

EIDA Availability Report

Created at 04-02-2026 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 04-11-2025 and 04-02-2026 00:32 using station metadata valid since 04-02-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3230
- number of requests: 125235

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125235 random requests between 04-11-2025 and 04-02-2026. 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 (260204)

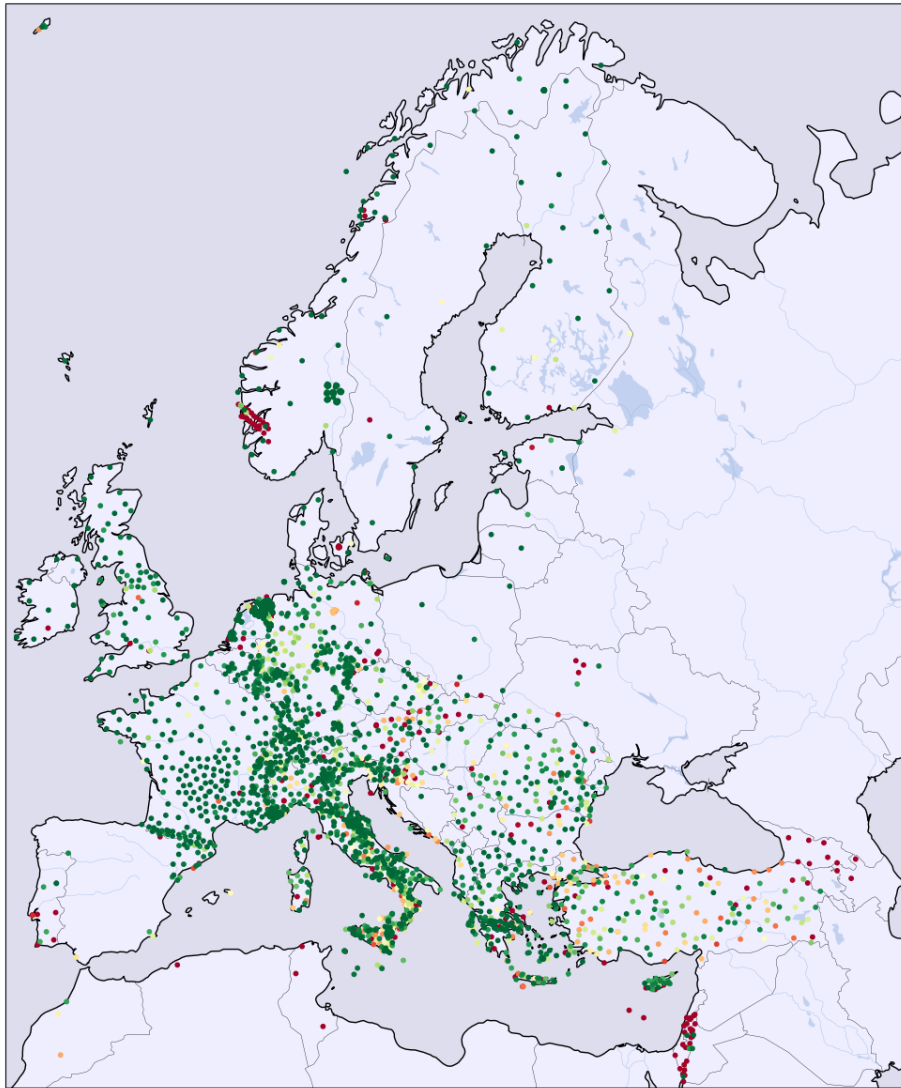


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	75	86	11	0	0	0	1	0
1I	77	62	46	0	0	0	0	0
2D	202	82	37	0	0	0	6	0
2E	4	66	2	0	0	0	0	0
2I	227	84	41	0	0	0	0	0
3D	75	31	159	0	0	0	3	0
4P	404	56	291	4	14	0	0	5
5A	12	54	1	9	0	0	0	0
5B	32	94	2	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	585	53	497	2	5	0	0	0
7C	0	0	145	0	0	0	1	0
7F	126	97	2	0	0	0	1	0
8D	40	97	0	1	0	0	0	0
8N	44	53	37	1	0	0	0	0
9L	30	62	18	0	0	0	0	0
9S	51	58	35	1	0	0	0	0
AB	0	0	143	0	0	0	0	0
AC	415	92	31	0	1	0	4	0
BE	1232	95	61	0	3	0	0	0
BN	232	65	111	9	0	0	0	0
BQ	422	94	16	0	2	0	8	0
BS	711	64	374	11	5	0	0	0
BW	1871	79	493	0	0	0	0	0
C4	83	72	31	0	0	0	0	0
CA	841	87	104	18	2	0	0	0
CH	3466	91	225	92	1	0	0	0
CL	562	89	64	0	1	0	0	0
CP	0	0	96	0	0	0	0	0
CQ	424	55	323	10	2	0	0	0
CR	528	37	862	0	5	0	0	0
CZ	676	84	110	1	1	0	9	0
DK	600	42	801	0	6	0	16	0
DY	50	30	112	0	0	0	0	0
DZ	0	0	43	0	0	0	0	0
EB	37	100	0	0	0	0	0	0
EE	184	78	46	0	0	0	3	0
EI	390	90	36	0	0	0	7	0
ES	159	81	28	9	0	0	0	0
FN	382	97	3	0	0	0	7	0
FO	126	94	8	0	0	0	0	0
FR	7538	96	274	8	6	0	2	0
GB	2327	94	102	22	4	0	2	0
GE	2569	71	978	2	5	0	25	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENTINCOMPL	METAFAILNOSERV	RESTFAIL
GO	0	0	226	0	0	0
