

EIDA Availability Report

Created at 20-01-2026 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 20-10-2025 and 20-01-2026 00:32 using station metadata valid since 20-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3329
- evaluated stations: 3226
- number of requests: 125117

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125117 random requests between 20-10-2025 and 20-01-2026. 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 (260120)

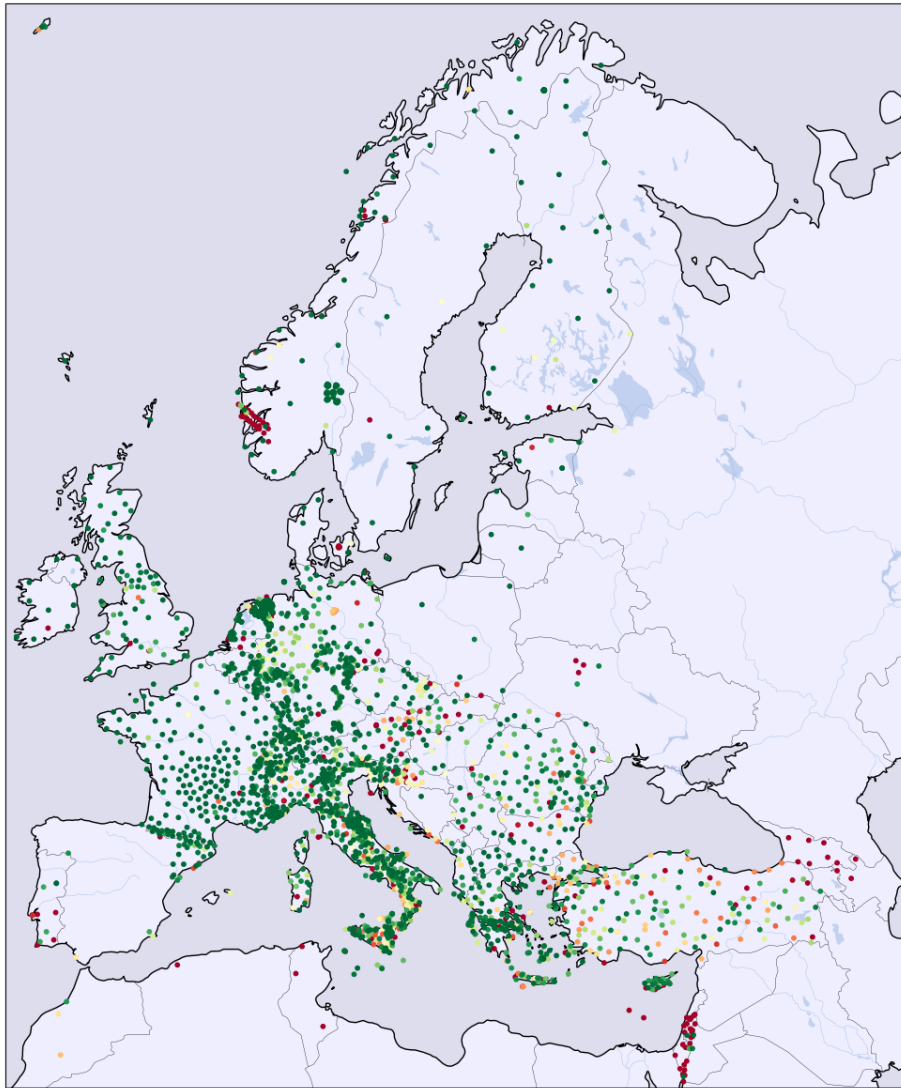


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	74	87	11	0	0	0	0	0
1I	70	63	40	0	0	0	0	0
2D	191	82	41	0	0	0	0	0
2E	1	100	0	0	0	0	0	0
2I	217	85	37	0	0	0	0	0
3D	78	33	153	0	0	0	1	0
4P	418	57	286	4	19	0	0	0
5A	7	58	0	5	0	0	0	0
5B	35	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	578	52	509	2	2	0	0	0
7C	0	0	141	0	0	0	1	0
7F	124	95	5	0	0	0	1	0
8D	40	97	0	1	0	0	0	0
8N	53	53	45	1	0	0	0	0
9L	33	67	16	0	0	0	0	0
9S	46	52	42	0	0	0	0	0
AB	0	0	133	0	0	0	0	0
AC	425	92	32	0	0	0	4	0
BE	1231	95	62	0	2	0	0	0
BN	234	64	119	8	0	0	0	0
BQ	406	93	14	0	1	0	13	0
BS	724	64	380	11	4	0	0	0
BW	1878	78	506	0	0	0	0	0
C4	85	70	35	0	0	0	0	0
CA	842	86	109	16	2	0	0	0
CH	3437	91	222	94	1	0	0	0
CL	570	89	68	0	1	0	0	0
CP	0	0	99	0	0	0	0	0
CQ	434	56	329	10	2	0	0	0
CR	528	37	867	0	6	0	0	0
CZ	671	84	123	1	2	0	0	0
DK	597	42	798	0	7	0	1	0
DY	54	33	105	0	0	0	0	0
DZ	0	0	45	0	0	0	0	0
EB	42	100	0	0	0	0	0	0
EE	190	82	39	0	0	0	0	0
EI	396	92	33	0	0	0	0	0
ES	156	79	34	6	0	0	0	0
FN	387	99	3	0	0	0	0	0
FO	122	90	13	0	0	0	0	0
FR	7587	96	266	7	5	0	4	0
GB	2349	94	114	20	3	0	0	0
GE	2586	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	240	0	0	0	0	0
GQ	170	80	28	4	0	0	8	0
GR	3396	86	487	1	2	0	43	0
GU	1053	80	238	18	0	0	1	0
GX	93	84	13	3	1	0	0	0
