

# EIDA Availability Report

**Created at 10-01-2026 00:32**

This document contains results of automated tests of the waveform availability of European EIDA stations and the responsiveness of the EIDA servers to metadata requests.

## Description of waveform test program

Availability test of EIDA stations using Python obspy library.

- Conducts random waveform requests to single channels of EIDA stations.
- One request per minute.
- Requested time span randomly selected from last year, span length between 60 and 600 s.
- Station randomly selected from the subset of unrestricted European EIDA stations offering at least one out of channels HHZ, BHZ, EHZ or SHZ.
- Request full station metadata from selected station and choose channel randomly, restricted to channels HH?, BH?, EH? and SH?.
- On successful request apply a restitution to the waveform data.
- Evaluate and store result of request in a file database.
- Plot and statistically analyze content of file database.

The code does not use the waveform catalog, therefore empty waveform returns are due to data gaps or due to problems in data access and delivery.

## Statistics on waveform tests

Statistics on random requests between 10-10-2025 and 10-01-2026 00:32 using station metadata valid since 10-01-2025.

### Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3330
- evaluated stations: 3225
- number of requests: 124808

## Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 124808 random requests between 10-10-2025 and 10-01-2026. The availability displayed is computed as the relative number of request results with status OK (see table below) compared to the number of all requests to this station.

