Supplement of Nat. Hazards Earth Syst. Sci., 23, 1433–1451, 2023
https://doi.org/10.5194/nhess-23-1433-2023-supplement


Natural Hazards and Earth System Sciences
Open Access
EGU

*Supplement of*

# The effect of deep ocean currents on ocean-bottom seismometers records

**Carlos Corela et al.**

*Correspondence to:* Carlos Corela (ccorela@fc.ul.pt)

**Electronic Supplement**

**Contents**

This electronic supplement contains a tide table from Lagos, Sines, and Cascais (Portugal) from 10 September 2007 until 28 September 2007, showing a complete tide cycle from spring to neap tide and finishes in a spring tide to show that the ocean bottom has a flow regime that may have two contributions, the permanent low-frequency bottom current, and the tidal current. The recorded noise displays the balance between these two currents along the entire tidal cycle, between neap and spring tides. For each day of the tide cycle, we show the day-plot of the OBSs data record, the raw waveform in counts of the vertical and horizontal Y components, the waveform corrected for instrument response and filtered in the short [0.5,10]Hz and long period [0.0167,0.1]Hz in terms of acceleration ($m/s^2$) with ObsPy software (Krischer et al., 2015). The spectrograms were made with GMT (Wessel et al., 2013), and the tide cycle of that day.

**Table S1 – Tide from Lagos/Sines/Cascais (Portugal) between 10/09/2007 and 28/09/2007.**
**(Source: Instituto Hidrográfico, Marinha - Portugal, Instituto Hidrográfico (hidrografico.pt))**

| Date | Time | Tide(m) | Phenomenon | Tide range(m) |
|---|---|---|---|---|
| **10/09/2007** | 02:31/02:39/02:43 | 3.1/3.1/3.2 | High Tide | 2.3/2.3/2.4 |
| **10/09/2007** | 08:28/08:36/08:39 | 0.9/0.9/0.9 | Low tide | 2.2/2.2/2.3 |
| **10/09/2007** | 14:43/14:52/14:55 | 3.4/3.4/3.5 | High Tide | 2.5/2.5/2.6 |
| **10/09/2007** | 20:56/21:05/21:08 | 0.7/0.7/0.7 | Low Tide | 2.7/2.7/2.8 |
| **11/09/2007** | 03:04/03:12/03:15 | 3.2/3.2/3.3 | High Tide | 2.5/2.5/2.6 |
| **11/09/2007** | 09:00/09:09/09:12 | 0.8/0.8/0.9 | Low Tide | 2.4/2.4/2.4 |
| **11/09/2007** | 13:44 | - | New Moon | |
| **11/09/2007** | 15:16/15:25/15:28 | 3.5/3.4/3.5 | High Tide | 2.7/2.6/2.6 |
| **11/09/2007** | 21:25/21:35/21:38 | 0.6/0.6/0.7 | Low Tide | 2.9/2.8/2.8 |
| **12/09/2007** | 03:35/03:43/03:46 | 3.3/3.2/3.4 | High Tide | 2.7/2.6/2.7 |
| **12/09/2007** | 09:29/09:40/09:43 | 0.7/0.7/0.8 | Low Tide | 2.6/2.5/2.6 |
| **12/09/2007** | 15:47/15:56/15:59 | 3.5/3.4/3.5 | High Tide | 2.8/2.7/2.7 |
| **12/09/2007** | 21:53/22:04/22:06 | 0.6/0.7/0.7 | Low Tide | 2.9/2.7/2.8 |
| **13/09/2007** | 04:04/04:13/04:15 | 3.3/3.2/3.4 | High Tide | 2.7/2.5/2.7 |
| **13/09/2007** | 09:59/10:10/10:13 | 0.7/0.7/0.8 | Low Tide | 2.6/2.5/2.6 |
| **13/09/2007** | 16:17/16:26/16:29 | 3.4/3.4/3.5 | High Tide | 2.7/2.7/2.7 |
| **13/09/2007** | 22:21/22:32/22:34 | 0.7/0.7/0.8 | Low Tide | 2.7/2.7/2.7 |
| **14/09/2007** | 04:33/04:42/04:44 | 3.2/3.2/3.3 | High Tide | 2.5/2.5/2.5 |
| **14/09/2007** | 10:28/10:40/10:42 | 0.7/0.8/0.8 | Low Tide | 2.5/2.4/2.5 |
| **14/09/2007** | 16:46/16:55/16:58 | 3.3/3.3/3.4 | High Tide | 2.6/2.5/2.6 |
| **14/09/2007** | 22:49/22:59/23:02 | 0.8/0.8/0.9 | Low Tide | 2.5/2.5/2.5 |
| **15/09/2007** | 05:02/05:11/05:13 | 3.2/3.1/3.2 | High Tide | 2.4/2.3/2.3 |
| **15/09/2007** | 10:58/11:10/11:12 | 0.8/0.9/0.9 | Low Tide | 2.4/2.2/2.3 |
| **15/09/2007** | 17:15/17:25/17:27 | 3.2/3.1/3.2 | High Tide | 2.4/2.2/2.3 |
| **15/09/2007** | 23:17/23:27/23:30 | 0.9/1.0/1.0 | Low Tide | 2.3/2.1/2.2 |
| **16/09/2007** | 05:31/05:40/05:43 | 3.0/3.0/3.1 | High Tide | 2.1/2.0/2.1 |
| **16/09/2007** | 11:29/11:41/11:44 | 1.0/1.0/1.1 | Low Tide | 2.0/2.0/2.0 |
| **16/09/2007** | 17:46/17:56/17:58 | 3.0/2.9/3.0 | High Tide | 2.0/1.9/2.1 |
| **16-17/09/2007** | 23:47/23:57/00:00 | 1.1/1.1/1.2 | Low Tide | 1.9/1.8/1.8 |
| **17/09/2007** | 06:03/06:13/06:15 | 2.9/2.9/3.0 | High Tide | 1.8/1.8/1.8 |
| **17/09/2007** | 12:03/12:16/12:18 | 1.2/1.2/1.2 | Low Tide | 1.7/1.7/1.8 |
| **17/09/2007** | 18:19/18:30/18:32 | 2.8/2.7/2.8 | High Tide | 1.6/1.5/1.6 |
| **18/09/2007** | 00:21/00:30/00:34 | 1.3/1.3/1.3 | Low Tide | 1.5/1.4/1.5 |
| **18/09/2007** | 06:40/06:51/06:53 | 2.7/2.7/2.8 | High Tide | 1.4/1.4/1.5 |
| **18/09/2007** | 12:44/12:58/13:00 | 1.4/1.4/1.4 | Low Tide | 1.3/1.3/1.4 |
| **18/09/2007** | 19:02/19:13/19:15 | 2.6/2.5/2.6 | High Tide | 1.2/1.1/1.2 |
| **19/09/2007** | 01:03/01:12/01:17 | 1.5/1.5/1.5 | Low Tide | 1.1/1.0/1.1 |
| **19/09/2007** | 07:31/07:43/07:46 | 2.6/2.6/2.7 | High Tide | 1.1/1.1/1.2 |
| **19/09/2007** | 13:44/13:59/14:00 | 1.5/1.5/1.6 | Low Tide | 1.1/1.1/1.1 |
| **19/09/2007** | 17:48 | | First quarter | |
| **19/09/2007** | 20:08/20:19/20:20 | 2.4/2.4/2.5 | High Tide | 0.9/0.9/0.9 |
| **20/09/2007** | 02:12/02:21/02:25 | 1.6/1.6/1.7 | Low Tide | 0.8/0.8/0.8 |
| **20/09/2007** | 08:53/09:04/09:07 | 2.4/2.5/2.6 | High Tide | 0.8/0.9/0.9 |
| **20/09/2007** | 15:29/15:45/15:41 | 1.6/1.6/1.7 | Low Tide | 0.8/0.9/0.9 |
| **20/09/2007** | 21:58/22:05/22:05 | 2.3/2.3/2.4 | High Tide | 0.7/0.7/0.7 |
| **21/09/2007** | 04:08/04:19/04:18 | 1.7/1.7/1.7 | Low Tide | 0.6/0.6/0.7 |

| | | | | |
|---|---|---|---|---|
| **21/09/2007** | 10:38/10:46/10:47 | 2.5/2.5/2.6 | High Tide | 0.8/0.8/0.9 |
| **21/09/2007** | 17:19/17:32/17:27 | 1.5/1.5/1.6 | Low Tide | 1.0/1.0/1.0 |
| **21/09/2007** | 23:34/23:43/23:44 | 2.4/2.4/2.5 | High Tide | 0.9/0.9/0.9 |
| **22/09/2007** | 05:38/05:48/05:48 | 1.5/1.5/1.6 | Low Tide | 0.9/0.9/0.9 |
| **22/09/2007** | 11:52/12:01/12:03 | 2.7/2.7/2.8 | High Tide | 1.2/1.2/1.2 |
| **22/09/2007** | 18:22/18:33/18:32 | 1.3/1.3/1.3 | Low Tide | 1.4/1.4/1.5 |
| **23/09/2007** | 00:31/00:41/00:44 | 2.7/2.6/2.7 | High Tide | 1.4/1.3/1.4 |
| **23/09/2007** | 06:34/06:42/06:43 | 1.3/1.3/1.3 | Low Tide | 1.4/1.3/1.4 |
| **23/09/2007** | 12:43/12:53/12:56 | 3.0/3.0/3.1 | High Tide | 1.7/1.7/1.8 |
| **23/09/2007** | 19:06/19:17/19:17 | 1.0/1.0/1.1 | Low Tide | 2.0/2.0/2.0 |
| **24/09/2007** | 01:15/01:25/01:28 | 2.9/2.9/3.0 | High Tide | 1.9/1.9/1.9 |
| **24/09/2007** | 07:17/07:25/07:26 | 1.0/1.0/1.1 | Low Tide | 1.9/1.9/1.9 |
| **24/09/2007** | 13:26/13:35/13:38 | 3.3/3.2/3.3 | High Tide | 2.3/2.2/2.2 |
| **24/09/2007** | 19:44/19:55/19:55 | 0.7/0.7/0.8 | Low Tide | 2.5/2.5/2.5 |
| **25/09/2007** | 01:54/02:03/02:06 | 3.2/3.2/3.3 | High Tide | 2.5/2.5/2.5 |
| **25/09/2007** | 07:56/08:03/08:06 | 0.7/0.8/0.8 | Low Tide | 2.5/2.4/2.5 |
| **25/09/2007** | 14:07/14:15/14:19 | 3.5/3.5/3.6 | High Tide | 2.8/2.7/2.8 |
| **25/09/2007** | 20:21/20:31/20:33 | 0.5/0.5/0.6 | Low Tide | 3.0/3.0/3.0 |
| **26/07/2007** | 02:32/02:41/02:44 | 3.4/3.4/3.5 | High Tide | 2.9/2.9/2.9 |
| **26/07/2007** | 08:34/08:42/08:44 | 0.5/0.6/0.6 | Low Tide | 2.9/2.8/2.9 |
| **26/07/2007** | 14:47/14:55/14:58 | 3.7/3.7/3.8 | High Tide | 3.2/3.2/3.2 |
| **26/07/2007** | 20:45 | | Full Moon | |
| **26/07/2007** | 20:58/21:08/21:10 | 0.3/0.4/0.4 | Low Tide | 3.4/3.3/3.4 |
| **27/07/2007** | 03:11/03:19/03:22 | 3.6/3.5/3.7 | High Tide | 3.3/3.1/3.3 |
| **27/07/2007** | 09:12/09:20/09:23 | 0.4/0.4/0.4 | Low Tide | 3.2/3.1/3.3 |
| **27/07/2007** | 15:27/15:36/15:39 | 3.8/3.8/3.9 | High Tide | 3.4/3.4/3.5 |
| **27/07/2007** | 21:36/21:46/21:49 | 0.3/0.3/0.3 | Low Tide | 3.5/3.5/3.6 |
| **28/07/2007** | 03:50/03:58/04:01 | 3.7/3.6/3.7 | High Tide | 3.4/3.3/3.4 |
| **28/07/2007** | 09:52/10:01/10:04 | 0.3/0.3/0.3 | Low Tide | 3.4/3.3/3.4 |
| **28/07/2007** | 16:09/16:17/16:20 | 3.8/3.8/3.9 | High Tide | 3.5/3.5/3.6 |
| **28/07/2007** | 22:15/22:25/22:28 | 0.3/0.4/0.4 | Low Tide | 3.5/3.4/3.5 |

Legend:

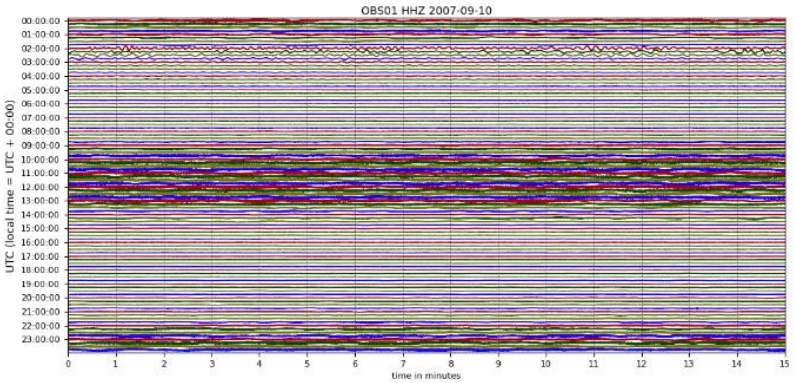
Tide range – Difference between the amplitude of High Tide and Low Tide

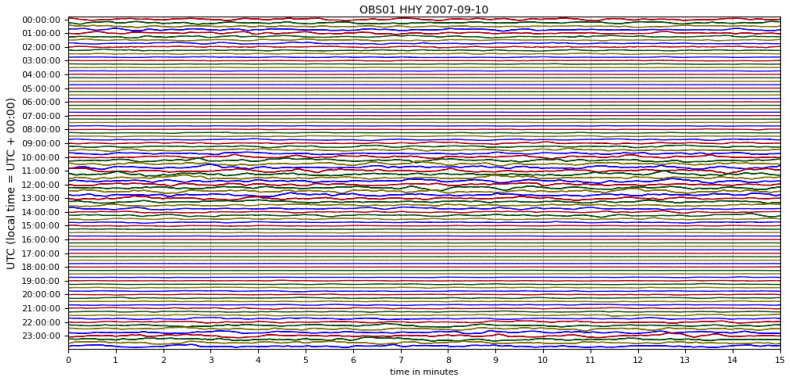
Yellow – face of the moon

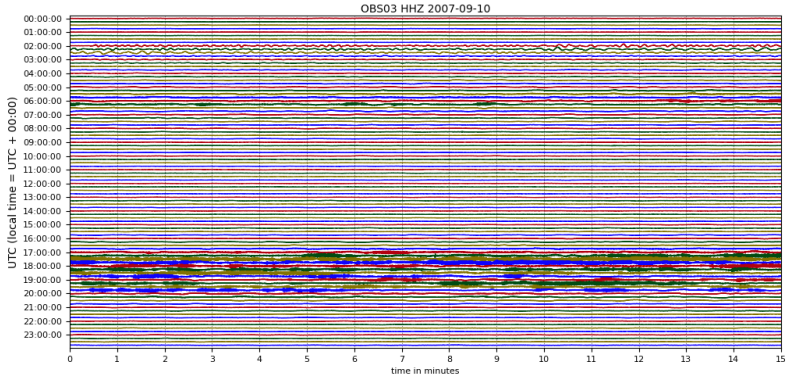
Green – Spring Tide

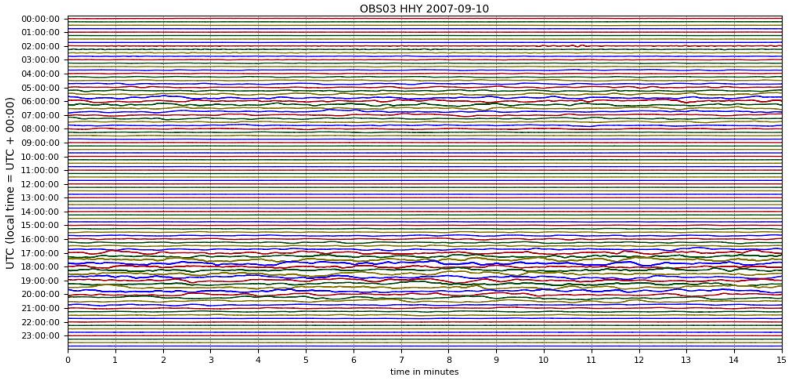
Blue – Neap Tide

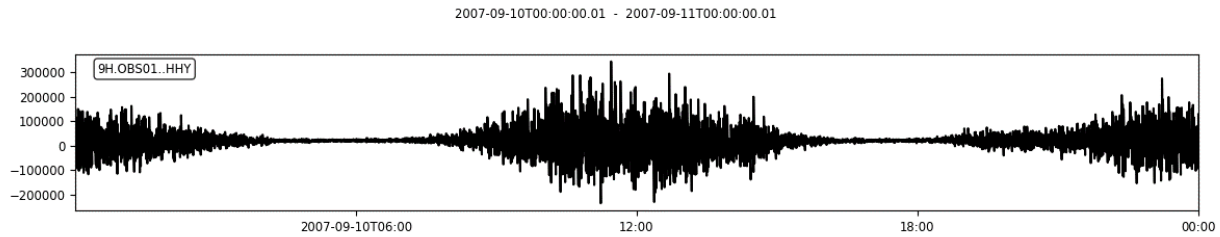
## Sequence from spring tide to neap tide and back to spring tide (2007-09-10 to 2007-09-28)

