

EIDA Availability Report

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

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3348
- evaluated stations: 3246
- number of requests: 125350

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125350 random requests between 01-10-2025 and 01-01-2026. 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 (260101)

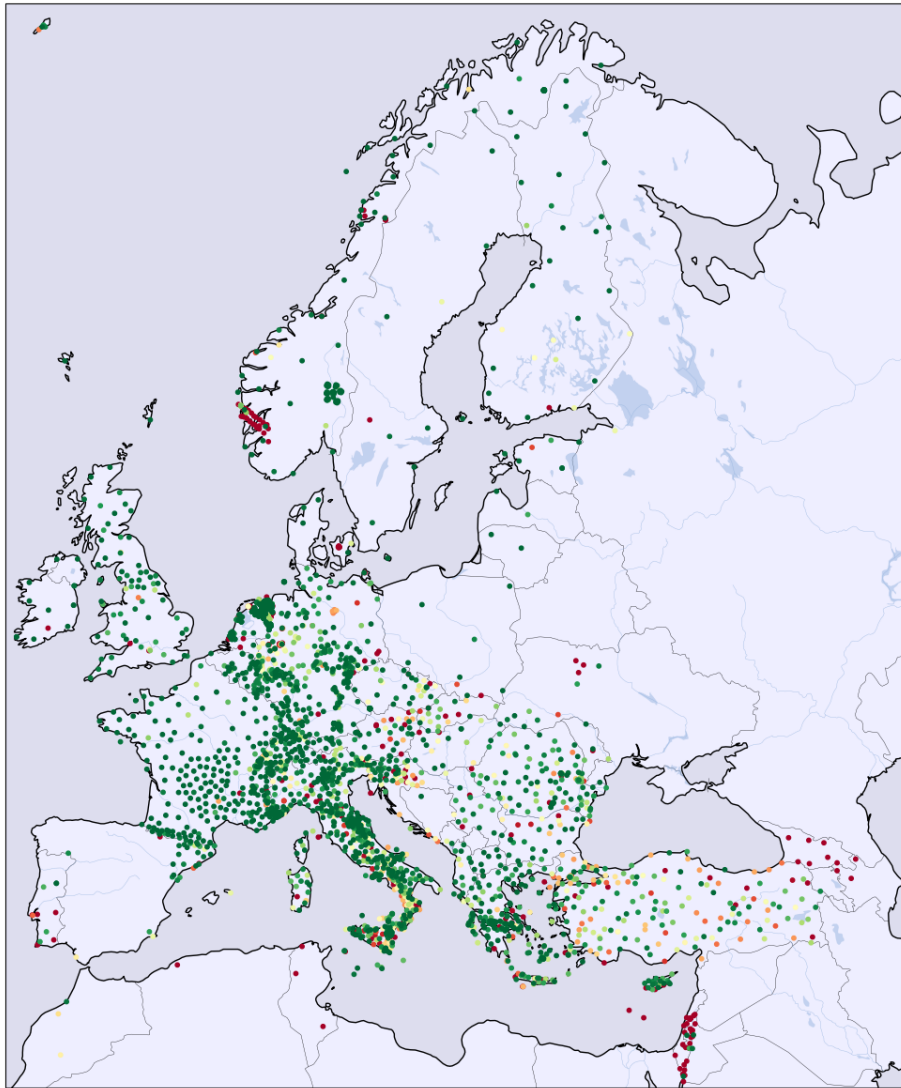


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	75	83	15	0	0	0	0	0
1I	66	63	38	0	0	0	0	0
2D	200	83	40	0	0	0	0	0
2I	227	86	36	0	0	0	0	0
3D	78	35	144	0	0	0	0	0
4P	439	60	264	4	21	0	0	0
5A	1	50	0	1	0	0	0	0
5B	35	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	572	52	507	2	2	0	1	0
7C	0	0	128	0	0	0	1	0
7F	119	95	4	0	0	0	1	0
8D	41	97	0	1	0	0	0	0
8N	71	55	56	1	0	0	0	0
9L	32	62	19	0	0	0	0	0
9S	55	56	42	0	0	0	0	0
AB	0	0	132	0	0	0	0	0
AC	435	92	33	0	0	0	4	0
BE	1268	94	66	0	2	0	0	0
BN	214	63	112	7	0	0	2	0
BQ	404	87	40	0	1	0	15	0
BS	710	64	375	12	4	0	0	0
BW	1842	78	514	0	0	0	0	0
C4	86	69	37	0	0	0	0	0
CA	848	86	116	19	1	0	0	0
CH	3431	91	234	92	2	0	0	0
CL	583	91	56	0	0	0	0	0
CP	0	0	99	0	0	0	0	0
CQ	440	56	335	7	2	0	0	0
CR	503	39	764	0	6	0	0	0
CZ	667	83	128	1	3	0	0	0
DK	555	40	795	0	7	0	1	0
DY	52	33	105	0	0	0	0	0
DZ	0	0	45	0	0	0	0	0
EB	41	100	0	0	0	0	0	0
EE	200	83	38	1	0	0	0	0
EI	390	91	37	0	0	0	0	0
ES	160	78	42	3	0	0	0	0
FN	399	98	5	0	0	0	0	0
FO	122	84	22	0	0	0	0	0
FR	7643	96	262	7	4	0	3	0
GB	2133	93	102	20	3	0	16	0
GE	2512	72	950	3	8	0	2	0
GO	0	0	253	0	0	0	0	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GQ	168	85	24	3	0	0	2	0
GR	3354	86	478	1	4	0	43	0
GU	1072	80	238	17	0	0	1	0
GX	83	84	13	2	0	0	0	0
HA	1214	91	107	0	1	0	0	0
HC	365	60	224	3	1	0	8	0
HE	687	79	181	0	0	0	0	0
