

EIDA Availability Report

Created at 18-01-2026 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 18-10-2025 and 18-01-2026 00:32 using station metadata valid since 18-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3330
- evaluated stations: 3226
- number of requests: 125085

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125085 random requests between 18-10-2025 and 18-01-2026. 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 (260118)

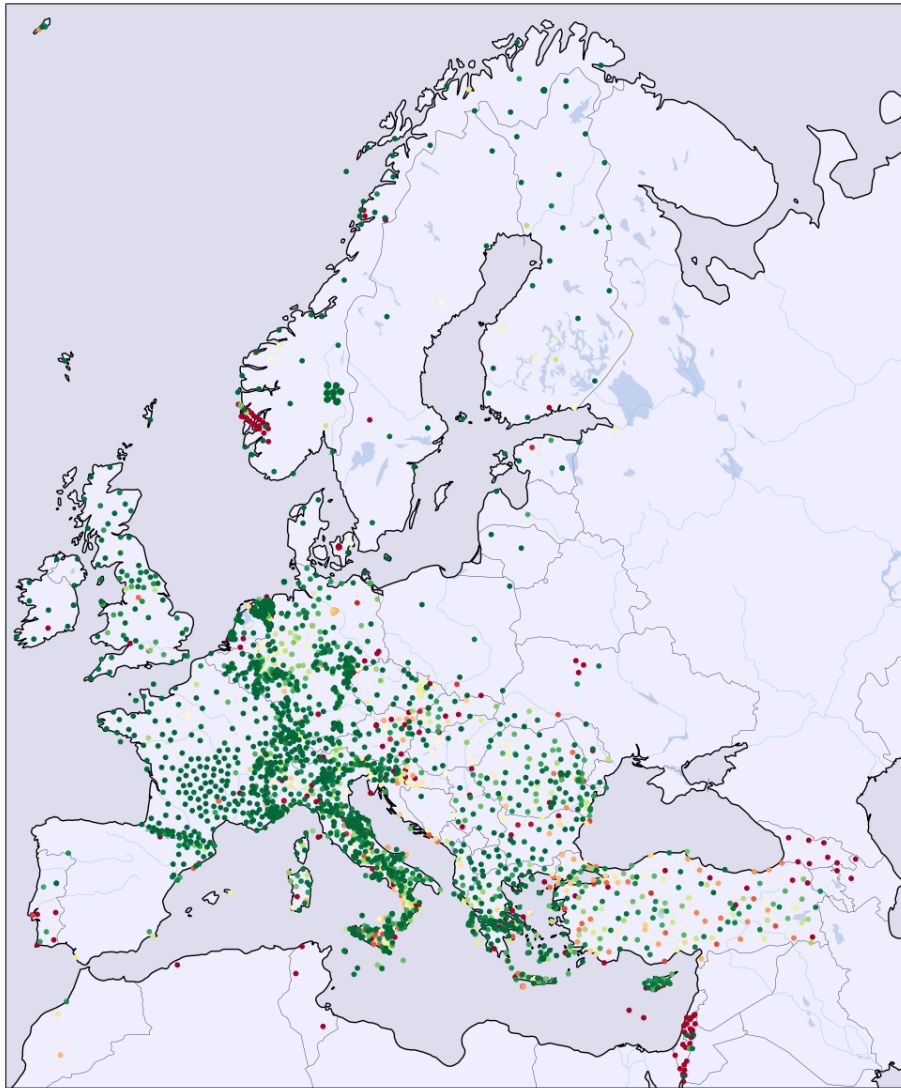


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

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	68	62	41	0	0	0	0	0
2D	191	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	414	57	284	4	19	0	0	0
5A	6	54	0	5	0	0	0	0
5B	34	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	572	52	517	2	2	0	0	0
7C	0	0	137	0	0	0	1	0
7F	125	95	5	0	0	0	1	0
8D	42	97	0	1	0	0	0	0
8N	56	54	45	1	0	0	0	0
9L	33	68	15	0	0	0	0	0
9S	50	54	41	0	0	0	0	0
AB	0	0	131	0	0	0	0	0
AC	421	92	32	0	0	0	4	0
BE	1231	94	65	0	2	0	0	0
BN	235	64	120	8	0	0	0	0
BQ	395	93	13	0	1	0	13	0
BS	723	64	376	12	4	0	0	0
BW	1875	78	510	0	0	0	0	0
C4	84	68	38	0	0	0	0	0
CA	848	86	112	17	2	0	0	0
CH	3455	91	221	95	1	0	0	0
CL	570	89	66	0	1	0	0	0
CP	0	0	99	0	0	0	0	0
CQ	434	55	332	10	2	0	0	0
CR	530	37	874	0	7	0	0	0
CZ	678	83	127	1	2	0	0	0
DK	594	42	803	0	7	0	1	0
DY	51	32	104	0	0	0	0	0
DZ	0	0	49	0	0	0	0	0
EB	43	100	0	0	0	0	0	0
EE	191	82	39	1	0	0	0	0
EI	402	92	33	0	0	0	0	0
ES	159	79	35	6	0	0	0	0
FN	385	99	3	0	0	0	0	0
FO	122	90	13	0	0	0	0	0
FR	7599	96	265	7	5	0	4	0
GB	2332	94	113	21	3	0	0	0
GE	2573	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	243	0	0	0	0	0
GQ	169	80	28	4	0	0	8	0
GR	3401	86	478	1	2	0	43	0
GU	1056	80	240	17	0	0	1	0
GX	92	84	13	3	1	0	0	0
