

EIDA Availability Report

Created at 05-02-2026 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 05-11-2025 and 05-02-2026 00:32 using station metadata valid since 05-02-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3230
- number of requests: 125249

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125249 random requests between 05-11-2025 and 05-02-2026. 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 (260205)

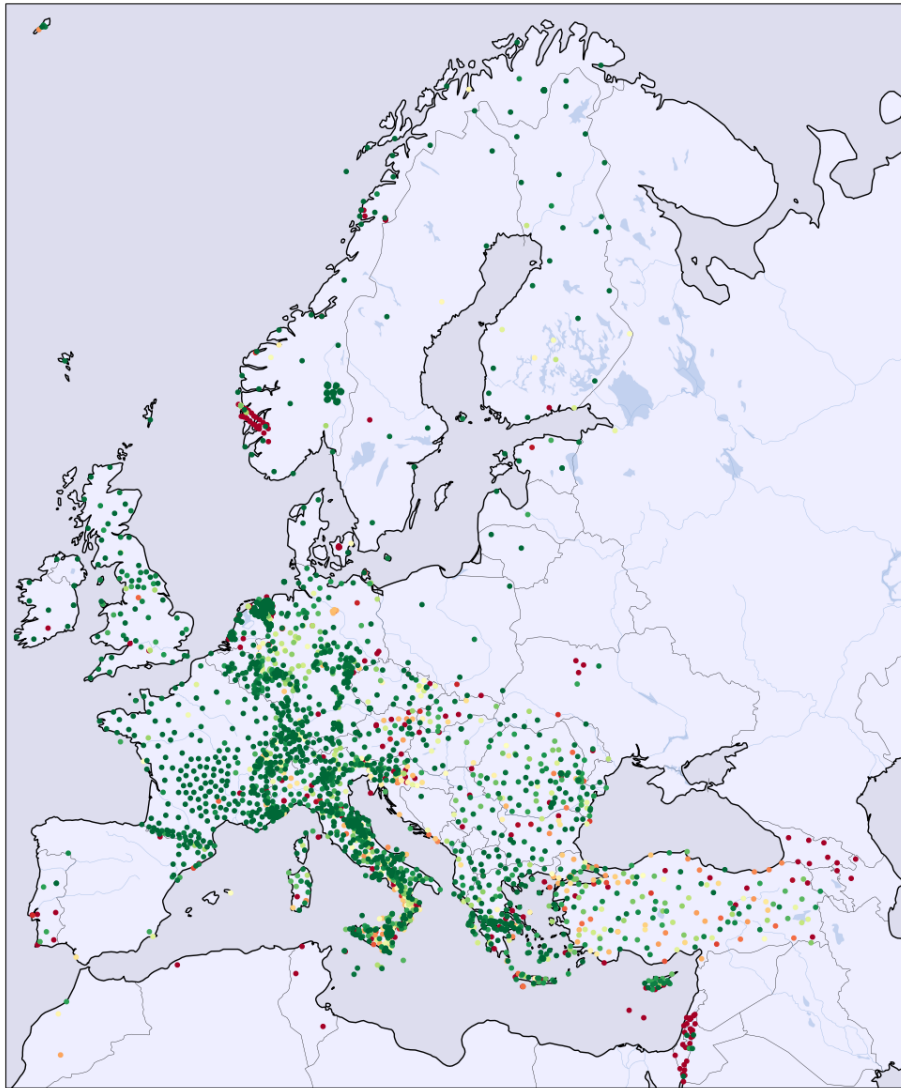


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

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	78	62	46	0	0	0	0	0
2D	199	81	38	0	0	0	6	0
2E	4	66	2	0	0	0	0	0
2I	226	84	41	0	0	0	0	0
3D	76	31	159	0	0	0	4	0
4P	406	56	290	4	14	0	0	5
5A	12	52	1	10	0	0	0	0
5B	33	94	2	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	592	53	499	2	5	0	0	0
7C	0	0	143	0	0	0	1	0
7F	126	97	2	0	0	0	1	0
8D	40	97	0	1	0	0	0	0
8N	42	53	36	1	0	0	0	0
9L	31	63	18	0	0	0	0	0
9S	50	57	36	1	0	0	0	0
AB	0	0	142	0	0	0	0	0
AC	418	92	31	0	1	0	4	0
BE	1235	95	59	0	3	0	0	0
BN	233	65	113	9	0	0	0	0
BQ	426	94	16	0	2	0	8	0
BS	706	64	378	11	5	0	0	0
BW	1862	79	490	0	0	0	0	0
C4	83	72	31	0	0	0	0	0
CA	844	87	104	18	2	0	0	0
CH	3472	91	229	90	1	0	0	0
CL	564	89	64	0	1	0	0	0
CP	0	0	95	0	0	0	0	0
CQ	423	55	322	10	2	0	0	0
CR	525	37	861	0	5	0	0	0
CZ	680	85	108	1	1	0	9	0
DK	598	42	797	0	6	0	16	0
DY	50	31	110	0	0	0	0	0
DZ	0	0	44	0	0	0	0	0
EB	36	100	0	0	0	0	0	0
EE	185	78	48	0	0	0	3	0
EI	391	90	36	0	0	0	7	0
ES	161	81	27	9	0	0	0	0
FN	384	97	3	0	0	0	7	0
FO	125	93	8	0	0	0	0	0
FR	7527	96	273	8	6	0	2	0
GB	2315	94	101	22	4	0	2	0
GE	2568	71	984	2	5	0	25	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	177	80	33	5	0	0	6	0
GR	3481	87	485	0	2	0	3	0
GU	1063	79	257	13	0	0	1	0
GX	112	86	12	3	1	0	2	0
HA	1216	92	99	0	1	0	0	0
