

EIDA Availability Report

Created at 25-01-2026 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 25-10-2025 and 25-01-2026 00:32 using station metadata valid since 25-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3228
- number of requests: 125030

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125030 random requests between 25-10-2025 and 25-01-2026. 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 (260125)

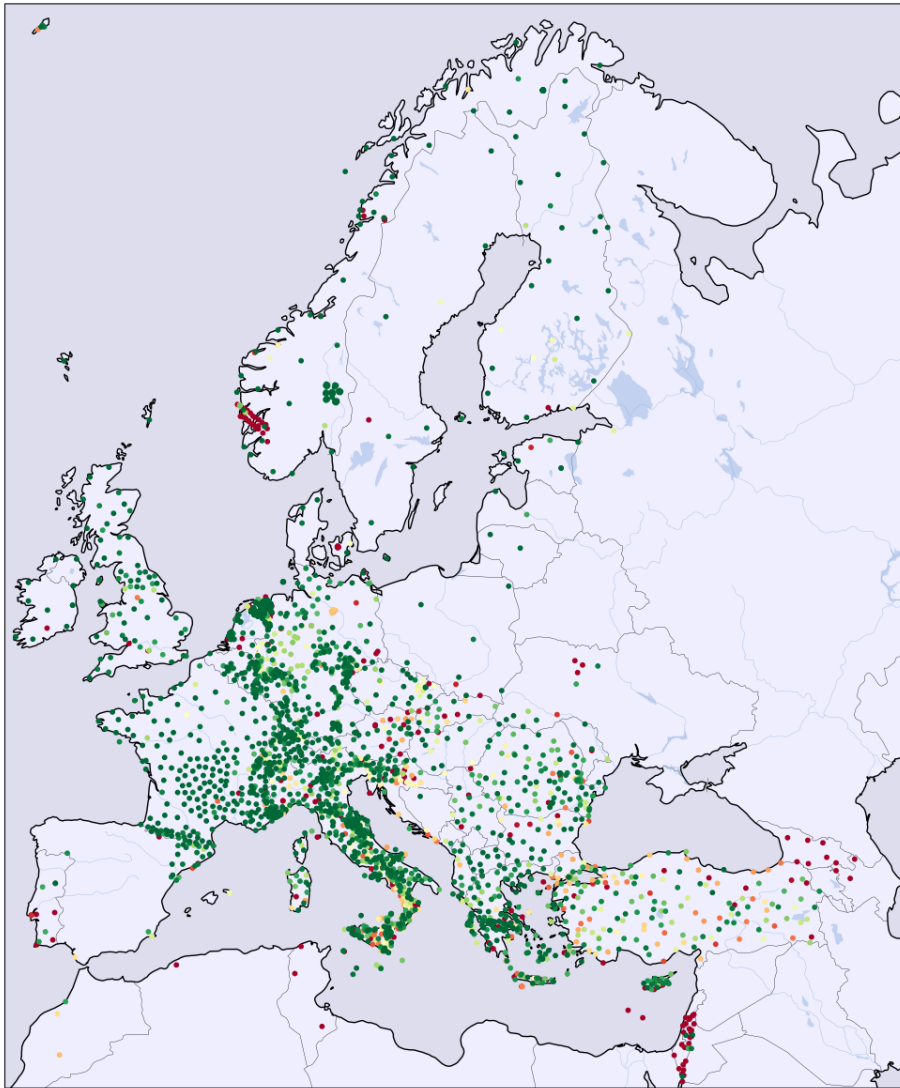


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	76	87	11	0	0	0	0	0
1I	72	62	44	0	0	0	0	0
2D	193	83	37	0	0	0	0	0
2E	4	100	0	0	0	0	0	0
2I	214	84	40	0	0	0	0	0
3D	73	31	155	0	0	0	2	0
4P	413	57	287	4	17	0	0	0
5A	7	46	0	8	0	0	0	0
5B	31	96	1	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	583	53	502	2	4	0	0	0
7C	0	0	139	0	0	0	1	0
7F	121	96	4	0	0	0	1	0
8D	41	97	0	1	0	0	0	0
8N	48	52	42	1	0	0	0	0
9L	33	64	18	0	0	0	0	0
9S	50	54	42	0	0	0	0	0
AB	0	0	136	0	0	0	0	0
AC	422	91	32	0	1	0	4	0
BE	1232	95	61	0	2	0	0	0
BN	230	64	117	10	0	0	0	0
BQ	403	93	14	0	2	0	13	0
BS	720	64	379	10	4	0	0	0
BW	1887	78	507	0	0	0	0	0
C4	83	69	37	0	0	0	0	0
CA	846	86	109	17	2	0	0	0
CH	3425	91	220	92	1	0	0	0
CL	567	88	70	0	1	0	0	0
CP	0	0	98	0	0	0	0	0
CQ	427	55	335	10	2	0	0	0
CR	535	38	861	0	6	0	0	0
CZ	663	84	116	1	2	0	1	0
DK	589	41	811	0	7	0	1	0
DY	54	32	111	0	0	0	0	0
DZ	0	0	43	0	0	0	0	0
EB	42	100	0	0	0	0	0	0
EE	195	82	42	0	0	0	0	0
EI	390	91	34	0	0	0	0	0
ES	155	81	28	7	0	0	0	0
FN	382	99	3	0	0	0	0	0
FO	124	91	12	0	0	0	0	0
FR	7550	96	273	7	6	0	4	0
GB	2337	94	112	19	3	0	0	0
GE	2568	72	976	2	5	0	3	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	231	0	0	0	0	0
GQ	169	80	29	4	0	0	8	0
GR	3420	86	470	1	2	0	43	0
GU	1053	80	238	18	0	0	1	0
GX	102	86	12	3	1	0	0	0
HA	1188	92	95	0	1	0	0	0