GQ	176	80	33	5	0	0
GR	3471	87	482	0	2	0
GU	1053	79	255	13	0	0
GX	110	85	12	3	1	0
HA	1215	92	98	0	1	0
HC	379	66	179	3	0	0
HE	696	79	168	0	0	0
HF	0	0	51	0	0	0
HL	1982	73	668	53	1	0
HP	811	92	41	25	1	0
HS	465	80	109	1	0	0
HT	1849	80	425	16	7	0
HU	560	86	82	0	1	0
IP	0	0	89	0	0	0
IS	0	0	1615	0	0	0
IV	14658	80	3382	203	22	0
IX	444	69	178	13	2	0
IY	492	64	258	10	1	0
JS	0	0	200	0	0	0
K3	17	80	4	0	0	0
KO	4361	62	786	1654	51	0
KQ	216	72	36	47	0	0
LC	0	0	47	0	0	0
LE	1440	93	102	0	0	0
LU	438	93	24	0	0	0
LX	72	63	41	0	1	0
M1	261	66	127	0	0	0
MD	121	87	18	0	0	0
ME	31	65	16	0	0	0
MK	353	99	1	0	0	0
ML	54	71	22	0	0	0
MN	725	65	364	19	0	0
MT	350	83	69	2	0	0
NH	344	67	156	1	0	0
NI	149	66	71	3	1	0
NL	9668	87	1235	118	26	0
NO	3357	87	204	9	7	0
NR	37	14	225	0	0	0
NS	1642	42	1895	1	0	0
OE	892	79	218	0	19	0
OT	549	80	88	5	1	0
OX	467	68	210	3	2	0
PL	343	97	2	0	0	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	34	13	211	0	0	0	2	0
QE	214	52	169	0	0	0	23	0
QM	266	75	87	0	0	0	0	0
RD	520	98	5	0	1	0	0	0
RF	44	97	1	0	0	0	0	0
RN	195	44	211	7	15	0	8	0
RO	4051	81	914	5	10	0	0	0
SI	124	51	116	0	0	0	0	0
SJ	467	75	134	7	4	0	7	0
SK	232	49	232	1	0	0	7	0
SL	1090	81	220	5	15	0	0	0
SS	30	88	4	0	0	0	0	0
ST	350	99	1	0	0	0	0	0
SX	604	71	238	1	0	0	5	0
TH	1402	89	143	3	0	0	20	0
TQ	214	50	193	8	1	0	4	0
TT	0	0	126	0	0	0	1	0
TU	95	20	362	0	1	0	0	0
TV	13	36	23	0	0	0	0	0
UD	78	32	163	2	0	0	0	0
UP	409	93	25	0	4	0	0	0
UR	287	72	102	5	0	0	0	0
UT	201	93	15	0	0	0	0	0
VI	269	82	53	4	2	0	0	0
VM	47	100	0	0	0	0	0	0
WE	0	0	33	0	0	0	0	0
WM	93	43	116	0	0	0	3	0
XE	225	59	156	0	0	0	0	0
XP	1517	99	4	0	0	0	0	0
Y8	188	81	42	0	0	0	0	0
YV	100	55	81	0	0	0	0	0
ZO	303	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.

