

EIDA Availability Report

Created at 21-01-2026 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 21-10-2025 and 21-01-2026 00:32 using station metadata valid since 21-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3329
- evaluated stations: 3227
- number of requests: 125065

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125065 random requests between 21-10-2025 and 21-01-2026. 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 (260121)

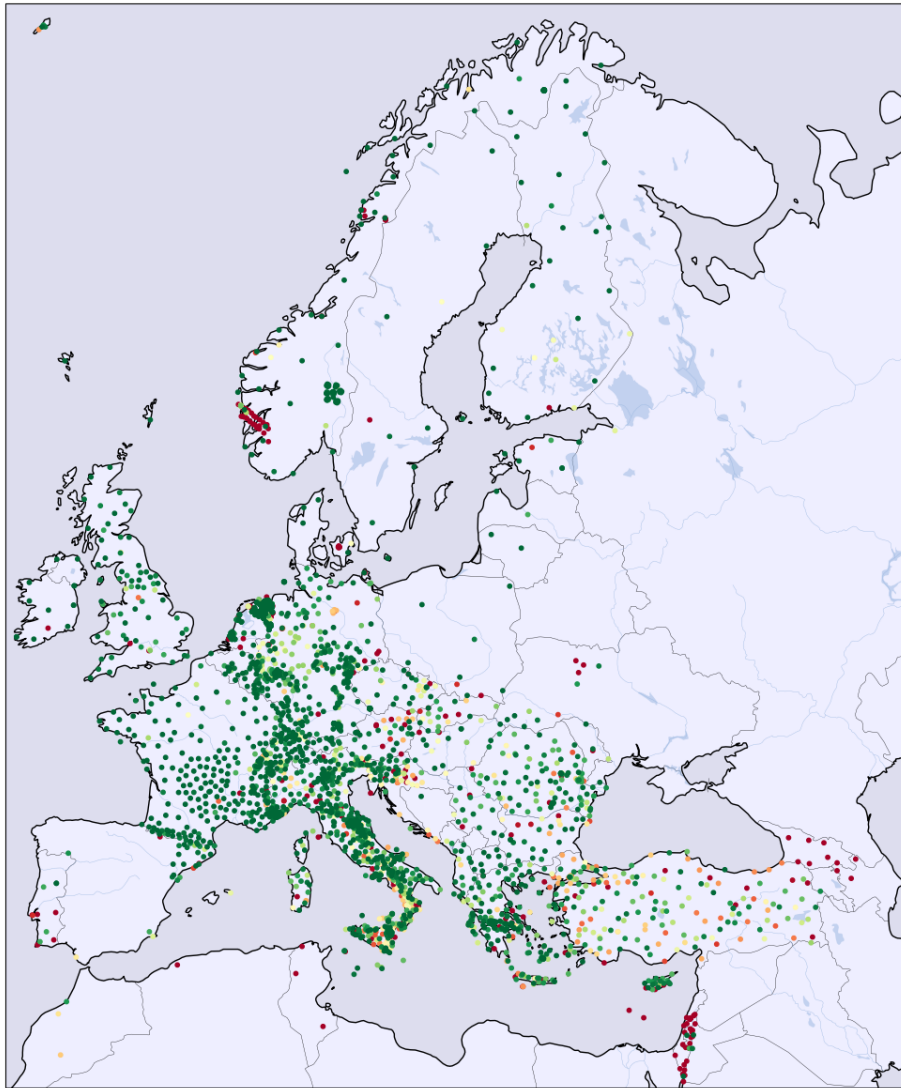


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	73	86	11	0	0	0	0	0
1I	72	63	41	0	0	0	0	0
2D	189	82	40	0	0	0	0	0
2E	2	100	0	0	0	0	0	0
2I	216	85	37	0	0	0	0	0
3D	77	33	153	0	0	0	1	0
4P	416	57	284	4	19	0	0	0
5A	7	53	0	6	0	0	0	0
5B	34	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	579	53	505	2	2	0	0	0
7C	0	0	141	0	0	0	1	0
7F	123	95	5	0	0	0	1	0
8D	39	97	0	1	0	0	0	0
8N	52	53	44	1	0	0	0	0
9L	34	68	16	0	0	0	0	0
9S	47	52	42	0	0	0	0	0
AB	0	0	135	0	0	0	0	0
AC	423	92	32	0	0	0	4	0
BE	1233	95	61	0	2	0	0	0
BN	234	65	117	8	0	0	0	0
BQ	405	93	14	0	1	0	13	0
BS	725	64	380	10	4	0	0	0
BW	1881	78	507	0	0	0	0	0
C4	86	70	36	0	0	0	0	0
CA	839	86	109	16	2	0	0	0
CH	3434	91	223	93	1	0	0	0
CL	569	89	69	0	1	0	0	0
CP	0	0	102	0	0	0	0	0
CQ	430	55	333	10	2	0	0	0
CR	529	38	857	0	6	0	0	0
CZ	678	84	122	1	2	0	1	0
DK	594	42	800	0	7	0	1	0
DY	55	34	105	0	0	0	0	0
DZ	0	0	44	0	0	0	0	0
EB	41	100	0	0	0	0	0	0
EE	191	83	39	0	0	0	0	0
EI	398	92	33	0	0	0	0	0
ES	156	79	34	6	0	0	0	0
FN	385	99	3	0	0	0	0	0
FO	124	90	13	0	0	0	0	0
FR	7576	96	271	7	5	0	4	0
GB	2348	94	115	20	3	0	0	0
GE	2580	72	966	2	5	0	2	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	235	0	0	0	0	0
GQ	172	81	28	4	0	0	8	0
GR	3395	86	486	1	2	0	43	0
GU	1051	80	242	19	0	0	1	0
GX	95	84	13	3	1	0	0	0