HC	383	65	190	3	0	0	10	0
HE	682	79	178	0	0	0	0	0
HF	0	0	50	0	0	0	0	0
HL	1969	73	659	51	1	0	0	0
HP	811	92	41	20	1	0	0	0
HS	496	82	98	1	0	0	5	0
HT	1820	80	416	14	7	0	3	3
HU	568	87	80	0	1	0	0	0
IP	0	0	86	0	0	0	0	0
IS	0	0	1631	0	0	0	2	0
IV	14539	79	3457	203	20	0	6	46
IX	427	67	189	14	2	0	0	0
IY	460	62	259	9	1	0	7	0
JS	0	0	203	0	0	0	0	0
K3	17	77	5	0	0	0	0	0
KO	4399	62	790	1669	56	0	91	0
KQ	220	70	42	49	0	0	2	0
LC	0	0	45	0	0	0	0	0
LE	1446	91	97	0	0	0	33	0
LU	456	97	14	0	0	0	0	0
LX	72	64	38	0	1	0	0	0
M1	265	66	130	0	0	0	1	0
MD	113	87	16	0	0	0	0	0
ME	28	60	18	0	0	0	0	0
MK	367	99	1	0	0	0	0	0
ML	52	71	21	0	0	0	0	0
MN	738	66	354	17	0	0	1	0
MT	354	83	67	2	0	0	0	0
NH	322	63	170	0	0	0	13	0
NI	152	69	65	2	1	0	0	0
NL	9681	87	1236	116	24	0	2	0
NO	3360	87	200	9	6	0	252	0
NR	33	12	231	0	0	0	0	0
NS	1654	42	1954	1	0	0	265	0
OE	884	79	210	0	20	0	0	0
OT	540	79	89	5	2	0	0	41
OX	496	69	214	3	1	0	2	0
PL	349	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	13	213	0	0	0	0	0
QE	231	55	160	1	0	0	22	0
QM	256	72	96	0	0	0	0	0
RD	524	98	5	0	1	0	0	0
RF	45	100	0	0	0	0	0	0
RN	202	45	210	6	16	0	8	0
RO	4080	81	881	7	11	0	2	0
SI	132	52	120	0	0	0	0	0
SJ	456	75	140	6	4	0	0	0
SK	239	50	235	0	0	0	0	0
SL	1061	81	218	6	19	0	0	0
SS	30	85	5	0	0	0	0	0
ST	347	99	1	0	0	0	0	0
SX	587	70	229	1	0	0	14	0
TH	1417	90	133	3	1	0	20	0
TQ	211	50	200	7	1	0	0	0
TT	0	0	142	0	0	0	0	0
TU	103	22	361	0	1	0	0	0
TV	18	42	24	0	0	0	0	0
UD	79	31	167	2	0	0	0	0
UP	425	94	23	0	4	0	0	0
UR	284	72	104	5	0	0	0	0
UT	205	93	15	0	0	0	0	0
VI	262	80	56	4	2	0	0	0
VM	48	100	0	0	0	0	0	0
WE	0	0	34	0	0	0	0	0
WM	96	45	116	0	0	0	0	0
XE	217	57	160	0	0	0	1	0
XP	1478	99	2	0	0	0	0	0
Y8	178	79	45	0	0	0	0	0
YV	99	55	80	0	0	0	0	0
ZO	298	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.