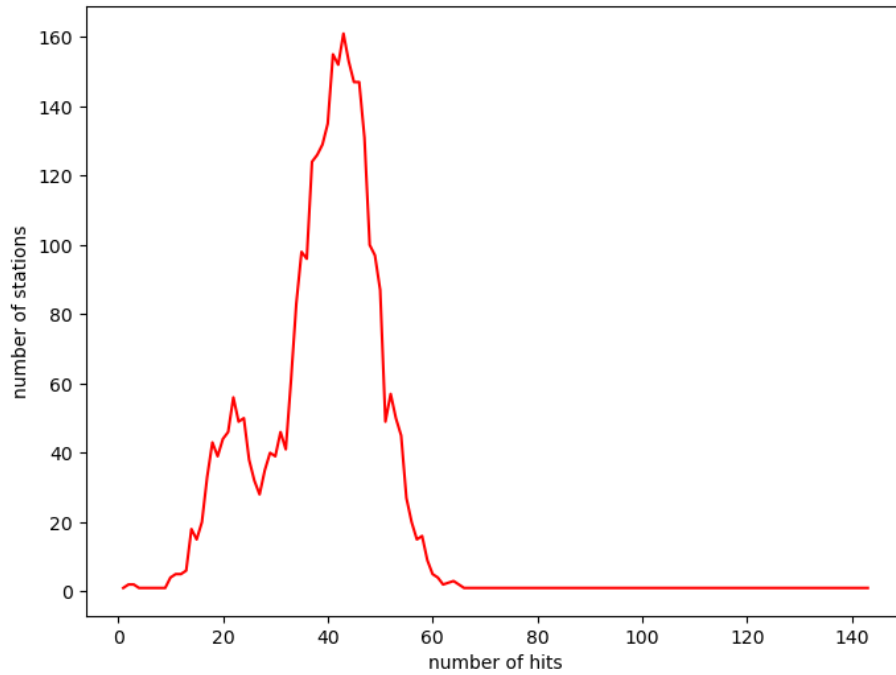


Figure 2: Request hit statistics showing the distribution of the 125235 requests on the 3230 evaluated stations

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 07-01-2026 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%)	2005 (100.0%)
BGR	3 (0.1%)	16 (0.8%)	60 (3.0%)
BGS	4 (0.2%)	5 (0.2%)	5 (0.2%)
ETH	1 (0.0%)	2 (0.1%)	4 (0.2%)
GFZ	1 (0.0%)	87 (4.3%)	87 (4.3%)
ICGC	8 (0.4%)	9 (0.4%)	29 (1.4%)
INGV	10 (0.5%)	7 (0.3%)	10 (0.5%)
KOERI	78 (3.9%)	129 (6.4%)	44 (2.2%)
LMU	0 (0.0%)	1 (0.0%)	5 (0.2%)
NIEP	2 (0.1%)	2 (0.1%)	9 (0.4%)
NOA	12 (0.6%)	14 (0.7%)	18 (0.9%)
ODC	0 (0.0%)	1 (0.0%)	15 (0.7%)
RESIF	6 (0.3%)	2 (0.1%)	21 (1.0%)
UIB/NORSAR	7 (0.3%)	48 (2.4%)	18 (0.9%)

failures of routing client: 0

failures of federator: 10

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 04-02-2026 00:32 MEST using pandoc 2.18.

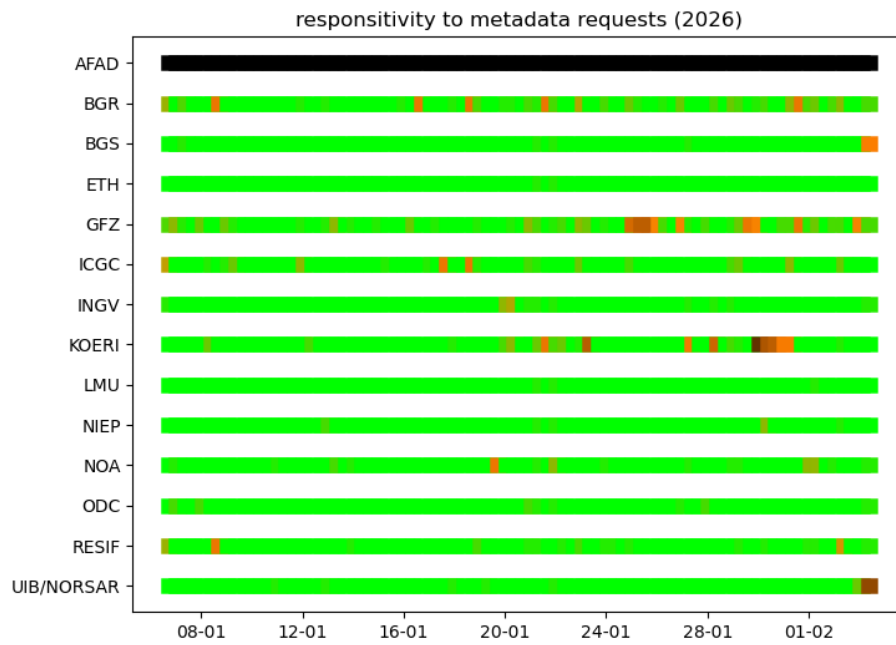


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%