HC	380	66	179	3	0	0	10	0
HE	685	79	168	0	0	0	10	0
HF	0	0	48	0	0	0	0	0
HL	1995	73	672	54	1	0	0	0
HP	806	92	41	24	1	0	0	0
HS	461	80	109	1	0	0	5	0
HT	1858	80	423	16	7	0	3	3
HU	555	85	82	0	1	0	8	0
IP	0	0	86	0	0	0	0	0
IS	0	0	1603	0	0	0	17	0
IV	14669	80	3376	200	22	0	3	41
IX	440	69	178	13	2	0	0	0
IY	496	64	257	10	1	0	7	0
JS	0	0	202	0	0	0	1	0
K3	19	82	4	0	0	0	0	0
KO	4357	62	776	1651	52	0	167	0
KQ	216	72	37	47	0	0	0	0
LC	0	0	47	0	0	0	0	0
LE	1437	93	103	0	0	0	2	0
LU	438	93	26	0	0	0	5	0
LX	71	62	41	0	1	0	0	0
M1	261	66	125	0	0	0	6	0
MD	121	87	17	0	0	0	0	0
ME	31	67	15	0	0	0	0	0
MK	358	99	1	0	0	0	0	0
ML	54	71	22	0	0	0	0	0
MN	720	65	364	19	0	0	1	0
MT	353	83	70	2	0	0	0	0
NH	347	68	157	1	0	0	5	0
NI	149	66	72	3	1	0	0	0
NL	9667	87	1237	119	26	0	2	0
NO	3360	87	203	9	7	0	281	0
NR	37	14	223	0	0	0	0	0
NS	1644	42	1891	0	0	0	298	0
OE	891	78	222	0	20	0	0	0
OT	549	80	88	5	1	0	0	39
OX	464	67	213	3	2	0	2	0
PL	342	97	3	0	0	0	6	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	36	14	213	0	0	0	2	0
QE	213	52	172	0	0	0	23	0
QM	268	75	87	0	0	0	0	0
RD	521	98	5	0	1	0	0	0
RF	43	97	1	0	0	0	0	0
RN	195	44	212	7	15	0	8	0
RO	4046	81	917	5	11	0	0	0
SI	125	51	116	0	0	0	0	0
SJ	464	75	135	7	4	0	7	0
SK	232	48	236	1	0	0	7	0
SL	1088	81	219	5	17	0	0	0
SS	30	88	4	0	0	0	0	0
ST	344	99	1	0	0	0	0	0
SX	602	71	238	1	0	0	5	0
TH	1403	89	144	3	0	0	20	0
TQ	210	50	196	8	1	0	4	0
TT	0	0	125	0	0	0	1	0
TU	95	20	358	0	1	0	0	0
TV	13	37	22	0	0	0	0	0
UD	78	32	163	2	0	0	0	0
UP	411	93	25	0	4	0	0	0
UR	288	72	103	5	0	0	0	0
UT	201	93	15	0	0	0	0	0
VI	273	82	52	4	2	0	0	0
VM	46	100	0	0	0	0	0	0
WE	0	0	33	0	0	0	0	0
WM	93	44	115	0	0	0	3	0
XE	226	59	151	0	0	0	0	0
XP	1517	99	4	0	0	0	0	0
Y8	189	81	42	0	0	0	0	0
YV	99	54	82	0	0	0	0	0
ZO	309	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.

