

EIDA Availability Report

Created at 17-01-2026 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 17-10-2025 and 17-01-2026 00:32 using station metadata valid since 17-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3330
- evaluated stations: 3225
- number of requests: 125069

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125069 random requests between 17-10-2025 and 17-01-2026. 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 (260117)

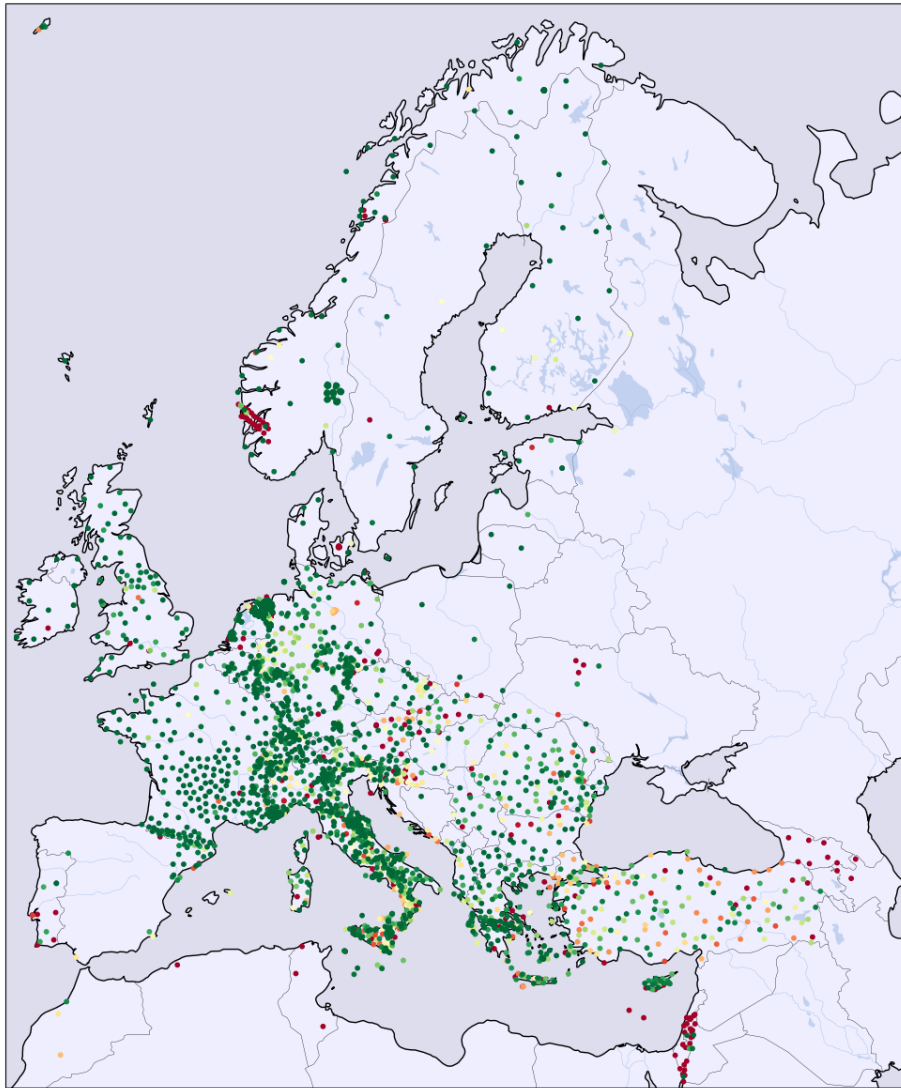


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	74	86	12	0	0	0	0	0
1I	67	62	41	0	0	0	0	0
2D	189	81	43	0	0	0	0	0
2E	1	100	0	0	0	0	0	0
2I	216	85	37	0	0	0	0	0
3D	80	34	151	0	0	0	1	0
4P	419	57	282	4	19	0	0	0
5A	6	60	0	4	0	0	0	0
5B	34	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	574	52	507	2	2	0	0	0
7C	0	0	136	0	0	0	1	0
7F	127	95	5	0	0	0	1	0
8D	42	97	0	1	0	0	0	0
8N	57	55	45	1	0	0	0	0
9L	33	68	15	0	0	0	0	0
9S	49	54	41	0	0	0	0	0
AB	0	0	129	0	0	0	0	0
AC	420	92	32	0	0	0	4	0
BE	1239	94	64	0	2	0	0	0
BN	237	64	121	8	0	0	0	0
BQ	391	93	13	0	1	0	13	0
BS	727	65	375	12	4	0	0	0
BW	1876	78	503	0	0	0	0	0
C4	84	68	39	0	0	0	0	0
CA	852	86	112	18	2	0	0	0
CH	3445	91	224	95	1	0	0	0
CL	575	89	65	0	1	0	0	0
CP	0	0	98	0	0	0	0	0
CQ	435	55	333	10	2	0	0	0
CR	532	37	869	0	7	0	0	0
CZ	675	83	129	1	2	0	0	0
DK	589	42	804	0	7	0	1	0
DY	52	33	104	0	0	0	0	0
DZ	0	0	50	0	0	0	0	0
EB	43	100	0	0	0	0	0	0
EE	190	82	39	1	0	0	0	0
EI	402	91	35	0	0	0	0	0
ES	160	79	35	6	0	0	0	0
FN	383	99	3	0	0	0	0	0
FO	122	90	13	0	0	0	0	0
FR	7610	96	267	7	5	0	4	0
GB	2323	94	112	22	3	0	0	0
GE	2574	72	963	2	5	0	2	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	246	0	0	0	0	0
GQ	170	80	29	4	0	0	8	0
GR	3399	86	478	1	2	0	43	0
GU	1053	80	242	17	0	0	1	0
GX	91	84	13	3	1	0	0	0
HA	1201	92	101	0	1	0	0	0