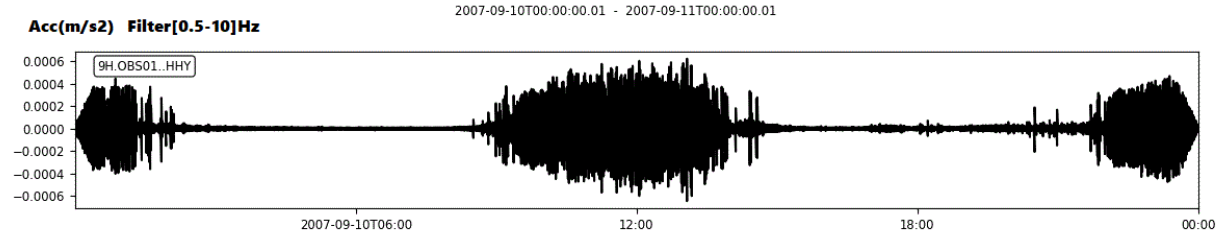


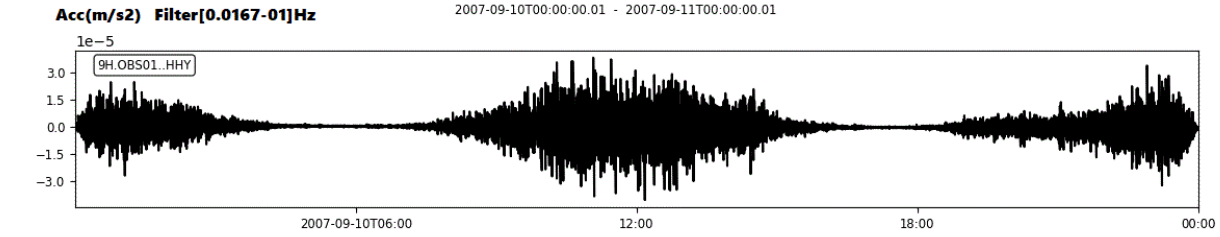



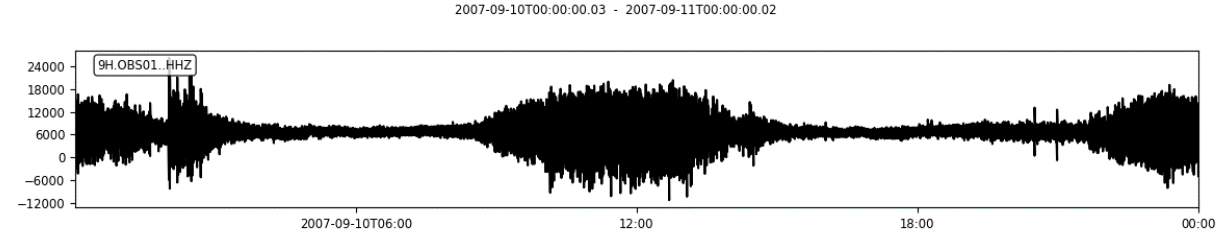



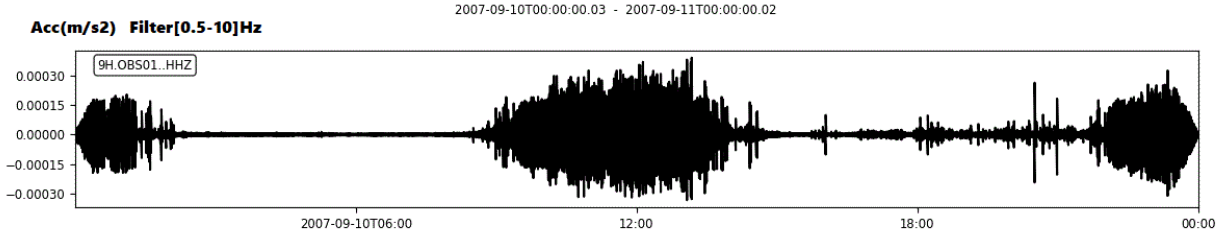



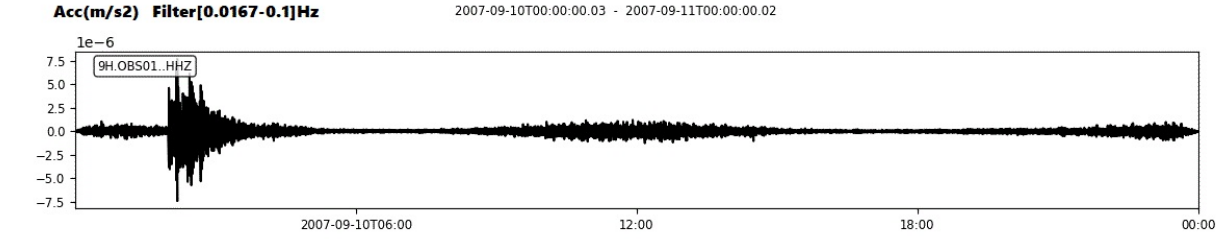

2007-09-10T00:00:00.01 - 2007-09-11T00:00:00.01
9H.OBS01..HHY
300000
200000
100000
0
−100000
−200000
2007-09-10T06:00
12:00
18:00
00:00

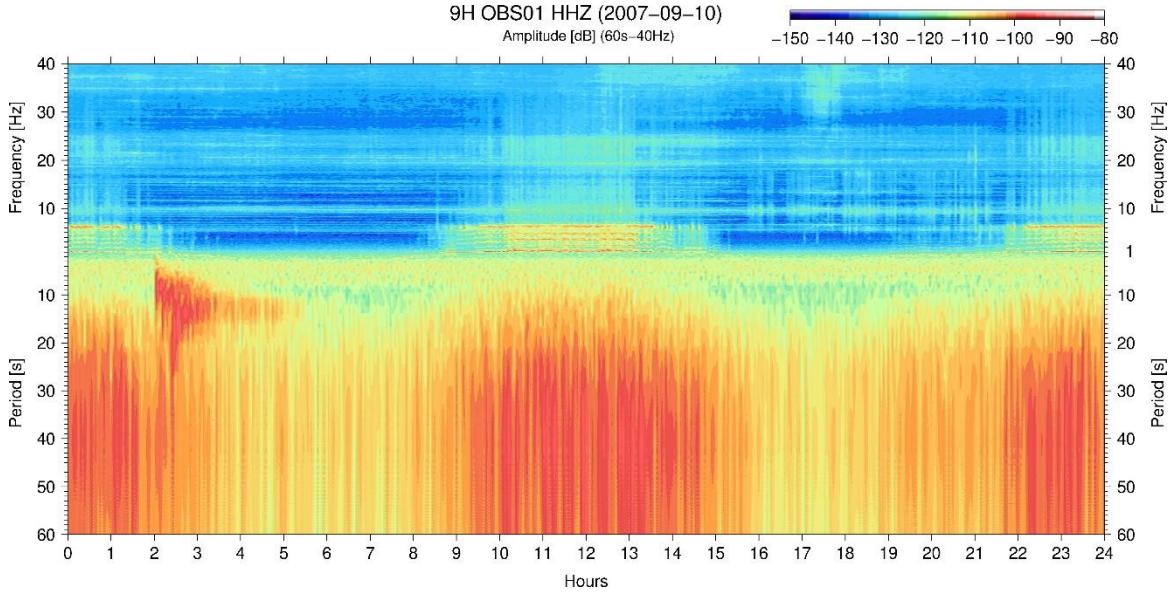

2007-09-10T00:00:00.01 - 2007-09-11T00:00:00.01
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHY
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
2007-09-10T06:00
12:00
18:00
00:00

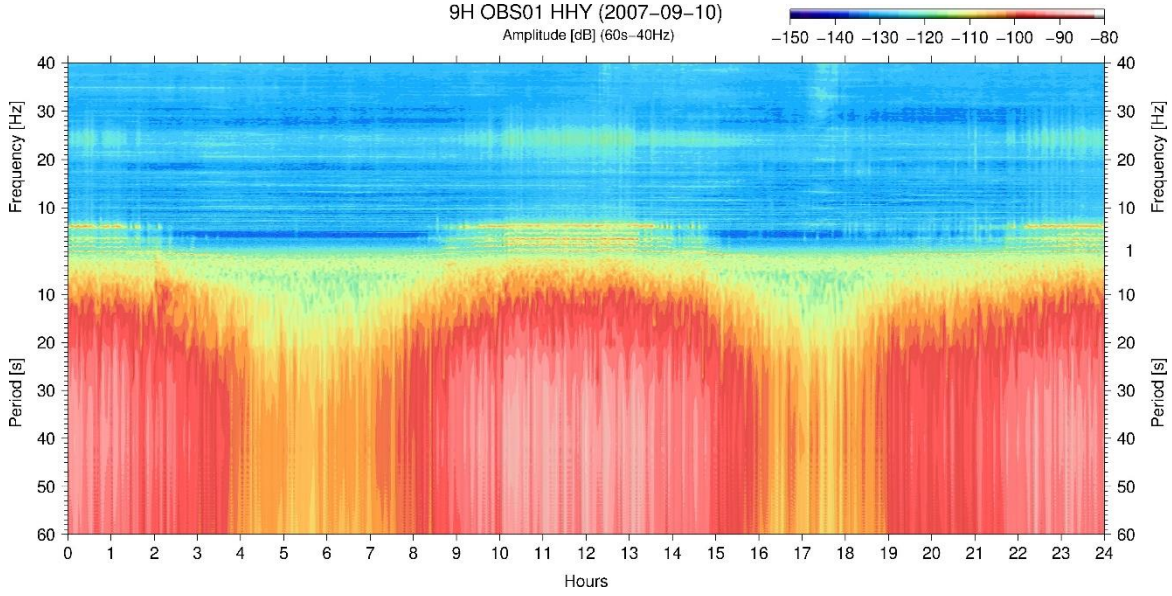

Acc(m/s2) Filter[0.0167-01]Hz
2007-09-10T00:00:00.01 - 2007-09-11T00:00:00.01
1e−5
9H.OBS01..HHY
3.0
1.5
0.0
−1.5
−3.0
2007-09-10T06:00
12:00
18:00
00:00

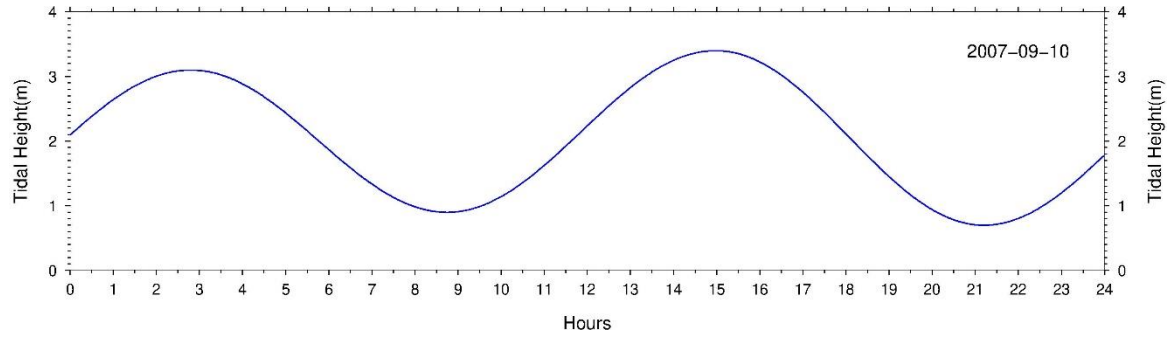

2007-09-10T00:00:00.03 - 2007-09-11T00:00:00.02
9H.OBS01..HHZ
24000
18000
12000
6000
0
−6000
−12000
2007-09-10T06:00
12:00
18:00
00:00

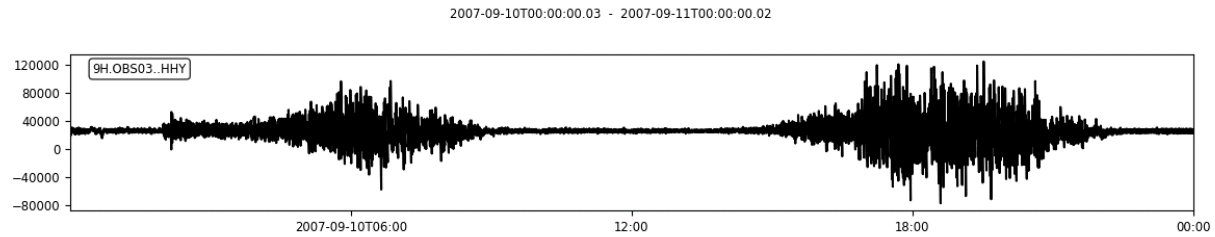

2007-09-10T00:00:00.03 - 2007-09-11T00:00:00.02
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHZ
0.00030
0.00015
0.00000
−0.00015
−0.00030
2007-09-10T06:00
12:00
18:00
00:00

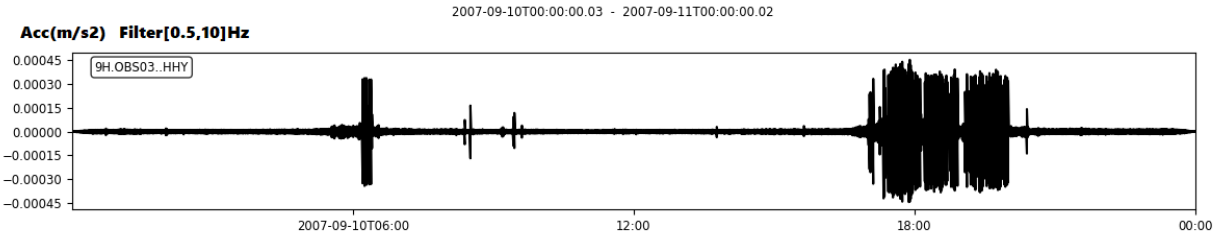

Acc(m/s2) Filter[0.0167-0.1]Hz
2007-09-10T00:00:00.03 - 2007-09-11T00:00:00.02
1e−6
9H.OBS01..HHZ
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
2007-09-10T06:00
12:00
18:00
00:00

