

EIDA Availability Report

Created at 01-02-2026 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 01-11-2025 and 01-02-2026 00:32 using station metadata valid since 01-02-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3229
- number of requests: 125124

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125124 random requests between 01-11-2025 and 01-02-2026. 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 (260201)

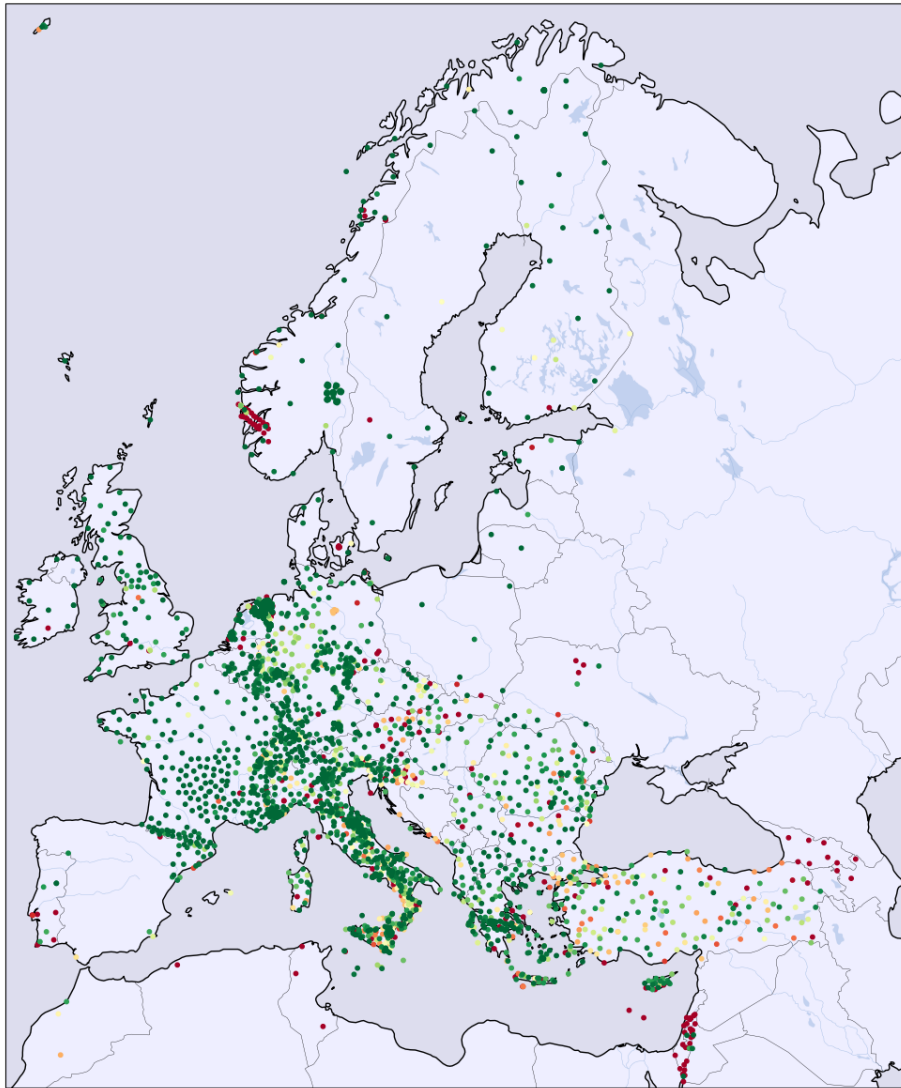


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	74	87	10	0	0	0	1	0
1I	76	61	48	0	0	0	0	0
2D	197	81	38	0	0	0	6	0
2E	4	66	2	0	0	0	0	0
2I	229	84	43	0	0	0	0	0
3D	74	32	150	0	0	0	2	0
4P	410	56	291	4	14	0	0	3
5A	9	47	1	9	0	0	0	0
5B	33	97	1	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	578	53	499	2	5	0	0	0
7C	0	0	149	0	0	0	1	0
7F	122	96	3	0	0	0	1	0
8D	39	97	0	1	0	0	0	0
8N	46	54	37	1	0	0	0	0
9L	32	62	19	0	0	0	0	0
9S	52	57	38	0	0	0	0	0
AB	0	0	142	0	0	0	0	0
AC	416	91	32	0	1	0	4	0
BE	1212	94	64	0	2	0	0	0
BN	234	65	114	9	0	0	0	0
BQ	415	93	15	0	2	0	11	0
BS	706	64	375	10	4	0	0	0
BW	1880	78	502	0	0	0	0	0
C4	82	70	34	0	0	0	0	0
CA	834	87	103	18	2	0	0	0
CH	3472	91	230	91	1	0	0	0
CL	556	89	64	0	1	0	0	0
CP	0	0	94	0	0	0	0	0
CQ	419	55	323	10	2	0	0	0
CR	528	37	856	0	6	0	0	0
CZ	676	84	112	1	2	0	9	0
DK	592	41	805	0	6	0	16	0
DY	49	30	114	0	0	0	0	0
DZ	0	0	47	0	0	0	0	0
EB	38	100	0	0	0	0	0	0
EE	184	79	44	0	0	0	3	0
EI	386	90	35	0	0	0	7	0
ES	161	81	28	9	0	0	0	0
FN	381	97	3	0	0	0	7	0
FO	125	92	10	0	0	0	0	0
FR	7538	96	275	8	6	0	2	0
GB	2316	94	104	22	3	0	0	0
GE	2573	71	982	2	5	0	25	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	227	0	0	0	0	0
GQ	174	80	32	5	0	0	6	0
GR	3446	87	483	0	2	0	29	0
GU	1048	79	251	14	0	0	1	0
GX	109	85	12	3	1	0	2	0
HA	1220	92	99	0	1	0	0	0
