

EIDA Availability Report

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

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3231
- number of requests: 125342

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125342 random requests between 11-11-2025 and 11-02-2026. 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 (260211)

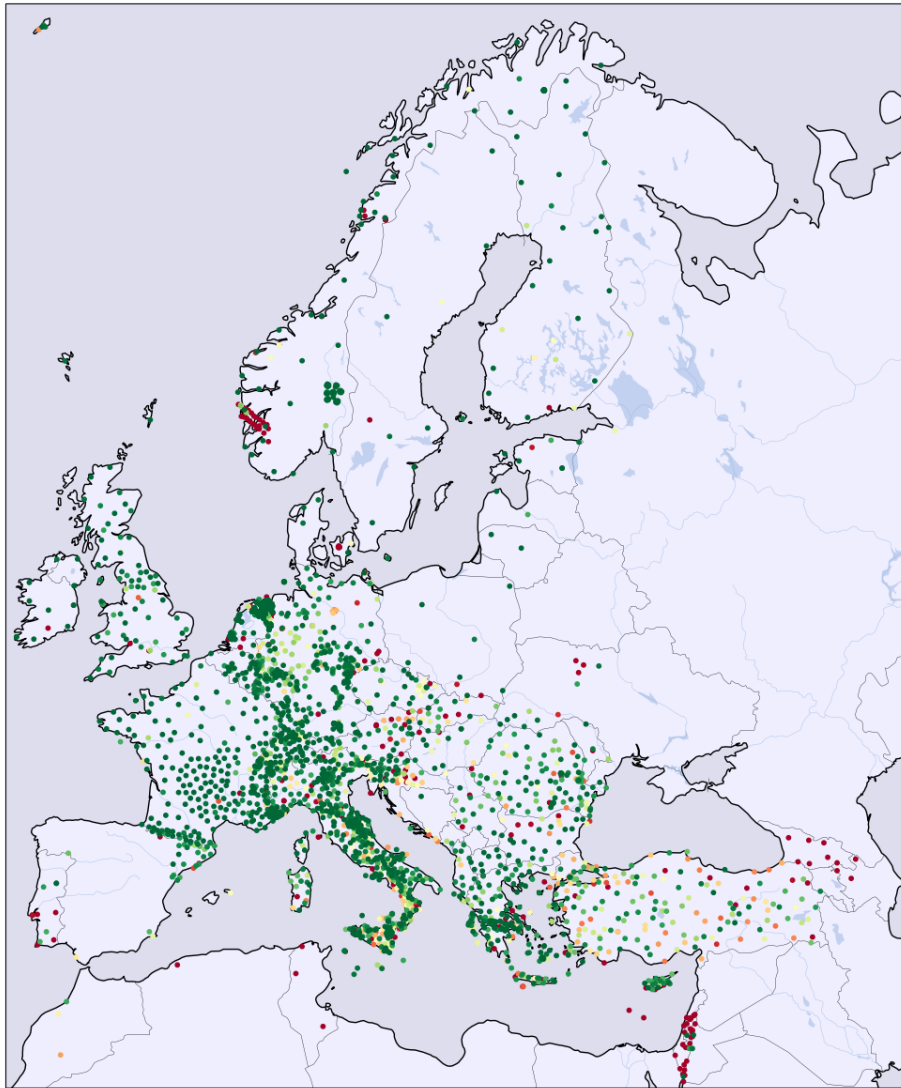


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	70	84	10	0	0	0	3	0
1I	76	61	47	0	0	0	0	0
2D	186	75	36	0	0	0	23	0
2E	6	66	3	0	0	0	0	0
2I	221	84	40	0	0	0	0	0
3D	70	29	163	0	0	0	7	0
4P	405	56	281	5	13	0	0	7
5A	15	55	1	11	0	0	0	0
5B	36	94	2	0	0	0	0	0
5R	95	59	65	0	0	0	0	0
7B	584	53	502	2	5	0	0	0
7C	0	0	143	0	0	0	1	0
7F	127	96	3	0	0	0	1	0
8D	47	97	0	1	0	0	0	0
8N	39	53	33	1	0	0	0	0
9L	29	63	17	0	0	0	0	0
9S	53	58	35	1	0	0	1	0
AB	0	0	148	0	0	0	0	0
AC	418	92	31	0	1	0	4	0
BE	1246	95	55	0	1	0	0	0
BN	238	65	113	10	0	0	0	0
BQ	425	94	16	0	2	0	8	0
BS	708	63	383	13	3	0	0	0
BW	1872	78	500	0	0	0	0	0
C4	89	73	32	0	0	0	0	0
CA	813	82	142	15	2	0	9	0
CH	3507	91	221	89	1	0	0	0
CL	571	89	67	0	1	0	0	0
CP	0	0	95	0	0	0	3	0
CQ	418	55	319	11	1	0	0	0
CR	530	38	859	0	5	0	0	0
CZ	650	80	107	1	0	0	45	0
DK	575	39	778	0	5	0	83	0
DY	47	30	106	0	0	0	0	0
DZ	0	0	46	0	0	0	0	0
EB	33	89	4	0	0	0	0	0
EE	181	76	45	0	0	0	12	0
EI	386	87	35	0	0	0	20	0
ES	153	78	33	9	0	0	1	0
FN	368	92	3	0	0	0	25	0
FO	134	95	7	0	0	0	0	0
FR	7493	96	273	9	5	0	2	0
GB	2313	94	103	21	4	0	2	0
GE	2444	68	938	2	4	0	187	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	225	0	0	0	0	0
GQ	172	77	38	5	0	0	6	0
GR	3488	87	490	0	1	0	3	0
GU	1066	79	266	12	0	0	1	0
GX	104	81	10	3	1	0	10	0
HA	1249	93	93	0	1	0	0	0
HC	394	68	170	3	0	0	10	0
HE	669	77	164	0	0	0	35	0