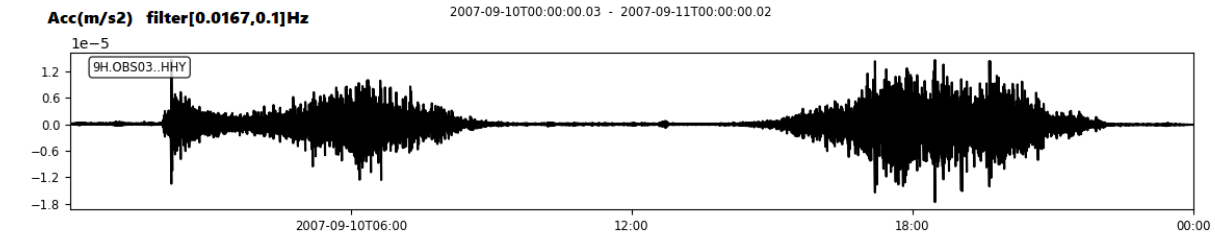

9H OBS01 HHZ (2007–09–10)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

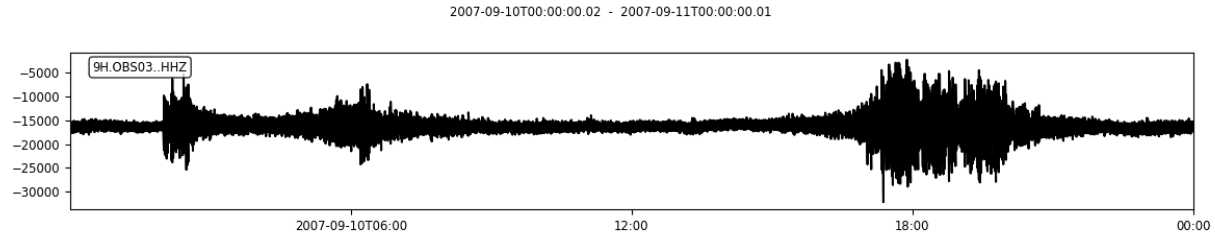

9H OBS01 HHY (2007–09–10)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

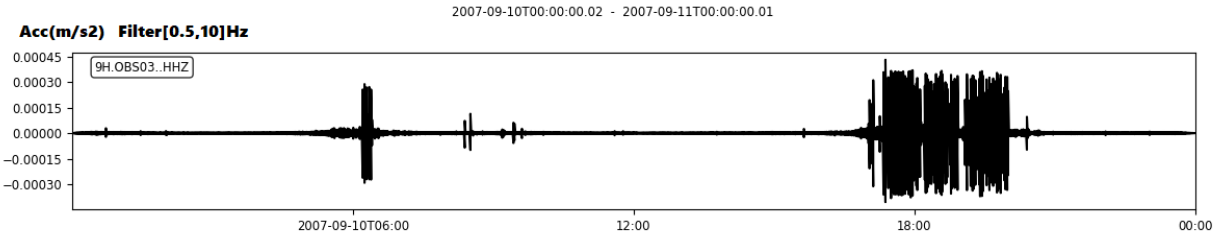

2007–09–10
Tidal Height(m)
Hours

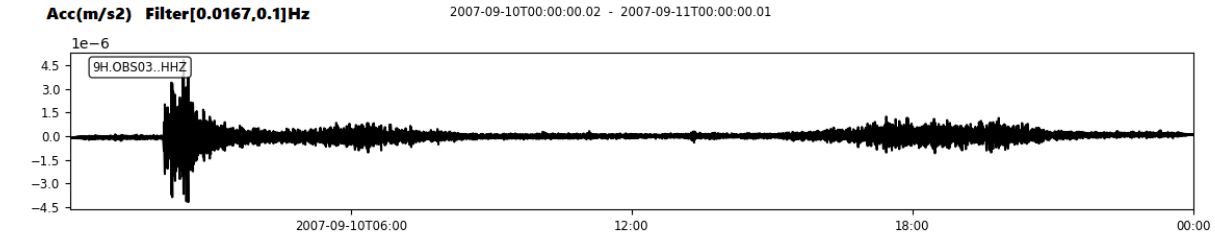

2007-09-10T00:00:00.03 - 2007-09-11T00:00:00.02
9H.OBS03..HHY
120000
80000
40000
0
−40000
−80000
2007-09-10T06:00
12:00
18:00
00:00


2007-09-10T00:00:00.03 - 2007-09-11T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.00045
0.00030
0.00015
0.00000
−0.00015
−0.00030
−0.00045
2007-09-10T06:00
12:00
18:00
00:00


2007-09-10T00:00:00.03 - 2007-09-11T00:00:00.02
Acc(m/s2) filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
1.2
0.6
0.0
−0.6
−1.2
−1.8
2007-09-10T06:00
12:00
18:00
00:00


2007-09-10T00:00:00.02 - 2007-09-11T00:00:00.01
9H.OBS03..HHZ
−5000
−10000
−15000
−20000
−25000
−30000
2007-09-10T06:00
12:00
18:00
00:00


2007-09-10T00:00:00.02 - 2007-09-11T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.00045
0.00030
0.00015
0.00000
−0.00015
−0.00030
2007-09-10T06:00
12:00
18:00
00:00


2007-09-10T00:00:00.02 - 2007-09-11T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
4.5
3.0
1.5
0.0
−1.5
−3.0
−4.5
2007-09-10T06:00
12:00
18:00
00:00

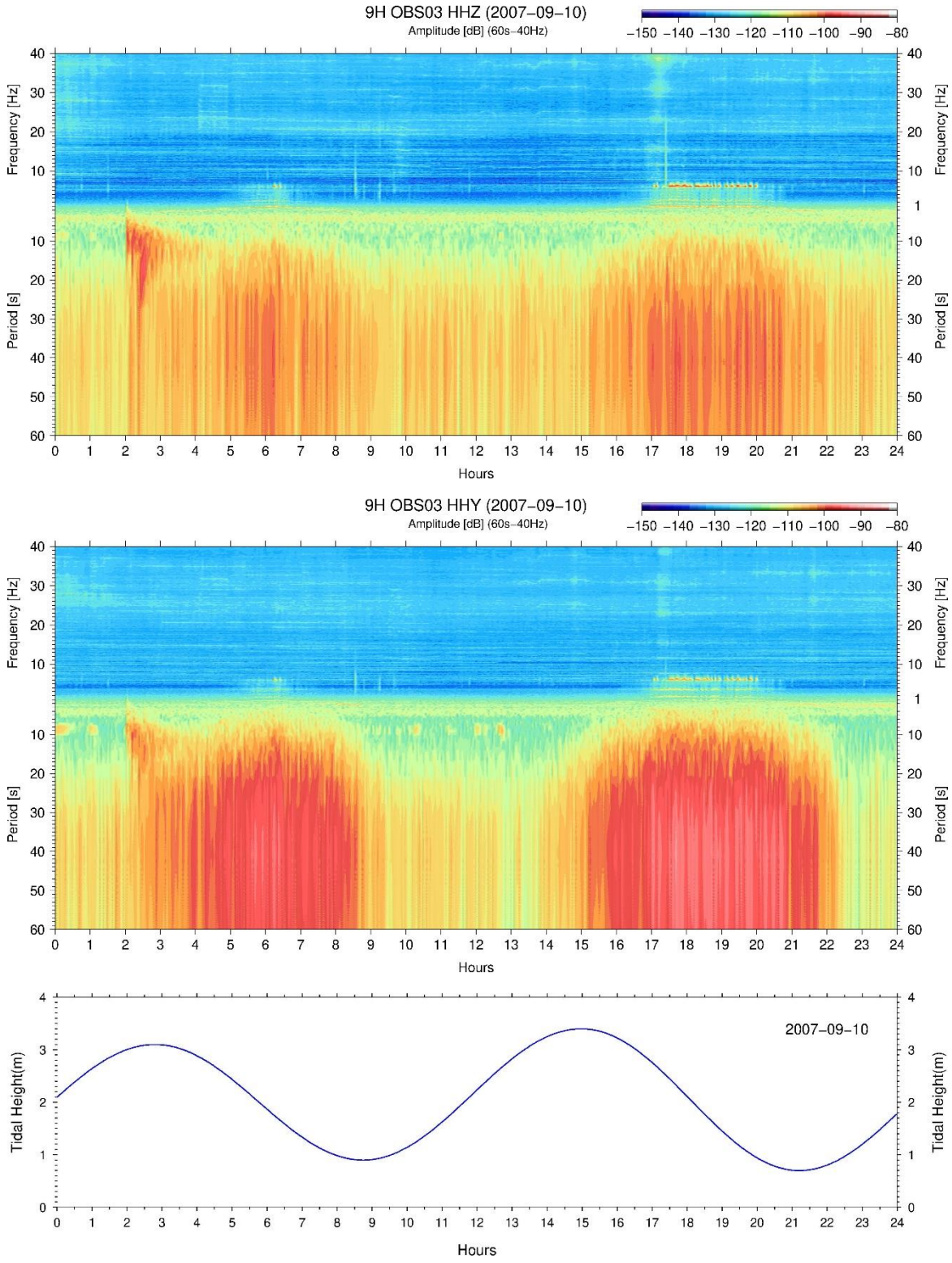
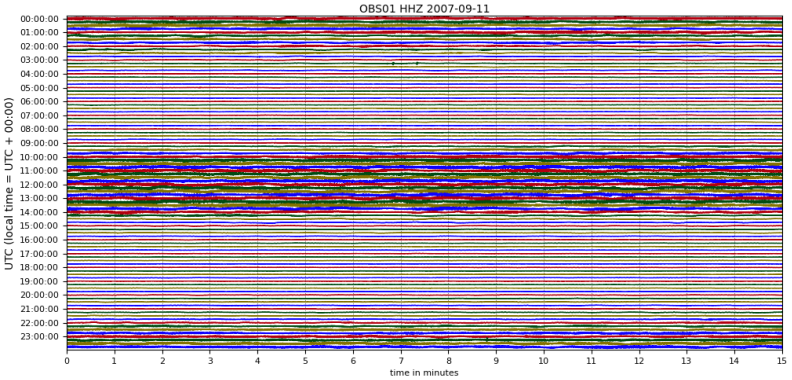
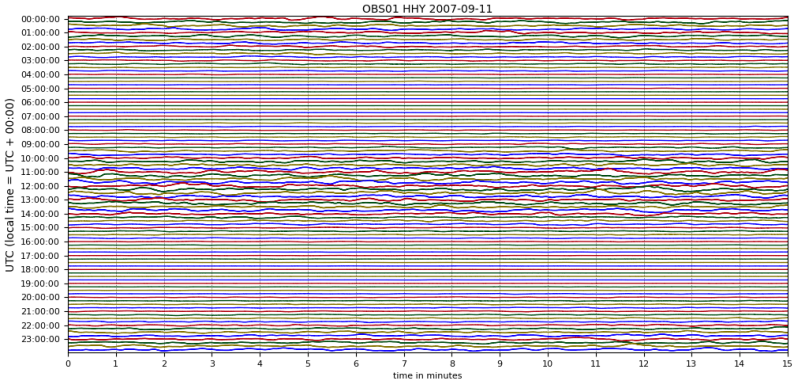
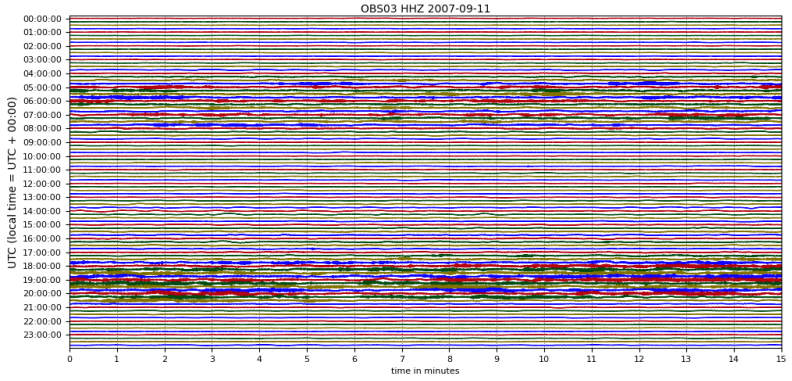
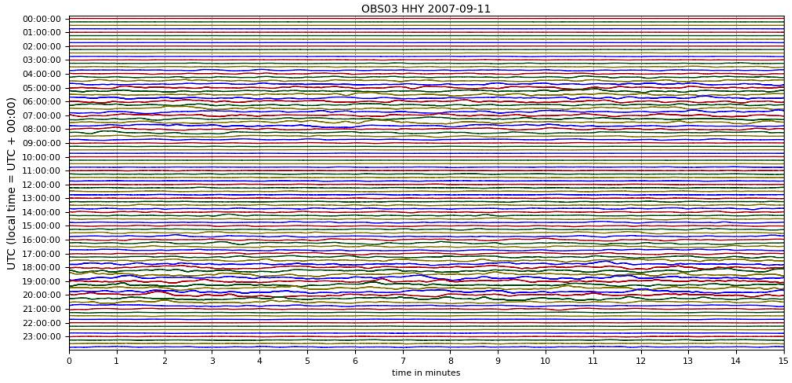


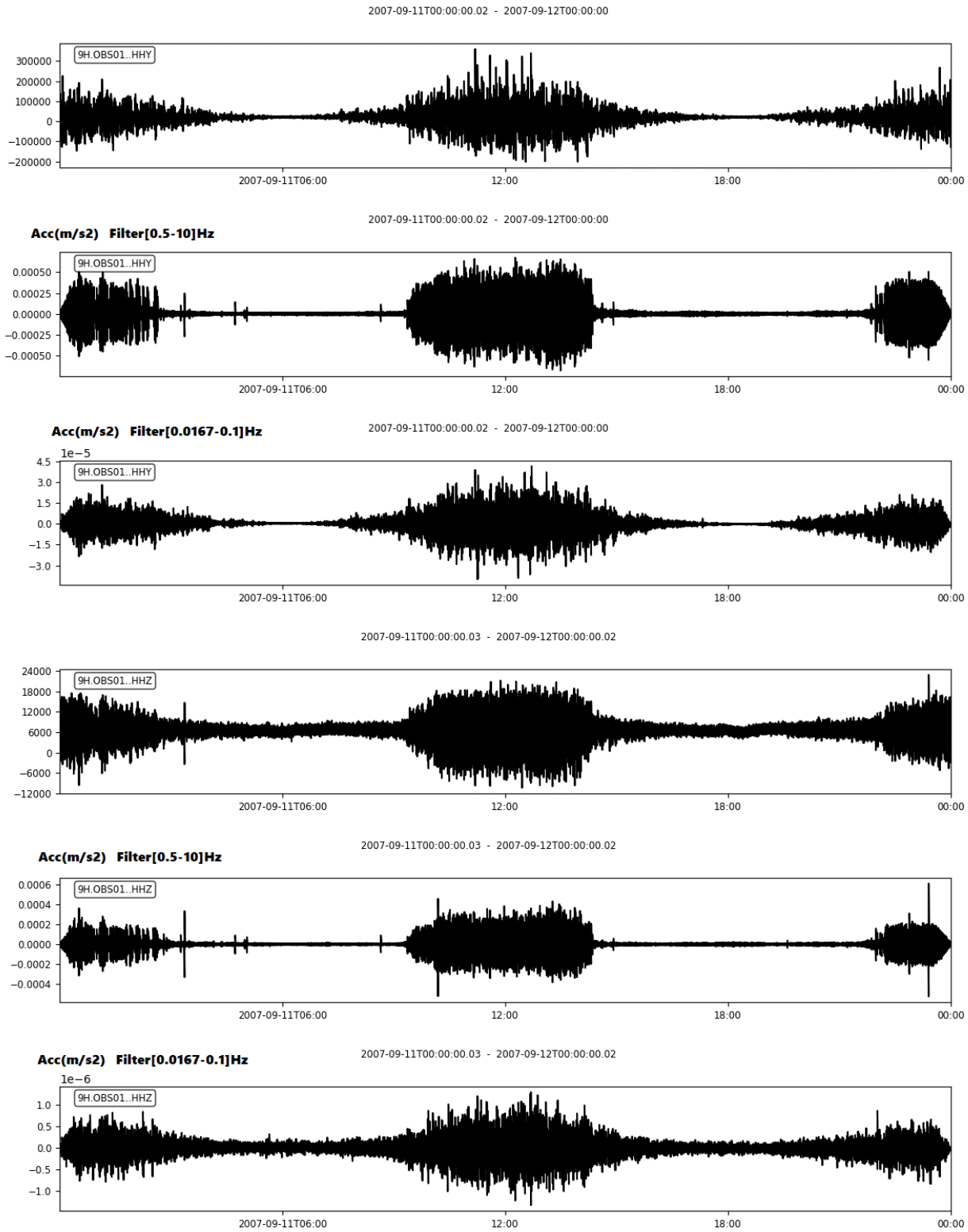

**Figure S1 | OBS01-OBS03 2007-09-10 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals been corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tide height of Sines (maximum tidal range of 2.8m). The several plots show an earthquake (Colombia: origin time: 01:53:37 with Mw of 6.8), the effect of tilt noise (20-60s) and harmonic tremor (0.7-6Hz).