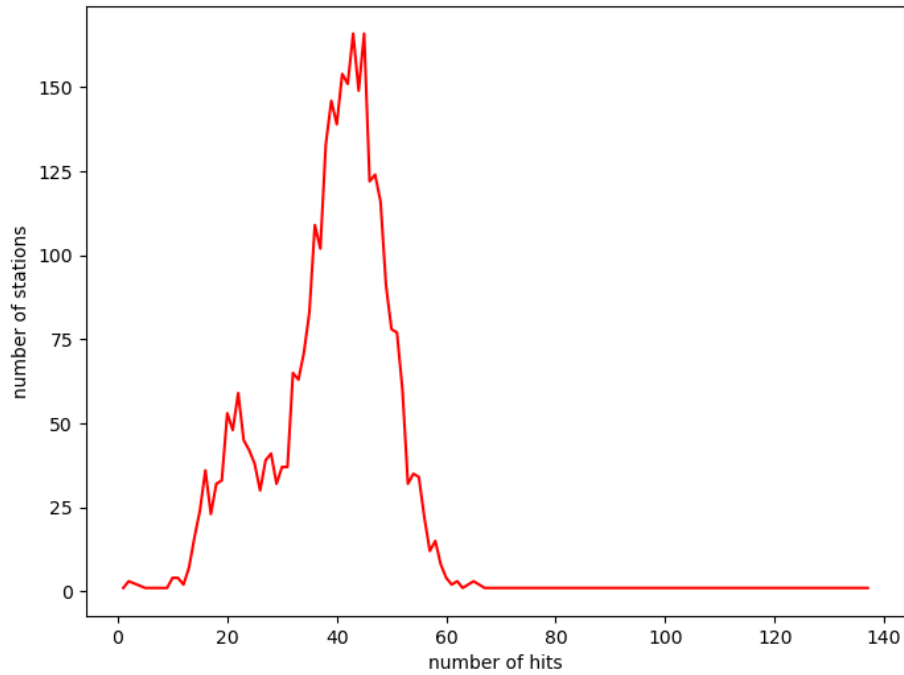


Figure 2: Request hit statistics showing the distribution of the 125030 requests on the 3228 evaluated stations

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 28-12-2025 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%)	2009 (100.0%)
BGR	4 (0.2%)	9 (0.4%)	42 (2.1%)
BGS	0 (0.0%)	1 (0.0%)	4 (0.2%)
ETH	1 (0.0%)	2 (0.1%)	3 (0.1%)
GFZ	0 (0.0%)	1 (0.0%)	62 (3.1%)
ICGC	9 (0.4%)	6 (0.3%)	24 (1.2%)
INGV	10 (0.5%)	6 (0.3%)	7 (0.3%)
KOERI	43 (2.1%)	45 (2.2%)	14 (0.7%)
LMU	0 (0.0%)	2 (0.1%)	3 (0.1%)
NIEP	4 (0.2%)	7 (0.3%)	4 (0.2%)
NOA	20 (1.0%)	22 (1.1%)	13 (0.6%)
ODC	0 (0.0%)	1 (0.0%)	15 (0.7%)
RESIF	5 (0.2%)	2 (0.1%)	13 (0.6%)
UIB/NORSAR	4 (0.2%)	2 (0.1%)	10 (0.5%)

failures of routing client: 0

failures of federator: 6

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 25-01-2026 00:32 MEST using pandoc 2.18.

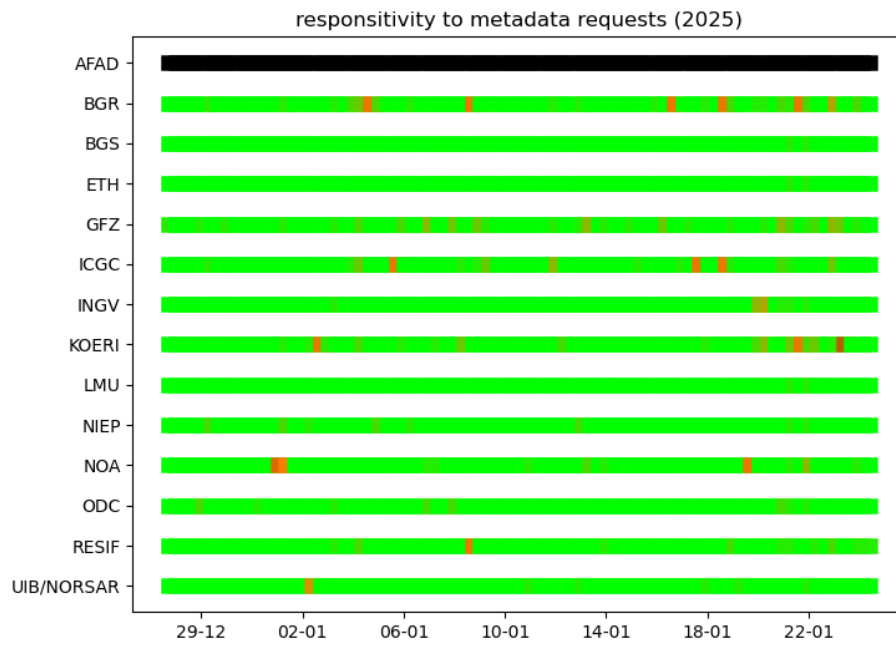


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%