HC	367	63	198	3	1	0	10	0
HE	669	78	179	0	0	0	0	0
HF	0	0	46	0	0	0	0	0
HL	1956	74	639	47	0	0	0	0
HP	816	92	42	22	1	0	0	0
HS	507	84	85	1	0	0	5	0
HT	1792	79	434	12	7	0	2	2
HU	555	85	93	0	1	0	0	0
IP	0	0	87	0	0	0	0	0
IS	0	0	1621	0	0	0	2	0
IV	14555	79	3476	206	24	0	3	46
IX	420	67	192	11	2	0	0	0
IY	443	60	268	9	1	0	6	0
JS	0	0	204	0	0	0	0	0
K3	19	79	5	0	0	0	0	0
KO	4407	62	790	1667	57	0	91	0
KQ	218	69	44	48	0	0	2	0
LC	0	0	42	0	0	0	0	0
LE	1431	91	102	0	0	0	34	0
LU	469	98	8	0	0	0	0	0
LX	75	65	38	0	1	0	0	0
M1	267	66	134	0	0	0	1	0
MD	121	88	16	0	0	0	0	0
ME	29	60	19	0	0	0	0	0
MK	364	99	1	0	0	0	0	0
ML	59	74	20	0	0	0	0	0
MN	757	67	354	17	0	0	1	0
MT	359	84	66	1	0	0	0	0
NH	289	58	188	2	0	0	14	0
NI	155	70	64	1	0	0	0	0
NL	9676	87	1244	117	24	0	2	0
NO	3377	87	196	9	6	0	252	0
NR	33	12	242	0	0	0	0	0
NS	1638	42	1963	1	0	0	265	0
OE	883	79	208	0	20	0	0	0
OT	540	80	87	5	2	0	0	39
OX	507	69	216	3	2	0	2	0
PL	354	99	2	0	0	0	0	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	31	13	204	0	0	0	0	0
QE	231	56	152	1	0	0	22	0
QM	253	72	96	0	0	0	0	0
RD	516	99	3	0	1	0	0	0
RF	41	100	0	0	0	0	0	0
RN	195	46	197	5	17	0	8	0
RO	4046	81	888	6	11	0	2	0
SI	135	53	116	0	0	0	0	0
SJ	451	75	139	6	3	0	0	0
SK	245	51	235	0	0	0	0	0
SL	1061	82	205	6	18	0	0	0
SS	28	84	5	0	0	0	0	0
ST	355	99	1	0	0	0	0	0
SX	596	70	235	1	0	0	14	0
TH	1402	89	132	3	2	0	20	0
TQ	210	51	188	7	1	0	0	0
TT	0	0	141	0	0	0	0	0
TU	105	22	364	0	1	0	0	0
TV	23	51	22	0	0	0	0	0
UD	82	31	173	3	0	0	0	0
UP	425	94	24	0	3	0	0	0
UR	276	71	104	5	0	0	0	0
UT	203	92	16	0	0	0	0	0
VI	259	82	51	3	2	0	0	0
VM	50	100	0	0	0	0	0	0
WE	0	0	36	0	0	0	0	0
WM	101	45	120	0	0	0	0	0
XE	224	58	159	0	0	0	1	0
XP	1474	99	4	0	0	0	0	0
Y8	171	79	43	0	0	0	0	0
YV	100	56	78	0	0	0	0	0
ZO	306	91	30	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.

