

EIDA Availability Report

Created at 29-01-2026 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 29-10-2025 and 29-01-2026 00:32 using station metadata valid since 29-01-2025.

Counters:

- unrestricted stations offering channels HHZ,BHZ,EHZ,SHZ: 3332
- evaluated stations: 3229
- number of requests: 125094

Waveform availability plot

Color coded plot of evaluated EIDA stations. Shows results of 125094 random requests between 29-10-2025 and 29-01-2026. 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 (260129)

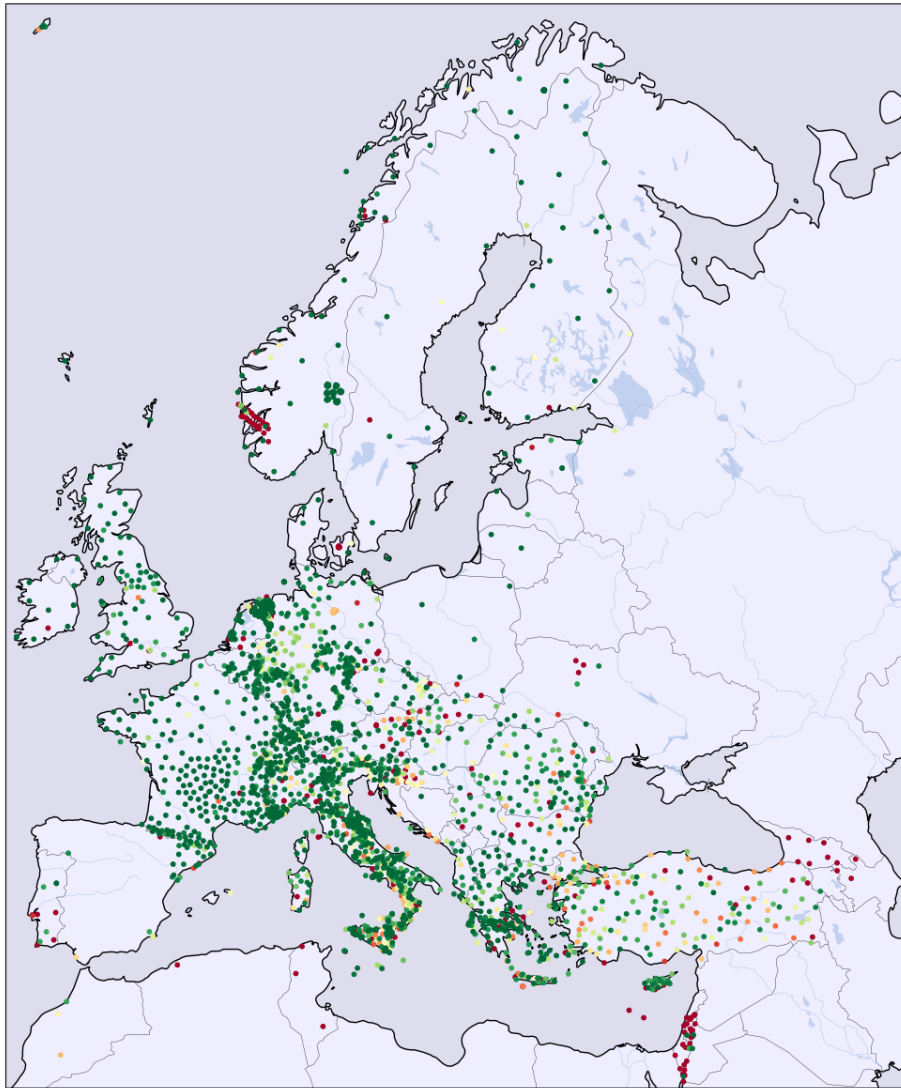


Figure 1: Availability of stations: green 100%, yellow 50%, red 0%

Request status statistics of networks:

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
1D	73	86	10	0	0	0	1	0
1I	77	62	46	0	0	0	0	0
2D	197	82	37	0	0	0	6	0
2E	4	66	2	0	0	0	0	0
2I	224	84	41	0	0	0	0	0
3D	76	32	154	0	0	0	2	0
4P	408	56	292	3	17	0	0	0
5A	9	50	1	8	0	0	0	0
5B	32	96	1	0	0	0	0	0
5R	105	60	68	0	0	0	0	0
7B	586	53	499	2	4	0	0	0
7C	0	0	145	0	0	0	1	0
7F	120	96	4	0	0	0	1	0
8D	39	97	0	1	0	0	0	0
8N	47	54	38	1	0	0	0	0
9L	32	62	19	0	0	0	0	0
9S	53	57	39	0	0	0	0	0
AB	0	0	136	0	0	0	0	0
AC	420	91	32	0	1	0	4	0
BE	1227	94	65	0	2	0	0	0
BN	229	65	112	9	0	0	0	0
BQ	411	93	14	0	2	0	13	0
BS	709	64	374	10	4	0	0	0
BW	1889	79	495	0	0	0	0	0
C4	85	70	36	0	0	0	0	0
CA	839	86	107	18	2	0	0	0
CH	3455	91	229	93	1	0	0	0
CL	568	89	66	0	1	0	0	0
CP	0	0	95	0	0	0	0	0
CQ	414	54	335	10	2	0	0	0
CR	534	38	865	0	6	0	0	0
CZ	670	84	112	1	2	0	9	0
DK	587	41	804	0	6	0	16	0
DY	51	31	111	0	0	0	0	0
DZ	0	0	45	0	0	0	0	0
EB	40	100	0	0	0	0	0	0
EE	192	80	43	0	0	0	3	0
EI	385	91	31	0	0	0	7	0
ES	158	80	29	9	0	0	0	0
FN	378	97	3	0	0	0	7	0
FO	127	92	11	0	0	0	0	0
FR	7555	96	275	8	6	0	2	0
GB	2335	94	106	21	3	0	0	0
GE	2570	71	974	2	5	0	25	0

