

# Data availability & access, quality tests, stationXML, AdA webpage

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INSTITUTE OF GEOPHYSICS  
OF THE CZECH ACADEMY OF SCIENCES



station names

**temporary deployments in new sites**

stations names of new stations should read country + number + version (A/B/..), example BHxyA for Bosnia and Herzegovina, all these stations names will have 5 characters.

exception: Greece GRxy ... without A at the end, only 4 characters

**temporary upgrades of existing stations**

station names of the “upgraded” SP/SM permanent stations should keep the permanent station name

- sometimes yes (Albania, Bulgaria, Romania,...), sometimes no (Bosnia and Herzegovina)

**station names of the known sites, where there was / is station before:**

- former AlpArray = keep the name of AlpArray (unequipped for the moment)
- former PACASE = keep the name of PACASE (running, some built for PACASE following already country codes [SK18A], some taken from AlpArray-PACASE, example A001A)

exceptions: UniTwente stations deployed by INGV in Italy, “almost” AlpArray sites, named ITxyA; the places are in fact different, sometimes however very close and hence for many methods to be used as the same station

there are also **stations deployed before** this agreement, and later merged to AdA, like those by Croatian Seismological Survey in Croatia, having different names, let's keep these already given

location code (default): 00

minor site changes (<10m) => 01, 02, etc.

major site changes (>10m) => last character of station name (default A) changed to B, C, etc.

after minor and major site changes the metadata have to be updated

## network codes

- temporary (open or emargoed) vs. permanent (open)

### temporary

- |              |  |
|--------------|--|
| idea:        | one code for temporary stations connected to a given EIDA node (one node – one code) |
| in practice: | one code goes to one node, more codes go to one node (INGV)                          |

#### **temporary deployments in new sites:**

- new station will have new temporary FDSN network code

#### **temporary upgrades of existing stations already in EIDA**

- option 1: The same FDSN code as the permanent station, difference only by channel
  - stations from this network MUST be distributed from the same EIDA node as before (e.g. AC in Albania from EIDA@INGV)
  - all channels from this station are fully open without restrictions
- option 2: a new FDSN code as for other temporary stations in given region/EIDA node

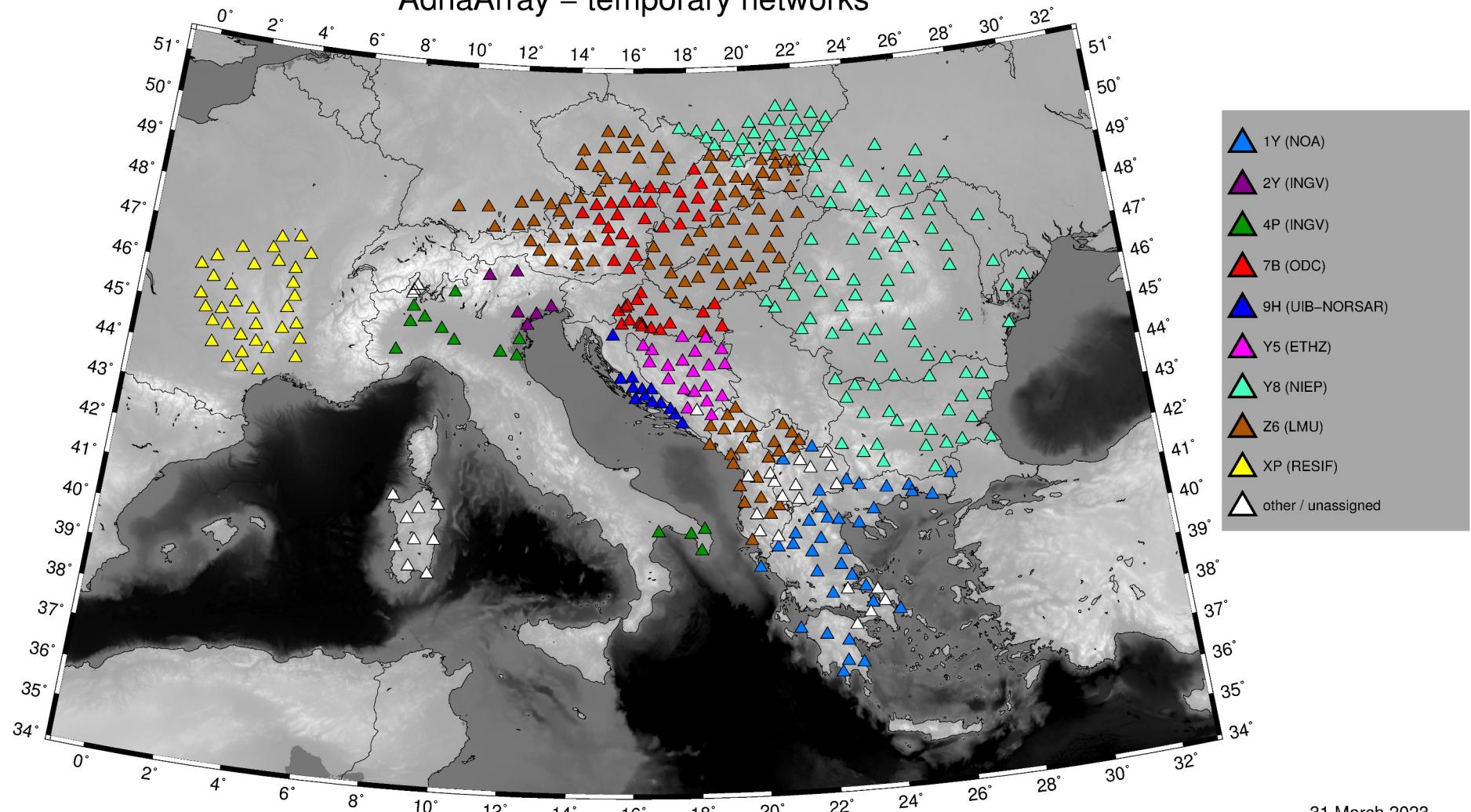
#### **temporary upgrades of existing stations NOT in EIDA yet**

- option 1: the same code as other permanent station from the same FDSN network
  - stations from this network MUST be distributed from the same EIDA node as possibly other stations already distributed from the same network (e.g. BS in Bulgaria from EIDA@NIEP)
  - option 2: a new code as for other temporary stations in given region/EIDA node

Network codes for the new installed stations were set up independently for each EIDA node. After checking the possible options, we gave up on having a set of similar network codes, as these are not available following the rules for assigning the codes to the temporary experiments.

	network			open / embargo	country of deployment
EIDA node	code	mobile pool		/ embargo	
NOA	1Y	DSEBRA - Uni Bochum		embargo	Greece
					North Macedonia
INGV	2Y	OGS		embargo	Italy
INGV	4P	INGV Bologna		open	Italy
		Uni Twente		open	Italy
		Barcelona		open	Italy
ODC	7B	UniWien		open	Austria
					Slovakia
		Croatian Seism. Survey		open	Croatia
UIB-NORSAR	9H	Uni Zagreb+Norwegian Pool		embargo	Croatia
					BiH
RESIF	XP	Resif-Sismob		open	France
ETHZ	Y5	ETH		open	BiH
NIEP	Y8	MOBNET IG CAS CZ		embargo	Romania
					Bulgaria
		Uni Aarhus		embargo	Romania
					Bulgaria
		Uni Oulu		embargo	Romania
		Uni Helsinki			Romania
		Polish AdA Group		embargo	Poland
					Ukraine
		NIEP			Moldova
		IRSM CAS CZ/Uni Helsinki		embargo	Romania
LMU	Z6	MOBNET IG CAS CZ		embargo	Slovakia
					Czech Republic
		DSEBRA - Kiel		embargo	Germany
					Austria
					Hungary
		EPSS Hungary		embargo	Hungary
		DSEBRA - LMU		embargo	Albania
					Montenegro
					Kosovo
		Montenegro pool		embargo	Montenegro
		Kosovo pool		embargo	Kosovo

