

EIDA Availability Report

Created at 03-02-2026 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 03-11-2025 and 03-02-2026 00:32 using station metadata valid since 03-02-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3229
- number of requests: 125153

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125153 random requests between 03-11-2025 and 03-02-2026. 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 (260203)

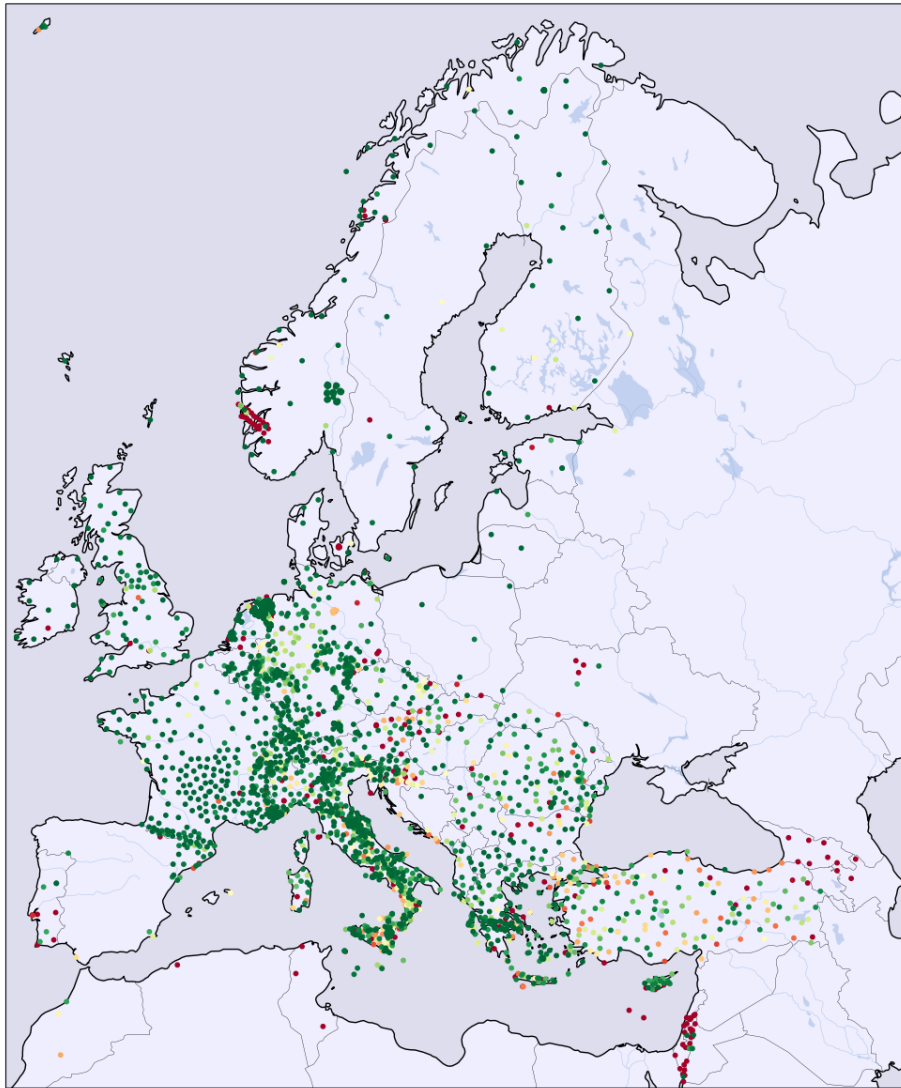


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	75	86	11	0	0	0	1	0
1I	78	62	46	0	0	0	0	0
2D	202	82	38	0	0	0	6	0
2E	4	66	2	0	0	0	0	0
2I	228	84	41	0	0	0	0	0
3D	76	33	152	0	0	0	2	0
4P	411	56	291	4	14	0	0	4
5A	11	52	1	9	0	0	0	0
5B	32	96	1	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	587	53	498	2	5	0	0	0
7C	0	0	145	0	0	0	1	0
7F	125	97	2	0	0	0	1	0
8D	40	97	0	1	0	0	0	0
8N	44	53	37	1	0	0	0	0
9L	30	61	19	0	0	0	0	0
9S	51	58	35	1	0	0	0	0
AB	0	0	144	0	0	0	0	0
AC	417	92	31	0	1	0	4	0
BE	1225	94	63	0	2	0	0	0
BN	233	65	113	9	0	0	0	0
BQ	419	94	16	0	2	0	8	0
BS	707	64	370	11	5	0	0	0
BW	1881	79	494	0	0	0	0	0
C4	81	71	32	0	0	0	0	0
CA	838	87	103	18	2	0	0	0
CH	3468	91	225	92	1	0	0	0
CL	560	89	64	0	1	0	0	0
CP	0	0	96	0	0	0	0	0
CQ	423	55	324	10	2	0	0	0
CR	524	37	861	0	5	0	0	0
CZ	679	84	109	1	1	0	9	0
DK	602	42	807	0	6	0	16	0
DY	49	30	112	0	0	0	0	0
DZ	0	0	44	0	0	0	0	0
EB	37	100	0	0	0	0	0	0
EE	184	78	46	0	0	0	3	0
EI	389	90	35	0	0	0	7	0
ES	159	81	28	9	0	0	0	0
FN	381	97	3	0	0	0	7	0
FO	126	93	9	0	0	0	0	0
FR	7548	96	272	8	6	0	2	0
GB	2327	94	102	22	3	0	0	0
GE	2572	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	224	0	0	0	0	0
GQ	176	80	33	5	0	0	6	0
GR	3442	87	478	0	2	0	3	0
GU	1058	79	255	13	0	0	1	0
GX	111	86	12	3	1	0	2	0
HA	1213	92	98	0	1	0	0	0