HF	0	0	46	0	0	0	0	0
HL	1977	73	659	54	1	0	0	0
HP	804	92	44	23	1	0	0	0
HS	467	79	113	1	0	0	5	0
HT	1824	80	424	17	6	0	3	3
HU	535	81	83	0	1	0	35	0
IP	0	0	92	0	0	0	0	0
IS	0	0	1535	0	0	0	83	0
IV	14716	80	3328	196	23	0	5	41
IX	460	70	183	12	2	0	0	0
IY	502	64	253	12	2	0	7	0
JS	0	0	193	0	0	0	7	0
K3	19	86	3	0	0	0	0	0
KO	4365	62	772	1646	57	0	167	0
KQ	214	72	38	42	0	0	0	0
LC	0	0	48	0	0	0	0	0
LE	1422	93	99	0	0	0	2	0
LU	411	89	29	0	0	0	19	0
LX	66	61	42	0	0	0	0	0
M1	247	63	121	0	0	0	20	0
MD	112	88	14	0	0	0	0	0
ME	30	68	14	0	0	0	0	0
MK	352	99	2	0	0	0	0	0
ML	54	69	24	0	0	0	0	0
MN	721	65	364	21	0	0	0	0
MT	351	83	68	2	1	0	0	0
NH	346	68	155	1	0	0	5	0
NI	150	64	77	3	1	0	0	0
NL	9668	87	1229	114	26	0	3	0
NO	3399	87	200	9	6	0	281	0
NR	42	15	234	0	0	0	0	0
NS	1670	43	1878	0	0	0	298	0
OE	894	78	226	0	23	0	0	0
OT	572	80	95	6	1	0	0	37
OX	459	68	206	3	2	0	2	0
PL	332	92	3	0	0	0	23	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	33	12	206	0	0	0	18	0
QE	201	50	174	0	0	0	23	0
QM	268	75	89	0	0	0	0	0
RD	512	98	5	0	1	0	0	0
RF	49	98	1	0	0	0	0	0
RN	193	45	202	8	14	0	7	0
RO	4008	81	922	5	9	0	0	0
SI	132	53	113	0	0	0	0	0
SJ	450	72	130	7	4	0	28	0
SK	218	45	234	1	0	0	25	0
SL	1076	81	216	5	18	0	0	0
SS	32	88	4	0	0	0	0	0
ST	336	99	2	0	0	0	0	0
SX	603	71	240	1	0	0	5	0
TH	1401	89	149	2	0	0	20	0
TQ	201	47	196	8	0	0	18	0
TT	0	0	112	0	0	0	6	0
TU	99	22	350	0	1	0	0	0
TV	14	38	22	0	0	0	0	0
UD	79	32	159	3	0	0	1	0
UP	406	94	22	0	3	0	0	0
UR	293	73	104	4	0	0	0	0
UT	208	92	16	0	0	0	0	0
VI	277	82	53	4	2	0	0	0
VM	44	100	0	0	0	0	0	0
WE	0	0	33	0	0	0	0	0
WM	91	42	113	0	0	0	10	0
XE	227	60	151	0	0	0	0	0
XP	1511	99	5	0	0	0	1	0
Y8	195	82	40	0	0	0	0	0
YV	102	53	89	0	0	0	0	0
ZO	305	91	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.