### EIDA waveform response statistics (260110)

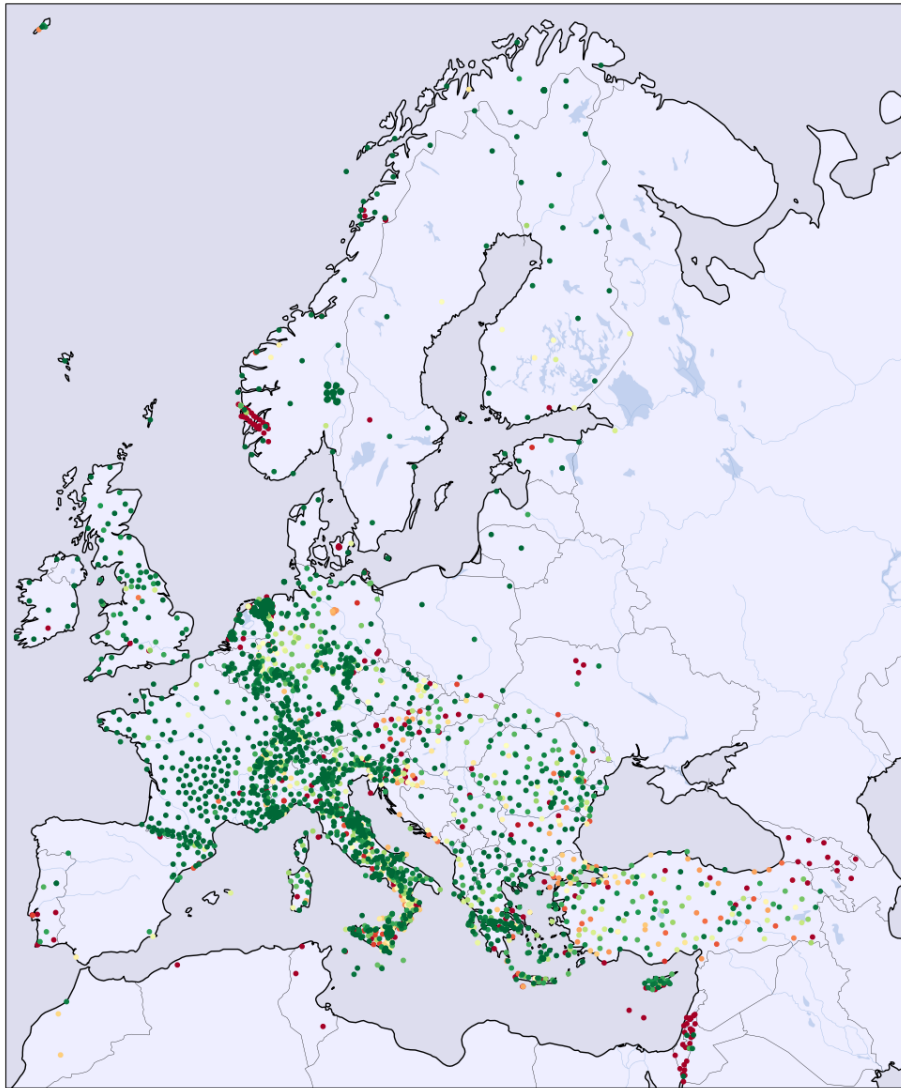


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

**Request status statistics of networks:**

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	74	83	15	0	0	0	0	0
1I	67	62	40	0	0	0	0	0
2D	192	81	44	0	0	0	0	0
2E	1	100	0	0	0	0	0	0
2I	222	86	34	0	0	0	0	0
3D	78	34	147	0	0	0	0	0
4P	431	59	268	3	23	0	0	0
5A	5	62	0	3	0	0	0	0
5B	34	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	571	52	511	2	1	0	1	0
7C	0	0	135	0	0	0	1	0
7F	120	96	4	0	0	0	1	0
8D	42	97	0	1	0	0	0	0
8N	63	56	48	1	0	0	0	0
9L	33	67	16	0	0	0	0	0
9S	45	51	43	0	0	0	0	0
AB	0	0	134	0	0	0	0	0
AC	434	92	33	0	0	0	4	0
BE	1256	95	63	0	2	0	0	0
BN	225	64	115	7	0	0	0	0
BQ	395	88	35	0	1	0	15	0
BS	736	65	366	13	4	0	0	0
BW	1872	78	515	0	0	0	0	0
C4	87	69	39	0	0	0	0	0
CA	846	86	111	18	2	0	0	0
CH	3419	91	235	95	2	0	0	0
CL	578	89	65	0	1	0	0	0
CP	0	0	100	0	0	0	0	0
CQ	440	55	338	11	2	0	0	0
CR	521	38	817	0	6	0	0	0
CZ	662	83	132	1	2	0	0	0
DK	588	41	809	0	8	0	1	0
DY	47	31	103	0	0	0	0	0
DZ	0	0	49	0	0	0	0	0
EB	43	100	0	0	0	0	0	0
EE	193	83	36	1	0	0	0	0
EI	402	91	36	0	0	0	0	0
ES	162	79	37	4	0	0	0	0
FN	387	99	3	0	0	0	0	0
FO	117	87	17	0	0	0	0	0
FR	7605	96	267	8	4	0	3	0
GB	2172	94	105	19	3	0	3	0
GE	2557	72	958	3	8	0	2	0

**Request status statistics of networks (continued):**

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	252	0	0	0	0	0
GQ	164	82	24	3	0	0	8	0
GR	3372	86	481	1	4	0	43	0
GU	1069	80	239	18	0	0	1	0
GX	87	84	13	2	1	0	0	0
HA	1192	92	99	0	1	0	0	0
HC	368	62	208	3	1	0	9	0
HE	678	78	186	0	0	0	0	0
HF	0	0	46	0	0	0	0	0
HL	1934	73	634	47	0	0	0	0
HP	818	93	40	19	0	0	0	0
HS	513	86	76	1	0	0	5	0
HT	1784	79	441	11	6	0	0	2
HU	541	85	93	0	1	0	0	0
IP	0	0	90	0	0	0	0	0
IS	0	0	1604	0	0	0	1	0
IV	14553	79	3525	202	28	0	3	45
IX	410	66	192	11	3	0	0	0
IY	431	60	273	7	1	0	6	0
JS	0	0	210	0	0	0	0	0
K3	21	80	5	0	0	0	0	0
KO	4424	62	774	1702	59	0	91	0
KQ	217	67	51	52	0	0	2	0
LC	0	0	40	0	0	0	0	0
LE	1406	90	108	0	0	0	33	0
LU	464	97	14	0	0	0	0	0
LX	76	64	41	0	1	0	0	0
M1	281	66	139	0	0	0	1	0
MD	114	87	17	0	0	0	0	0
ME	27	56	21	0	0	0	0	0
MK	368	99	1	0	0	0	0	0
ML	65	80	16	0	0	0	0	0
MN	749	66	363	17	1	0	1	0
MT	354	84	66	1	0	0	0	0
NH	274	55	203	2	0	0	14	0
NI	155	70	63	1	0	0	0	0
NL	9686	87	1247	109	24	0	2	0
NO	3411	88	195	10	7	0	252	0
NR	30	11	235	0	0	0	0	0
NS	1632	42	1977	1	0	0	266	0
OE	871	78	212	0	23	0	0	0
OT	538	80	85	7	2	0	0	37
OX	503	69	212	3	2	0	2	0
PL	357	99	2	0	0	0	0	0