HC	379	66	178	3	0	0	10	0
HE	693	79	169	0	0	0	10	0
HF	0	0	51	0	0	0	0	0
HL	1971	73	663	53	1	0	0	0
HP	812	92	41	24	1	0	0	0
HS	467	80	106	1	0	0	5	0
HT	1849	80	423	16	7	0	3	3
HU	560	86	81	0	1	0	8	0
IP	0	0	89	0	0	0	0	0
IS	0	0	1619	0	0	0	17	0
IV	14649	80	3384	205	21	0	4	41
IX	444	69	180	13	2	0	0	0
IY	484	63	256	10	1	0	7	0
JS	0	0	198	0	0	0	1	0
K3	16	80	4	0	0	0	0	0
KO	4365	62	784	1654	54	0	168	0
KQ	213	71	36	47	0	0	0	0
LC	0	0	48	0	0	0	0	0
LE	1421	93	101	0	0	0	2	0
LU	437	93	24	0	0	0	5	0
LX	73	64	39	0	1	0	0	0
M1	258	65	128	0	0	0	6	0
MD	120	87	17	0	0	0	0	0
ME	32	66	16	0	0	0	0	0
MK	349	99	1	0	0	0	0	0
ML	54	72	21	0	0	0	0	0
MN	722	65	361	20	0	0	1	0
MT	353	82	71	2	0	0	0	0
NH	345	66	164	1	0	0	5	0
NI	149	66	70	3	1	0	0	0
NL	9661	87	1243	117	25	0	2	0
NO	3387	87	204	9	7	0	252	0
NR	37	14	225	0	0	0	0	0
NS	1646	43	1911	1	0	0	265	0
OE	894	79	214	0	19	0	0	0
OT	554	80	88	5	1	0	0	38
OX	476	68	209	3	2	0	2	0
PL	346	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	211	0	0	0	2	0
QE	221	53	170	0	0	0	22	0
QM	266	75	87	0	0	0	0	0
RD	521	98	5	0	1	0	0	0
RF	45	97	1	0	0	0	0	0
RN	194	44	208	7	15	0	8	0
RO	4062	81	908	7	10	0	0	0
SI	123	51	116	0	0	0	0	0
SJ	470	75	134	7	4	0	7	0
SK	231	49	230	1	0	0	7	0
SL	1086	82	216	5	15	0	0	0
SS	31	88	4	0	0	0	0	0
ST	348	99	1	0	0	0	0	0
SX	599	71	233	1	0	0	5	0
TH	1397	89	141	3	1	0	20	0
TQ	214	50	196	8	1	0	4	0
TT	0	0	127	0	0	0	1	0
TU	97	21	362	0	1	0	0	0
TV	14	38	22	0	0	0	0	0
UD	79	32	162	2	0	0	0	0
UP	409	93	25	0	4	0	0	0
UR	283	72	102	5	0	0	0	0
UT	202	93	15	0	0	0	0	0
VI	269	81	54	4	2	0	0	0
VM	47	100	0	0	0	0	0	0
WE	0	0	34	0	0	0	0	0
WM	93	43	117	0	0	0	3	0
XE	221	58	156	0	0	0	0	0
XP	1513	99	4	0	0	0	0	0
Y8	185	80	44	0	0	0	0	0
YV	101	55	81	0	0	0	0	0
ZO	303	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.