HA	1197	92	98	0	1	0	0	0
HC	373	63	202	3	1	0	10	0
HE	677	79	178	0	0	0	0	0
HF	0	0	47	0	0	0	0	0
HL	1952	73	655	49	0	0	0	0
HP	808	92	41	21	1	0	0	0
HS	506	84	90	1	0	0	5	0
HT	1815	79	433	12	7	0	2	2
HU	555	86	89	0	1	0	0	0
IP	0	0	85	0	0	0	0	0
IS	0	0	1627	0	0	0	2	0
IV	14530	79	3475	207	20	0	3	44
IX	428	67	188	13	2	0	0	0
IY	446	61	262	10	1	0	6	0
JS	0	0	206	0	0	0	0	0
K3	21	80	5	0	0	0	0	0
KO	4408	62	794	1680	59	0	91	0
KQ	224	70	45	48	0	0	2	0
LC	0	0	43	0	0	0	0	0
LE	1437	91	99	0	0	0	34	0
LU	463	97	10	0	0	0	0	0
LX	72	63	40	0	1	0	0	0
M1	264	66	134	0	0	0	1	0
MD	117	87	16	0	0	0	0	0
ME	27	60	18	0	0	0	0	0
MK	365	99	1	0	0	0	0	0
ML	59	74	20	0	0	0	0	0
MN	739	66	356	16	0	0	1	0
MT	351	83	67	1	0	0	0	0
NH	307	60	185	2	0	0	14	0
NI	155	69	65	2	0	0	0	0
NL	9687	87	1250	119	23	0	1	0
NO	3372	87	198	9	6	0	252	0
NR	33	12	242	0	0	0	0	0
NS	1642	42	1958	1	0	0	265	0
OE	885	79	208	0	20	0	0	0
OT	540	79	90	5	2	0	0	41
OX	510	69	218	3	2	0	2	0
PL	351	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	207	0	0	0	0	0
QE	230	55	160	1	0	0	22	0
QM	251	72	96	0	0	0	0	0
RD	521	99	4	0	1	0	0	0
RF	44	100	0	0	0	0	0	0
RN	191	45	200	6	17	0	8	0
RO	4043	81	883	6	10	0	2	0
SI	139	54	118	0	0	0	0	0
SJ	449	74	141	6	3	0	0	0
SK	244	50	235	0	0	0	0	0
SL	1054	81	210	6	18	0	0	0
SS	30	85	5	0	0	0	0	0
ST	347	99	1	0	0	0	0	0
SX	586	70	236	1	0	0	14	0
TH	1420	89	136	3	1	0	20	0
TQ	214	51	193	7	1	0	0	0
TT	0	0	141	0	0	0	0	0
TU	104	21	368	0	1	0	0	0
TV	23	50	23	0	0	0	0	0
UD	82	31	174	3	0	0	0	0
UP	424	94	24	0	3	0	0	0
UR	278	71	105	5	0	0	0	0
UT	202	93	14	0	0	0	0	0
VI	257	81	52	3	2	0	0	0
VM	51	100	0	0	0	0	0	0
WE	0	0	36	0	0	0	0	0
WM	101	46	118	0	0	0	0	0
XE	216	57	159	0	0	0	1	0
XP	1476	99	3	0	0	0	0	0
Y8	174	79	45	0	0	0	0	0
YV	98	55	79	0	0	0	0	0
ZO	300	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.