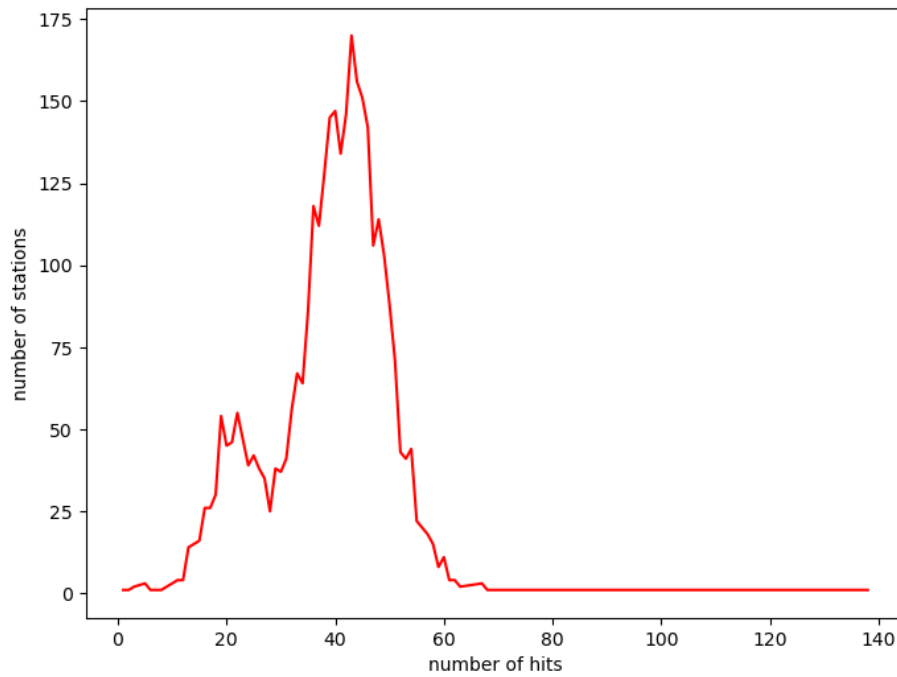


Figure 2: Request hit statistics showing the distribution of the 125342 requests on the 3231 evaluated stations

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 14-01-2026 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%)	1781 (100.0%)
BGR	3 (0.1%)	19 (0.9%)	58 (3.3%)
BGS	10 (0.5%)	11 (0.5%)	4 (0.2%)
ETH	4 (0.2%)	4 (0.2%)	4 (0.2%)
GFZ	11 (0.5%)	349 (17.3%)	87 (4.9%)
ICGC	35 (1.7%)	89 (4.4%)	23 (1.3%)
INGV	16 (0.8%)	11 (0.5%)	10 (0.6%)
KOERI	79 (3.9%)	135 (6.7%)	49 (2.8%)
LMU	0 (0.0%)	2 (0.1%)	5 (0.3%)
NIEP	1 (0.0%)	1 (0.0%)	9 (0.5%)
NOA	11 (0.5%)	13 (0.6%)	16 (0.9%)
ODC	0 (0.0%)	1 (0.0%)	12 (0.7%)
RESIF	6 (0.3%)	2 (0.1%)	18 (1.0%)
UIB/NORSAR	7 (0.3%)	56 (2.8%)	16 (0.9%)

failures of routing client: 0

failures of federator: 234

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 11-02-2026 00:32 MEST using pandoc 2.18.

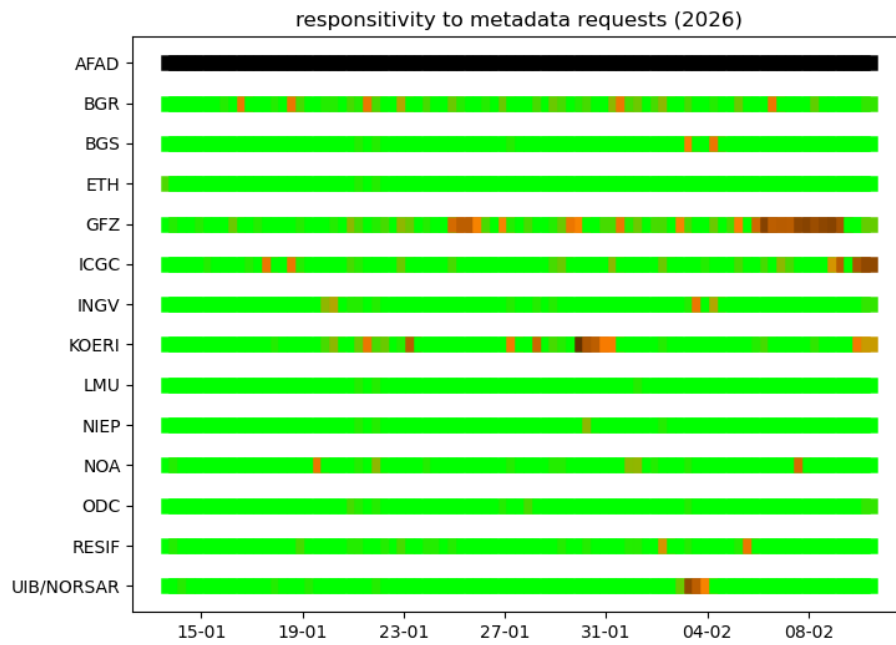


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%