

EIDA Availability Report

Created at 22-01-2026 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 22-10-2025 and 22-01-2026 00:32 using station metadata valid since 22-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3329
- evaluated stations: 3227
- number of requests: 125083

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125083 random requests between 22-10-2025 and 22-01-2026. 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 (260122)

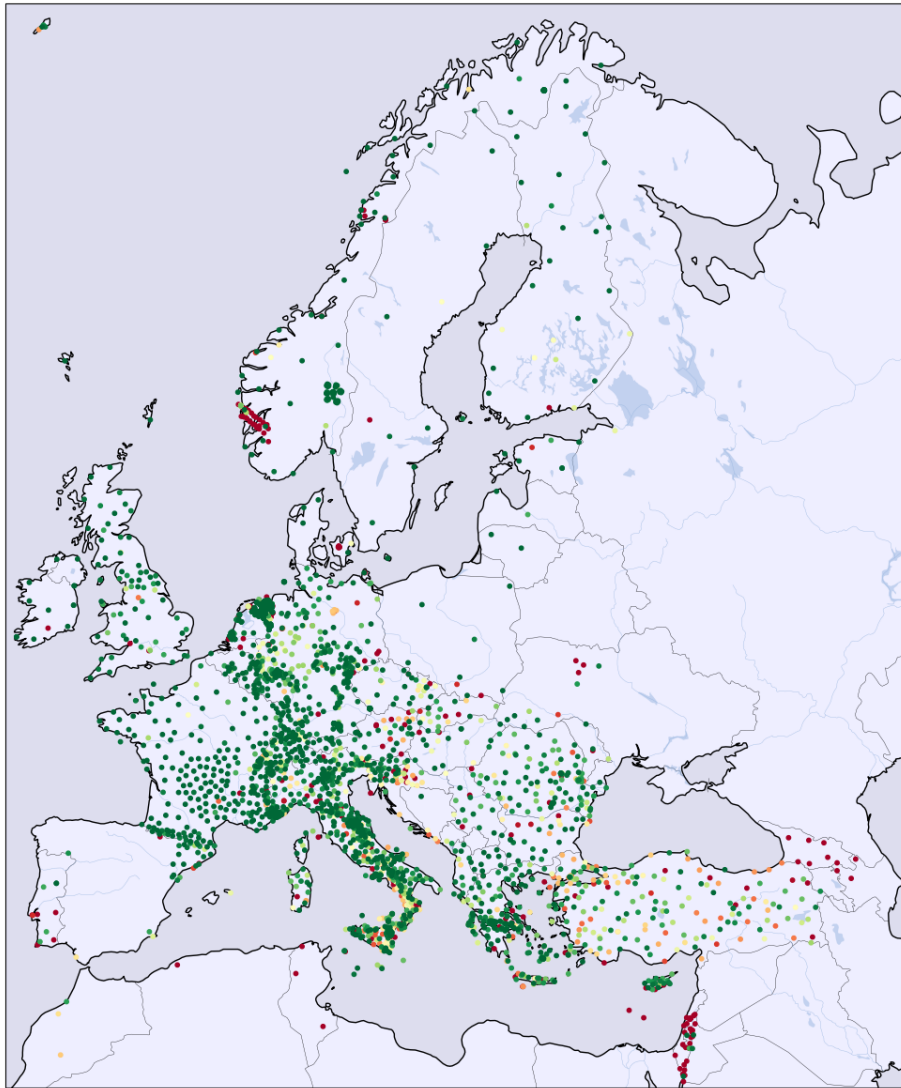


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	75	87	11	0	0	0	0	0
1I	72	63	42	0	0	0	0	0
2D	192	83	39	0	0	0	0	0
2E	3	100	0	0	0	0	0	0
2I	215	84	39	0	0	0	0	0
3D	77	33	150	0	0	0	1	0
4P	412	56	289	4	18	0	0	0
5A	7	50	0	7	0	0	0	0
5B	33	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	580	53	500	2	3	0	0	0
7C	0	0	140	0	0	0	1	0
7F	125	96	4	0	0	0	1	0
8D	40	97	0	1	0	0	0	0
8N	51	53	43	1	0	0	0	0
9L	32	65	17	0	0	0	0	0
9S	48	53	41	0	0	0	0	0
AB	0	0	136	0	0	0	0	0
AC	423	92	32	0	0	0	4	0
BE	1226	95	62	0	2	0	0	0
BN	233	65	116	9	0	0	0	0
BQ	400	93	14	0	1	0	13	0
BS	724	64	378	10	4	0	0	0
BW	1883	78	506	0	0	0	0	0
C4	86	69	37	0	0	0	0	0
CA	840	86	111	16	2	0	0	0
CH	3437	91	224	91	1	0	0	0
CL	575	89	70	0	1	0	0	0
CP	0	0	103	0	0	0	0	0
CQ	431	55	335	9	2	0	0	0
CR	531	38	859	0	6	0	0	0
CZ	671	84	122	1	2	0	1	0
DK	595	42	797	0	7	0	1	0
DY	55	33	107	0	0	0	0	0
DZ	0	0	44	0	0	0	0	0
EB	41	100	0	0	0	0	0	0
EE	192	83	39	0	0	0	0	0
EI	392	92	32	0	0	0	0	0
ES	155	79	33	6	0	0	0	0
FN	385	99	3	0	0	0	0	0
FO	124	91	12	0	0	0	0	0
FR	7565	96	273	7	5	0	4	0
GB	2347	94	116	20	3	0	0	0
GE	2571	72	965	2	5	0	3	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	171	81	28	4	0	0	8	0
GR	3411	86	478	1	2	0	43	0
GU	1050	80	242	18	0	0	1	0
GX	97	85	12	3	1	0	0	0