Request status statistics of networks (continued):

net	OK	OK in %	NODATA	FRAGMENT	INCOMPL	METAFAIL	NOSERV	RESTFAIL
GO	0	0	230	0	0	0	0	0
GQ	169	78	32	5	0	0	8	0
GR	3418	86	477	1	2	0	41	0
GU	1046	80	239	17	0	0	1	0
GX	105	85	12	3	1	0	2	0
HA	1205	92	97	0	1	0	0	0
HC	383	66	183	3	0	0	10	0
HE	675	78	174	0	0	0	10	0
HF	0	0	49	0	0	0	0	0
HL	1957	73	666	52	1	0	0	0
HP	803	92	40	20	1	0	0	0
HS	482	81	103	1	0	0	5	0
HT	1841	80	414	14	7	0	3	3
HU	566	86	80	0	1	0	8	0
IP	0	0	86	0	0	0	0	0
IS	0	0	1614	0	0	0	17	0
IV	14589	79	3430	200	21	0	6	44
IX	422	68	177	14	2	0	0	0
IY	471	63	256	10	1	0	7	0
JS	0	0	203	0	0	0	1	0
K3	15	78	4	0	0	0	0	0
KO	4418	62	791	1664	57	0	91	0
KQ	218	70	39	49	0	0	2	0
LC	0	0	46	0	0	0	0	0
LE	1437	91	99	0	0	0	28	0
LU	450	94	19	0	0	0	5	0
LX	71	64	38	0	1	0	0	0
M1	262	66	128	0	0	0	6	0
MD	113	87	16	0	0	0	0	0
ME	30	63	17	0	0	0	0	0
MK	366	99	1	0	0	0	0	0
ML	54	71	22	0	0	0	0	0
MN	720	66	350	18	0	0	1	0
MT	347	82	73	2	0	0	0	0
NH	329	65	162	0	0	0	11	0
NI	148	68	65	3	1	0	0	0
NL	9688	87	1233	117	24	0	2	0
NO	3373	87	206	9	6	0	252	0
NR	33	12	225	0	0	0	0	0
NS	1661	42	1940	1	0	0	265	0
OE	888	79	213	0	18	0	0	0
OT	543	79	90	5	2	0	0	41
OX	485	68	214	3	2	0	2	0
PL	341	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	207	0	0	0	2	0
QE	228	55	160	0	0	0	22	0
QM	260	73	96	0	0	0	0	0
RD	524	98	5	0	1	0	0	0
RF	44	100	0	0	0	0	0	0
RN	197	45	208	6	16	0	8	0
RO	4068	81	897	6	10	0	1	0
SI	129	51	120	0	0	0	0	0
SJ	461	74	140	7	4	0	7	0
SK	237	49	232	0	0	0	7	0
SL	1074	82	212	5	18	0	0	0
SS	33	86	5	0	0	0	0	0
ST	352	99	1	0	0	0	0	0
SX	583	70	235	1	0	0	13	0
TH	1402	89	137	3	1	0	20	0
TQ	209	49	198	7	1	0	4	0
TT	0	0	135	0	0	0	1	0
TU	101	21	360	0	1	0	0	0
TV	16	42	22	0	0	0	0	0
UD	79	31	166	2	0	0	0	0
UP	413	93	24	0	4	0	0	0
UR	289	73	101	5	0	0	0	0
UT	209	93	15	0	0	0	0	0
VI	260	81	53	4	2	0	0	0
VM	46	100	0	0	0	0	0	0
WE	0	0	34	0	0	0	0	0
WM	94	45	110	0	0	0	3	0
XE	224	59	155	0	0	0	0	0
XP	1489	99	3	0	0	0	0	0
Y8	179	80	43	0	0	0	0	0
YV	99	54	82	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.