HA	1196	92	98	0	1	0	0	0
HC	377	63	199	3	1	0	10	0
HE	676	79	179	0	0	0	0	0
HF	0	0	49	0	0	0	0	0
HL	1947	73	656	50	0	0	0	0
HP	808	92	41	21	1	0	0	0
HS	503	83	91	1	0	0	5	0
HT	1823	80	428	12	7	0	2	2
HU	558	86	89	0	1	0	0	0
IP	0	0	85	0	0	0	0	0
IS	0	0	1617	0	0	0	2	0
IV	14511	79	3459	208	19	0	5	44
IX	427	67	190	13	2	0	0	0
IY	446	61	264	10	1	0	7	0
JS	0	0	209	0	0	0	0	0
K3	21	80	5	0	0	0	0	0
KO	4409	62	788	1686	57	0	91	0
KQ	222	70	45	48	0	0	2	0
LC	0	0	43	0	0	0	0	0
LE	1440	91	97	0	0	0	33	0
LU	459	97	11	0	0	0	0	0
LX	69	62	40	0	1	0	0	0
M1	265	66	133	0	0	0	1	0
MD	117	87	16	0	0	0	0	0
ME	27	60	18	0	0	0	0	0
MK	361	99	1	0	0	0	0	0
ML	59	74	20	0	0	0	0	0
MN	735	66	359	17	0	0	1	0
MT	352	83	67	2	0	0	0	0
NH	312	61	180	1	0	0	14	0
NI	156	69	66	2	0	0	0	0
NL	9685	87	1242	119	23	0	1	0
NO	3371	87	200	9	6	0	252	0
NR	33	12	242	0	0	0	0	0
NS	1653	42	1958	1	0	0	265	0
OE	884	79	207	0	20	0	0	0
OT	542	79	91	5	2	0	0	42
OX	504	69	216	3	1	0	2	0
PL	350	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	212	0	0	0	0	0
QE	232	55	161	1	0	0	22	0
QM	254	72	95	0	0	0	0	0
RD	520	99	4	0	1	0	0	0
RF	44	100	0	0	0	0	0	0
RN	192	45	198	6	17	0	8	0
RO	4056	81	880	6	11	0	2	0
SI	134	53	118	0	0	0	0	0
SJ	451	75	141	6	3	0	0	0
SK	243	50	235	0	0	0	0	0
SL	1053	81	213	6	18	0	0	0
SS	30	85	5	0	0	0	0	0
ST	345	99	1	0	0	0	0	0
SX	589	70	234	1	0	0	14	0
TH	1427	89	138	3	1	0	20	0
TQ	216	51	195	6	1	0	0	0
TT	0	0	142	0	0	0	0	0
TU	104	21	369	0	1	0	0	0
TV	22	48	23	0	0	0	0	0
UD	82	31	173	3	0	0	0	0
UP	425	94	24	0	3	0	0	0
UR	280	71	108	5	0	0	0	0
UT	204	93	14	0	0	0	0	0
VI	257	81	53	3	2	0	0	0
VM	50	100	0	0	0	0	0	0
WE	0	0	36	0	0	0	0	0
WM	98	46	112	0	0	0	0	0
XE	213	56	162	0	0	0	1	0
XP	1473	99	3	0	0	0	0	0
Y8	173	79	45	0	0	0	0	0
YV	99	55	80	0	0	0	0	0
ZO	295	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.