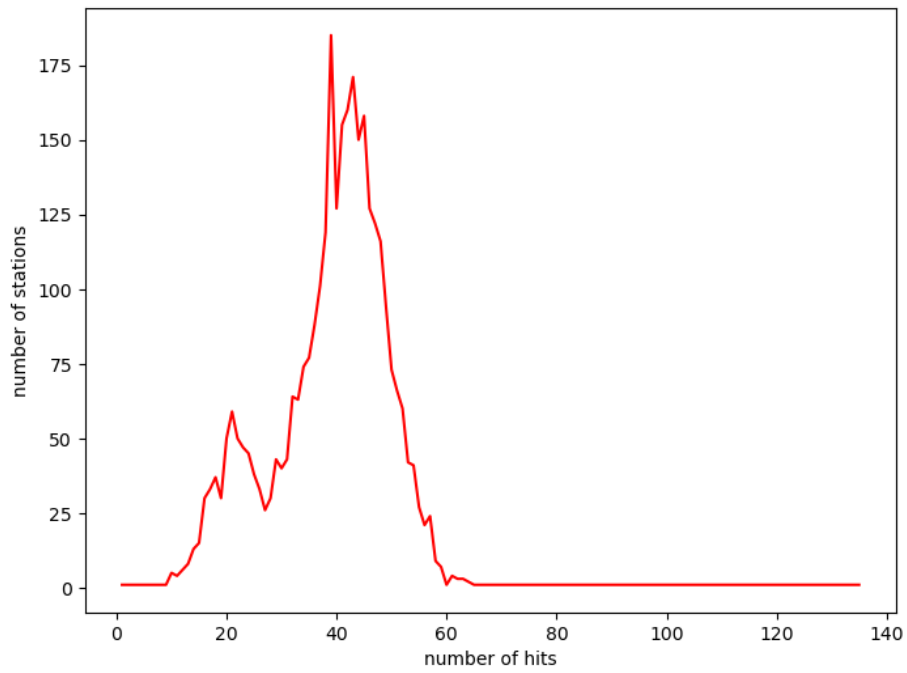


Figure 2: Request hit statistics showing the distribution of the 125069 requests on the 3225 evaluated stations

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 20-12-2025 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%)	2002 (100.0%)
BGR	3 (0.1%)	7 (0.3%)	35 (1.7%)
BGS	0 (0.0%)	0 (0.0%)	2 (0.1%)
ETH	1 (0.0%)	1 (0.0%)	0 (0.0%)
GFZ	0 (0.0%)	0 (0.0%)	78 (3.9%)
ICGC	8 (0.4%)	2 (0.1%)	25 (1.2%)
INGV	0 (0.0%)	0 (0.0%)	10 (0.5%)
KOERI	27 (1.3%)	89 (4.4%)	5 (0.2%)
LMU	0 (0.0%)	1 (0.0%)	1 (0.0%)
NIEP	9 (0.4%)	11 (0.5%)	14 (0.7%)
NOA	15 (0.7%)	14 (0.7%)	6 (0.3%)
ODC	0 (0.0%)	0 (0.0%)	31 (1.5%)
RESIF	4 (0.2%)	1 (0.0%)	12 (0.6%)
UIB/NORSAR	3 (0.1%)	2 (0.1%)	8 (0.4%)

failures of routing client: 0

failures of federator: 13

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 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

This report was automatically created at 17-01-2026 00:32 MEST using pandoc 2.18.



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