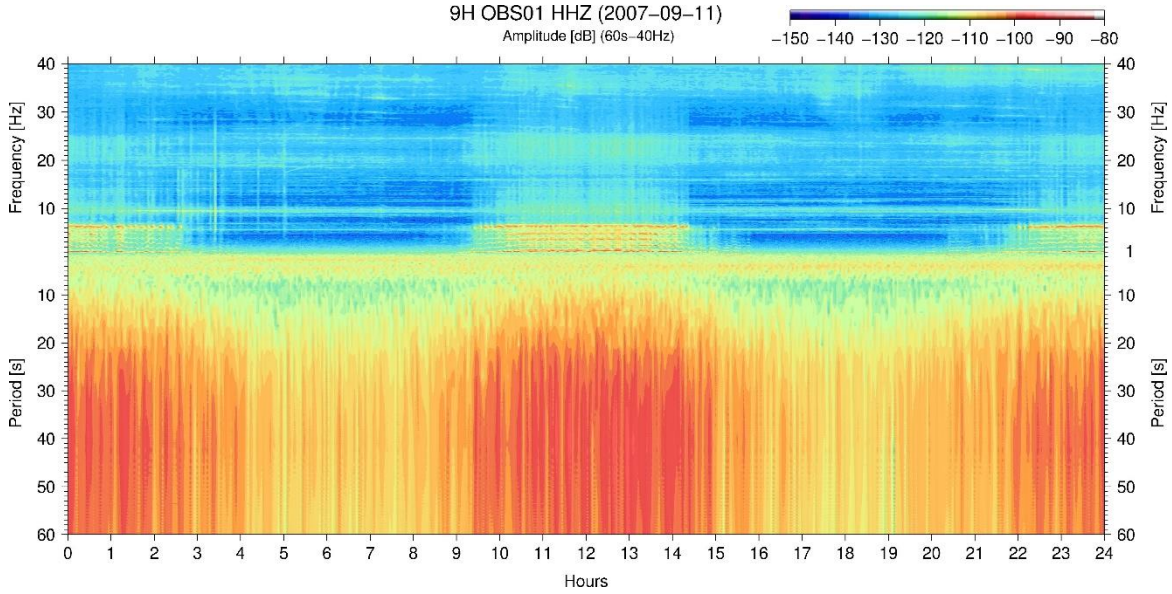

OBS01 HHZ 2007-09-11
UTC (local time = UTC + 00:00)
time in minutes

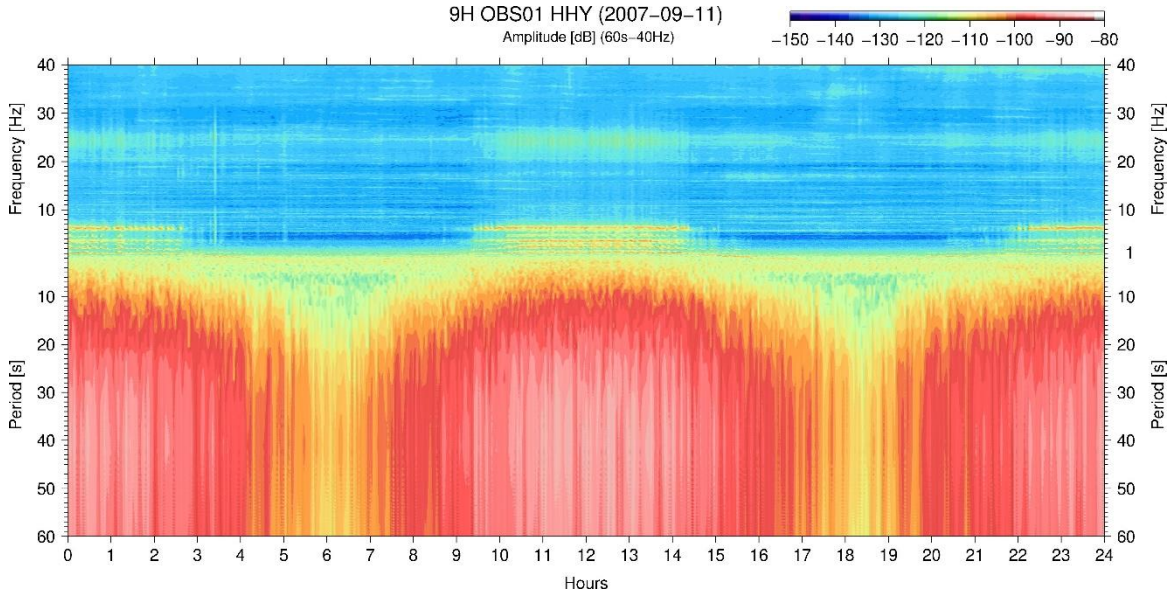

OBS01 HHY 2007-09-11
UTC (local time = UTC + 00:00)
time in minutes

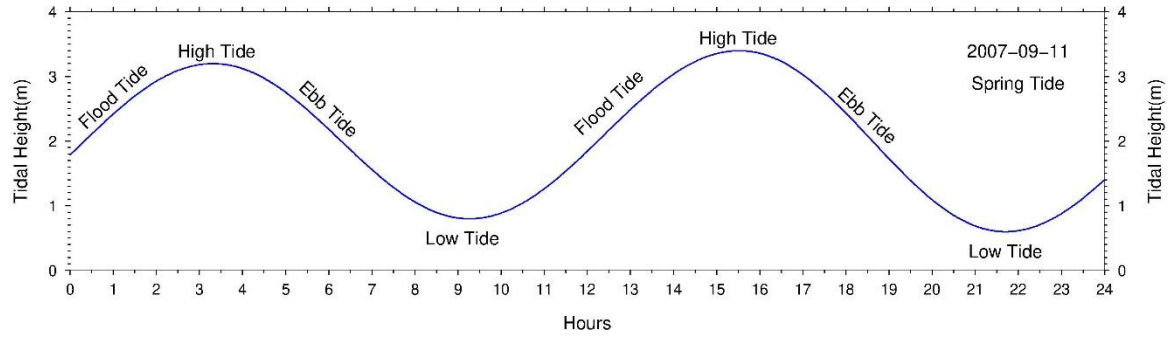

OBS03 HHZ 2007-09-11
UTC (local time = UTC + 00:00)
time in minutes

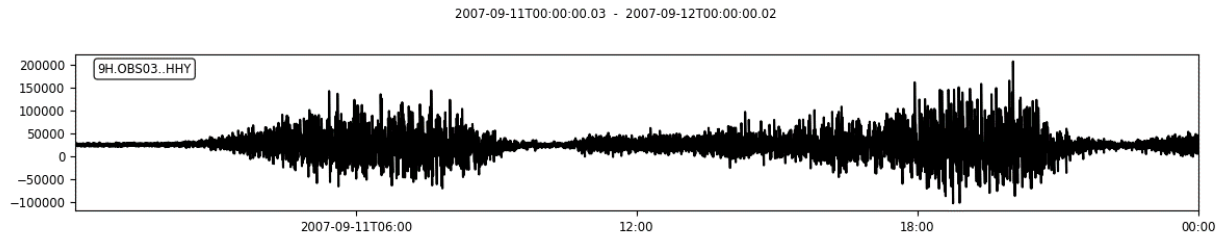

OBS03 HHY 2007-09-11
UTC (local time = UTC + 00:00)
time in minutes

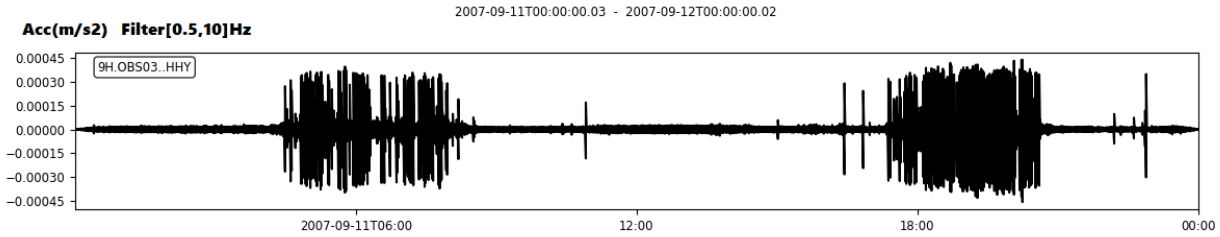

2007-09-11T00:00:00.02 - 2007-09-12T00:00:00
9H.OBS01..HHY
300000
200000
100000
0
−100000
−200000
2007-09-11T06:00
12:00
18:00
00:00
2007-09-11T00:00:00.02 - 2007-09-12T00:00:00
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHY
0.00050
0.00025
0.00000
−0.00025
−0.00050
2007-09-11T06:00
12:00
18:00
00:00
Acc(m/s2) Filter[0.0167-0.1]Hz
2007-09-11T00:00:00.02 - 2007-09-12T00:00:00
1e−5
9H.OBS01..HHY
4.5
3.0
1.5
0.0
−1.5
−3.0
2007-09-11T06:00
12:00
18:00
00:00
2007-09-11T00:00:00.03 - 2007-09-12T00:00:00.02
9H.OBS01..HHZ
24000
18000
12000
6000
0
−6000
−12000
2007-09-11T06:00
12:00
18:00
00:00
2007-09-11T00:00:00.03 - 2007-09-12T00:00:00.02
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHZ
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
2007-09-11T06:00
12:00
18:00
00:00
Acc(m/s2) Filter[0.0167-0.1]Hz
2007-09-11T00:00:00.03 - 2007-09-12T00:00:00.02
1e−6
9H.OBS01..HHZ
1.0
0.5
0.0
−0.5
−1.0
2007-09-11T06:00
12:00
18:00
00:00

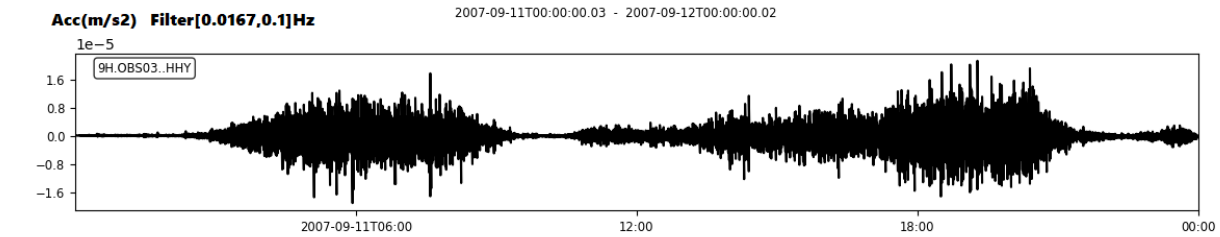

9H OBS01 HHZ (2007–09–11)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

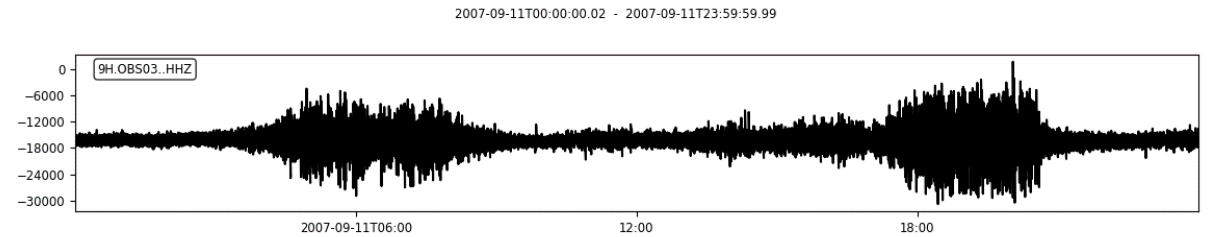

9H OBS01 HHY (2007–09–11)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

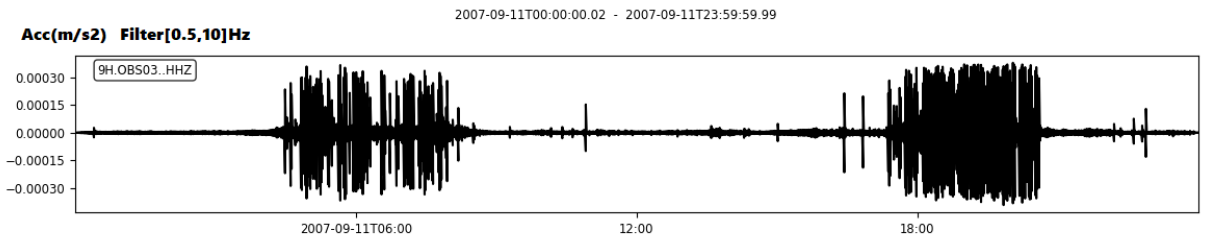

Tidal Height(m)
Flood Tide
High Tide
Ebb Tide
Low Tide
Flood Tide
High Tide
Ebb Tide
Low Tide
2007–09–11
Spring Tide
Hours

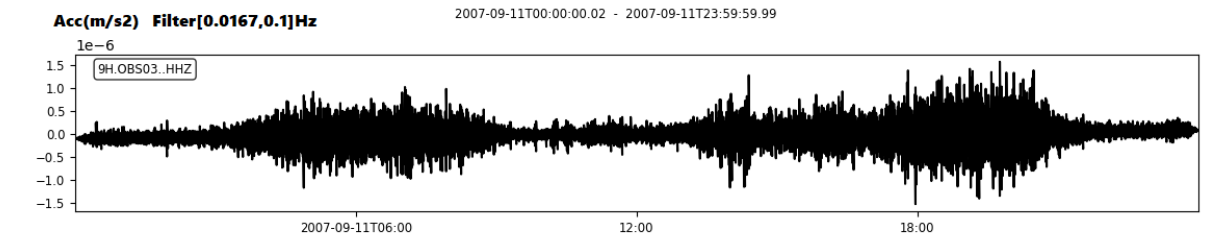

2007-09-11T00:00:00.03 - 2007-09-12T00:00:00.02
9H.OBS03..HHY
200000
150000
100000
50000
0
−50000
−100000
2007-09-11T06:00
12:00
18:00
00:00


2007-09-11T00:00:00.03 - 2007-09-12T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.00045
0.00030
0.00015
0.00000
−0.00015
−0.00030
−0.00045
2007-09-11T06:00
12:00
18:00
00:00


2007-09-11T00:00:00.03 - 2007-09-12T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
1.6
0.8
0.0
−0.8
−1.6
2007-09-11T06:00
12:00
18:00
00:00


2007-09-11T00:00:00.02 - 2007-09-11T23:59:59.99
9H.OBS03..HHZ
0
−6000
−12000
−18000
−24000
−30000
2007-09-11T06:00
12:00
18:00


2007-09-11T00:00:00.02 - 2007-09-11T23:59:59.99
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.00030
0.00015
0.00000
−0.00015
−0.00030
2007-09-11T06:00
12:00
18:00


2007-09-11T00:00:00.02 - 2007-09-11T23:59:59.99
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
2007-09-11T06:00
12:00
18:00