**Request status statistics of networks (continued):**

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	30	12	205	0	0	0	0	0
QE	235	58	141	1	0	0	22	0
QM	253	72	98	0	0	0	0	0
RD	514	99	3	0	1	0	0	0
RF	39	100	0	0	0	0	0	0
RN	196	46	197	4	16	0	8	0
RO	4052	81	898	6	10	0	3	0
SI	136	54	114	0	0	0	0	0
SJ	448	75	140	5	3	0	0	0
SK	245	51	233	0	0	0	1	0
SL	1062	82	204	6	18	0	0	0
SS	30	83	6	0	0	0	0	0
ST	349	99	1	0	0	0	0	0
SX	599	71	229	1	0	0	14	0
TH	1407	90	128	3	2	0	20	0
TQ	203	51	182	8	1	0	0	0
TT	0	0	134	0	0	0	0	0
TU	102	21	362	0	1	0	0	0
TV	24	53	21	0	0	0	0	0
UD	84	32	175	3	0	0	0	0
UP	421	94	23	0	2	0	0	0
UR	256	70	103	5	0	0	0	0
UT	205	94	13	0	0	0	0	0
VI	245	80	54	3	1	0	0	0
VM	49	100	0	0	0	0	0	0
WE	0	0	38	0	0	0	0	0
WM	98	46	115	0	0	0	0	0
XE	223	58	159	0	0	0	1	0
XP	1450	99	4	0	0	0	0	0
Y8	167	79	42	0	0	0	0	0
YV	102	56	80	0	0	0	0	0
ZO	307	91	29	0	0	0	0	0

Status codes used in above statistics:

**OK** data delivery and restitution successful

**OK in %** Percentage of successful data delivery

**NODATA** no data available

**FRAGMENT** returned data not contiguous

**INCOMPL** returned time interval less than requested

**METAFAIL** restituted data contain illegal values (Nans)

**NOSERV** station metadata request failed

**RESTFAIL** removing response failed

## Waveform requests, random hit distribution

How many stations have how many hits of random requests.