## AdriaArray – temporary networks



1Y	AdriaArray Temporary Network: Greece, North Macedonia
2Y	AdriaArray Temporary Network: Italy - northwest
4P	AdriaArray Temporary Network: Italy - north, south
7B	AdriaArray Temporary Network: Austria, Croatia, Slovakia
9H	AdriaArray Temporary Network: Croatia
XP	AdriaArray Temporary Network: France
Y5	AdriaArray Temporary Network: Bosnia and Herzegovina
Y8	AdriaArray Temporary Network: Bulgaria, Moldova, Poland, Romania, Ukraine
Z6	AdriaArray Temporary Network: Albania, Austria, Czech Rep., Germany, Hungary, Kosovo, Montenegro, Slovakia

Network Code	Network Name	Operated By	Deployment	DOI
1Y (2022-2026)	Greece/North Macedonia Contribution to AdriaArray Temporary Network	National Observatory of Athens, Institute of Geodynamics, Athens	—	—
2Y (2022-2026)	OGS Contribution to AdriaArray Temporary Network	National Institute of Oceanography and Applied Geophysics (OGS)	—	—
4P (2022-2026)	INGV/UniTwente/Geo3Bcn-CSIC Contribution to AdriaArray Temporary Network	Istituto Nazionale di Geofisica e Vulcanologia (INGV)	—	—
7B (2022-2026)	AdriaArray Temporary Network: Austria, Croatia, Slovakia	Croatian Seismological Survey (CSS) ORFEUS (KNMI) Data Center, Royal Netherlands Meteorological Institute UniWien (Department of Meteorology and Geophysics)	—	—
9H (2022-2026)	CRONOS - Croatia/Norway Contribution to AdriaArray Temporary Network	Norwegian Pool of Advanced Broad-Band Seismic Instruments University of Bergen (UiB Norway) University of Zagreb	—	—
XP (2023-2027)	AdriaArray Temporary Network: France - MACIV backbone (Multiscale seismic imaging of Massif Central)	ISTerre (ISTERRE) Research Institute in Astrophysics and Planetology (IRAP France)	—	—
Y5 (2022-2026)	Swiss Contribution to AdriaArray Temporary Network	Eidgenössisch Technische Hochschule (ETH Zurich) - Swiss Seismological Service	—	—
Y8 (2022-2026)	NIEP Contribution to AdriaArray Temporary Network	National Institute for Earth Physics (NIEP Romania)	—	—
Z6 (2022-2026)	LMU Contribution to AdriaArray Temporary Network	Ludwig Maximilians Universität München (LMU-Germany)	—	—

## Operated By

 National Observatory of Athens,  
Institute of Geodynamics, Athens

 National Institute of Oceanography and  
Applied Geophysics (OGS)

 Istituto Nazionale di Geofisica e  
Vulcanologia (INGV)

 Croatian Seismological Survey (CSS)

 ORFEUS (KNMI) Data Center, Royal  
Netherlands Meteorological Institute

 UniWien (Department of Meteorology  
and Geophysics)

Norwegian Pool of Advanced Broad-Band  
Seismic Instruments

 University of Bergen (UiB Norway)

 University of Zagreb

 ISTerre (ISTERRE)

 Research Institute in Astrophysics and  
Planetology (IRAP France)

 Eidgenössisch Technische Hochschule  
(ETH Zurich) - Swiss Seismological Service

 National Institute for Earth Physics (NIEP  
Romania)

 Ludwig Maximilians Universitat  
Munchen (LMU-Germany)

	institution
1Y	National Observatory of Athens, Institute of Geodynamics, Athens Aristotle University of Thessaloniki University of Patras University of Athens Saints Cyril and Methodius University of Skopje Ruhr University Bochum
2Y	Istituto Nazionale di Geofisica e Vulcanologia Istituto Nazionale di Oceanografia e di Geofisica Sperimentale
4P	Istituto Nazionale di Geofisica e Vulcanologia Department of Applied Earth Sciences, Faculty of Geo-Information Science and Earth Observation, University of Twente LabSis, Geo3Bcn-CSIC, Barcelona
7B	Orfeus Data Center Croatian Seismological Survey Department of Meteorology and Geophysics, University of Vienna
9H	University of Bergen Geophysical Department, University of Zagreb University of Oslo ... or as it is now: Geological Survey of Norway ... or as it is now: Norwegian Seismic Array ... or as it is now:
XP	RESIF ISTERRE (ISTERRE) Research Institute in Astrophysics and Planetology (IRAP France)
Y5	Swiss Seismological Service at Eidgenössische Technische Hochschule Zürich Republic Hydrometeorological Service, Republika Srpska, Bosnia and Herzegovina Hydrometeorological Institute of Federation of Bosnia and Herzegovina
Y8	National Institute for Earth Physics, Romania National Institute of Geophysics, Geodesy and Geography, Bulgarian Academy of Sciences Sofia University "St. Kliment Ohridski" Institute of Geology and Seismology, Moldavian Academy of Sciences Department of Seismic Activity of Carpathian area (Lviv), Institute of Geophysics by S.I. Subbotin, National Academy of Sciences of Ukraine Institute of Rock Structure and Mechanics of the Czech Academy of Sciences Institute of Earth Sciences, University of Silesia Department of Earth Sciences, Uppsala University Sodankylä Geophysical Observatory, University of Oulu Institute of Seismology, Department of Geosciences and Geography, University of Helsinki Institute of Geophysics, University of Warsaw Institute of Geophysics, Czech Academy of Sciences Aarhus University Technische Universität Bergakademie Freiberg Institute of Geophysics, Polish Academy of Sciences
Z6	Department of Earth and Environmental Sciences, Ludwig-Maximilian University Munich Earth Science Institute of the Slovak Academy of Sciences Department of Seismology, Institute of Geosciences, Polytechnic University of Tirana Seismological Network of Kosovo, Geological Survey of Kosovo Sector of Seismology, Institute of Hydrometeorology and Seismology of Montenegro Institute of Earth Physics and Space Science, Sopron and Budapest Institute of Geophysics, Czech Academy of Sciences Institute for Geosciences, University of Kiel Karlsruhe Institute of Technology

**QUALITY ASSURANCE:**

Quality Assurance

**EIDA:**

Introduction

User information

Authentication System

Routing Service

StationBook

**STRONG MOTION:**

Strong Motion

**EIDA DOCUMENTATION:**

Developments

**COMMUNITY SERVICES:**

ORFEUS Software Development Grants

Focus Section on European Seismic Networks and Associated Services and Products

**ADRIAARRAY INITIATIVE:**

## AdriaArray

AdriaArray - Logo

AdriaArray - Mission

AdriaArray - Current deployment

AdriaArray - Station map

AdriaArray - Station properties

AdriaArray - Relation to EPOS

AdriaArray - Organization

AdriaArray - Working Groups

AdriaArray - Seismic networks

AdriaArray Communication &amp; Outreach

 Read the Docs

v: latest ▾

# AdriaArray

## AdriaArray - Logo

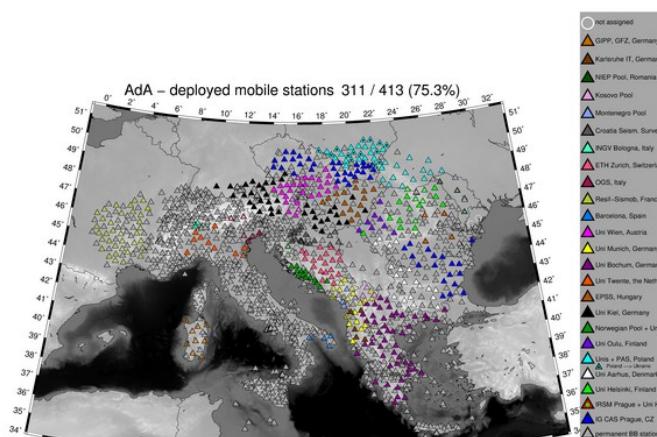
The logo will be discussed at the third AdriaArray international [workshop](#) in Dubrovnik, Croatia, on 3-5 April 2023.