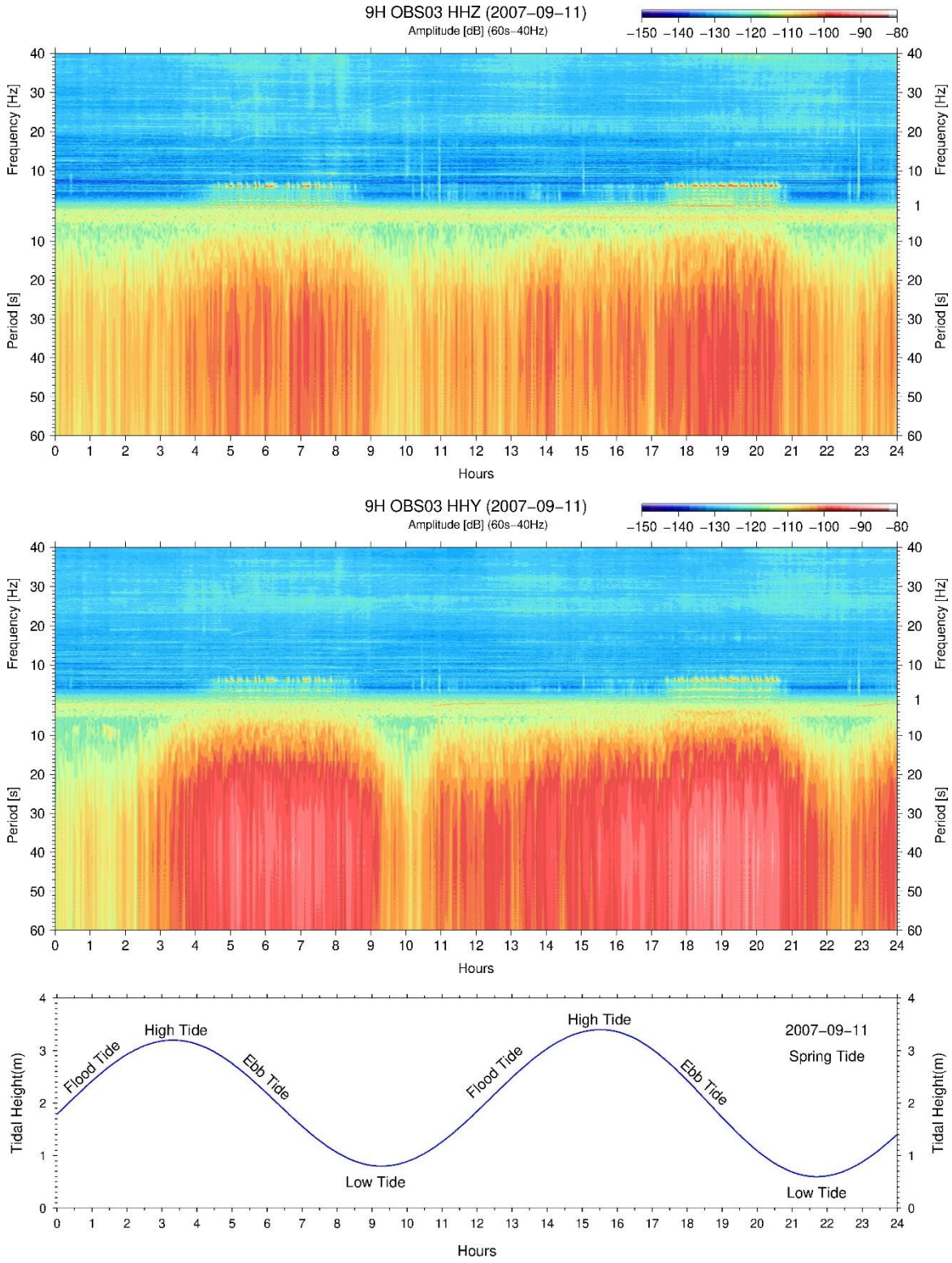
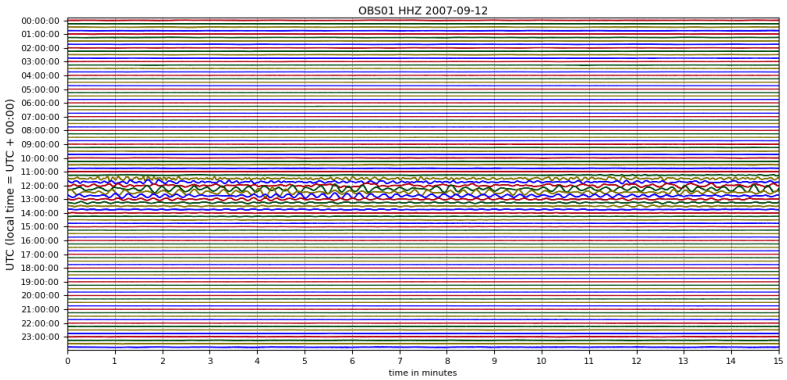
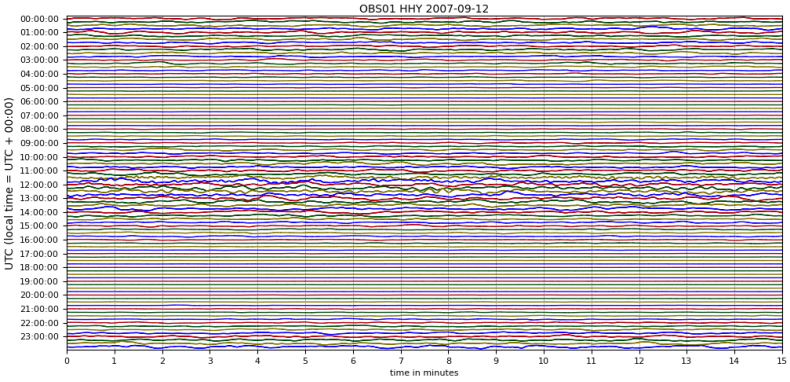
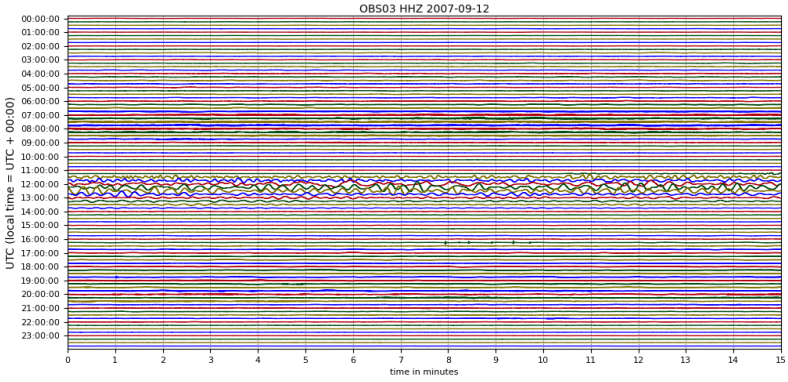
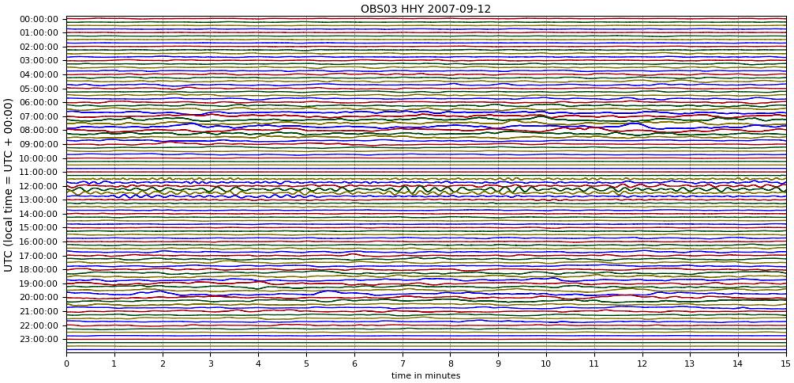


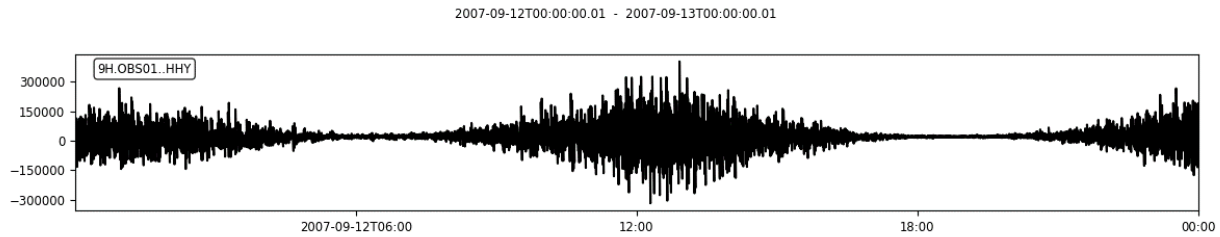

**Figure S2 | OBS01-OBS03 2007-09-11 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tide height of Sines (maximum tidal range of 2.9m), showing the effect of tilt noise (20-60s) and harmonic tremor (0.5-6Hz) during spring tide.

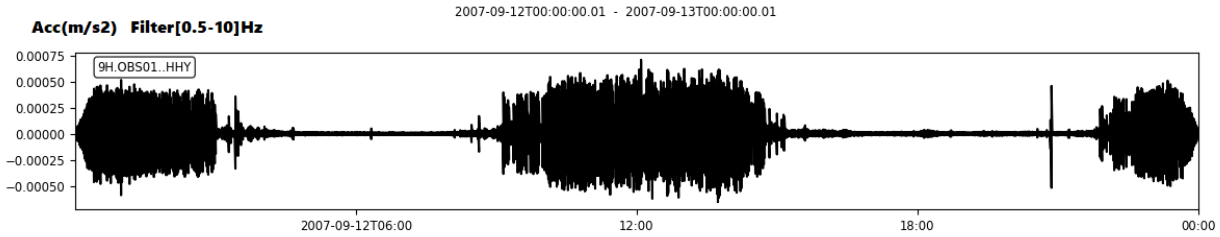

OBS01 HHZ 2007-09-12
UTC (local time = UTC + 00:00)
time in minutes

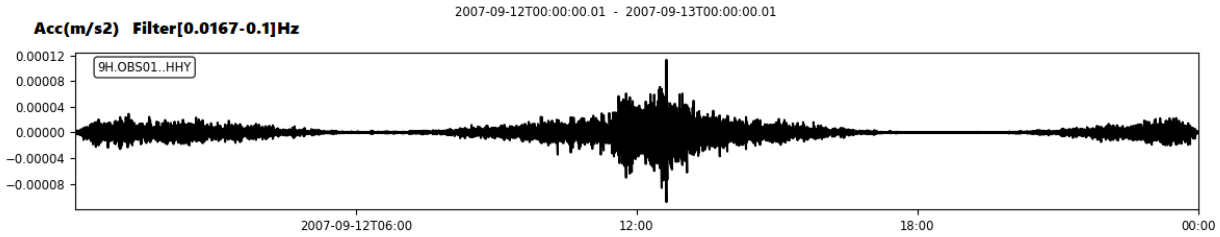

OBS01 HHY 2007-09-12
UTC (local time = UTC + 00:00)
time in minutes

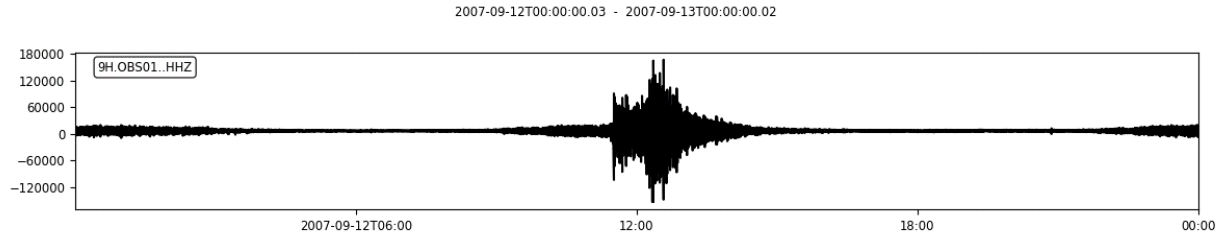

OBS03 HHZ 2007-09-12
UTC (local time = UTC + 00:00)
time in minutes

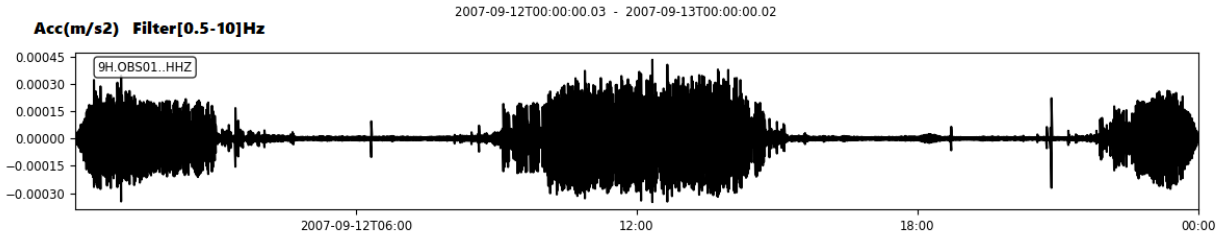

OBS03 HHY 2007-09-12
UTC (local time = UTC + 00:00)
time in minutes

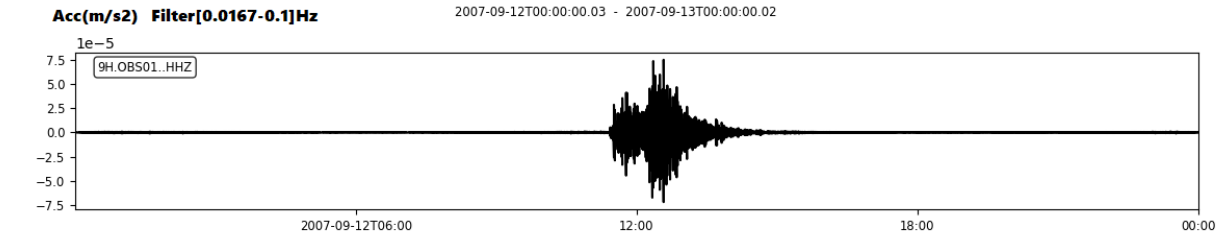

2007-09-12T00:00:00.01 - 2007-09-13T00:00:00.01
9H.OBS01..HHY
300000
150000
0
−150000
−300000
2007-09-12T06:00
12:00
18:00
00:00

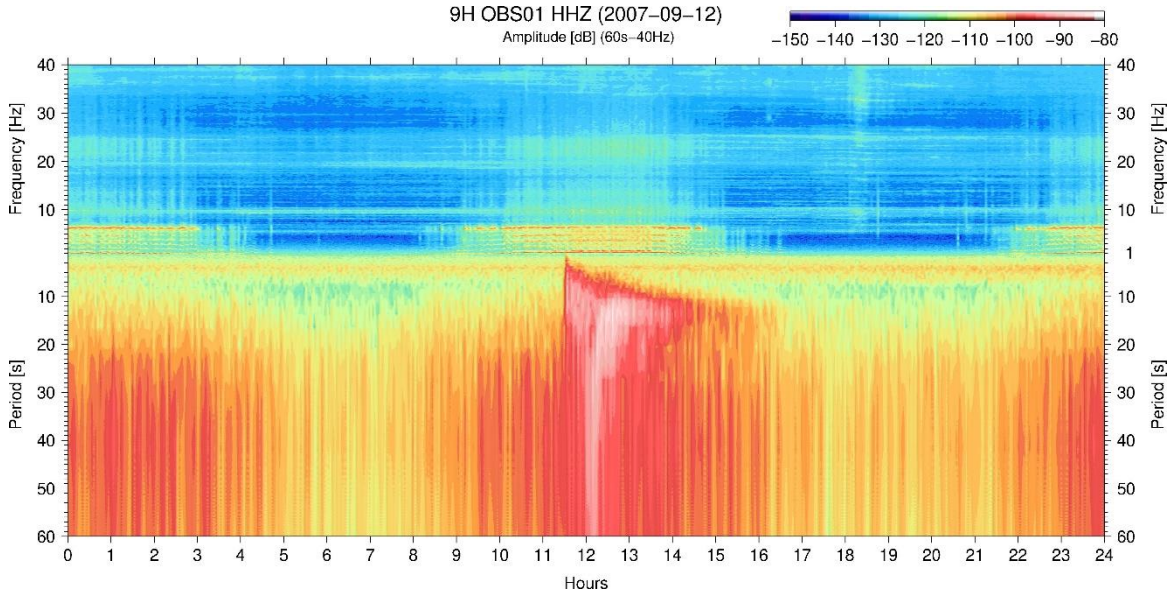

2007-09-12T00:00:00.01 - 2007-09-13T00:00:00.01
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHY
0.00075
0.00050
0.00025
0.00000
−0.00025
−0.00050
2007-09-12T06:00
12:00
18:00
00:00

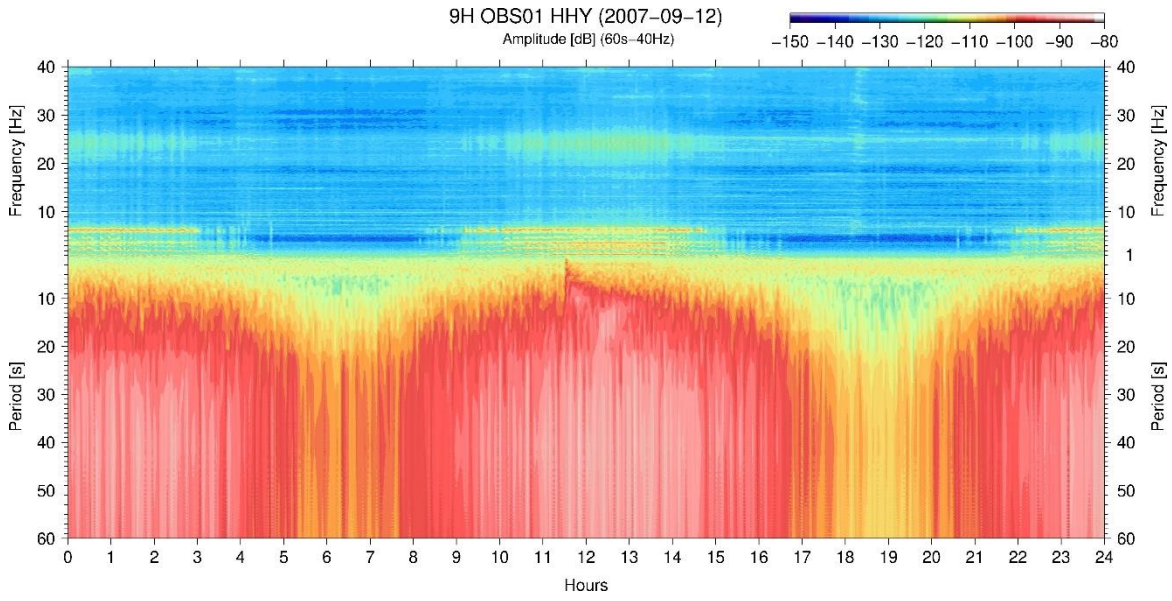

2007-09-12T00:00:00.01 - 2007-09-13T00:00:00.01
Acc(m/s2) Filter[0.0167-0.1]Hz
9H.OBS01..HHY
0.00012
0.00008
0.00004
0.00000
−0.00004
−0.00008
2007-09-12T06:00
12:00
18:00
00:00

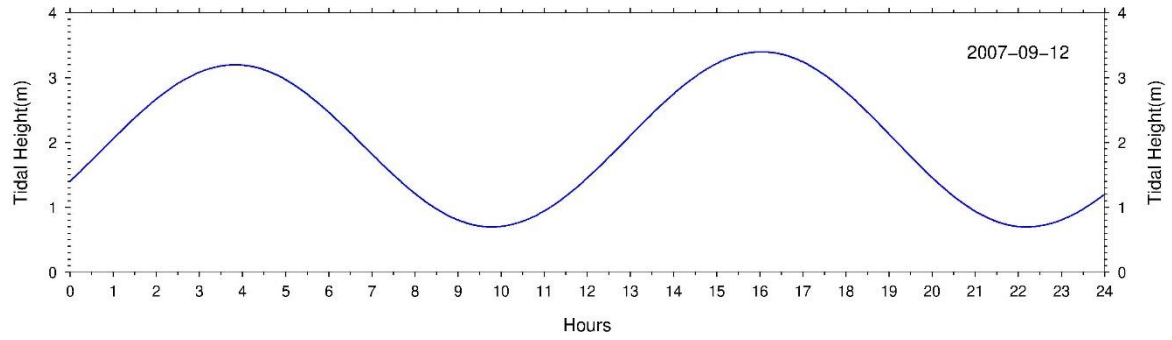

2007-09-12T00:00:00.03 - 2007-09-13T00:00:00.02
9H.OBS01..HHZ
180000
120000
60000
0
−60000
−120000
2007-09-12T06:00
12:00
18:00
00:00