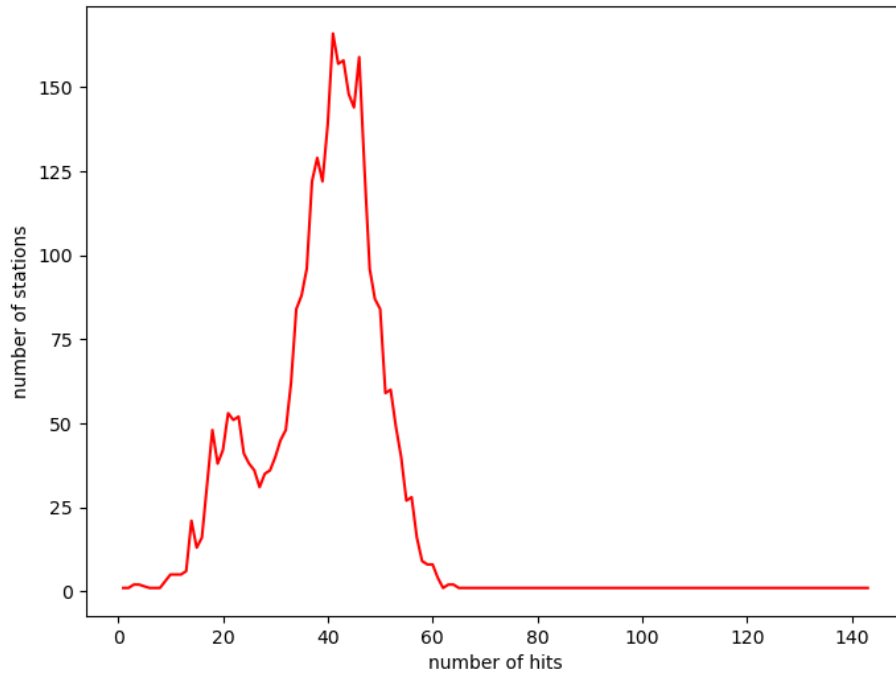


Figure 2: Request hit statistics showing the distribution of the 125249 requests on the 3230 evaluated stations

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 08-01-2026 00:32:01.

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%)	59 (2.9%)
BGS	10 (0.5%)	11 (0.5%)	4 (0.2%)
ETH	1 (0.0%)	2 (0.1%)	4 (0.2%)
GFZ	1 (0.0%)	87 (4.3%)	85 (4.2%)
ICGC	9 (0.4%)	9 (0.4%)	29 (1.4%)
INGV	13 (0.6%)	9 (0.4%)	10 (0.5%)
KOERI	77 (3.8%)	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	11 (0.5%)	14 (0.7%)	17 (0.8%)
ODC	0 (0.0%)	1 (0.0%)	13 (0.6%)
RESIF	6 (0.3%)	2 (0.1%)	21 (1.0%)
UIB/NORSAR	7 (0.3%)	56 (2.8%)	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 05-02-2026 00:32 MEST usingpandoc 2.18.

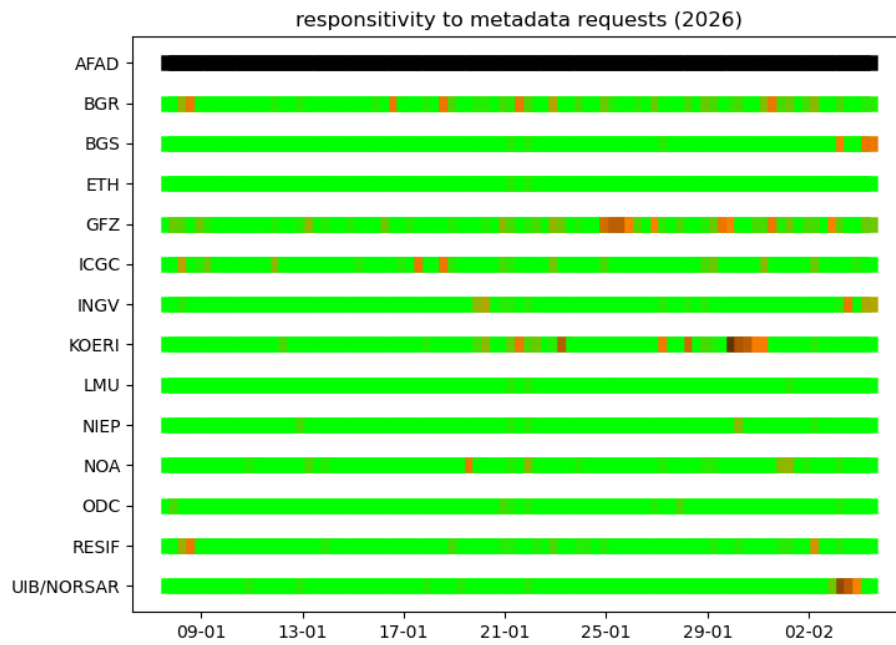


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%