

EIDA Availability Report

Created at 19-01-2026 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 19-10-2025 and 19-01-2026 00:32 using station metadata valid since 19-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3330
- evaluated stations: 3226
- number of requests: 125096

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125096 random requests between 19-10-2025 and 19-01-2026. 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 (260119)

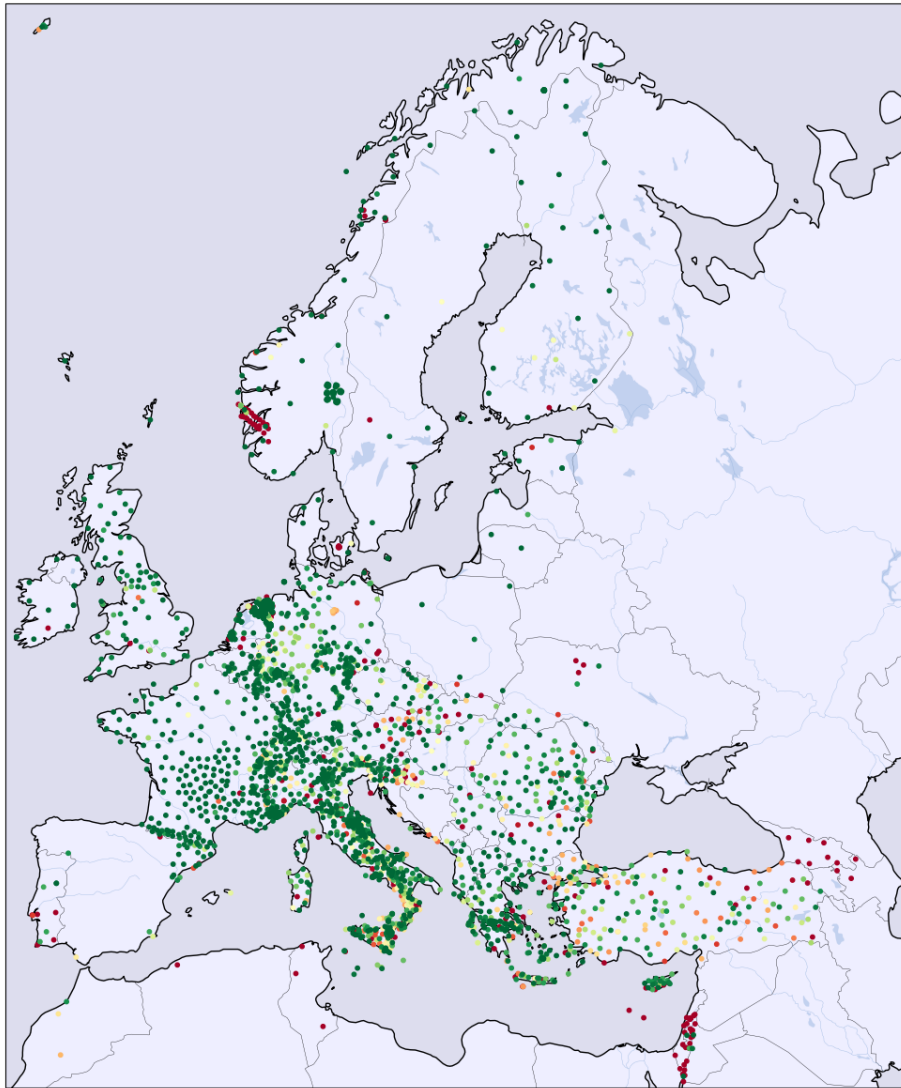


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

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	69	63	40	0	0	0	0	0
2D	189	82	41	0	0	0	0	0
2E	1	100	0	0	0	0	0	0
2I	214	85	37	0	0	0	0	0
3D	79	34	152	0	0	0	1	0
4P	415	57	283	4	19	0	0	0
5A	7	58	0	5	0	0	0	0
5B	35	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	570	52	513	2	2	0	0	0
7C	0	0	139	0	0	0	1	0
7F	124	95	5	0	0	0	1	0
8D	42	97	0	1	0	0	0	0
8N	55	54	45	1	0	0	0	0
9L	32	68	15	0	0	0	0	0
9S	49	53	42	0	0	0	0	0
AB	0	0	131	0	0	0	0	0
AC	425	92	32	0	0	0	4	0
BE	1228	94	63	0	2	0	0	0
BN	234	64	121	8	0	0	0	0
BQ	398	93	13	0	1	0	13	0
BS	731	65	377	12	4	0	0	0
BW	1871	78	509	0	0	0	0	0
C4	84	69	37	0	0	0	0	0
CA	844	86	111	17	2	0	0	0
CH	3445	91	223	94	1	0	0	0
CL	570	89	67	0	1	0	0	0
CP	0	0	99	0	0	0	0	0
CQ	433	56	328	10	2	0	0	0
CR	527	37	870	0	6	0	0	0
CZ	673	84	125	1	2	0	0	0
DK	598	42	804	0	7	0	1	0
DY	52	33	103	0	0	0	0	0
DZ	0	0	47	0	0	0	0	0
EB	43	100	0	0	0	0	0	0
EE	192	82	39	1	0	0	0	0
EI	400	92	33	0	0	0	0	0
ES	157	79	34	6	0	0	0	0
FN	388	99	3	0	0	0	0	0
FO	124	90	13	0	0	0	0	0
FR	7597	96	266	7	5	0	4	0
GB	2341	94	115	20	3	0	0	0
GE	2575	72	965	2	5	0	2	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	242	0	0	0	0	0
GQ	168	80	28	4	0	0	8	0
GR	3398	86	482	1	2	0	43	0
GU	1051	80	236	18	0	0	1	0
GX	93	84	13	3	1	0	0	0