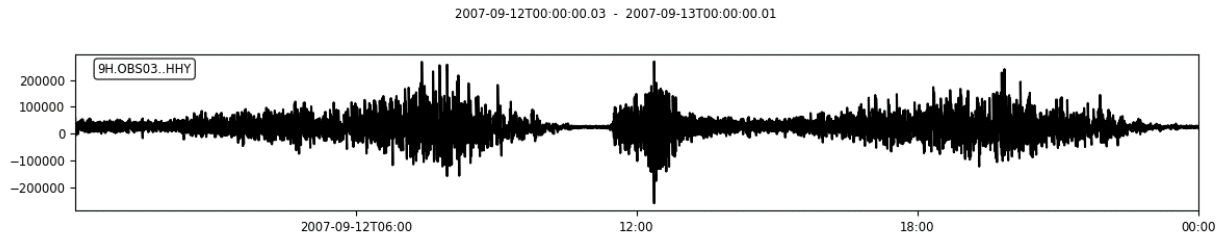

2007-09-12T00:00:00.03 - 2007-09-13T00:00:00.02
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHZ
0.00045
0.00030
0.00015
0.00000
−0.00015
−0.00030
2007-09-12T06:00
12:00
18:00
00:00

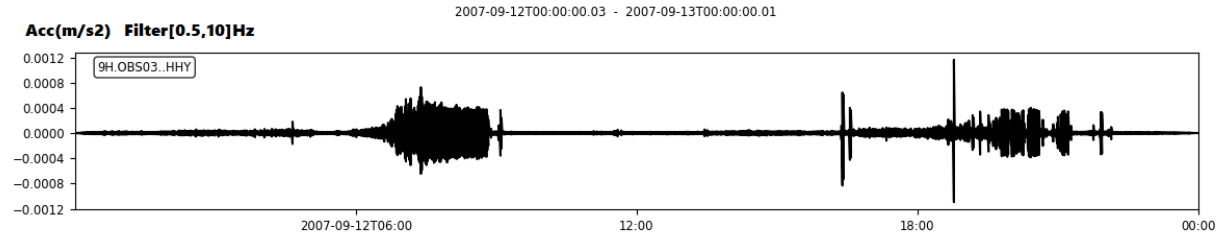

2007-09-12T00:00:00.03 - 2007-09-13T00:00:00.02
Acc(m/s2) Filter[0.0167-0.1]Hz
1e−5
9H.OBS01..HHZ
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
2007-09-12T06:00
12:00
18:00
00:00

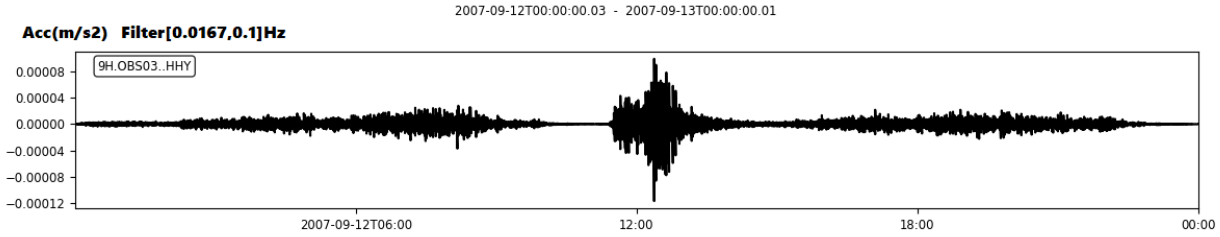

9H OBS01 HHZ (2007–09–12)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

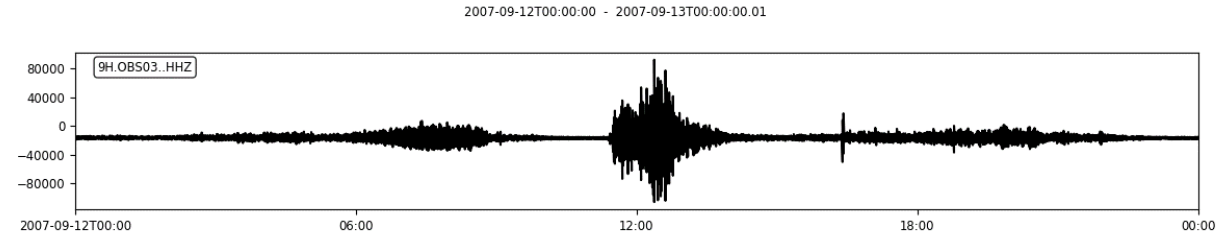

9H OBS01 HHY (2007–09–12)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

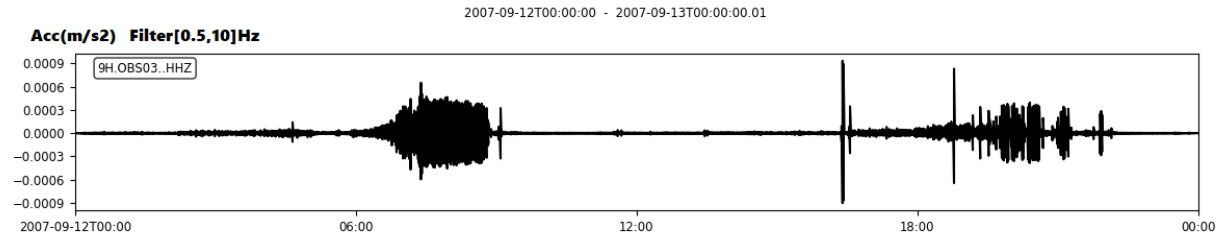

2007–09–12
Tidal Height(m)
Hours

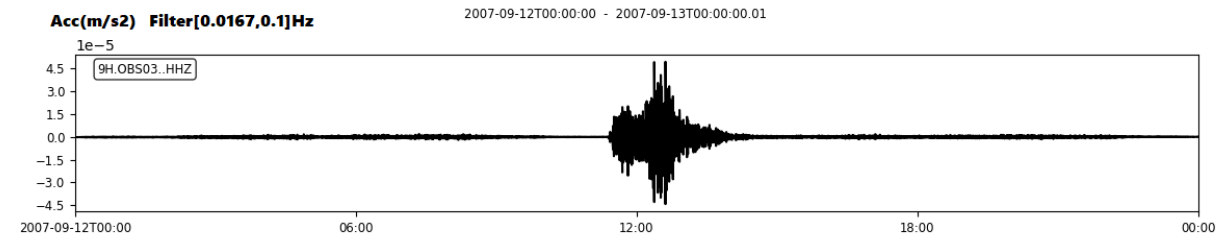

2007-09-12T00:00:00.03 - 2007-09-13T00:00:00.01
9H.OBS03..HHY
200000
100000
0
−100000
−200000
2007-09-12T06:00
12:00
18:00
00:00


2007-09-12T00:00:00.03 - 2007-09-13T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0012
0.0008
0.0004
0.0000
−0.0004
−0.0008
−0.0012
2007-09-12T06:00
12:00
18:00
00:00


2007-09-12T00:00:00.03 - 2007-09-13T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
9H.OBS03..HHY
0.00008
0.00004
0.00000
−0.00004
−0.00008
−0.00012
2007-09-12T06:00
12:00
18:00
00:00


2007-09-12T00:00:00 - 2007-09-13T00:00:00.01
9H.OBS03..HHZ
80000
40000
0
−40000
−80000
2007-09-12T00:00
06:00
12:00
18:00
00:00


2007-09-12T00:00:00 - 2007-09-13T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0009
0.0006
0.0003
0.0000
−0.0003
−0.0006
−0.0009
2007-09-12T00:00
06:00
12:00
18:00
00:00


2007-09-12T00:00:00 - 2007-09-13T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHZ
4.5
3.0
1.5
0.0
−1.5
−3.0
−4.5
2007-09-12T00:00
06:00
12:00
18:00
00:00

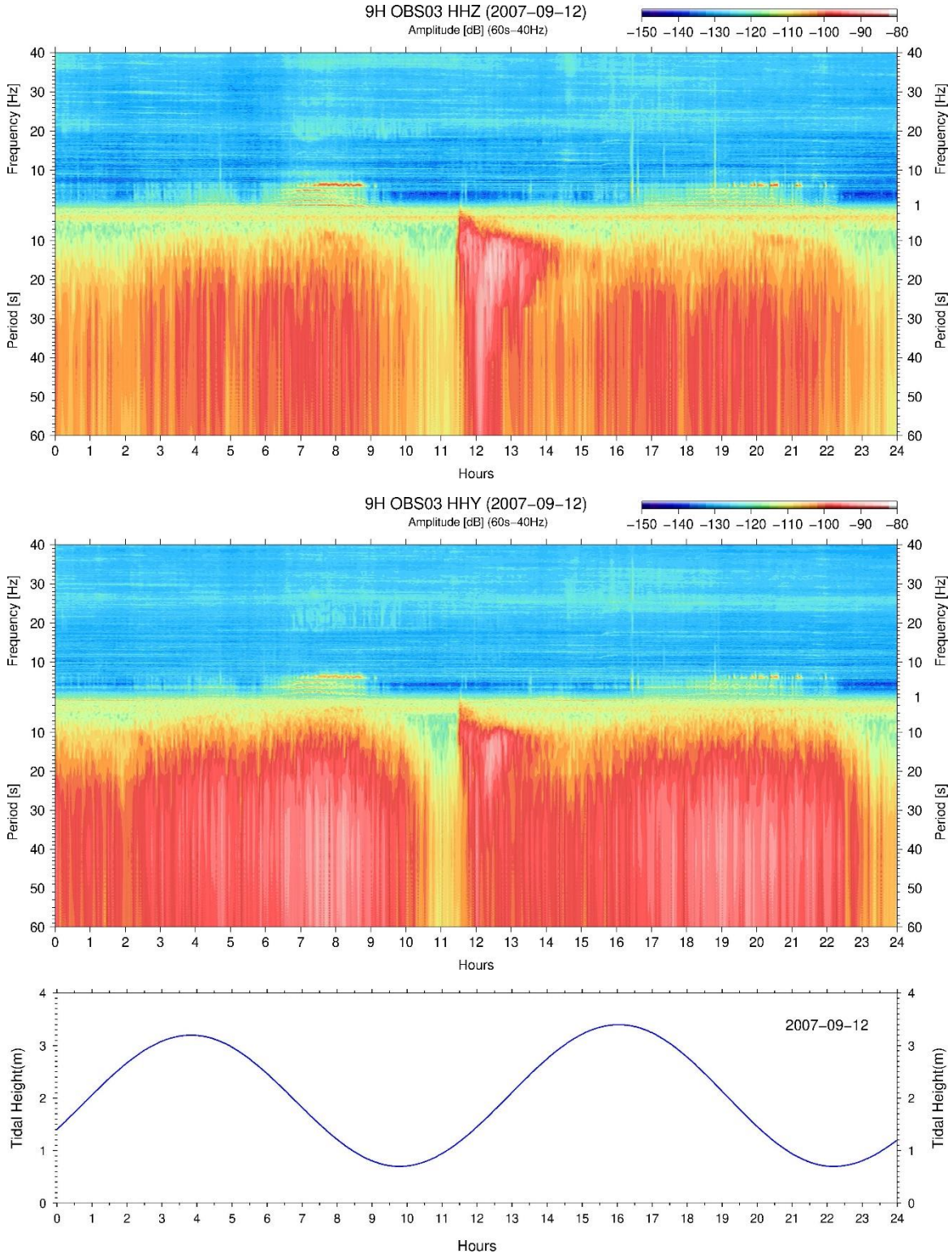
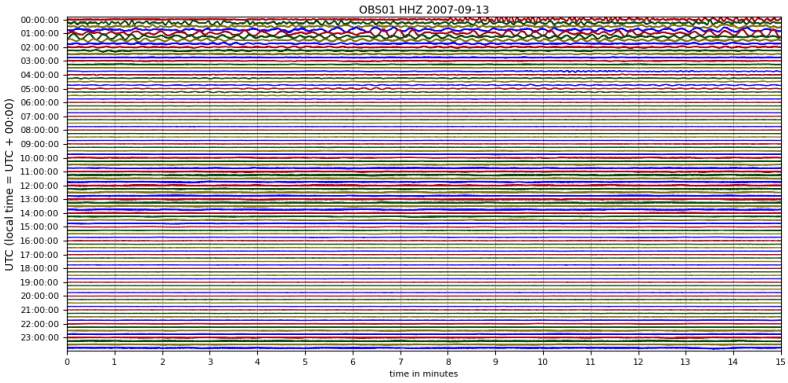
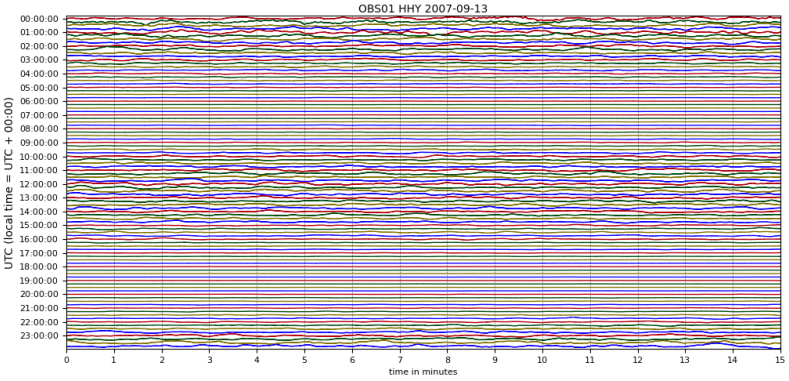
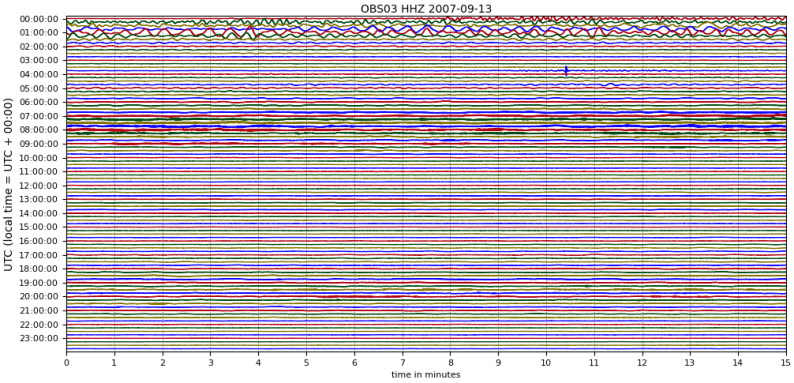
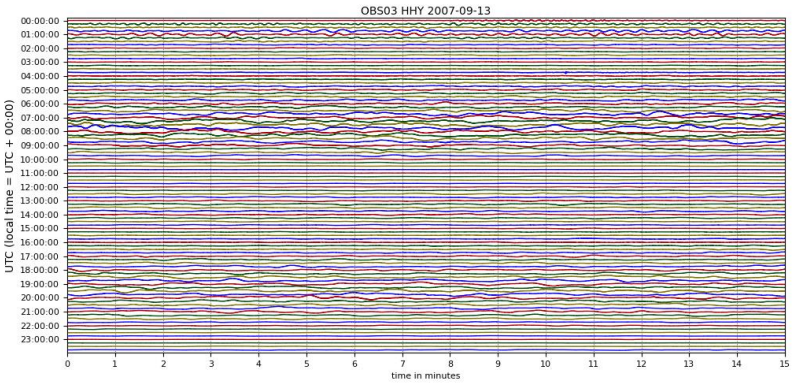


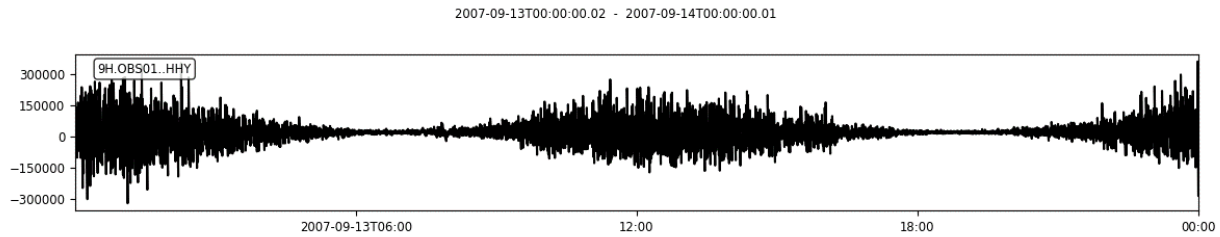

**Figure S3 | OBS01-OBS03 2007-09-12 –** Day plot, the raw waveform, in counts, of vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tide height of Sines (maximum tidal range of 2.9m), showing a distant earthquake (Sumatra, Indonesia: origin time: 11:10:21 with Mw of 8.4), the effect of tilt noise (20-60s) and harmonic tremor (0.5-6Hz) during the spring tide.

