czech Republic, Serbia, Slovakia	Austria, Czech Republic, Germany, The Netherlands: 75?
Southeast	Albania, Greece, Kosovo, Montenegro, Northern Macedonia	Germany, Greece, France: 120?
West	France (west and Corsica), Italy (south and Sardinia), Switzerland	France, Italy, Spain: 50?



Deployment of mobile stations (first suggestion for subregion East)

