

EIDA Availability Report

Created at 31-01-2026 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 31-10-2025 and 31-01-2026 00:32 using station metadata valid since 31-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3229
- number of requests: 125080

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125080 random requests between 31-10-2025 and 31-01-2026. 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 (260131)

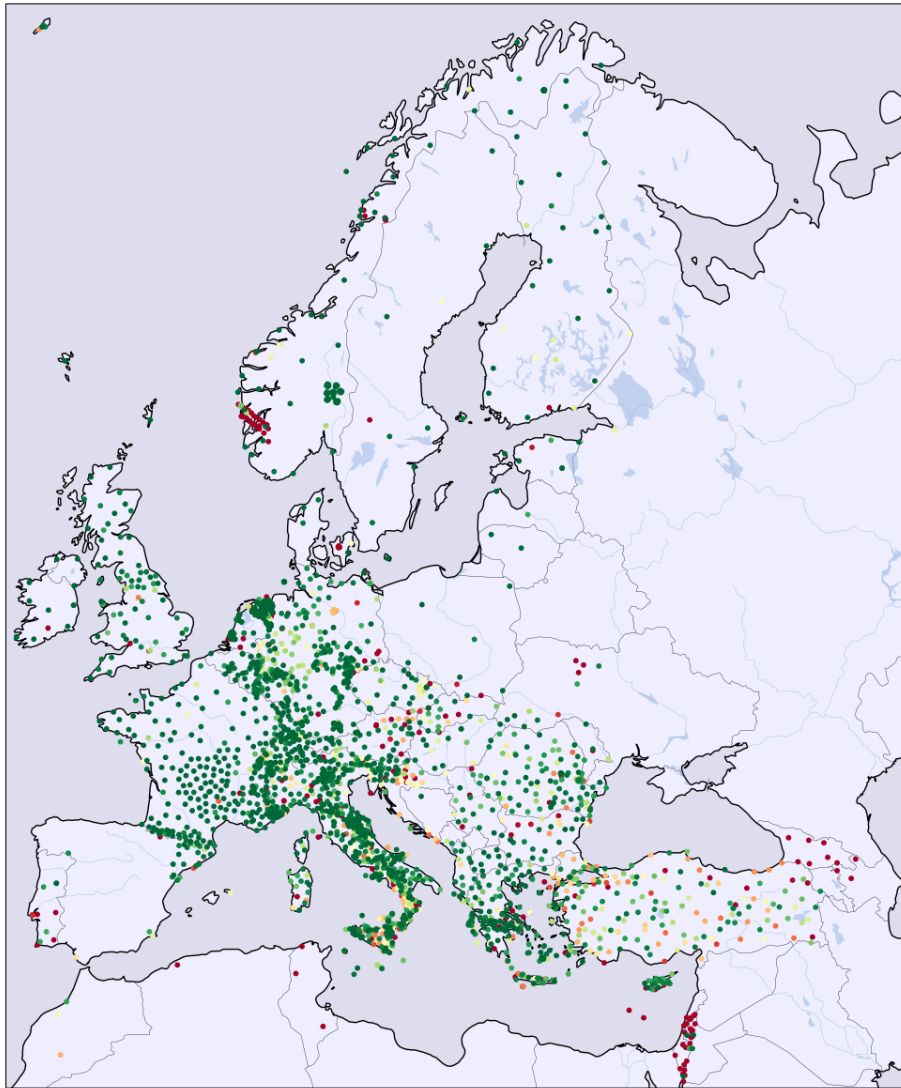


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	75	87	10	0	0	0	1	0
1I	76	61	48	0	0	0	0	0
2D	195	81	37	0	0	0	6	0
2E	4	66	2	0	0	0	0	0
2I	226	84	42	0	0	0	0	0
3D	74	32	151	0	0	0	2	0
4P	409	56	290	3	16	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	582	53	496	2	4	0	0	0
7C	0	0	148	0	0	0	1	0
7F	121	96	3	0	0	0	1	0
8D	38	97	0	1	0	0	0	0
8N	46	54	38	1	0	0	0	0
9L	32	62	19	0	0	0	0	0
9S	54	58	39	0	0	0	0	0
AB	0	0	142	0	0	0	0	0
AC	418	91	32	0	1	0	4	0
BE	1221	94	64	0	2	0	0	0
BN	235	65	114	9	0	0	0	0
BQ	409	93	15	0	2	0	11	0
BS	705	64	379	11	4	0	0	0
BW	1878	78	500	0	0	0	0	0
C4	86	71	35	0	0	0	0	0
CA	834	87	104	18	2	0	0	0
CH	3470	91	228	93	1	0	0	0
CL	559	89	63	0	1	0	0	0
CP	0	0	95	0	0	0	0	0
CQ	417	54	330	10	2	0	0	0
CR	524	37	859	0	6	0	0	0
CZ	673	84	112	1	2	0	9	0
DK	585	41	799	0	6	0	16	0
DY	50	30	114	0	0	0	0	0
DZ	0	0	46	0	0	0	0	0
EB	40	100	0	0	0	0	0	0
EE	186	80	43	0	0	0	3	0
EI	389	90	33	0	0	0	7	0
ES	159	80	29	9	0	0	0	0
FN	377	97	3	0	0	0	7	0
FO	126	92	10	0	0	0	0	0
FR	7534	96	276	8	6	0	2	0
GB	2313	94	104	22	3	0	0	0
GE	2573	71	976	2	5	0	25	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	228	0	0	0	0	0
GQ	169	79	32	5	0	0	6	0
GR	3437	86	479	1	2	0	36	0
GU	1043	79	246	15	0	0	1	0
GX	109	85	12	3	1	0	2	0
HA	1218	92	98	0	1	0	0	0
