

EIDA Availability Report

Created at 13-01-2026 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 13-10-2025 and 13-01-2026 00:32 using station metadata valid since 13-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3330
- evaluated stations: 3225
- number of requests: 125007

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125007 random requests between 13-10-2025 and 13-01-2026. 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 (260113)

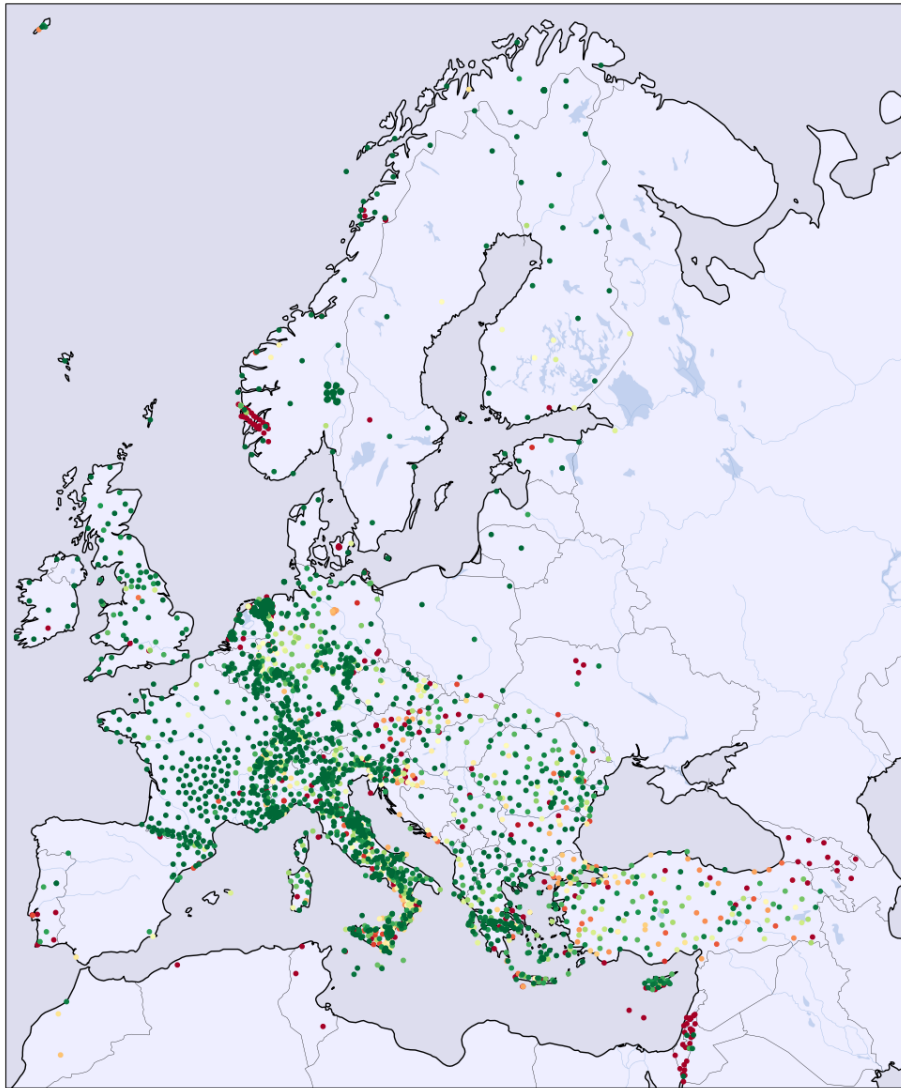


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

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	69	62	41	0	0	0	0	0
2D	193	80	46	0	0	0	0	0
2E	1	100	0	0	0	0	0	0
2I	220	86	34	0	0	0	0	0
3D	78	33	151	0	0	0	1	0
4P	428	58	277	4	20	0	0	0
5A	6	66	0	3	0	0	0	0
5B	32	100	0	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	578	52	510	2	2	0	0	0
7C	0	0	135	0	0	0	1	0
7F	125	96	4	0	0	0	1	0
8D	42	97	0	1	0	0	0	0
8N	58	54	47	1	0	0	0	0
9L	33	70	14	0	0	0	0	0
9S	45	51	42	0	0	0	0	0
AB	0	0	131	0	0	0	0	0
AC	423	91	33	0	0	0	4	0
BE	1252	94	64	0	2	0	0	0
BN	229	64	118	8	0	0	0	0
BQ	398	88	35	0	1	0	15	0
BS	724	65	371	13	4	0	0	0
BW	1870	78	510	0	0	0	0	0
C4	84	67	40	0	0	0	0	0
CA	842	86	111	18	2	0	0	0
CH	3443	91	231	100	1	0	0	0
CL	580	89	65	0	1	0	0	0
CP	0	0	99	0	0	0	0	0
CQ	432	55	341	10	2	0	0	0
CR	524	38	836	0	6	0	0	0
CZ	674	83	127	1	2	0	0	0
DK	592	42	800	0	8	0	1	0
DY	50	32	104	0	0	0	0	0
DZ	0	0	49	0	0	0	0	0
EB	42	100	0	0	0	0	0	0
EE	193	83	36	1	0	0	0	0
EI	405	91	36	0	0	0	0	0
ES	162	80	36	4	0	0	0	0
FN	383	99	3	0	0	0	0	0
FO	122	89	15	0	0	0	0	0
FR	7620	96	266	7	4	0	4	0
GB	2231	94	111	22	3	0	0	0
GE	2561	72	963	3	7	0	2	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	247	0	0	0	0	0
GQ	164	81	26	3	0	0	8	0
GR	3386	86	487	1	4	0	43	0
GU	1056	80	242	16	0	0	1	0
GX	89	84	13	2	1	0	0	0