HF	0	0	48	0	0	0	0	0
HL	1931	74	611	46	2	0	0	0
HP	811	93	37	18	1	0	0	0
HS	519	88	68	2	0	0	0	0
HT	1800	80	431	11	5	0	0	2
HU	556	85	93	0	1	0	0	0
IP	0	0	88	0	0	0	0	0
IS	0	0	1605	0	0	0	1	0
IV	14467	79	3504	203	28	0	3	44
IX	403	65	198	11	3	0	0	0
IY	442	59	287	6	1	0	6	0
JS	0	0	214	0	0	0	0	0
K3	21	80	5	0	0	0	0	0
KO	4396	62	763	1703	55	0	91	0
KQ	228	66	54	54	0	0	7	0
LC	0	0	41	0	0	0	0	0
LE	1405	89	106	0	0	0	59	0
LU	449	94	24	0	0	0	0	0
LX	80	64	42	0	2	0	0	0
M1	280	67	131	0	0	0	1	0
MD	116	89	14	0	0	0	0	0
ME	26	56	20	0	0	0	0	0
MK	366	99	1	0	0	0	0	0
ML	67	82	14	0	0	0	0	0
MN	751	66	362	14	1	0	1	0
MT	350	83	69	0	0	0	0	0
NH	252	51	220	2	0	0	13	0
NI	153	70	63	2	0	0	0	0
NL	9661	87	1250	123	20	0	2	0
NO	3406	88	194	8	7	0	252	0
NR	29	10	241	0	0	0	0	0
NS	1622	42	1966	1	0	0	266	0
OE	863	78	215	0	22	0	0	0
OT	552	80	89	7	2	0	0	35
OX	498	69	209	3	1	0	2	0
PL	343	99	3	0	0	0	0	0
PM	37	15	204	0	0	0	0	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
QE	227	58	139	1	0	0	22	0
QM	257	72	97	0	0	0	0	0
RD	506	99	3	0	2	0	0	0
RF	39	100	0	0	0	0	0	0
RN	214	47	206	4	16	0	7	0
RO	4081	81	892	7	10	0	3	0
SI	136	54	113	0	0	0	0	0
SJ	435	74	141	3	3	0	0	0
SK	242	50	238	0	0	0	1	0
SL	1070	83	195	5	18	0	0	0
SS	31	83	6	0	0	0	0	0
ST	345	99	1	0	0	0	0	0
SX	636	72	233	1	1	0	10	0
TH	1387	90	128	3	2	0	20	0
TQ	204	52	177	9	1	0	0	0
TT	0	0	138	0	0	0	0	0
TU	108	22	363	0	1	0	0	0
TV	24	54	20	0	0	0	0	0
UD	86	31	181	3	0	0	0	0
UP	427	94	22	0	3	0	0	0
UR	252	70	99	3	0	0	5	0
UT	198	93	13	0	0	0	0	0
VI	228	79	56	3	1	0	0	0
VM	50	100	0	0	0	0	0	0
WE	0	0	36	0	0	0	0	0
WM	106	47	116	0	0	0	0	0
XE	227	59	156	0	0	0	1	0
XP	1465	99	5	0	0	0	0	0
Y8	159	80	39	0	0	0	0	0
YD	10	1	98	0	0	0	691	0
YV	101	57	76	0	0	0	0	0
ZO	311	91	28	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.