HC	379	66	177	3	0	0	10	0
HE	678	78	172	0	0	0	10	0
HF	0	0	51	0	0	0	0	0
HL	1969	73	670	52	1	0	0	0
HP	798	92	40	20	1	0	0	0
HS	476	81	105	1	0	0	5	0
HT	1836	80	415	14	7	0	3	3
HU	570	86	81	0	1	0	8	0
IP	0	0	85	0	0	0	0	0
IS	0	0	1613	0	0	0	17	0
IV	14614	79	3415	206	21	0	6	41
IX	435	69	179	14	2	0	0	0
IY	475	63	258	10	1	0	7	0
JS	0	0	206	0	0	0	1	0
K3	15	78	4	0	0	0	0	0
KO	4371	62	790	1641	56	0	161	0
KQ	213	70	39	47	0	0	2	0
LC	0	0	48	0	0	0	0	0
LE	1436	92	98	0	0	0	22	0
LU	443	94	21	0	0	0	5	0
LX	72	64	39	0	1	0	0	0
M1	259	65	128	0	0	0	6	0
MD	113	87	16	0	0	0	0	0
ME	29	64	16	0	0	0	0	0
MK	361	99	1	0	0	0	0	0
ML	55	71	22	0	0	0	0	0
MN	720	65	355	20	0	0	1	0
MT	350	82	73	2	0	0	0	0
NH	336	66	161	1	0	0	7	0
NI	152	67	70	3	1	0	0	0
NL	9679	87	1237	117	26	0	2	0
NO	3386	87	205	9	7	0	252	0
NR	35	13	225	0	0	0	0	0
NS	1648	42	1925	1	0	0	265	0
OE	884	78	218	0	18	0	0	0
OT	556	80	87	5	1	0	0	40
OX	479	68	214	3	2	0	2	0
PL	344	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	212	0	0	0	2	0
QE	224	54	164	0	0	0	22	0
QM	262	73	93	0	0	0	0	0
RD	517	98	5	0	1	0	0	0
RF	43	100	0	0	0	0	0	0
RN	197	45	209	7	16	0	8	0
RO	4079	81	901	7	10	0	1	0
SI	125	51	117	0	0	0	0	0
SJ	464	74	138	7	4	0	7	0
SK	236	49	234	0	0	0	7	0
SL	1069	81	214	5	17	0	0	0
SS	34	89	4	0	0	0	0	0
ST	348	99	1	0	0	0	0	0
SX	589	70	234	1	0	0	10	0
TH	1396	89	140	3	1	0	20	0
TQ	212	50	195	7	1	0	4	0
TT	0	0	131	0	0	0	1	0
TU	100	21	363	0	1	0	0	0
TV	15	40	22	0	0	0	0	0
UD	80	32	168	2	0	0	0	0
UP	413	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	262	81	54	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	221	58	156	0	0	0	0	0
XP	1494	99	3	0	0	0	0	0
Y8	179	79	45	0	0	0	0	0
YV	100	55	79	0	0	0	0	0
ZO	298	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.