HC	382	66	177	3	0	0	10	0
HE	681	79	170	0	0	0	10	0
HF	0	0	51	0	0	0	0	0
HL	1973	73	660	53	1	0	0	0
HP	807	92	41	20	1	0	0	0
HS	474	80	106	1	0	0	5	0
HT	1836	80	418	14	7	0	3	3
HU	567	86	81	0	1	0	8	0
IP	0	0	86	0	0	0	0	0
IS	0	0	1609	0	0	0	17	0
IV	14644	79	3408	204	22	0	6	41
IX	440	69	178	13	2	0	0	0
IY	480	63	256	10	1	0	7	0
JS	0	0	201	0	0	0	1	0
K3	15	78	4	0	0	0	0	0
KO	4377	62	786	1650	54	0	168	0
KQ	215	71	38	47	0	0	1	0
LC	0	0	49	0	0	0	0	0
LE	1430	92	97	0	0	0	14	0
LU	440	94	21	0	0	0	5	0
LX	73	65	38	0	1	0	0	0
M1	259	66	127	0	0	0	6	0
MD	113	87	16	0	0	0	0	0
ME	29	64	16	0	0	0	0	0
MK	357	99	1	0	0	0	0	0
ML	55	71	22	0	0	0	0	0
MN	725	65	356	20	0	0	1	0
MT	351	82	72	2	0	0	0	0
NH	339	66	159	1	0	0	7	0
NI	152	66	71	3	1	0	0	0
NL	9666	87	1239	117	26	0	2	0
NO	3390	87	201	9	7	0	252	0
NR	35	13	222	0	0	0	0	0
NS	1643	42	1916	1	0	0	265	0
OE	882	78	215	0	20	0	0	0
OT	554	80	86	5	1	0	0	38
OX	477	68	213	3	2	0	2	0
PL	347	97	2	0	0	0	6	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
PM	31	12	213	0	0	0	2	0
QE	224	54	168	0	0	0	22	0
QM	261	74	91	0	0	0	0	0
RD	520	98	5	0	1	0	0	0
RF	44	97	1	0	0	0	0	0
RN	197	45	208	7	16	0	8	0
RO	4062	81	907	7	11	0	1	0
SI	124	51	118	0	0	0	0	0
SJ	466	75	137	7	4	0	7	0
SK	235	49	231	1	0	0	7	0
SL	1079	81	219	5	15	0	0	0
SS	33	89	4	0	0	0	0	0
ST	350	99	1	0	0	0	0	0
SX	596	70	236	1	0	0	9	0
TH	1390	89	138	3	1	0	20	0
TQ	218	51	194	7	1	0	4	0
TT	0	0	128	0	0	0	1	0
TU	100	21	364	0	1	0	0	0
TV	15	41	21	0	0	0	0	0
UD	79	32	164	2	0	0	0	0
UP	411	93	25	0	4	0	0	0
UR	289	72	102	5	0	0	0	0
UT	204	93	15	0	0	0	0	0
VI	264	81	55	4	2	0	0	0
VM	46	100	0	0	0	0	0	0
WE	0	0	34	0	0	0	0	0
WM	95	45	113	0	0	0	3	0
XE	222	58	156	0	0	0	0	0
XP	1492	99	4	0	0	0	0	0
Y8	182	80	45	0	0	0	0	0
YV	100	55	79	0	0	0	0	0
ZO	302	90	31	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.