## AdriaArray - Mission

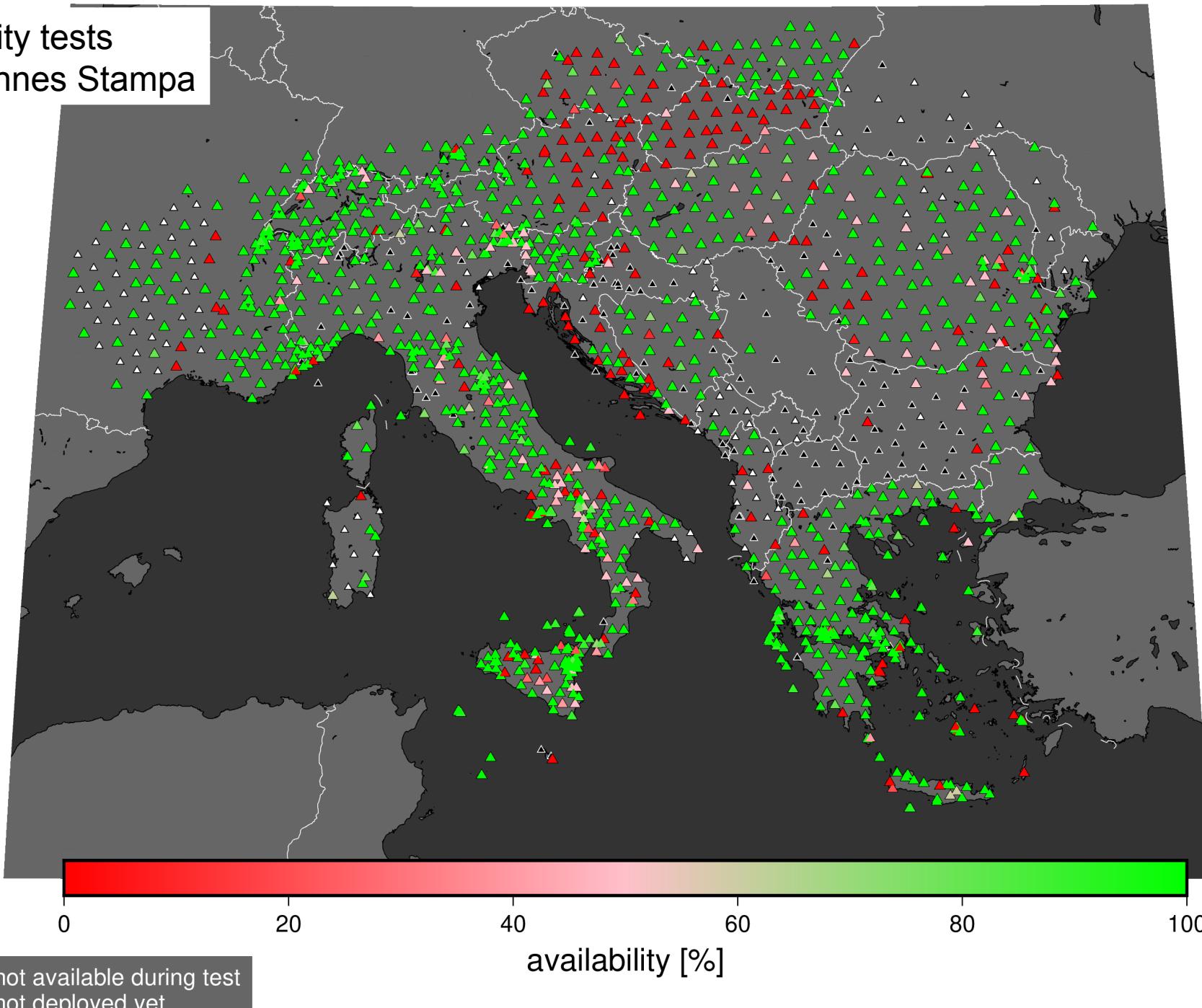
AdriaArray is a multi-national effort to cover the Adriatic Plate and its active margins in the central Mediterranean by a dense regional array of seismic stations to understand the causes of active tectonics and volcanic fields in the region. Plate-scale observations are complemented by local and LargeN experiments in key areas. The AdriaArray region reaches from the Massive Central in the west to the Carpathians in the east, from the Alps in the north to the Calabrian Arc and mainland Greece in the south. The deployment of seismic stations and scientific research is coordinated by the AdriaArray Seismology Group based on [FAIR](#) and open data exchange. Analyses of seismicity and multi-scale passive seismic imaging will lay the ground for a physical understanding and modelling of plate deformation and associated geohazards.

## AdriaArray - Current deployment

Current status of the AdA seismic network. Filled triangles represent stations already in the field, while empty triangles indicate stations that are not yet deployed.