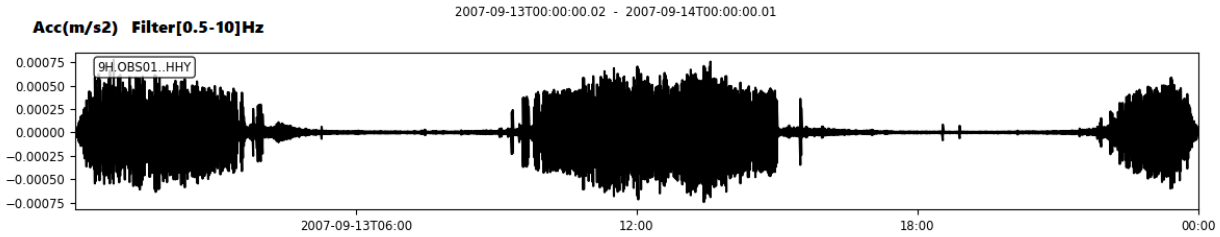

OBS01 HHZ 2007-09-13
UTC (local time = UTC + 00:00)
time in minutes

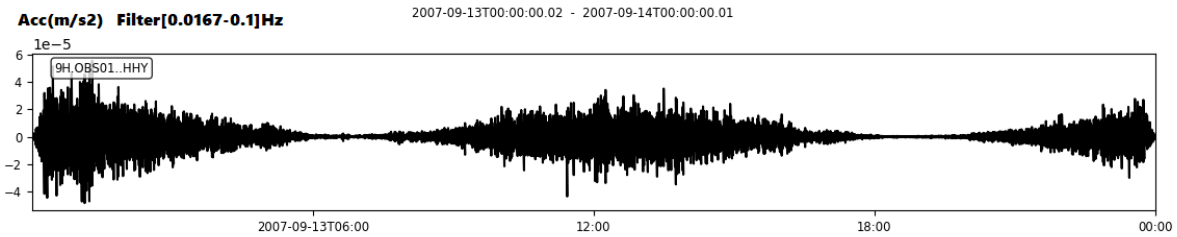

OBS01 HHY 2007-09-13
UTC (local time = UTC + 00:00)
time in minutes

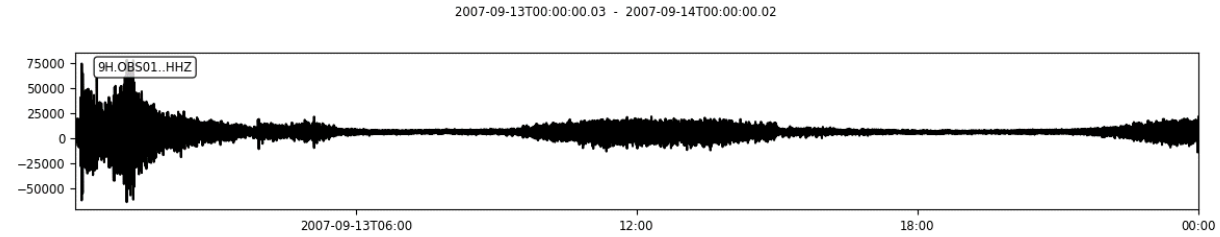

OBS03 HHZ 2007-09-13
UTC (local time = UTC + 00:00)
time in minutes

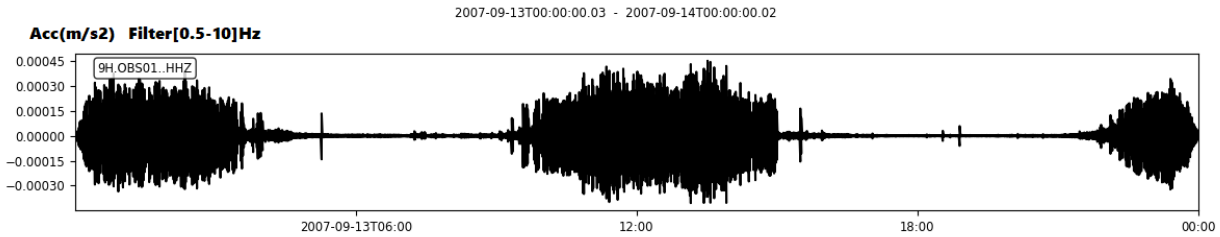

OBS03 HHY 2007-09-13
UTC (local time = UTC + 00:00)
time in minutes

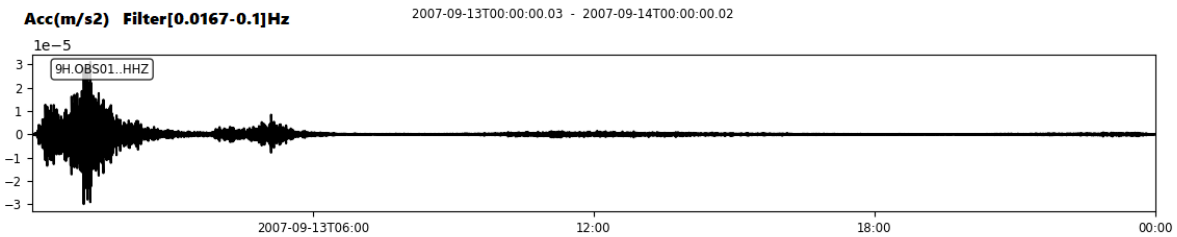

2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
9H.OBS01..HHY
300000
150000
0
−150000
−300000
2007-09-13T06:00
12:00
18:00
00:00

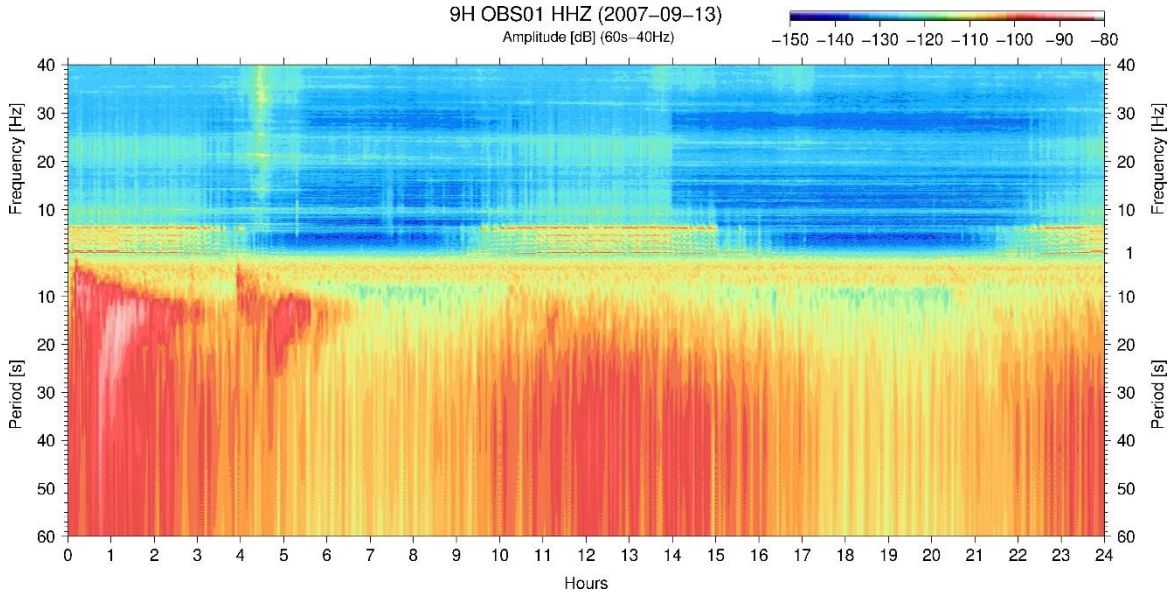

2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHY
0.00075
0.00050
0.00025
0.00000
−0.00025
−0.00050
−0.00075
2007-09-13T06:00
12:00
18:00
00:00

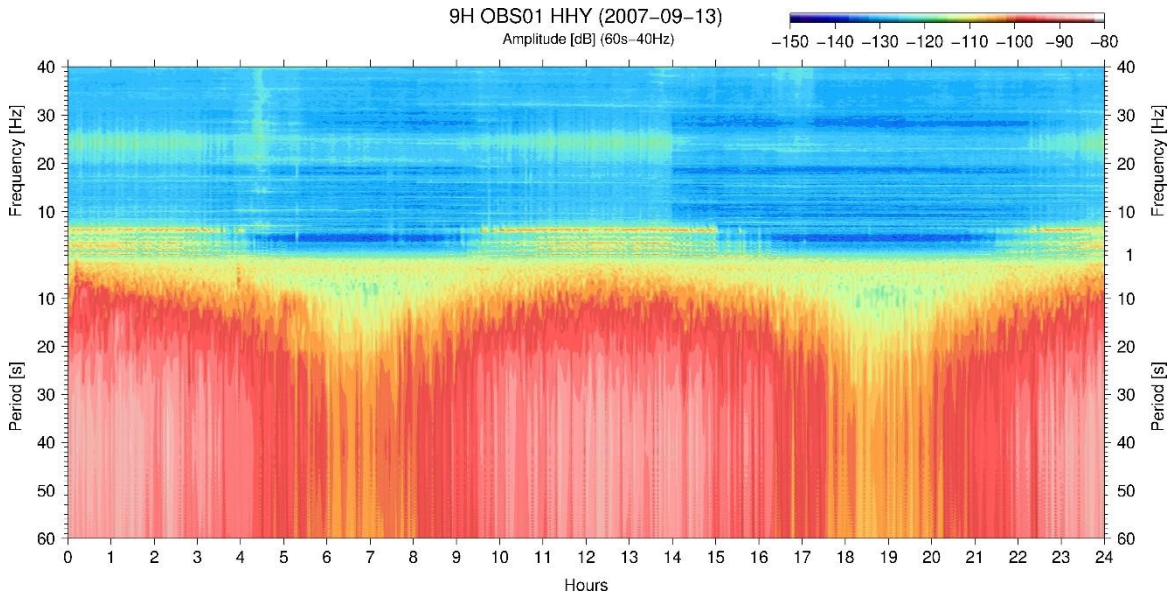

2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
Acc(m/s2) Filter[0.0167-0.1]Hz
1e−5
9H.OBS01..HHY
6
4
2
0
−2
−4
2007-09-13T06:00
12:00
18:00
00:00

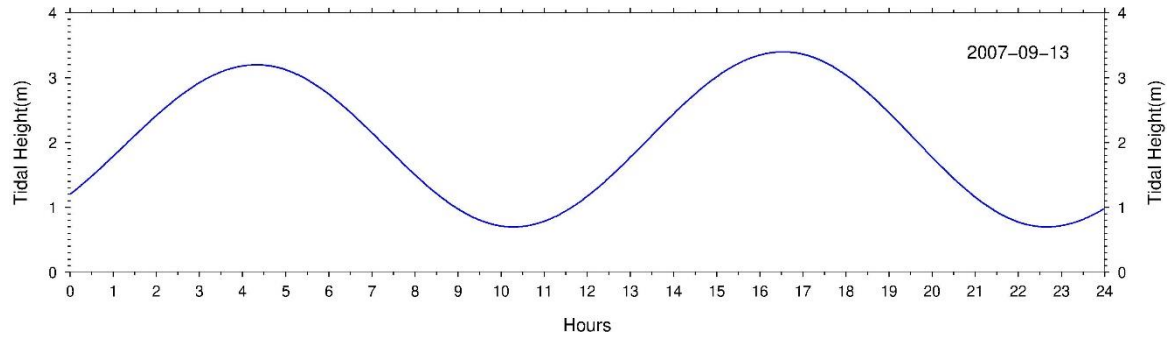

2007-09-13T00:00:00.03 - 2007-09-14T00:00:00.02
9H.OBS01..HHZ
75000
50000
25000
0
−25000
−50000
2007-09-13T06:00
12:00
18:00
00:00

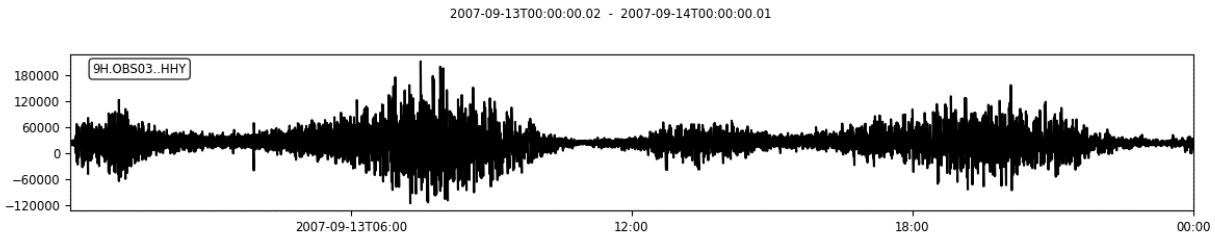

2007-09-13T00:00:00.03 - 2007-09-14T00:00:00.02
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHZ
0.00045
0.00030
0.00015
0.00000
−0.00015
−0.00030
2007-09-13T06:00
12:00
18:00
00:00

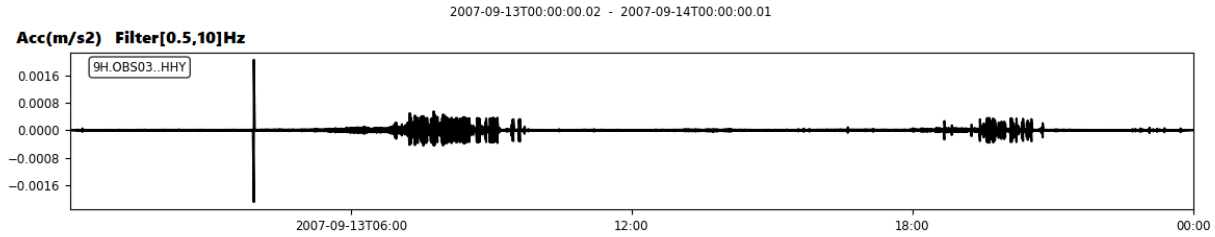

2007-09-13T00:00:00.03 - 2007-09-14T00:00:00.02
Acc(m/s2) Filter[0.0167-0.1]Hz
1e−5
9H.OBS01..HHZ
3
2
1
0
−1
−2
−3
2007-09-13T06:00
12:00
18:00
00:00

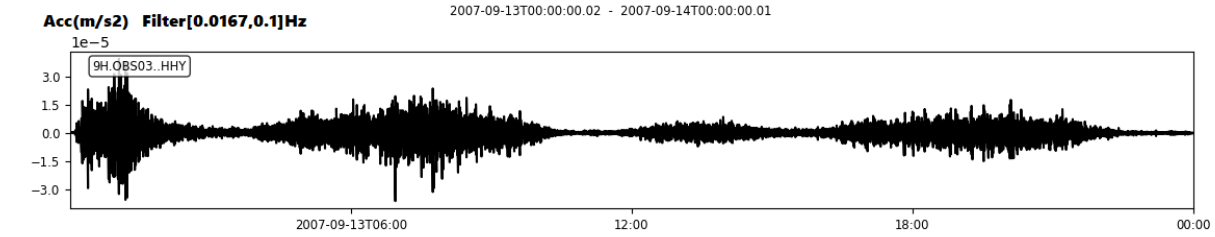

9H OBS01 HHZ (2007–09–13)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

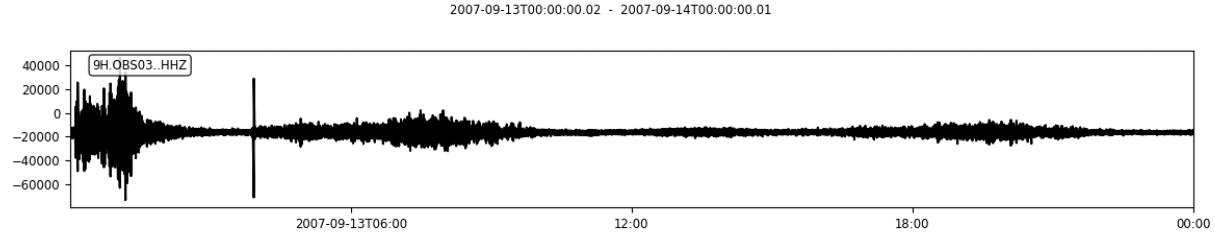

9H OBS01 HHY (2007–09–13)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

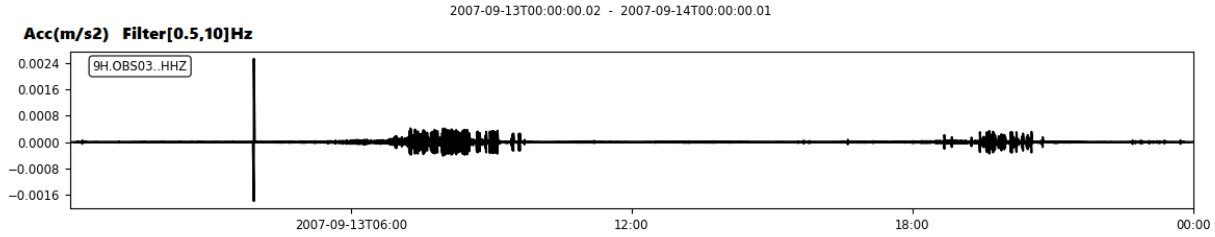

2007–09–13
Tidal Height(m)
Hours

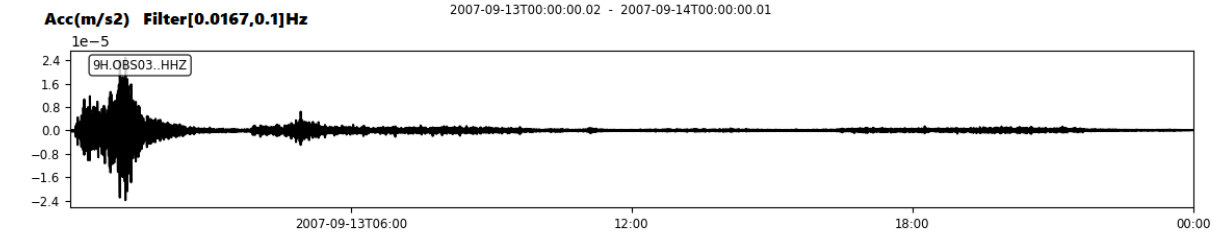

2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
9H.OBS03..HHY
180000
120000
60000
0
−60000
−120000
2007-09-13T06:00
12:00
18:00
00:00