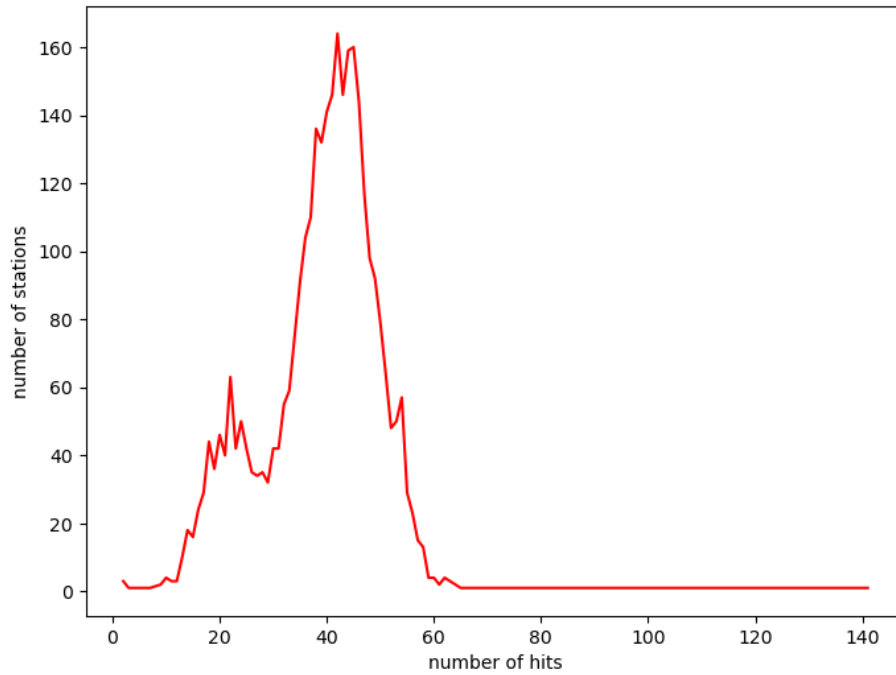


Figure 2: Request hit statistics showing the distribution of the 125124 requests on the 3229 evaluated stations

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 04-01-2026 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%)	2008 (100.0%)
BGR	5 (0.2%)	16 (0.8%)	59 (2.9%)
BGS	0 (0.0%)	1 (0.0%)	5 (0.2%)
ETH	1 (0.0%)	2 (0.1%)	4 (0.2%)
GFZ	1 (0.0%)	82 (4.1%)	81 (4.0%)
ICGC	12 (0.6%)	7 (0.3%)	32 (1.6%)
INGV	10 (0.5%)	6 (0.3%)	9 (0.4%)
KOERI	82 (4.1%)	131 (6.5%)	44 (2.2%)
LMU	0 (0.0%)	2 (0.1%)	4 (0.2%)
NIEP	2 (0.1%)	4 (0.2%)	9 (0.4%)
NOA	8 (0.4%)	10 (0.5%)	16 (0.8%)
ODC	0 (0.0%)	1 (0.0%)	14 (0.7%)
RESIF	6 (0.3%)	2 (0.1%)	14 (0.7%)
UIB/NORSAR	2 (0.1%)	0 (0.0%)	10 (0.5%)

failures of routing client: 0

failures of federator: 7

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 01-02-2026 00:32 MEST using pandoc 2.18.

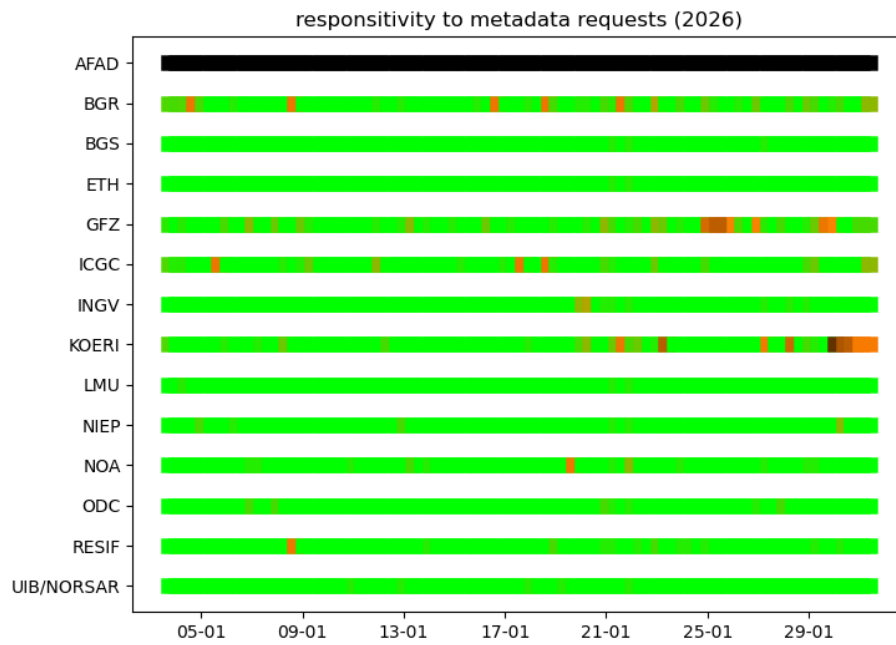


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%