HA	1201	92	102	0	1	0	0	0
HC	366	63	197	3	1	0	10	0
HE	671	79	178	0	0	0	0	0
HF	0	0	47	0	0	0	0	0
HL	1954	73	643	47	0	0	0	0
HP	808	92	42	21	1	0	0	0
HS	503	84	89	1	0	0	5	0
HT	1798	79	432	12	7	0	2	2
HU	552	85	93	0	1	0	0	0
IP	0	0	85	0	0	0	0	0
IS	0	0	1626	0	0	0	2	0
IV	14527	79	3462	205	22	0	3	45
IX	423	67	189	12	2	0	0	0
IY	447	60	270	9	1	0	6	0
JS	0	0	205	0	0	0	0	0
K3	20	80	5	0	0	0	0	0
KO	4402	62	792	1676	58	0	91	0
KQ	221	69	44	49	0	0	2	0
LC	0	0	43	0	0	0	0	0
LE	1435	91	101	0	0	0	34	0
LU	467	98	9	0	0	0	0	0
LX	75	65	38	0	1	0	0	0
M1	270	66	136	0	0	0	1	0
MD	119	88	16	0	0	0	0	0
ME	29	61	18	0	0	0	0	0
MK	363	99	1	0	0	0	0	0
ML	60	75	20	0	0	0	0	0
MN	752	66	355	17	0	0	1	0
MT	355	84	65	1	0	0	0	0
NH	292	59	186	2	0	0	14	0
NI	153	69	67	1	0	0	0	0
NL	9700	87	1248	118	24	0	1	0
NO	3386	87	198	9	6	0	252	0
NR	34	12	244	0	0	0	0	0
NS	1637	42	1958	1	0	0	265	0
OE	878	79	209	0	20	0	0	0
OT	539	80	87	5	2	0	0	39
OX	504	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	33	13	203	0	0	0	0	0
QE	232	56	157	1	0	0	22	0
QM	250	72	97	0	0	0	0	0
RD	522	99	4	0	1	0	0	0
RF	42	100	0	0	0	0	0	0
RN	194	45	198	6	16	0	8	0
RO	4042	81	887	6	11	0	2	0
SI	135	53	117	0	0	0	0	0
SJ	447	75	140	6	3	0	0	0
SK	244	50	237	0	0	0	0	0
SL	1058	82	208	6	18	0	0	0
SS	28	84	5	0	0	0	0	0
ST	354	99	1	0	0	0	0	0
SX	595	70	234	1	0	0	14	0
TH	1414	90	132	3	2	0	20	0
TQ	214	51	191	7	1	0	0	0
TT	0	0	140	0	0	0	0	0
TU	106	22	368	0	1	0	0	0
TV	24	52	22	0	0	0	0	0
UD	83	31	174	3	0	0	0	0
UP	426	94	24	0	3	0	0	0
UR	274	71	104	5	0	0	0	0
UT	203	93	14	0	0	0	0	0
VI	257	82	50	3	2	0	0	0
VM	50	100	0	0	0	0	0	0
WE	0	0	36	0	0	0	0	0
WM	99	45	118	0	0	0	0	0
XE	221	57	160	0	0	0	1	0
XP	1479	99	4	0	0	0	0	0
Y8	171	79	43	0	0	0	0	0
YV	98	55	78	0	0	0	0	0
ZO	297	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.