# availability tests by Johannes Stampa



## **“online/offline” and “EIDA / nonEIDA“**

1

station is **offline**, and **not in EIDA** ... bad case

2

station is **offline**, and **in EIDA**, data backfilled in batches

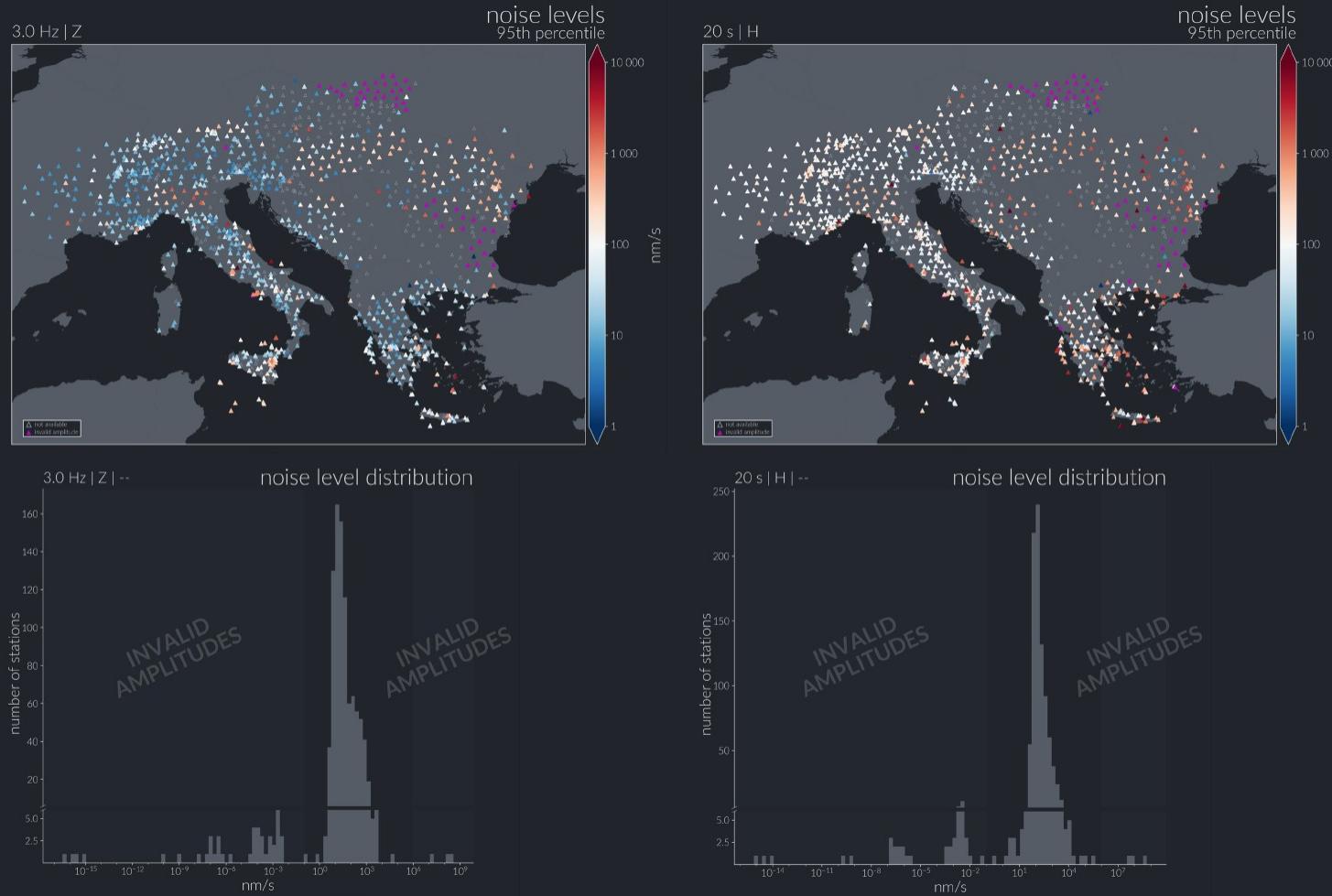
3

station is **online** and **not in EIDA** ... please connect it

4

station is **online** and **in EIDA** ... nice, thank you

# noise maps by Felix Eckel



## noise maps

- up to 72h of data
- detrend
- filtering
- 95th percentile of abs. amplitude
- color coding
- bad amplitudes:  
 $<1\text{e}-1$  or  
 $>1\text{e}6$

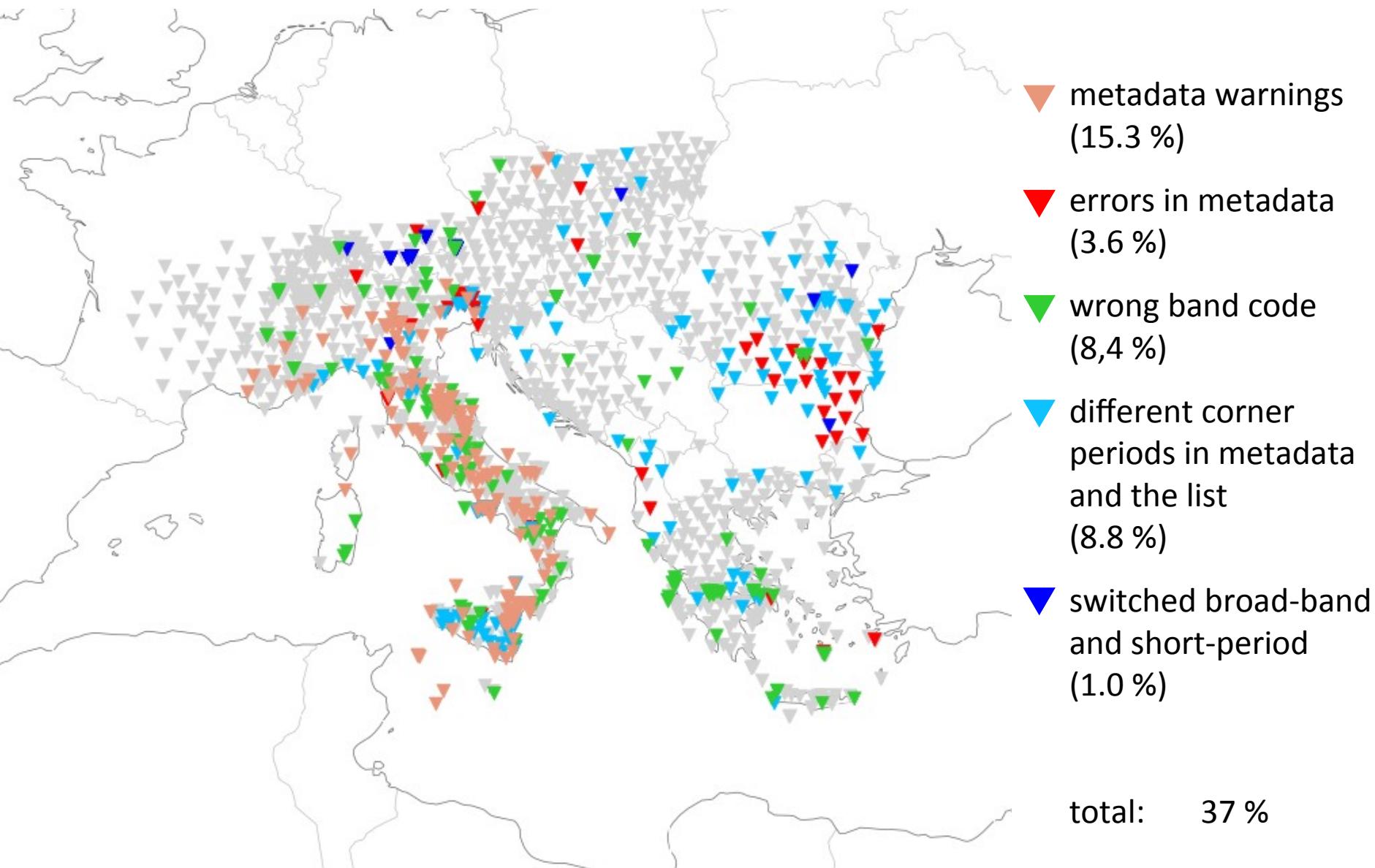
C | A | U

Christian-Albrechts-Universität zu Kiel

Mathematisch-Naturwissenschaftliche Fakultät

# Metadata State-of-Health

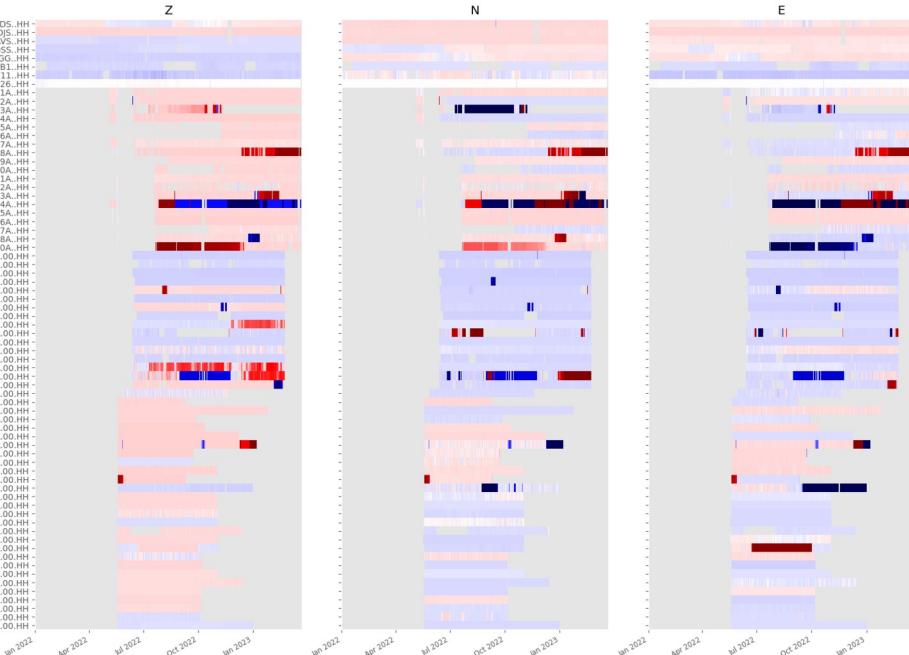
Testing: StationXML scheme, response, corner periods, band codes, P&Z consistency