HA	1210	92	101	0	1	0	0	0
HC	370	62	206	3	1	0	10	0
HE	681	79	178	0	0	0	0	0
HF	0	0	45	0	0	0	0	0
HL	1942	73	636	47	0	0	0	0
HP	830	93	41	20	1	0	0	0
HS	512	85	78	1	0	0	5	0
HT	1780	79	434	12	8	0	2	2
HU	554	86	89	0	1	0	0	0
IP	0	0	89	0	0	0	0	0
IS	0	0	1611	0	0	0	2	0
IV	14549	79	3511	207	26	0	3	44
IX	419	66	195	11	3	0	0	0
IY	437	60	269	9	1	0	6	0
JS	0	0	205	0	0	0	0	0
K3	21	80	5	0	0	0	0	0
KO	4427	62	776	1694	60	0	91	0
KQ	217	68	48	52	0	0	2	0
LC	0	0	39	0	0	0	0	0
LE	1414	90	106	0	0	0	34	0
LU	472	98	5	0	0	0	0	0
LX	75	65	38	0	1	0	0	0
M1	274	67	133	0	0	0	1	0
MD	117	87	16	0	0	0	0	0
ME	28	58	20	0	0	0	0	0
MK	369	99	1	0	0	0	0	0
ML	61	78	17	0	0	0	0	0
MN	745	66	361	17	0	0	1	0
MT	360	84	65	1	0	0	0	0
NH	274	55	200	2	0	0	14	0
NI	155	70	64	1	0	0	0	0
NL	9685	87	1251	111	25	0	2	0
NO	3386	88	193	9	7	0	252	0
NR	32	11	237	0	0	0	0	0
NS	1629	42	1961	1	0	0	266	0
OE	875	78	212	0	24	0	0	0
OT	546	81	83	6	2	0	0	37
OX	497	69	212	3	2	0	2	0
PL	355	99	2	0	0	0	0	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	31	13	204	0	0	0	0	0
QE	235	58	145	1	0	0	22	0
QM	256	72	95	0	0	0	0	0
RD	519	99	3	0	1	0	0	0
RF	41	100	0	0	0	0	0	0
RN	198	46	197	5	16	0	8	0
RO	4064	81	893	6	11	0	2	0
SI	138	54	114	0	0	0	0	0
SJ	448	75	140	6	3	0	0	0
SK	245	51	232	0	0	0	1	0
SL	1064	82	204	6	17	0	0	0
SS	31	86	5	0	0	0	0	0
ST	354	99	1	0	0	0	0	0
SX	597	70	232	1	0	0	14	0
TH	1405	90	130	4	2	0	20	0
TQ	208	52	181	7	1	0	0	0
TT	0	0	138	0	0	0	0	0
TU	104	22	365	0	1	0	0	0
TV	24	53	21	0	0	0	0	0
UD	80	31	172	3	0	0	0	0
UP	421	94	24	0	2	0	0	0
UR	263	70	104	5	0	0	0	0
UT	204	93	15	0	0	0	0	0
VI	252	81	55	3	1	0	0	0
VM	49	100	0	0	0	0	0	0
WE	0	0	36	0	0	0	0	0
WM	101	45	120	0	0	0	0	0
XE	224	58	159	0	0	0	1	0
XP	1473	99	4	0	0	0	0	0
Y8	169	80	42	0	0	0	0	0
YV	101	56	79	0	0	0	0	0
ZO	307	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.