HA	1199	92	98	0	1	0	0	0
HC	367	63	200	3	1	0	10	0
HE	677	79	176	0	0	0	0	0
HF	0	0	46	0	0	0	0	0
HL	1957	73	651	49	0	0	0	0
HP	811	92	41	21	1	0	0	0
HS	508	84	89	1	0	0	5	0
HT	1808	79	432	12	7	0	2	2
HU	550	85	91	0	1	0	0	0
IP	0	0	84	0	0	0	0	0
IS	0	0	1625	0	0	0	2	0
IV	14549	79	3479	207	20	0	3	44
IX	423	67	192	13	2	0	0	0
IY	445	61	266	9	1	0	6	0
JS	0	0	204	0	0	0	0	0
K3	20	80	5	0	0	0	0	0
KO	4403	62	791	1673	59	0	91	0
KQ	221	70	44	48	0	0	2	0
LC	0	0	43	0	0	0	0	0
LE	1438	91	100	0	0	0	34	0
LU	467	97	10	0	0	0	0	0
LX	76	65	39	0	1	0	0	0
M1	268	66	135	0	0	0	1	0
MD	117	87	16	0	0	0	0	0
ME	28	60	18	0	0	0	0	0
MK	364	99	1	0	0	0	0	0
ML	59	74	20	0	0	0	0	0
MN	744	66	354	16	0	0	1	0
MT	352	84	65	1	0	0	0	0
NH	301	59	187	2	0	0	14	0
NI	153	69	66	2	0	0	0	0
NL	9693	87	1246	118	24	0	1	0
NO	3372	87	197	9	6	0	252	0
NR	33	12	240	0	0	0	0	0
NS	1638	42	1963	1	0	0	265	0
OE	885	79	207	0	20	0	0	0
OT	539	79	88	5	2	0	0	40
OX	503	68	220	3	2	0	2	0
PL	353	99	2	0	0	0	0	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	34	14	207	0	0	0	0	0
QE	230	56	157	1	0	0	22	0
QM	251	72	97	0	0	0	0	0
RD	517	99	4	0	1	0	0	0
RF	43	100	0	0	0	0	0	0
RN	193	46	196	6	16	0	8	0
RO	4028	81	880	6	11	0	2	0
SI	139	54	118	0	0	0	0	0
SJ	448	74	141	6	3	0	0	0
SK	244	50	235	0	0	0	0	0
SL	1061	81	211	6	18	0	0	0
SS	29	85	5	0	0	0	0	0
ST	352	99	1	0	0	0	0	0
SX	591	70	235	1	0	0	14	0
TH	1416	89	134	3	2	0	20	0
TQ	213	51	192	7	1	0	0	0
TT	0	0	141	0	0	0	0	0
TU	105	22	368	0	1	0	0	0
TV	23	50	23	0	0	0	0	0
UD	82	31	173	3	0	0	0	0
UP	429	94	24	0	3	0	0	0
UR	279	71	104	5	0	0	0	0
UT	202	93	14	0	0	0	0	0
VI	258	81	52	3	2	0	0	0
VM	51	100	0	0	0	0	0	0
WE	0	0	37	0	0	0	0	0
WM	101	45	119	0	0	0	0	0
XE	220	58	157	0	0	0	1	0
XP	1481	99	3	0	0	0	0	0
Y8	173	79	45	0	0	0	0	0
YV	98	55	79	0	0	0	0	0
ZO	299	90	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.