HA	1202	92	99	0	1	0	0	0
HC	379	64	196	3	0	0	10	0
HE	681	79	179	0	0	0	0	0
HF	0	0	51	0	0	0	0	0
HL	1958	73	658	51	0	0	0	0
HP	806	92	40	21	1	0	0	0
HS	502	83	94	1	0	0	5	0
HT	1830	80	420	12	7	0	3	2
HU	560	86	86	0	1	0	0	0
IP	0	0	86	0	0	0	0	0
IS	0	0	1611	0	0	0	2	0
IV	14516	79	3455	207	19	0	6	46
IX	426	67	190	13	2	0	0	0
IY	451	61	267	10	1	0	7	0
JS	0	0	208	0	0	0	0	0
K3	20	80	5	0	0	0	0	0
KO	4413	62	786	1682	57	0	91	0
KQ	223	70	44	48	0	0	2	0
LC	0	0	43	0	0	0	0	0
LE	1448	91	96	0	0	0	33	0
LU	458	97	12	0	0	0	0	0
LX	72	63	40	0	1	0	0	0
M1	264	66	131	0	0	0	1	0
MD	115	87	16	0	0	0	0	0
ME	28	60	18	0	0	0	0	0
MK	367	99	1	0	0	0	0	0
ML	55	72	21	0	0	0	0	0
MN	739	66	359	17	0	0	1	0
MT	355	84	65	2	0	0	0	0
NH	316	62	176	0	0	0	14	0
NI	153	68	66	2	1	0	0	0
NL	9685	87	1232	118	24	0	2	0
NO	3384	87	198	9	6	0	252	0
NR	33	12	239	0	0	0	0	0
NS	1657	42	1961	1	0	0	265	0
OE	884	79	205	0	20	0	0	0
OT	538	79	92	4	2	0	0	42
OX	502	69	214	3	1	0	2	0
PL	345	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	216	0	0	0	0	0
QE	230	55	159	1	0	0	22	0
QM	252	73	93	0	0	0	0	0
RD	520	99	4	0	1	0	0	0
RF	46	100	0	0	0	0	0	0
RN	194	45	199	6	17	0	8	0
RO	4060	81	875	6	11	0	2	0
SI	134	53	118	0	0	0	0	0
SJ	451	75	140	6	3	0	0	0
SK	241	50	239	0	0	0	0	0
SL	1056	81	213	6	18	0	0	0
SS	30	85	5	0	0	0	0	0
ST	344	99	1	0	0	0	0	0
SX	594	70	234	1	0	0	14	0
TH	1424	89	135	3	1	0	20	0
TQ	215	51	196	6	1	0	0	0
TT	0	0	143	0	0	0	0	0
TU	104	21	369	0	1	0	0	0
TV	22	50	22	0	0	0	0	0
UD	81	31	170	3	0	0	0	0
UP	421	93	24	0	4	0	0	0
UR	282	71	107	5	0	0	0	0
UT	205	93	15	0	0	0	0	0
VI	259	80	55	4	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	114	0	0	0	0	0
XE	212	56	163	0	0	0	1	0
XP	1479	99	3	0	0	0	0	0
Y8	174	79	46	0	0	0	0	0
YV	97	54	81	0	0	0	0	0
ZO	296	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.

