

EIDA Availability Report

Created at 27-01-2026 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 27-10-2025 and 27-01-2026 00:32 using station metadata valid since 27-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3229
- number of requests: 125048

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125048 random requests between 27-10-2025 and 27-01-2026. 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 (260127)

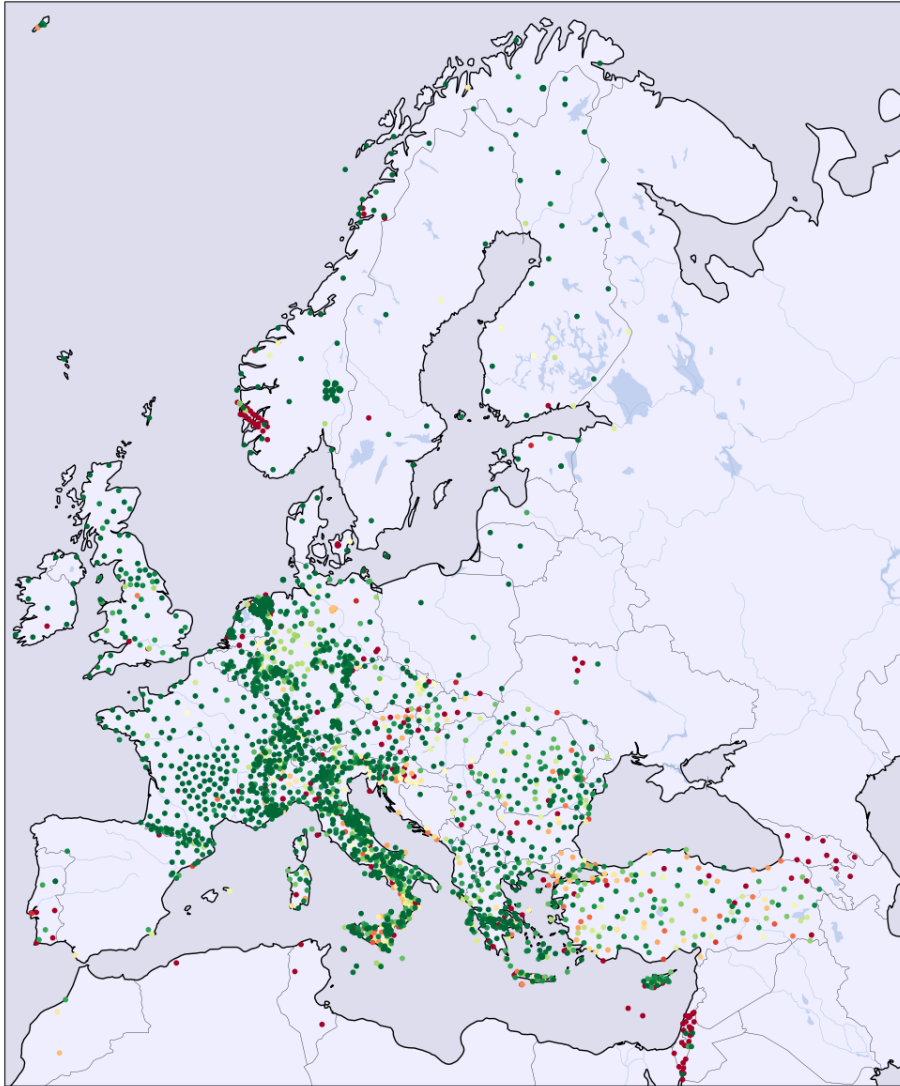


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	77	87	10	0	0	0	1	0
1I	75	63	44	0	0	0	0	0
2D	194	81	37	0	0	0	6	0
2E	4	100	0	0	0	0	0	0
2I	216	84	41	0	0	0	0	0
3D	74	32	153	0	0	0	2	0
4P	410	56	290	4	17	0	0	0
5A	7	46	0	8	0	0	0	0
5B	32	96	1	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	587	53	505	2	4	0	0	0
7C	0	0	140	0	0	0	1	0
7F	121	96	4	0	0	0	1	0
8D	40	97	0	1	0	0	0	0
8N	47	52	41	1	0	0	0	0
9L	32	64	18	0	0	0	0	0
9S	51	56	40	0	0	0	0	0
AB	0	0	136	0	0	0	0	0
AC	421	91	33	0	1	0	4	0
BE	1231	95	62	0	2	0	0	0
BN	231	65	114	9	0	0	0	0
BQ	404	93	14	0	2	0	13	0
BS	717	64	376	10	4	0	0	0
BW	1888	78	502	0	0	0	0	0
C4	84	70	36	0	0	0	0	0
CA	843	86	111	17	2	0	0	0
CH	3435	91	219	92	1	0	0	0
CL	568	89	68	0	1	0	0	0
CP	0	0	95	0	0	0	0	0
CQ	417	54	332	10	2	0	0	0
CR	536	38	860	0	6	0	0	0
CZ	665	84	114	1	2	0	9	0
DK	585	41	808	0	6	0	16	0
DY	54	33	109	0	0	0	0	0
DZ	0	0	43	0	0	0	0	0
EB	43	100	0	0	0	0	0	0
EE	190	80	43	0	0	0	3	0
EI	387	91	31	0	0	0	7	0
ES	155	80	29	8	0	0	0	0
FN	374	97	3	0	0	0	7	0
FO	124	91	12	0	0	0	0	0
FR	7539	96	274	8	6	0	4	0
GB	2336	94	110	20	3	0	0	0
GE	2559	71	972	2	5	0	25	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	230	0	0	0	0	0
GQ	169	78	32	5	0	0	8	0
GR	3436	86	476	1	2	0	43	0
GU	1052	80	238	18	0	0	1	0
GX	104	85	12	3	1	0	2	0
HA	1198	92	97	0	1	0	0	0