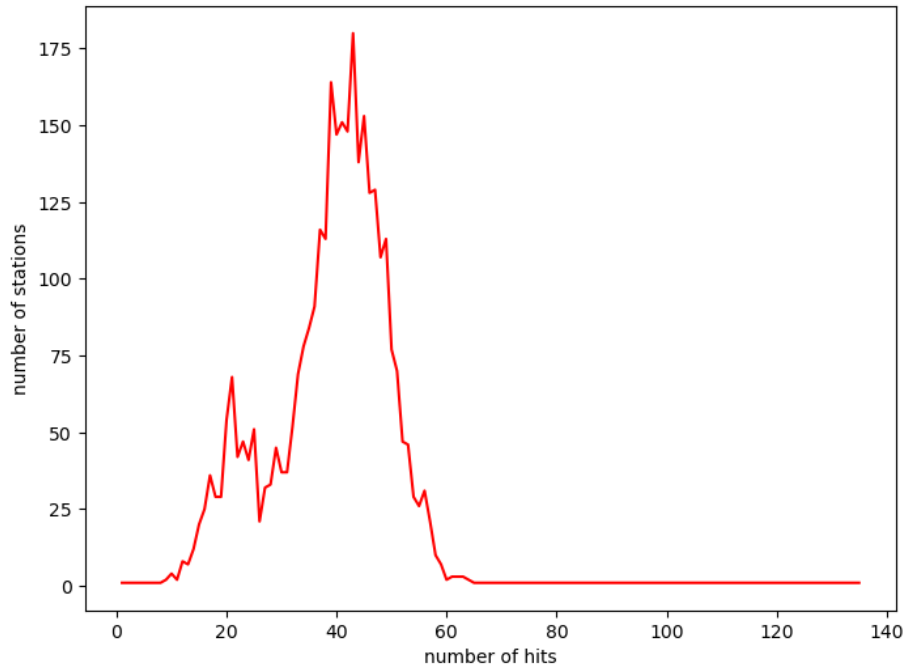


Figure 2: Request hit statistics showing the distribution of the 125096 requests on the 3226 evaluated stations

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 22-12-2025 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%)	2003 (100.0%)
BGR	3 (0.1%)	7 (0.3%)	33 (1.6%)
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%)	58 (2.9%)
ICGC	8 (0.4%)	5 (0.2%)	23 (1.1%)
INGV	0 (0.0%)	0 (0.0%)	8 (0.4%)
KOERI	28 (1.4%)	89 (4.4%)	4 (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%)	21 (1.0%)
RESIF	4 (0.2%)	1 (0.0%)	10 (0.5%)
UIB/NORSAR	3 (0.1%)	2 (0.1%)	8 (0.4%)

failures of routing client: 0

failures of federator: 12

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 19-01-2026 00:32 MEST using pandoc 2.18.

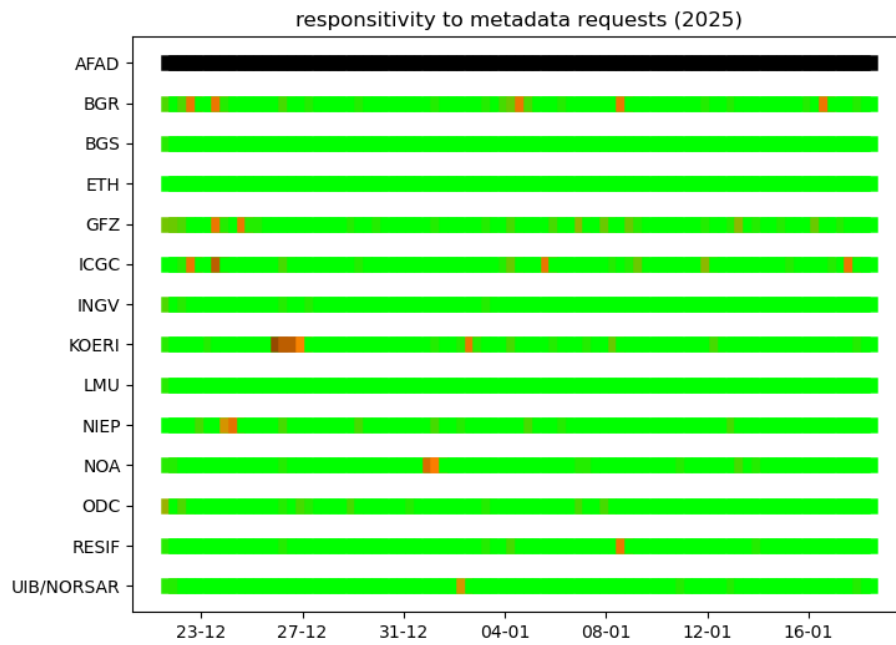


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%