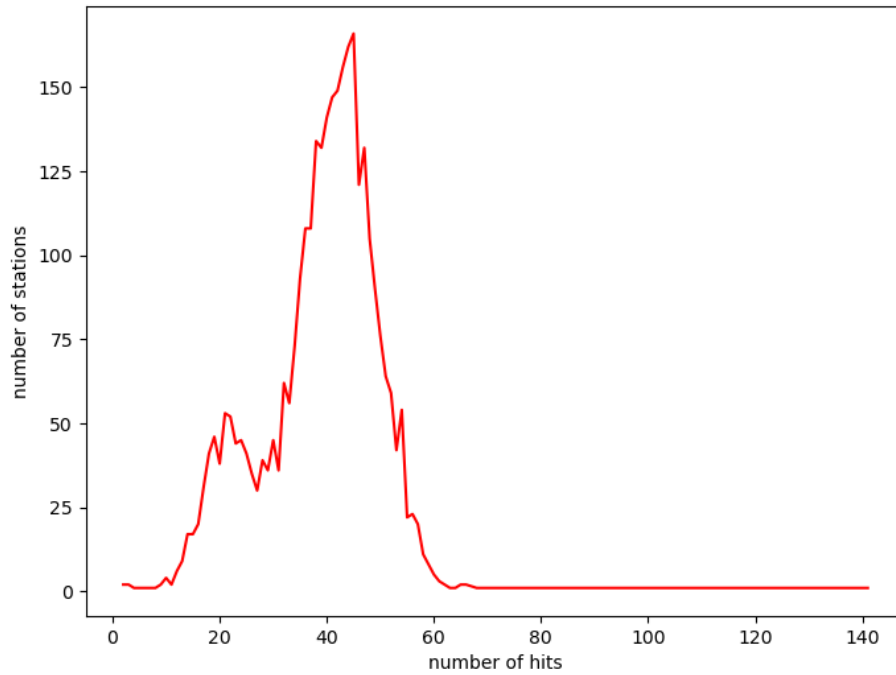


Figure 2: Request hit statistics showing the distribution of the 125153 requests on the 3229 evaluated stations

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 06-01-2026 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%)	2005 (100.0%)
BGR	3 (0.1%)	17 (0.8%)	60 (3.0%)
BGS	0 (0.0%)	1 (0.0%)	5 (0.2%)
ETH	1 (0.0%)	2 (0.1%)	4 (0.2%)
GFZ	1 (0.0%)	86 (4.3%)	82 (4.1%)
ICGC	9 (0.4%)	8 (0.4%)	29 (1.4%)
INGV	10 (0.5%)	6 (0.3%)	9 (0.4%)
KOERI	80 (4.0%)	130 (6.5%)	44 (2.2%)
LMU	0 (0.0%)	1 (0.0%)	5 (0.2%)
NIEP	2 (0.1%)	3 (0.1%)	9 (0.4%)
NOA	12 (0.6%)	14 (0.7%)	17 (0.8%)
ODC	0 (0.0%)	1 (0.0%)	14 (0.7%)
RESIF	6 (0.3%)	2 (0.1%)	20 (1.0%)
UIB/NORSAR	2 (0.1%)	0 (0.0%)	10 (0.5%)

failures of routing client: 0

failures of federator: 10

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 03-02-2026 00:32 MEST usingpandoc 2.18.

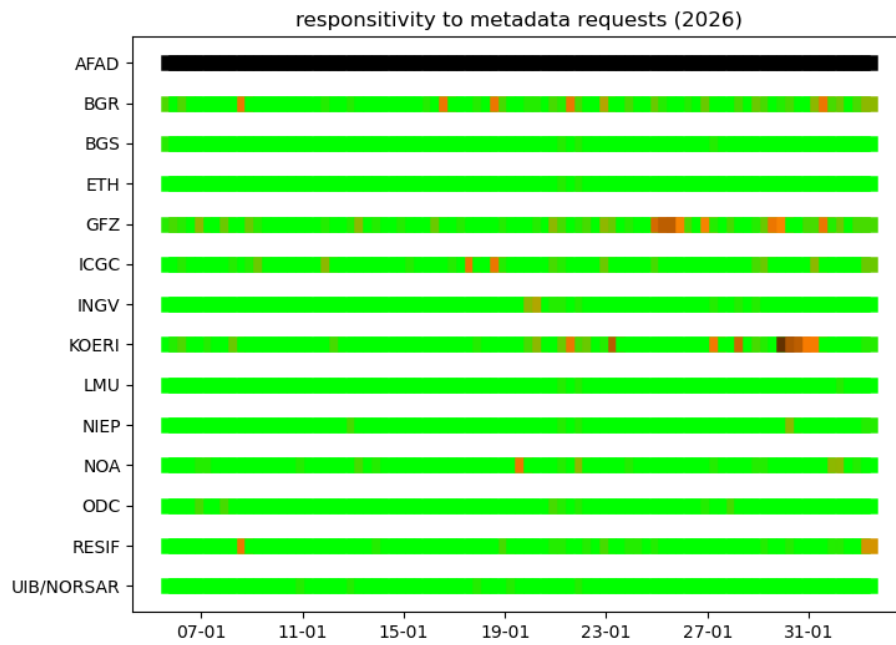


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%