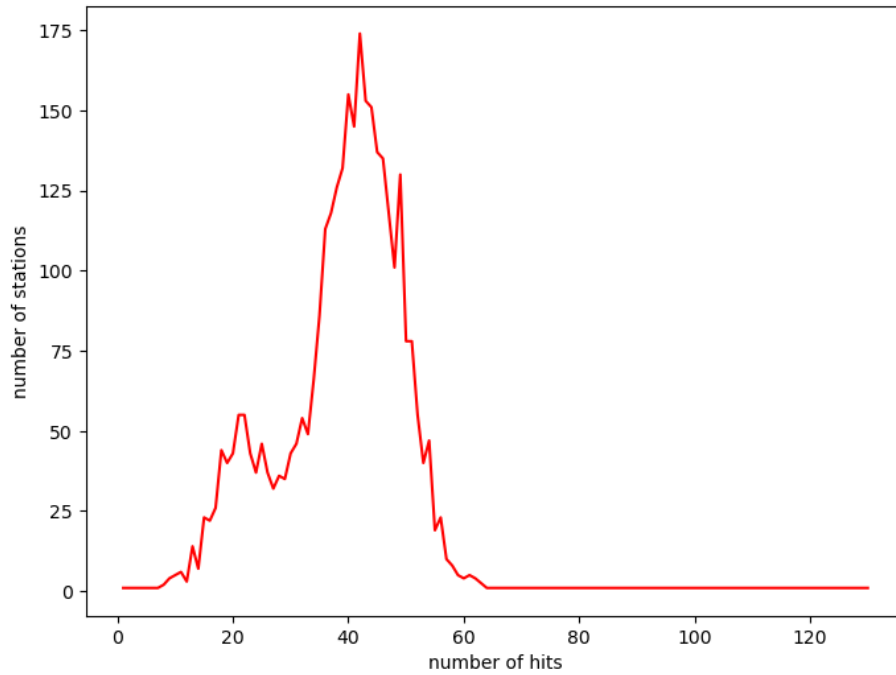


Figure 2: Request hit statistics showing the distribution of the 125007 requests on the 3225 evaluated stations

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 16-12-2025 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%)	1990 (100.0%)
BGR	3 (0.1%)	6 (0.3%)	38 (1.9%)
BGS	1 (0.0%)	1 (0.0%)	7 (0.4%)
ETH	0 (0.0%)	0 (0.0%)	2 (0.1%)
GFZ	0 (0.0%)	0 (0.0%)	200 (10.1%)
ICGC	8 (0.4%)	3 (0.1%)	28 (1.4%)
INGV	0 (0.0%)	0 (0.0%)	15 (0.8%)
KOERI	26 (1.3%)	88 (4.4%)	9 (0.5%)
LMU	1 (0.0%)	1 (0.0%)	5 (0.3%)
NIEP	8 (0.4%)	10 (0.5%)	18 (0.9%)
NOA	16 (0.8%)	13 (0.6%)	10 (0.5%)
ODC	0 (0.0%)	0 (0.0%)	66 (3.3%)
RESIF	3 (0.1%)	1 (0.0%)	18 (0.9%)
UIB/NORSAR	2 (0.1%)	2 (0.1%)	12 (0.6%)

failures of routing client: 0

failures of federator: 25

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

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