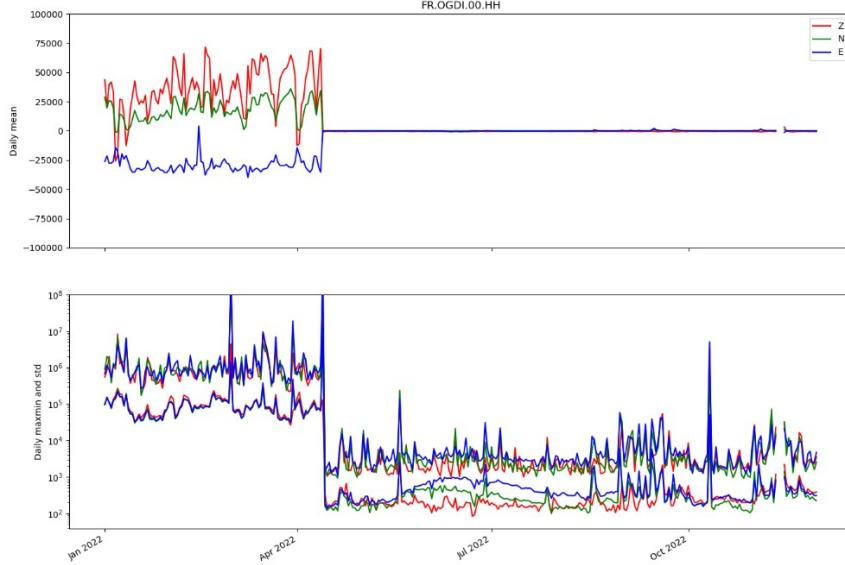
# Daily means (medians)

- fast and powerful tool for QC
- metrics from EIDA WFCatalog:
  - daily median, daily std, daily max, min
- detection of saturated offsets, signal clipings