HC	383	65	186	3	0	0	10	0
HE	679	78	172	0	0	0	10	0
HF	0	0	49	0	0	0	0	0
HL	1965	73	663	51	1	0	0	0
HP	803	92	40	20	1	0	0	0
HS	486	82	100	1	0	0	5	0
HT	1825	80	416	14	7	0	3	3
HU	564	86	79	0	1	0	8	0
IP	0	0	87	0	0	0	0	0
IS	0	0	1625	0	0	0	17	0
IV	14583	79	3445	198	21	0	6	45
IX	426	68	183	13	2	0	0	0
IY	464	63	251	10	1	0	7	0
JS	0	0	200	0	0	0	1	0
K3	15	78	4	0	0	0	0	0
KO	4409	62	802	1665	57	0	91	0
KQ	218	69	43	50	0	0	2	0
LC	0	0	44	0	0	0	0	0
LE	1441	91	96	0	0	0	31	0
LU	454	95	17	0	0	0	5	0
LX	72	64	39	0	1	0	0	0
M1	260	65	129	0	0	0	6	0
MD	115	87	16	0	0	0	0	0
ME	30	62	18	0	0	0	0	0
MK	365	99	1	0	0	0	0	0
ML	52	70	22	0	0	0	0	0
MN	729	66	352	18	0	0	1	0
MT	353	83	70	2	0	0	0	0
NH	325	64	166	0	0	0	12	0
NI	148	68	63	3	1	0	0	0
NL	9672	87	1236	116	25	0	2	0
NO	3368	87	203	9	6	0	252	0
NR	32	12	226	0	0	0	0	0
NS	1653	42	1937	1	0	0	265	0
OE	890	79	211	0	19	0	0	0
OT	536	79	90	5	2	0	0	43
OX	488	68	217	3	1	0	2	0
PL	343	97	2	0	0	0	6	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	33	13	211	0	0	0	2	0
QE	232	56	159	1	0	0	22	0
QM	260	73	95	0	0	0	0	0
RD	521	98	5	0	1	0	0	0
RF	44	100	0	0	0	0	0	0
RN	204	46	206	6	16	0	8	0
RO	4057	81	889	6	10	0	1	0
SI	131	52	119	0	0	0	0	0
SJ	455	74	138	6	4	0	7	0
SK	238	49	232	0	0	0	7	0
SL	1067	81	214	6	18	0	0	0
SS	31	86	5	0	0	0	0	0
ST	352	99	1	0	0	0	0	0
SX	584	70	233	1	0	0	14	0
TH	1416	90	132	3	1	0	20	0
TQ	208	49	199	8	1	0	4	0
TT	0	0	137	0	0	0	1	0
TU	102	22	354	0	1	0	0	0
TV	16	41	23	0	0	0	0	0
UD	79	32	164	2	0	0	0	0
UP	421	93	24	0	4	0	0	0
UR	288	72	102	5	0	0	0	0
UT	206	93	15	0	0	0	0	0
VI	260	80	58	4	2	0	0	0
VM	48	100	0	0	0	0	0	0
WE	0	0	33	0	0	0	0	0
WM	96	45	111	0	0	0	3	0
XE	221	57	160	0	0	0	1	0
XP	1488	99	3	0	0	0	0	0
Y8	180	81	42	0	0	0	0	0
YV	98	54	81	0	0	0	0	0
ZO	295	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.