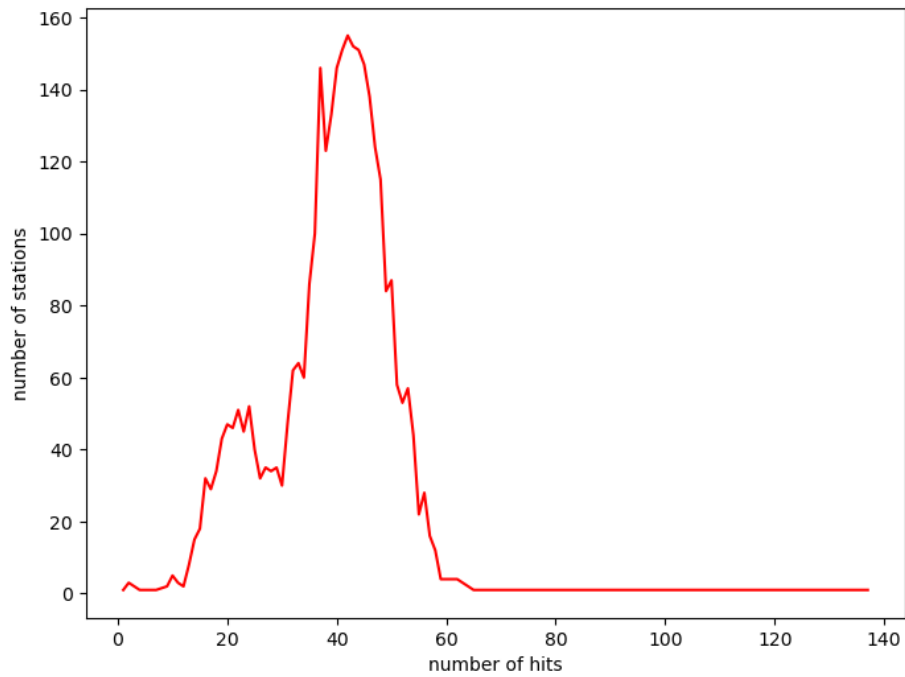


Figure 2: Request hit statistics showing the distribution of the 125094 requests on the 3229 evaluated stations

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 01-01-2026 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%)	2009 (100.0%)
BGR	4 (0.2%)	13 (0.6%)	51 (2.5%)
BGS	0 (0.0%)	1 (0.0%)	5 (0.2%)
ETH	1 (0.0%)	2 (0.1%)	4 (0.2%)
GFZ	1 (0.0%)	74 (3.7%)	72 (3.6%)
ICGC	10 (0.5%)	6 (0.3%)	25 (1.2%)
INGV	10 (0.5%)	6 (0.3%)	9 (0.4%)
KOERI	52 (2.6%)	54 (2.7%)	26 (1.3%)
LMU	0 (0.0%)	2 (0.1%)	3 (0.1%)
NIEP	3 (0.1%)	6 (0.3%)	5 (0.2%)
NOA	20 (1.0%)	22 (1.1%)	15 (0.7%)
ODC	0 (0.0%)	1 (0.0%)	15 (0.7%)
RESIF	4 (0.2%)	2 (0.1%)	14 (0.7%)
UIB/NORSAR	4 (0.2%)	2 (0.1%)	12 (0.6%)

failures of routing client: 0

failures of federator: 6

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 29-01-2026 00:32 MEST using pandoc 2.18.

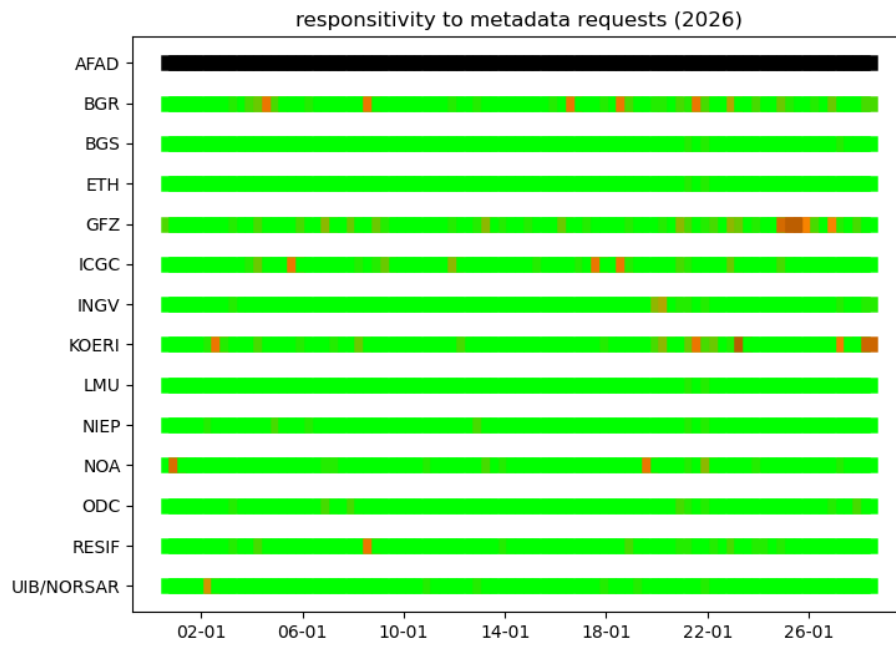


Figure 3: Responsiveness of all servers plotted with a granularity of 8h; green = 0% errors, orange = 10%, brown = 50%, black = 100%