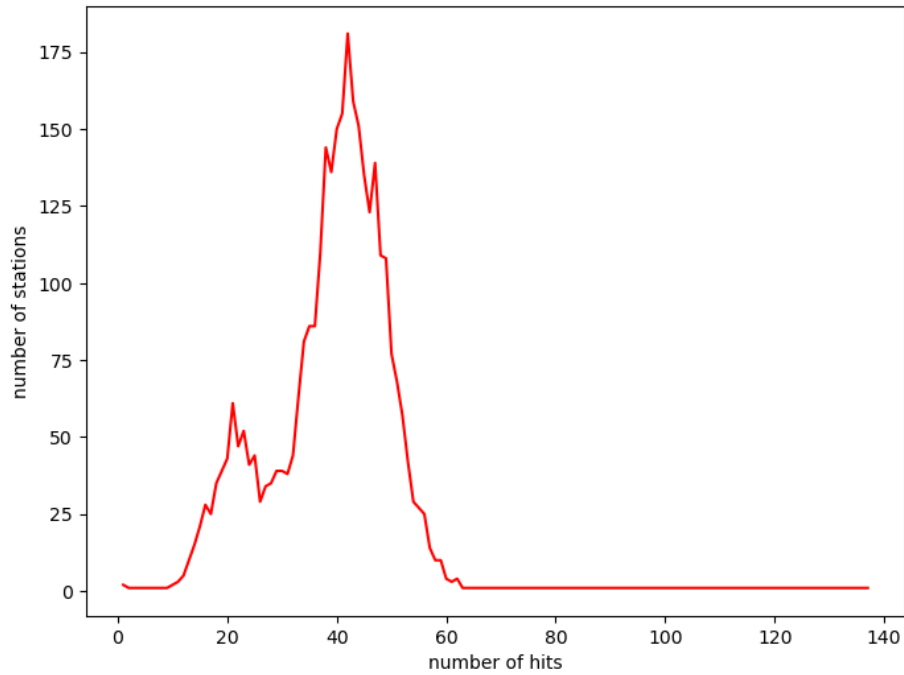


Figure 2: Request hit statistics showing the distribution of the 125065 requests on the 3227 evaluated stations

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 24-12-2025 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%)	2002 (100.0%)
BGR	3 (0.1%)	8 (0.4%)	31 (1.5%)
BGS	0 (0.0%)	0 (0.0%)	1 (0.0%)
ETH	1 (0.0%)	1 (0.0%)	0 (0.0%)
GFZ	0 (0.0%)	0 (0.0%)	51 (2.5%)
ICGC	8 (0.4%)	5 (0.2%)	21 (1.0%)
INGV	9 (0.4%)	4 (0.2%)	5 (0.2%)
KOERI	32 (1.6%)	93 (4.6%)	2 (0.1%)
LMU	0 (0.0%)	1 (0.0%)	0 (0.0%)
NIEP	8 (0.4%)	10 (0.5%)	14 (0.7%)
NOA	20 (1.0%)	21 (1.0%)	7 (0.3%)
ODC	0 (0.0%)	0 (0.0%)	15 (0.7%)
RESIF	3 (0.1%)	0 (0.0%)	10 (0.5%)
UIB/NORSAR	4 (0.2%)	2 (0.1%)	7 (0.3%)

failures of routing client: 0

failures of federator: 13

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 21-01-2026 00:32 MEST using pandoc 2.18.

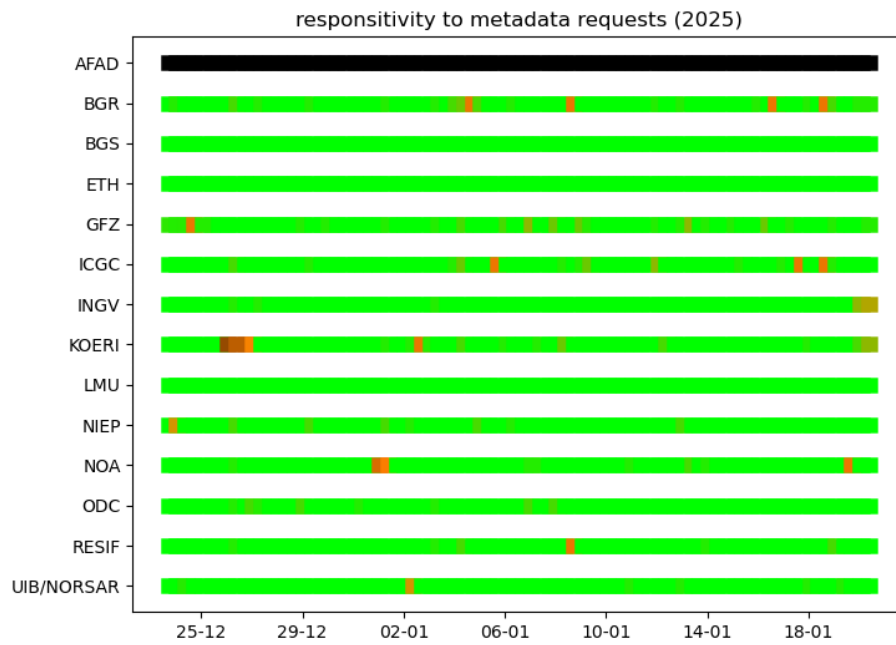


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%