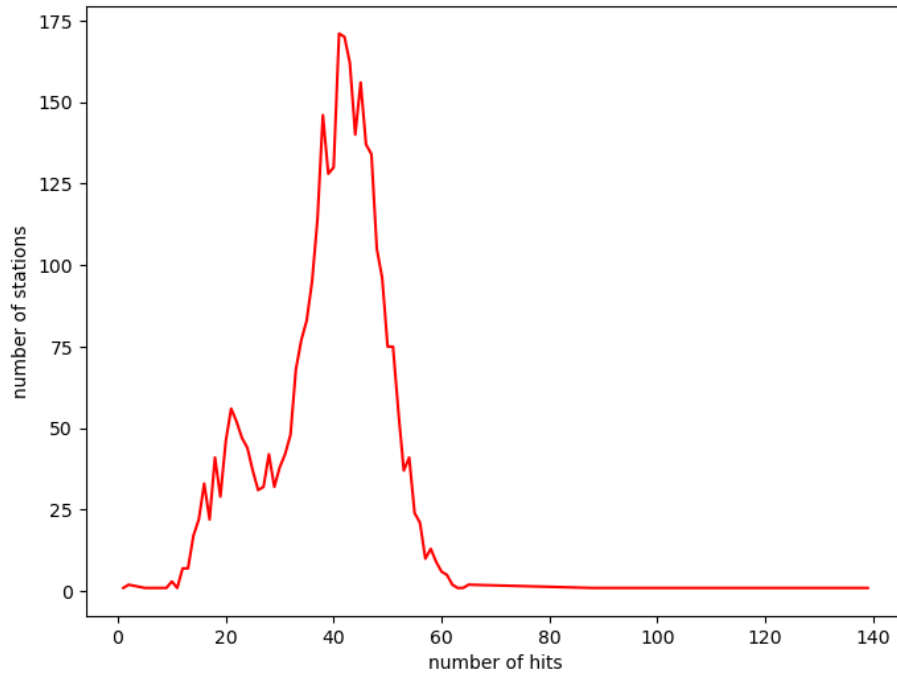


Figure 2: Request hit statistics showing the distribution of the 125083 requests on the 3227 evaluated stations

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 25-12-2025 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	4 (0.2%)	9 (0.4%)	36 (1.8%)
BGS	0 (0.0%)	1 (0.0%)	3 (0.1%)
ETH	1 (0.0%)	2 (0.1%)	2 (0.1%)
GFZ	0 (0.0%)	1 (0.0%)	56 (2.8%)
ICGC	8 (0.4%)	6 (0.3%)	23 (1.1%)
INGV	9 (0.4%)	5 (0.2%)	8 (0.4%)
KOERI	33 (1.6%)	95 (4.7%)	5 (0.2%)
LMU	0 (0.0%)	2 (0.1%)	2 (0.1%)
NIEP	5 (0.2%)	8 (0.4%)	3 (0.1%)
NOA	20 (1.0%)	22 (1.1%)	9 (0.4%)
ODC	0 (0.0%)	1 (0.0%)	18 (0.9%)
RESIF	3 (0.1%)	1 (0.0%)	12 (0.6%)
UIB/NORSAR	4 (0.2%)	2 (0.1%)	9 (0.4%)

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 22-01-2026 00:32 MEST usingpandoc 2.18.

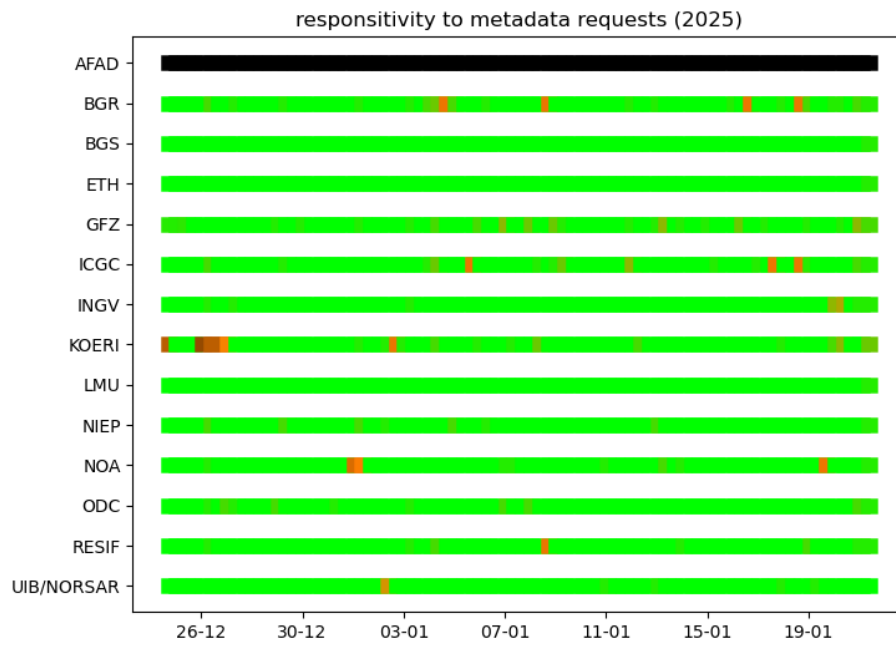


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%