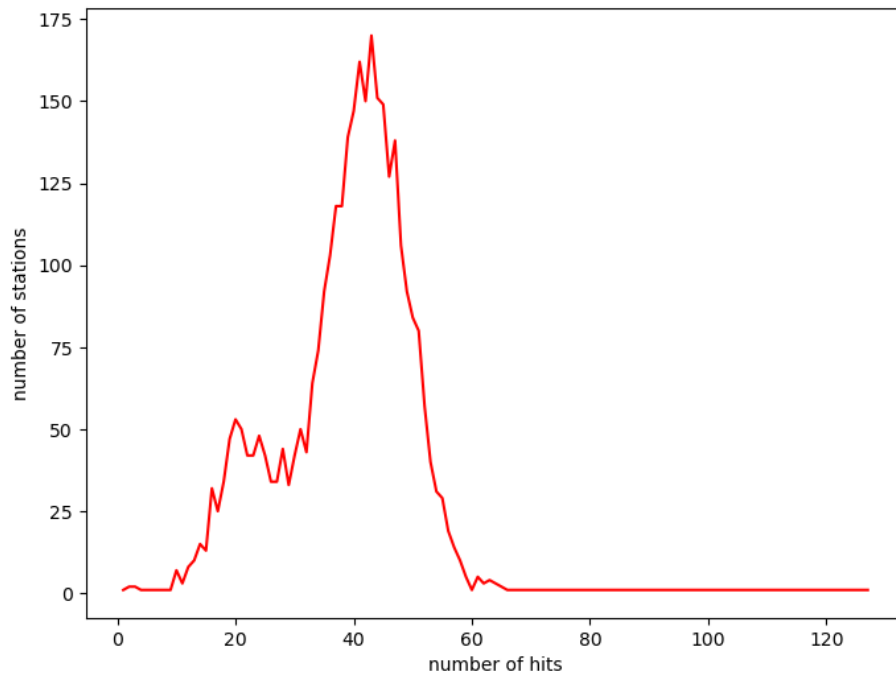


Figure 2: Request hit statistics showing the distribution of the 125350 requests on the 3246 evaluated stations

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 04-12-2025 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%)	1960 (100.0%)
BGR	11 (0.5%)	18 (0.9%)	35 (1.8%)
BGS	2 (0.1%)	2 (0.1%)	6 (0.3%)
ETH	0 (0.0%)	1 (0.0%)	3 (0.2%)
GFZ	0 (0.0%)	0 (0.0%)	301 (15.4%)
ICGC	3 (0.1%)	1 (0.0%)	18 (0.9%)
INGV	3 (0.1%)	0 (0.0%)	21 (1.1%)
KOERI	18 (0.9%)	81 (4.0%)	11 (0.6%)
LMU	3 (0.1%)	2 (0.1%)	7 (0.4%)
NIEP	9 (0.4%)	8 (0.4%)	18 (0.9%)
NOA	5 (0.2%)	2 (0.1%)	16 (0.8%)
ODC	0 (0.0%)	0 (0.0%)	79 (4.0%)
RESIF	3 (0.1%)	2 (0.1%)	16 (0.8%)
UIB/NORSAR	95 (4.7%)	315 (15.6%)	52 (2.7%)

failures of routing client: 0

failures of federator: 55

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 01-01-2026 00:32 MEST usingpandoc 2.18.

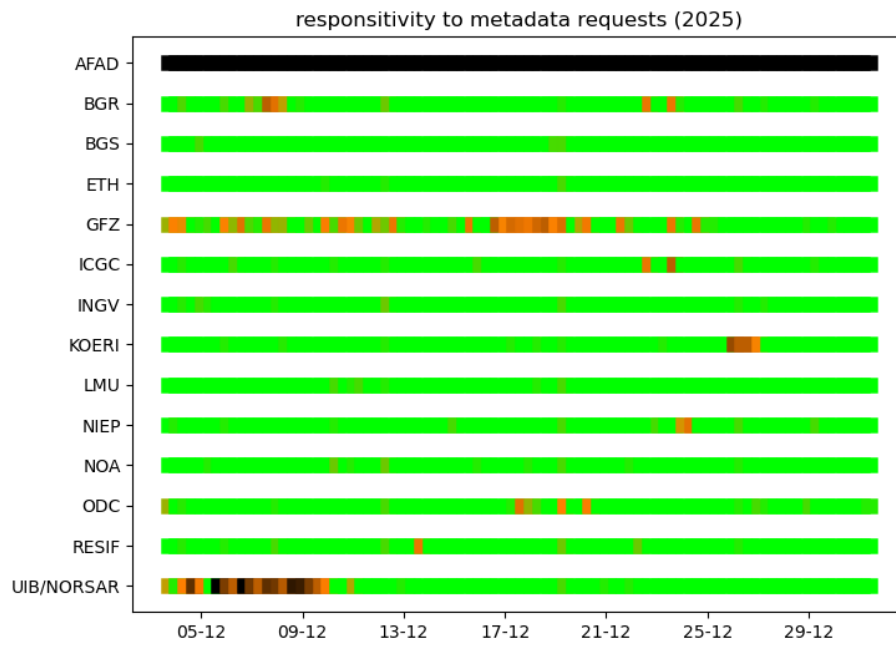


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%