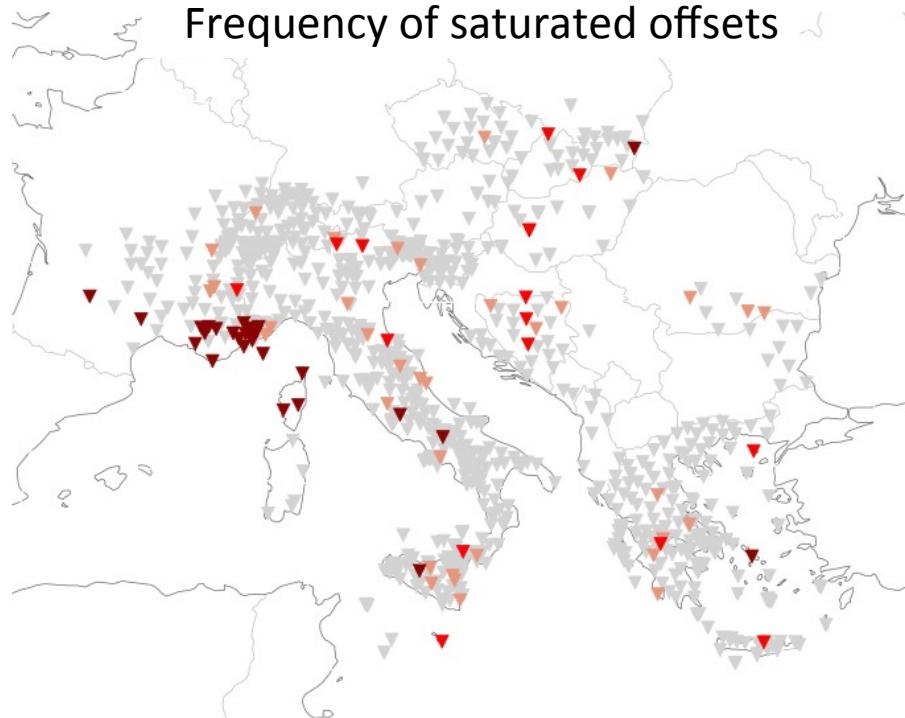
## Detection of saturated offsets



## Station State-of-Health

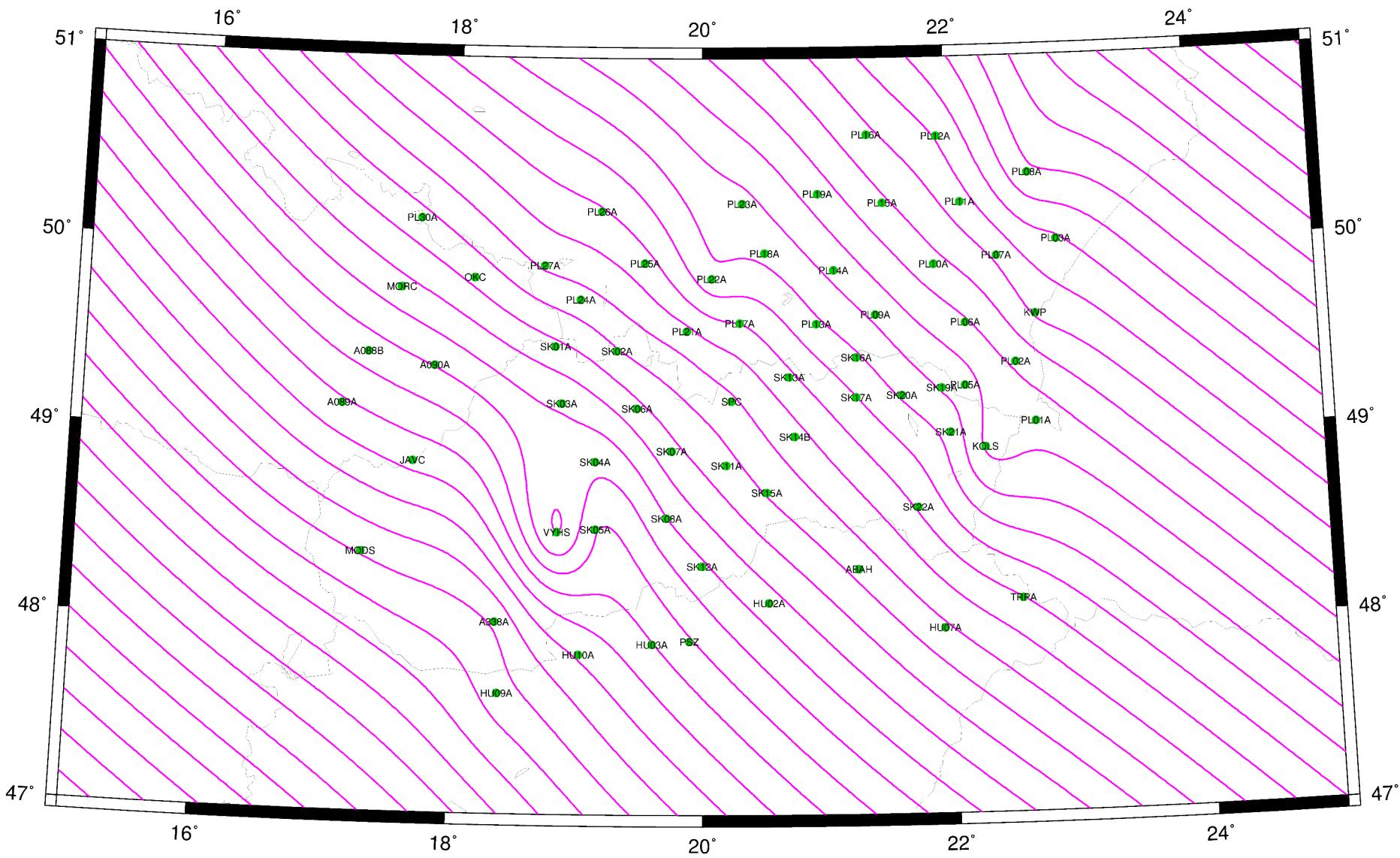


## Frequency of saturated offsets



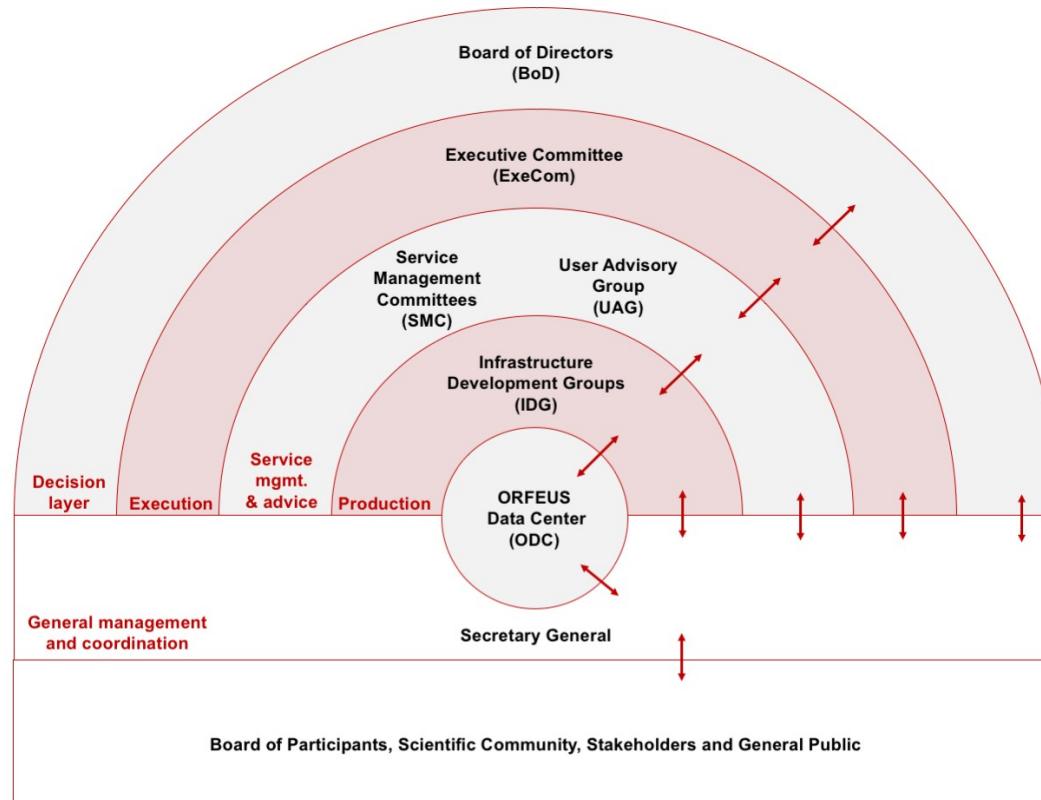
56 s

wavefront check by Petr



# Orfeus User Advisory Group

Petr Kolínský	(chair, Czech Republic, IG CAS)
Stéphane Rondenay	(Norway, Uni Bergen)
Dino Bindi	(Germany, GFZ)
Luděk Vecsey	(Czech Republic, IG CAS)
Antje Schlömer	(Germany, LMU)
Valerio Poggi	(Italy, OGS)
Davor Stanko	(Croatia, Uni Zagreb)
Felix Eckel	(Germany, Uni Kiel)



# StationXML documentation

```
<FDSNStationXML schemaVersion="1.2">
  <Source>SeisComP</Source>
  <Sender>GFZ</Sender>
  <Created>2023-04-02T17:49:15.915266Z</Created>
  <Network code="Z3" startDate="2015-01-01T00:00:00Z" endDate="2022-12-31T00:00:00Z" restrictedStatus="open">
    <Description>
      AlpArray Seismic Network (AASN) temporary component
    </Description>
    <Identifier type="DOI">10.12686/alparray/z3_2015</Identifier>
  <Station code="A412A" startDate="2017-06-15T16:45:38Z" endDate="2018-02-12T09:54:14Z" restrictedStatus="open">
    <Comment id="1">
```

revision of 1.1 ==> 1.2 by  
Philip Crotwell  
Robert Casey  
Jonathan Schaeffer  
Petr Kolínský  
accepted in 2022 by FDSN

StationXML v1.2

Search docs

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    - 2.2.2. <Identifier>
    - 2.2.3. <Comment>
    - 2.2.4. <DataAvailability>
    - 2.2.5. <Operator>
    - 2.2.6. <TotalNumberStations>
    - 2.2.7. <SelectedNumberStations>
  - 2.3. <Station>
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  - 2.5. <Response>
- 3. Specifying and Using Response Information
- 4. StationXML Tools
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Specification home

FDSN home

Read the Docs v: v1.2

## 2.2. <Network> required

● Warning, Future Change

endDate: This attribute should not be used if it is in the future.

● Warning, Future Change

endDate: This attribute is likely to require timezone of Z.

● Warning, Future Change

startDate: This attribute is likely to require timezone of Z.

The Network container. All station metadata for this network is contained within this element. A Description element may be included with the official network name and other descriptive information. An Identifier element may be included to designate a persistent identifier (e.g. DOI) to use for citation. A Comment element may be included for additional comments.

An active Network should not use the endDate attribute. Unlike SEED, do not use an endDate in the distant future to mean active.

**Example:** <Network code="XX" startDate="2016-01-27T13:00:00Z" />

**Attributes of <Network>:**

attribute	type	required	description	example
alternateCode	string	no	A code used for display or association	alternateCode="GSN"
code	string	yes	Name of Network	code="XX"
endDate	dateTime	no	End date of network. Do not use if still active, endDate should not be in the future.	endDate="2018-01-27T00:00:00Z"
historicalCode	string	no	A previously used code if different from the current code	historicalCode="XX"
restrictedStatus	RestrictedStatusType	no	One of: "open", "closed", "partial"	restrictedStatus="open"
sourceID	anyURI	no	A data source identifier in URI form. It is recommended that this follow the FDSN Source Identifiers specification, <a href="http://docs.fdsn.org/projects/source-identifiers">http://docs.fdsn.org/projects/source-identifiers</a>	sourceID="FDSN:XX"
startDate	dateTime	no	Start date of network	startDate="2016-07-01T00:00:00Z"

**Sub Elements of <Network>:**

element	type	number
<Description>	string	optional

# suggestion by Costas Papazachos

- we can include in the description of the installed stations information about geology, etc.