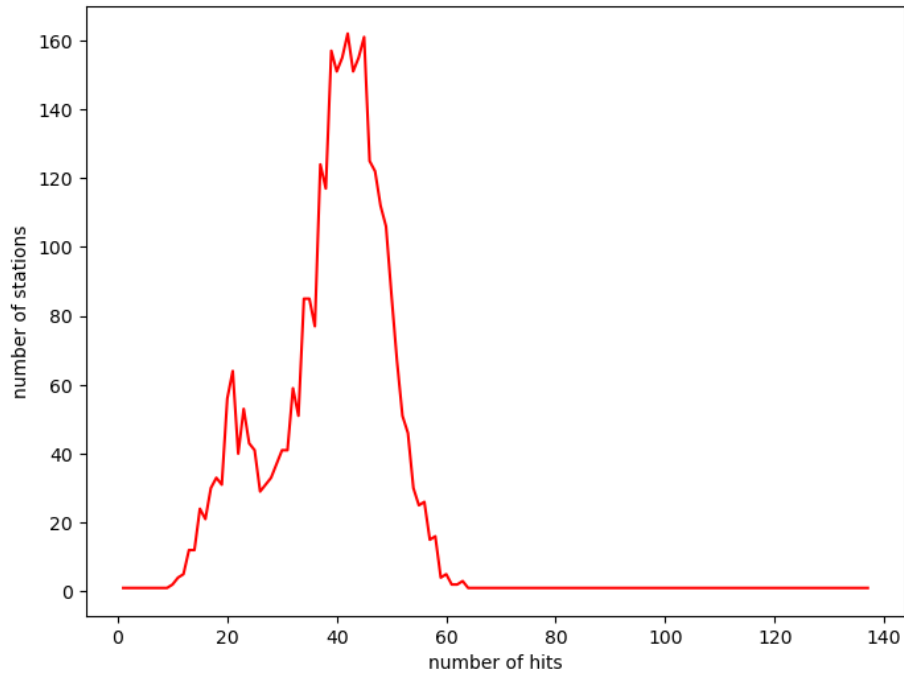


Figure 2: Request hit statistics showing the distribution of the 125117 requests on the 3226 evaluated stations

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 23-12-2025 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%)	8 (0.4%)	32 (1.6%)
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%)	54 (2.7%)
ICGC	8 (0.4%)	5 (0.2%)	23 (1.1%)
INGV	0 (0.0%)	0 (0.0%)	7 (0.3%)
KOERI	29 (1.4%)	90 (4.5%)	4 (0.2%)
LMU	0 (0.0%)	1 (0.0%)	1 (0.0%)
NIEP	9 (0.4%)	11 (0.5%)	14 (0.7%)
NOA	20 (1.0%)	21 (1.0%)	8 (0.4%)
ODC	0 (0.0%)	0 (0.0%)	19 (0.9%)
RESIF	3 (0.1%)	0 (0.0%)	11 (0.5%)
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 20-01-2026 00:32 MEST using pandoc 2.18.

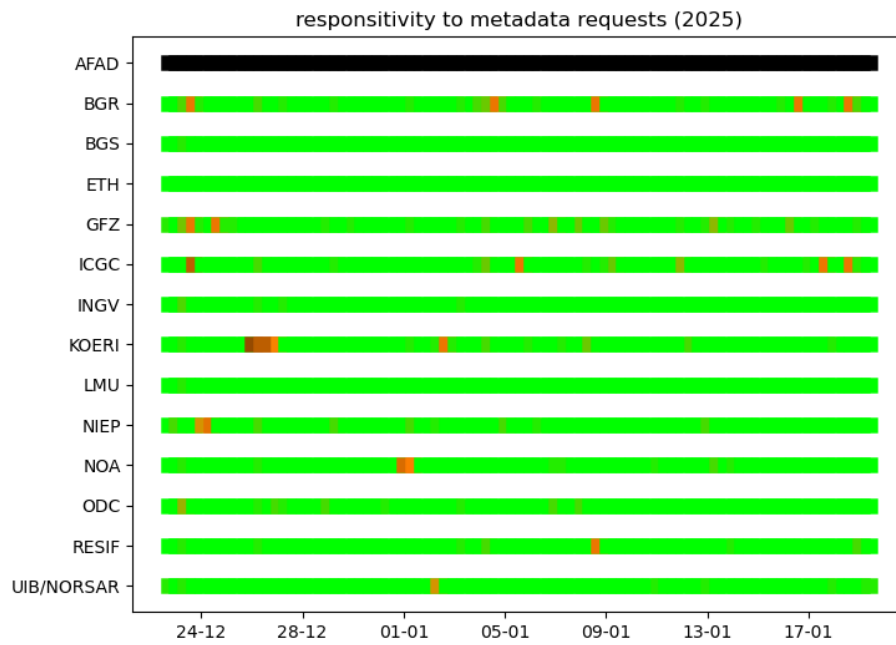


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%