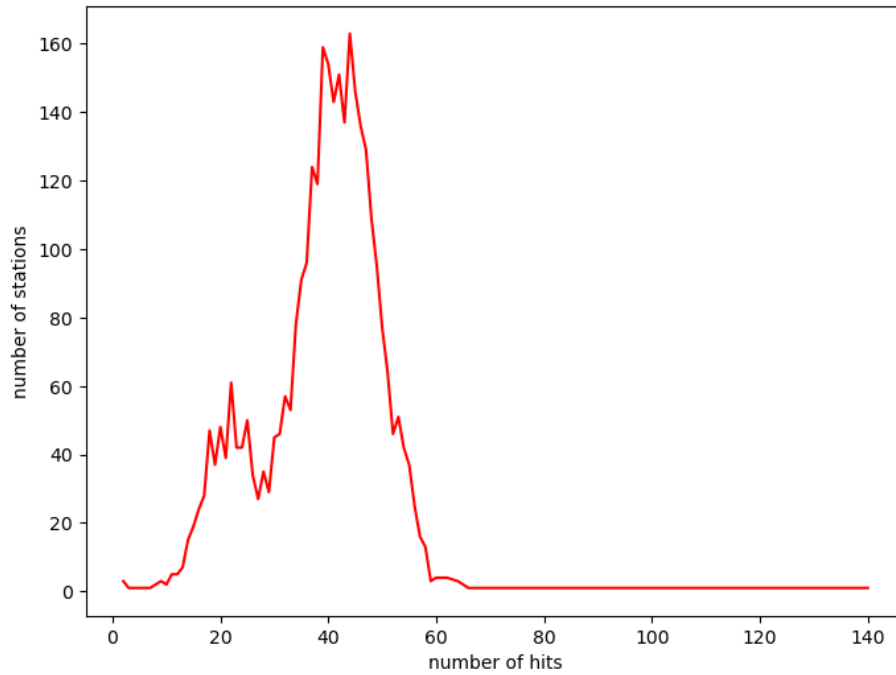


Figure 2: Request hit statistics showing the distribution of the 125080 requests on the 3229 evaluated stations

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 03-01-2026 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	4 (0.2%)	16 (0.8%)	56 (2.8%)
BGS	0 (0.0%)	1 (0.0%)	5 (0.2%)
ETH	1 (0.0%)	2 (0.1%)	4 (0.2%)
GFZ	1 (0.0%)	79 (3.9%)	79 (3.9%)
ICGC	12 (0.6%)	7 (0.3%)	28 (1.4%)
INGV	10 (0.5%)	6 (0.3%)	10 (0.5%)
KOERI	77 (3.8%)	119 (5.9%)	43 (2.1%)
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%)	15 (0.7%)
RESIF	6 (0.3%)	2 (0.1%)	15 (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 31-01-2026 00:32 MEST usingpandoc 2.18.

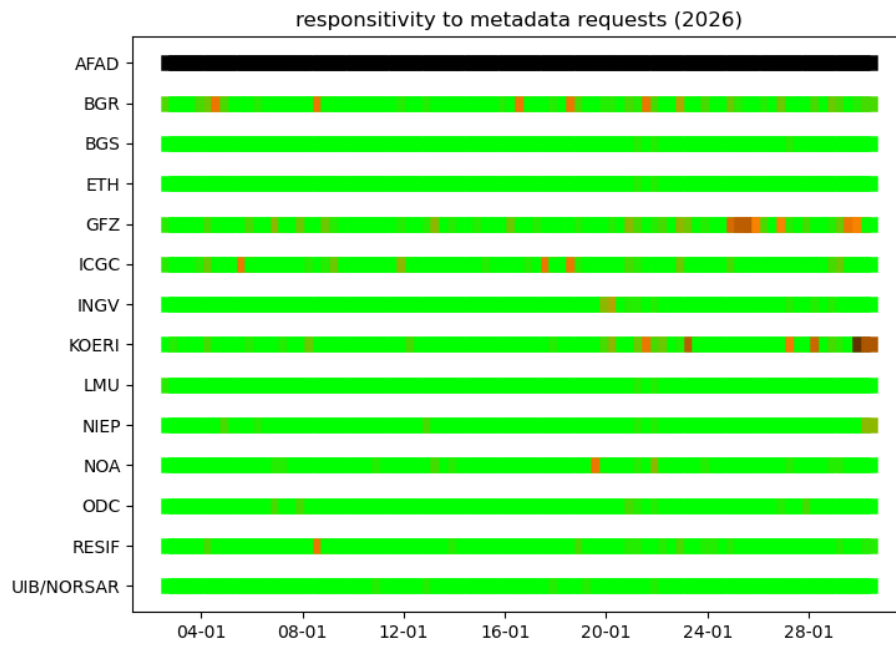


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%