Station Code	Geology					Geophysical Structure					
	Age	Description	Geologic Age [M:Mesozoic and older, T: Tertiary, Q: Quaternary (undifferentiated), P: Pleistocene, H: Holocene]	Bedrock (Yes, if formation is compact, e.g Mesozoic, Tertiary limestones and basalts, etc., typically Vs>600-800m/s)	Geological Map Scale	V <sub>s0</sub> (m/s)	V <sub>s0</sub> (m/s) Determination A: Direct investigation (Cross-Hole, Down-Hole, SW, Refraction, Ambient noise, Other) - Define method B: From investigations in the same area and same material C: From investigations in the same formation D: From literature (provide reference)	Bedrock depth (m)	V <sub>s</sub> (m/s): Average velocity determined from a Vs profile up to the maximum depth of investigation, Z(m)	Maximum depth of investigation, Z(m)	
LSM0	Mesozoic	Leucocratic albite-sericite-microcline gneiss	M	Yes	1:50,000						
PIR1	Holocene	Alluvial deposits	H		1:50,000	420	A (Down-hole)	50	590	55	
STL1	Upper Miocene - Lower Pleistocene	Sandstone-marl series sandstones friable to quite compact, locally microconglomerates with cross-bending are interbedded. At places there are marl horizons.	P		1:50,000						
AIA1	Pleistocene-Pliocene	Clastic Formations	P		1:50,000						
KYP2	Quaternary - Holocene	Alluvial deposits	H		1:50,000	652	A (Cross-hole)				
DRA2	Pleistocene	Cohesive conglomerates	P		1:50,000						
ART2	Upper Senonian	Brecciated limestone	T	Yes	1:50,000						
NAX1	Mesozoic / Early Tertiary	Granodiorite of quartz, feldspar, plagioclase, biotite, and hornblende; clinopyroxene may also occur	M	Yes	1:50,000						
SIA1	Miocene (Upper Aquitanian-Tortonian)	Alternating conglomerates, sandstones and marls	T		1:50,000						
ITS1	Upper Miocene - Lower Pleistocene	Red clay series red to brick red, silty clays, with mica and calcareous concretionary bodies	P		1:50,000						
KSS1	Quaternary	Alluvial deposits	Q		1:50,000						
AIG2	QUATERNARY	Old and new talus cones, Scree	Q		1:50,000						
PLN1	Quaternary	Alluvial deposits	Q		1:50,000						
KMT1	Quaternary	Alluvial deposits	Q		1:50,000	253	A (MASW)				
KLR1	Upper Miocene - Lower Pleistocene	Red clay series red to brick red, silty clays, with mica and calcareous concretionary bodies	P		1:50,000						
LMS2	Holocene	Old terrestrial terraces	H		1:50,000						
KOZ2	Lower to Upper Pliocene	Deposits of marls, claystones, sands, and coal covered by adjacent quaternary formations; progressive ly layers with lenses of poorly cemented conglomerates	T		1:50,000	421	D (Meier et al., 2018, SRL)				
LMN1	Holocene	Alluvial deposits	H								
AST1	Quaternary - Holocene	Recent deposits: Sand gravel and rounded pebbles	H		1:50,000						

**TOKEN** to get the data

EIDA Authentication System = EAS

<https://geofon.gfz-potsdam.de/eas/EIDAAuthenticationService.pdf>

manual, 8 pages, easy to read

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# EAS User Documentation

*Release 0.9b1*

Javier Quinteros and Andres Heinloo

May 16, 2019

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<https://geofon.gfz-potsdam.de/eas/>

## Request token

Epos

 European Integrated Data Archives

User documentation with all the details can be found in the following [link](#).

EIDA users requesting Alparray data must complete all the requirements mentioned below for the registration process and later get in contact with the Network PI to be authorized to access the data.

From this page you can request a digitally signed token to be used with all existing EIDA web services (not Arclink) in order to not only retrieve open or restricted data, but also personalize your interaction with the EIDA services.

Please, select a duration for your token. After this amount of time, the token will not be accepted anymore. After clicking on the "Request token" button you will be redirected to B2ACCESS (optionally your home institution) to complete the authentication.

1 day

2 days

1 week

2 weeks

1 month

[Request token](#)

create an account at B2ACCESS, if not existing: "No account? Sign up"  
<https://b2access.eudat.eu/saml-idp/saml2idp-web-entry>

"Select group:" and request to be part of EPOS !!!

GO TO EUDAT WEBSITE



WHAT IS B2ACCESS    USER GUIDE    FAQS    CONTACT



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Password  
Sign in

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	<a href="#">aai.lab.maeen.sa</a>
	<a href="#">AAI@EduHr Single Sign-On Service</a>
	<a href="#">Aalborg University</a>

[Cancel authentication](#)

- Send an email to Cédric Legendre and request to be added to the AdriaArray group. Let him know which email you registered.
- Upon confirmation, you should be able to request a token that gives access to the AdriaArray data.

Epos



User documentation with all the details can be found in the following [link](#).

EIDA users requesting Alarray data must complete all the requirements mentioned below for the registration process and later get in contact with the Network PI to be authorized to access the data.

From this page you can request a digitally signed token to be used with all existing EIDA web services (not Arclink) in order to not only retrieve open or restricted data, but also personalize your interaction with the EIDA services.

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1 day

2 days

1 week

2 weeks

1 month

**Request token**

GO TO EUDAT WEBSITE



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[Sign in with Microsoft Live](#)  
[Sign in with ORCID](#)

Institute of Engineering Seismology and Earthquake Engineering  
UNIVERSIDAD TECNOLOGICA DE PEREIRA  
University of Jinan  
29 Mayis University  
A\*STAR - Agency for Science, Technology and Research  
A.T. Still University  
AAF Virtual Home  
aalab.maeen.sa  
AAI@EduHr Single Sign-On Service  
Aalborg University

Cancel authentication

## token example:



The screenshot shows a window titled "Lister - [G:\AlpPhase\eidatoken]" displaying a PGP message. The message starts with "BEGIN PGP MESSAGE" followed by "-----BEGIN PGP SIGNED MESSAGE-----". It includes a "Hash: SHA1" header and a JSON object containing user information like "cn": "Petr Kol\u00e1\u00ednsk\u00fd", "mail": "petr.kolinsky@univie.ac.at", and "givenName": "Petr". The message continues with "-----BEGIN PGP SIGNATURE-----" and ends with "-----END PGP SIGNATURE-----". The content is heavily base64 encoded.