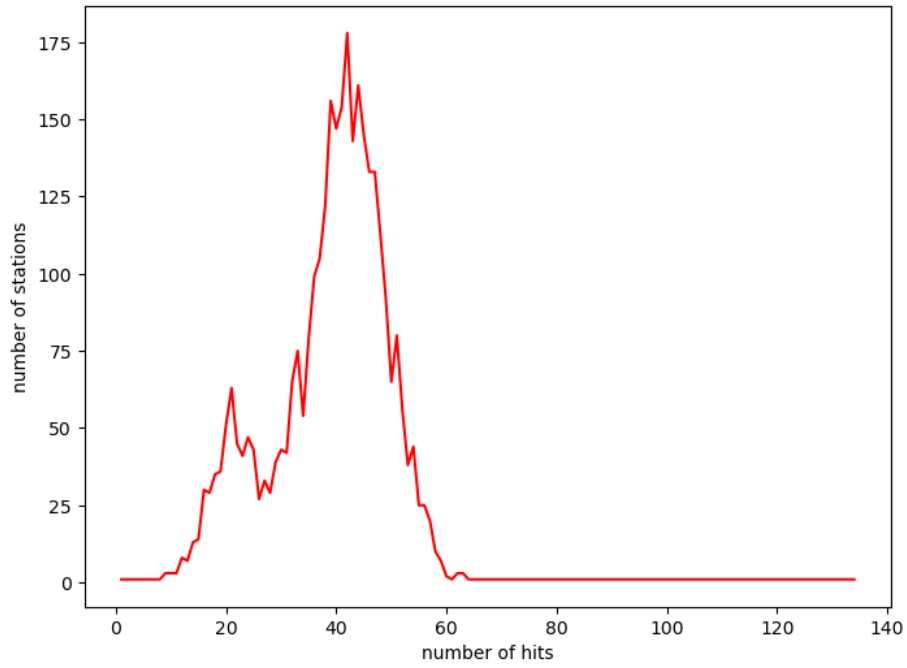


Figure 2: Request hit statistics showing the distribution of the 125085 requests on the 3226 evaluated stations

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 21-12-2025 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%)	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%)	63 (3.1%)
ICGC	8 (0.4%)	3 (0.1%)	25 (1.2%)
INGV	0 (0.0%)	0 (0.0%)	10 (0.5%)
KOERI	27 (1.3%)	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%)	23 (1.1%)
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: 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 18-01-2026 00:32 MEST using pandoc 2.18.

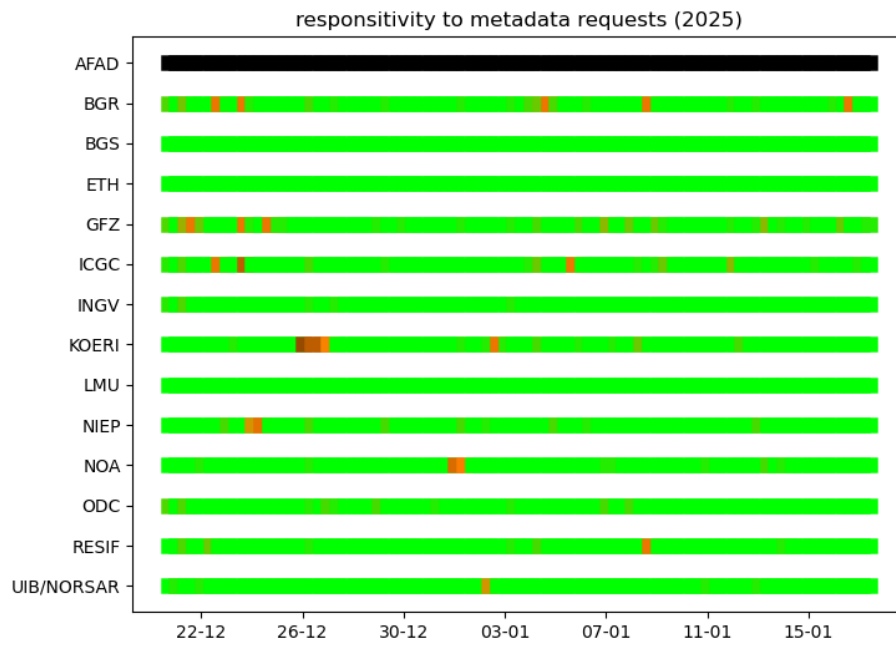


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%