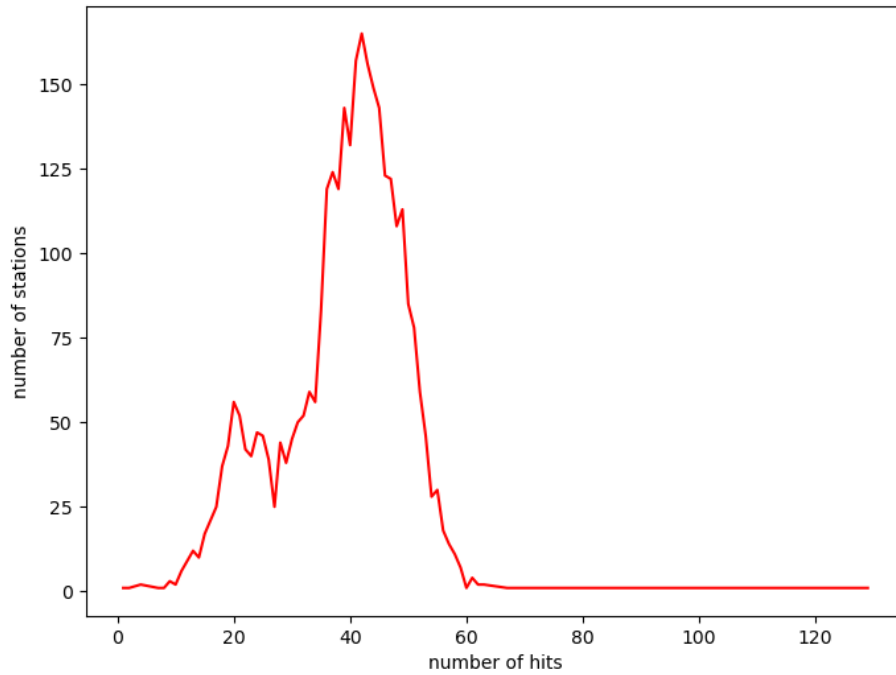


Figure 2: Request hit statistics showing the distribution of the 124808 requests on the 3225 evaluated stations

## Failure rate of inventory requests

This section contains results of inventory test requests on network, station and channel level. A few times per hour all servers get direct metadata requests followed by a metadata request using the routing client of obspy. It is checked whether all servers respond to the direct requests and whether all servers contribute to the routed request. The following results refer to tests carried out since 13-12-2025 00:32:02.

totals: direct requests 2015, routed requests 2015, federator requests 2015

Number of failed requests and failure rates of servers:

server	direct	routed	federator
AFAD	2016 (100.0%)	2015 (100.0%)	1985 (100.0%)
BGR	3 ( 0.1%)	6 ( 0.3%)	38 ( 1.9%)
BGS	1 ( 0.0%)	1 ( 0.0%)	7 ( 0.4%)
ETH	0 ( 0.0%)	0 ( 0.0%)	2 ( 0.1%)
GFZ	0 ( 0.0%)	0 ( 0.0%)	210 (10.6%)
ICGC	6 ( 0.3%)	3 ( 0.1%)	26 ( 1.3%)
INGV	0 ( 0.0%)	0 ( 0.0%)	17 ( 0.9%)
KOERI	25 ( 1.2%)	87 ( 4.3%)	9 ( 0.5%)
LMU	1 ( 0.0%)	1 ( 0.0%)	5 ( 0.3%)
NIEP	9 ( 0.4%)	11 ( 0.5%)	18 ( 0.9%)
NOA	16 ( 0.8%)	13 ( 0.6%)	11 ( 0.6%)
ODC	0 ( 0.0%)	0 ( 0.0%)	67 ( 3.4%)
RESIF	3 ( 0.1%)	1 ( 0.0%)	19 ( 1.0%)
UIB/NORSAR	2 ( 0.1%)	3 ( 0.1%)	11 ( 0.6%)

failures of routing client: 0

failures of federator: 30

runs without errors: 0 (0.0%)

## Remarks

A history of these daily reports (in pdf format)as well as request logs on station level are available at [ftp://www.szgrf.bgr.de/pub/EidaAvailability.files/history\\_eida\\_availability\\_reports.tgz](ftp://www.szgrf.bgr.de/pub/EidaAvailability.files/history_eida_availability_reports.tgz) and [stationlogs\\_eida\\_availability.tgz](ftp://www.szgrf.bgr.de/pub/EidaAvailability.files/stationlogs_eida_availability.tgz), respectively. Reports created after 15-08-2022 are available at [https://www.szgrf.bgr.de/eidaqc\\_report/EidaAvailability](https://www.szgrf.bgr.de/eidaqc_report/EidaAvailability)

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Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%