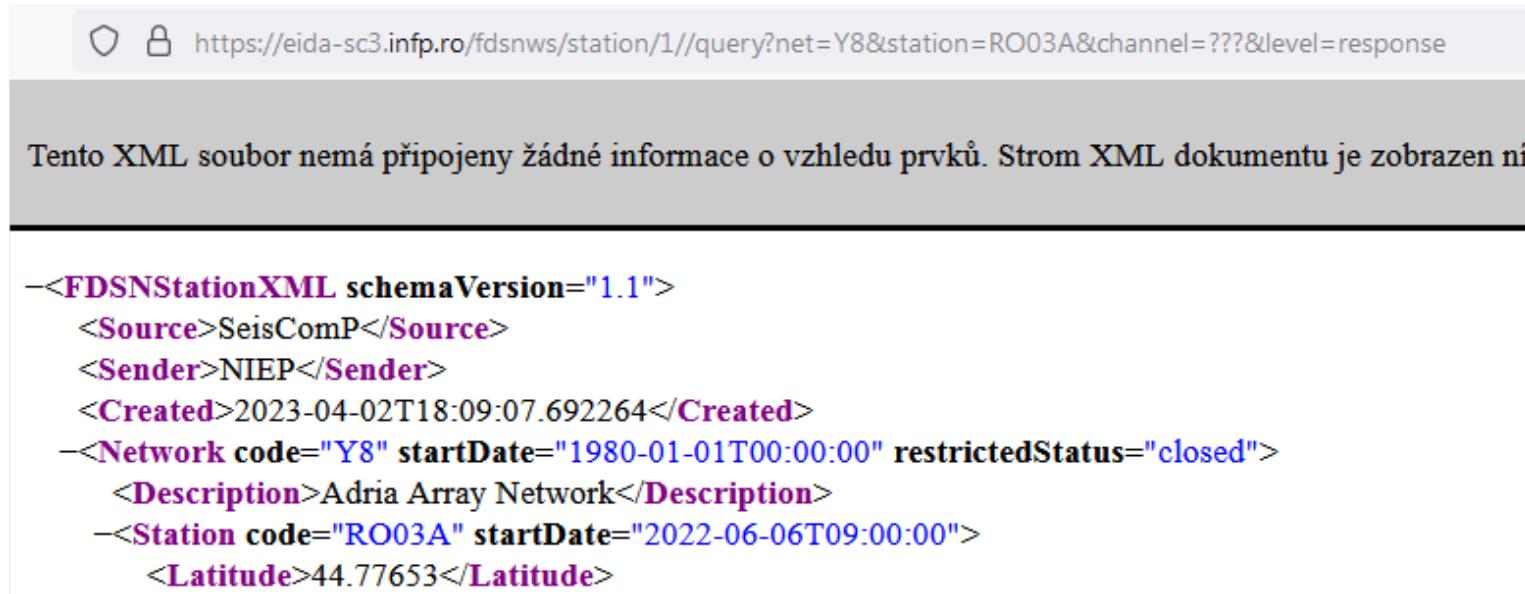
```
BEGIN PGP MESSAGE
-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

{"valid_until": "2023-03-13T00:42:50.392840Z", "cn": "Petr Kol\u00e1\u00ednsk\u00fd", "memberof": "/epos/alparray;/epos;/", "sn": "Kol\u00e1\u00ednsk\u00fd", "issued": "2023-02-11T00:42:50.392844Z", "mail": "petr.kolinsky@univie.ac.at", "givenName": "Petr", "expiration": "1m"}
-----BEGIN PGP SIGNATURE-----
Version: GnuPG v1

iQEcBAEBAgAGBQJj5uSKAAoJEEFpzp0AlwdXKPwH/1DryAijRFmTQh2uP+/JNH1Y
Cd2SbQyucQW+SA00FupUYNkzTbiyUkiNnd9cShBI20ea3rDpP4Ht6RQah0SHjEYY
EhY/l/w6Jmpf85KpkSi3p02r3LNhbUjkvsRfnI9giDUzp51McgaAgp+ftKwuL1IJ
0e+3cDoxyXPuKo9XP19RURr/DG3l+iQ+3xQYR1ZUSS5qpRi25T16c3L8vQPXnH+n8
E8/gx3/otatUTidTn5H2aCXA2olorM005A1ArC25TuKxze72DEo+S/NI2r354KDJ
gnmNgw0XB1LIYUgw/sZGPC1up3pqCU2iaURFu1NQogSDXTnpDYkFI/ICLeA2MAC=
=Hc/f
-----END PGP SIGNATURE-----
```

# data / metadata download

web browser metadata:



The screenshot shows a web browser window with the URL <https://eida-sc3.infp.ro/fdsnws/station/1//query?net=Y8&station=RO03A&channel=???&level=response>. The page content is a large block of XML code.

```
<-<FDSNStationXML schemaVersion="1.1">
  <Source>SeisComP</Source>
  <Sender>NIEP</Sender>
  <Created>2023-04-02T18:09:07.692264</Created>
  <-<Network code="Y8" startDate="1980-01-01T00:00:00" restrictedStatus="closed">
    <Description>Adria Array Network</Description>
    <-<Station code="RO03A" startDate="2022-06-06T09:00:00">
      <Latitude>44.77653</Latitude>
```

web browser data (open):

 <https://geofon.gfz-potsdam.de/fdsnws/datasel ect/1/query?network=CZ&station=KHC&start=2023-01-01T00:00:00&end=2023-01-01T23:59:59>

web browser data (embargo):

# ObsPy:

```
RoutingClient("eida-routing", credentials={'EIDA_TOKEN': './eidatoken.pgp'})
```

using the virtual network \_ADARRAY (example by Luděk)

```
In [23]: rclient_eida = RoutingClient("eida-routing", credentials={'EIDA_TOKEN': token})
inv_eida_ada = rclient_eida.get_stations(network="_ADARRAY", level="station", includerestricted=True)
print(inv_eida_ada)

Inventory created at 2023-03-29T21:48:04.182604Z
Created by: ObsPy 1.4.0
              https://www.obspy.org
Sending institution: ObsPy FDSN Routing 1.4.0,RESIF-SI,SeisComP (BGR,GFZ,KOERI,LMU,NIEP,NOA,ODC,RESIF-DC,SED,UIB)
Contains:
    Networks (35):
        1Y, 7B, 9H, BS, BW, C4, CH, CL, CR, CZ (2x), FR, G, GE, GR, HA, HC
        HL, HP, HT, HU, KO, MD, ME, MT, OE, PL, RD, RO, SK, SL, XP, Y5,
        Y8, Z6
    Stations (893):
        1Y.GR01 (Neo Petritsi, Serres, Greece)
        1Y.GR02 (Drama, Greece)
        1Y.GR03 (Xanthi, Greece)
        1Y.GR04 (Abdera, Greece)
        1Y.GR05 (Maronia-Sapes, Petrota, Greece)
        1Y.GR06 (Mavroklisi, Greece)
        1Y.GR07 (Mesimeri, Edessa, Greece)
        1Y.GR09 (Rentina, Greece)
        1Y.GR10 (Kriovrisi, Ptolemaida, Greece)
```

## ObsPy:

```
RoutingClient("eida-routing", credentials={'EIDA_TOKEN': './eidatoken.pgp'})
```

## fdsnws\_fetch (token is assumed to be ~/.eidatoken)

```
$ fdsnws_fetch -vvv -N Z3 -C "HHZ" -s "2016-03-01" -e "2016-03-01T00:02:00" -o data.mseed
```

## webinterface:

<http://eida.gfz-potsdam.de/webdc3/>

The screenshot shows the EIDA Data Archives interface. At the top, there are links for GEOFON, EIDA, Imprint, and Data Protection. The EIDA logo is prominently displayed. Below the header, there are buttons for Explore events, Explore stations, Submit request, Download data, and View console. A 'doc Help' link is also present. The main area features a world map with green dots representing station locations. To the left, there are sections for 'Station Information', 'Networks' (with a year range from 1980 to 2023), 'Stations' (with options by Code, Region, or Events), and 'Streams'. A legend at the bottom of the map area provides instructions for selecting regions.

The screenshot shows the ORFEUS Data Center WebDC3 Web Interface. At the top, there is a navigation bar with links for Home, Organization, Data & Services, and Other. The title 'ORFEUS Data Center WebDC3 Web Interface' is centered above the content. Below the title, there are buttons for Explore events, Explore stations, Submit request, Download data, and Console. A 'Information' link is also present. The interface is divided into several sections: 'Events Controls' (with a note about selecting events), 'Event and Station Map' (with a note about dragging the map and using Ctrl-Mouse), 'Event Information' (with fields for Catalog Services, Date Interval, Minimum Magnitude, Depth from, and Coordinates), and 'Event and Station List' (with a note about selecting regions). A legend at the bottom right provides instructions for selecting regions.

This screenshot is identical to the one above, showing the EIDA Data Archives interface with its map, network selection, and various search filters.

This screenshot is identical to the one above, showing the ORFEUS Data Center WebDC3 Web Interface with its various search and display modules.

Data availability & access, quality tests, stationXML, AdA webpage

Q (& A)  
@ \tomorrows\breakout\session

AdriaArray Workshop, April 3-5, 2023, Dubrovnik

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INSTITUTE OF GEOPHYSICS  
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