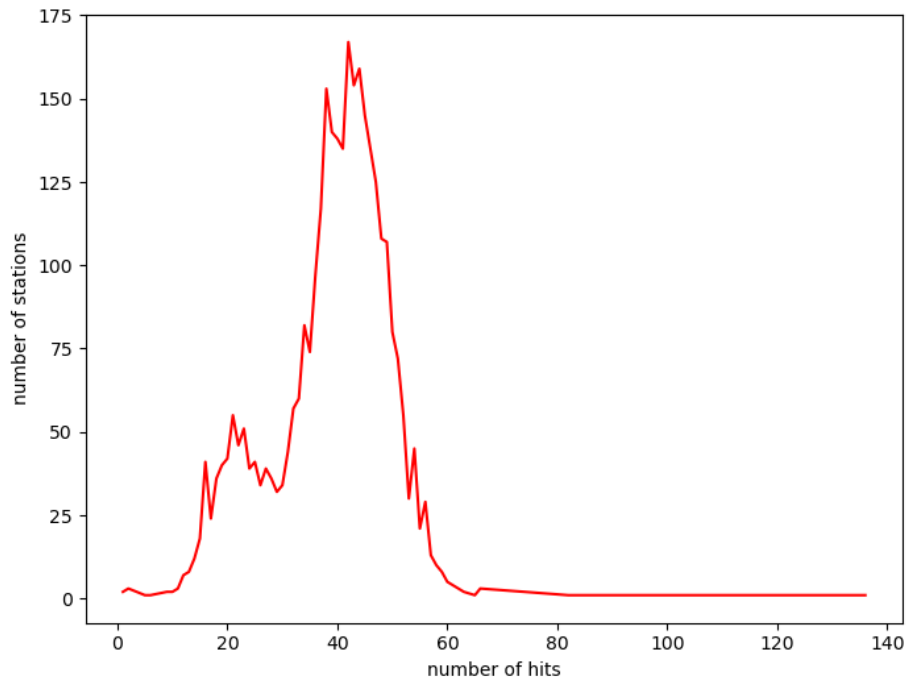


Figure 2: Request hit statistics showing the distribution of the 125048 requests on the 3229 evaluated stations

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 30-12-2025 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%)	10 (0.5%)	47 (2.3%)
BGS	0 (0.0%)	1 (0.0%)	4 (0.2%)
ETH	1 (0.0%)	2 (0.1%)	3 (0.1%)
GFZ	0 (0.0%)	73 (3.6%)	64 (3.2%)
ICGC	9 (0.4%)	6 (0.3%)	25 (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	3 (0.1%)	6 (0.3%)	4 (0.2%)
NOA	20 (1.0%)	22 (1.1%)	13 (0.6%)
ODC	0 (0.0%)	1 (0.0%)	13 (0.6%)
RESIF	5 (0.2%)	2 (0.1%)	14 (0.7%)
UIB/NORSAR	4 (0.2%)	2 (0.1%)	11 (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 27-01-2026 00:32 MEST using pandoc 2.18.

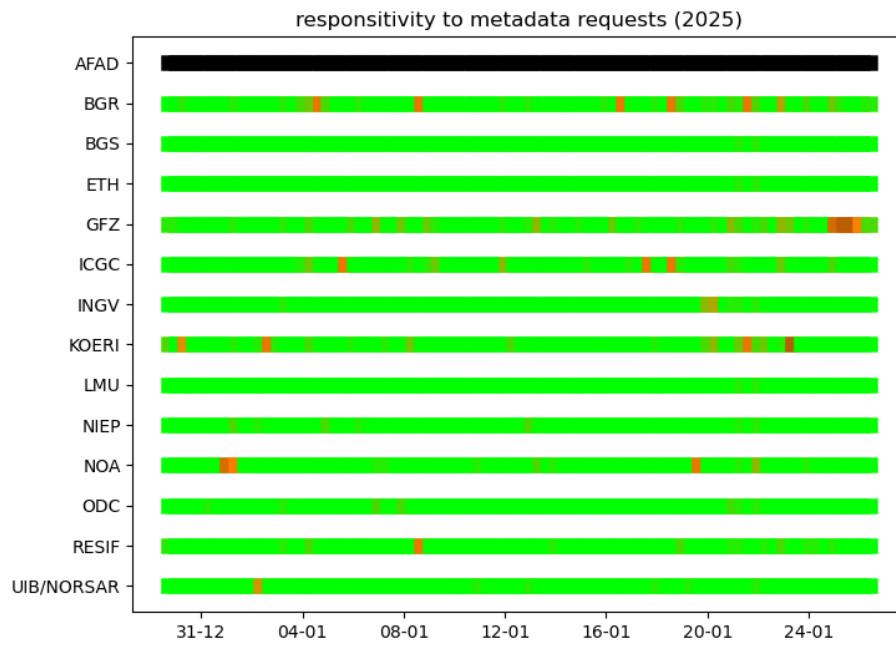


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%