2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0016
0.0008
0.0000
−0.0008
−0.0016
2007-09-13T06:00
12:00
18:00
00:00


2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
3.0
1.5
0.0
−1.5
−3.0
2007-09-13T06:00
12:00
18:00
00:00


2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
9H.OBS03..HHZ
40000
20000
0
−20000
−40000
−60000
2007-09-13T06:00
12:00
18:00
00:00


2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0024
0.0016
0.0008
0.0000
−0.0008
−0.0016
2007-09-13T06:00
12:00
18:00
00:00


2007-09-13T00:00:00.02 - 2007-09-14T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHZ
2.4
1.6
0.8
0.0
−0.8
−1.6
−2.4
2007-09-13T06:00
12:00
18:00
00:00

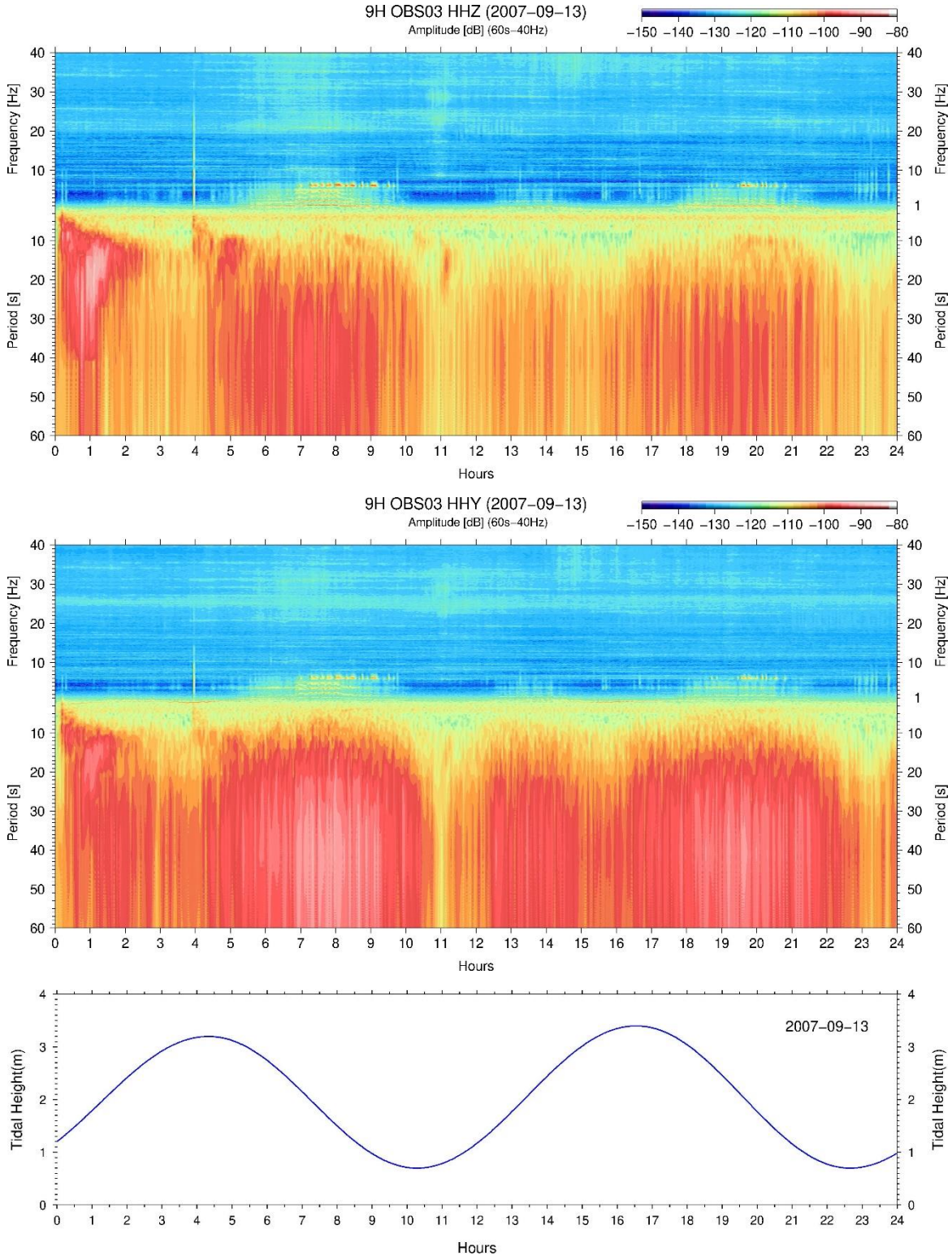
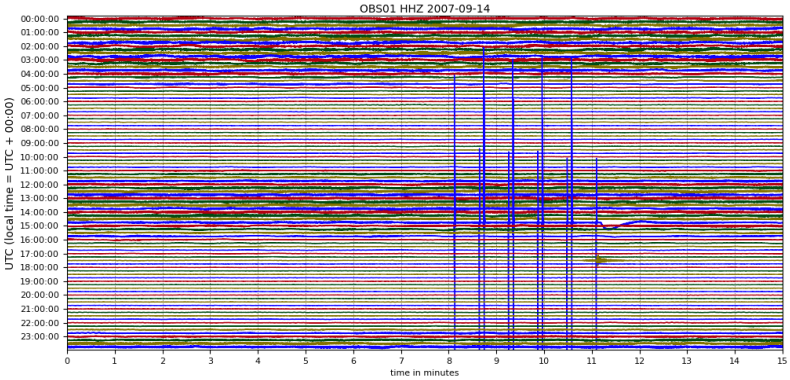
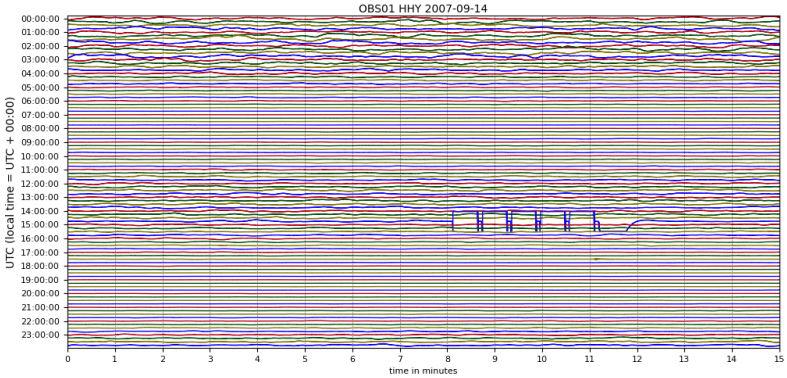
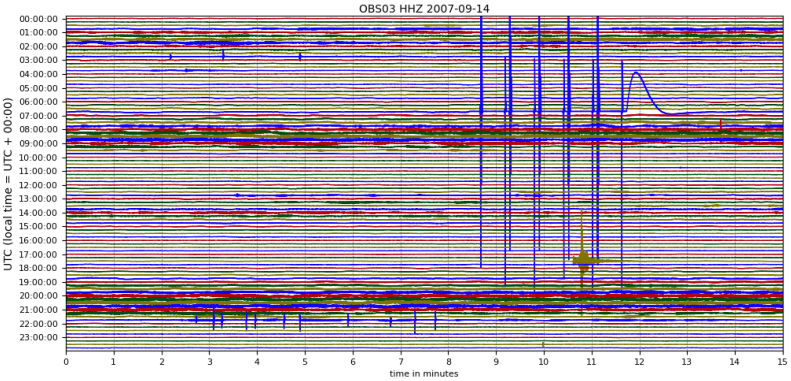
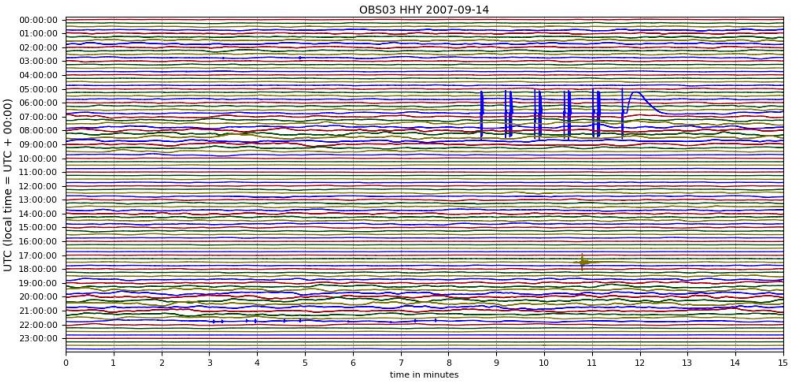


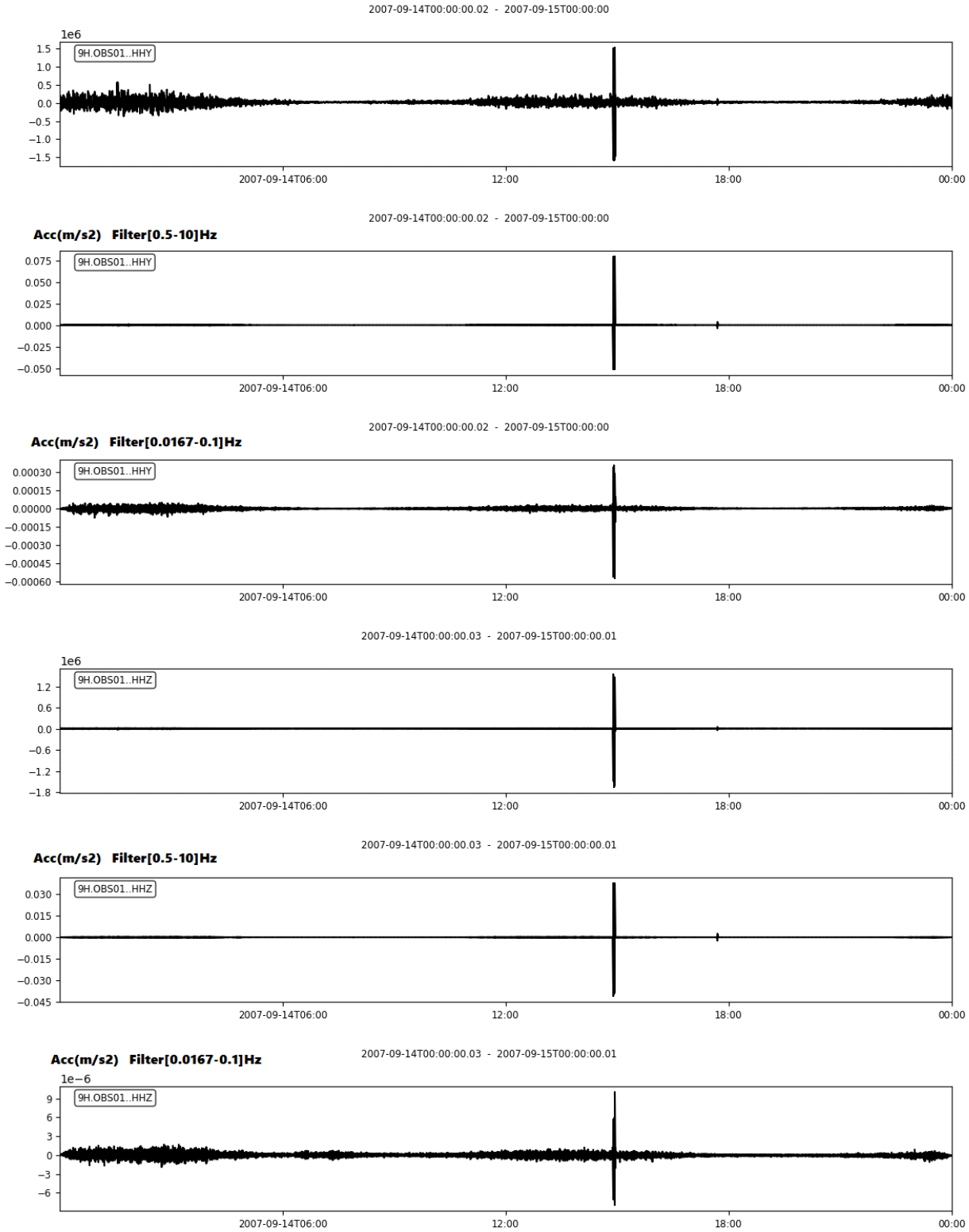

**Figure S4 | OBS01-OBS03 2007-09-13 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tide height of Sines (maximum tidal range of 2.7m), showing two distant earthquakes (Mentawai, Indonesia: origin time: 23:48:59, 12-09-2007, with Mw of 7.8 and Mentawai, Indonesia: origin time 03:35:26, with Mw of 7.1), the effect of tilt noise (20-60s) and harmonic tremor (0.5-6Hz).

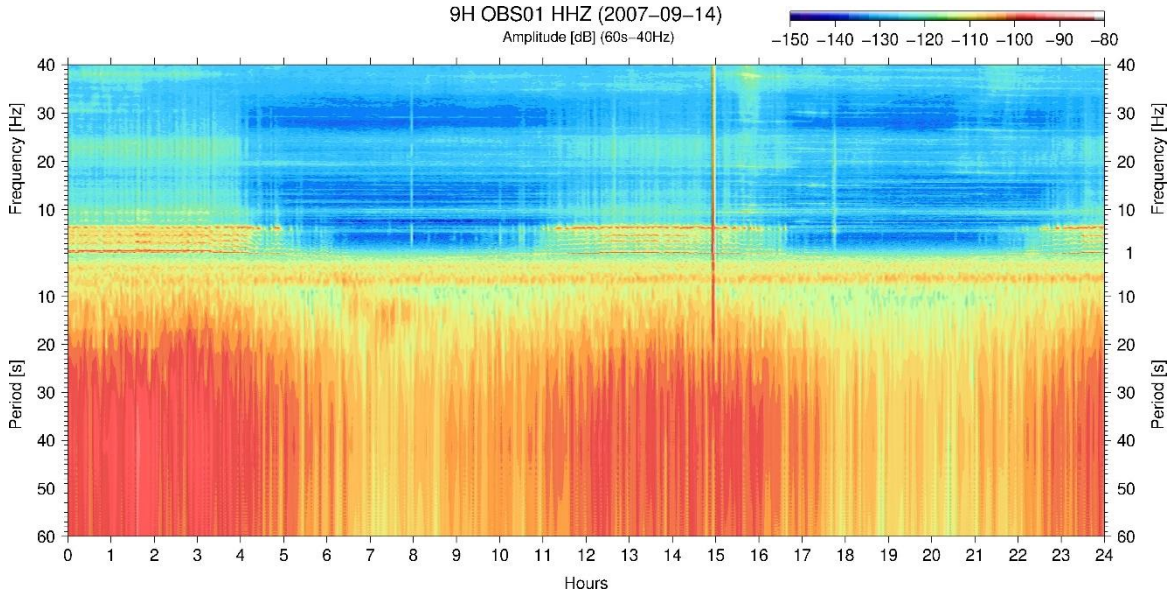

OBS01 HHZ 2007-09-14
UTC (local time = UTC + 00:00)
time in minutes

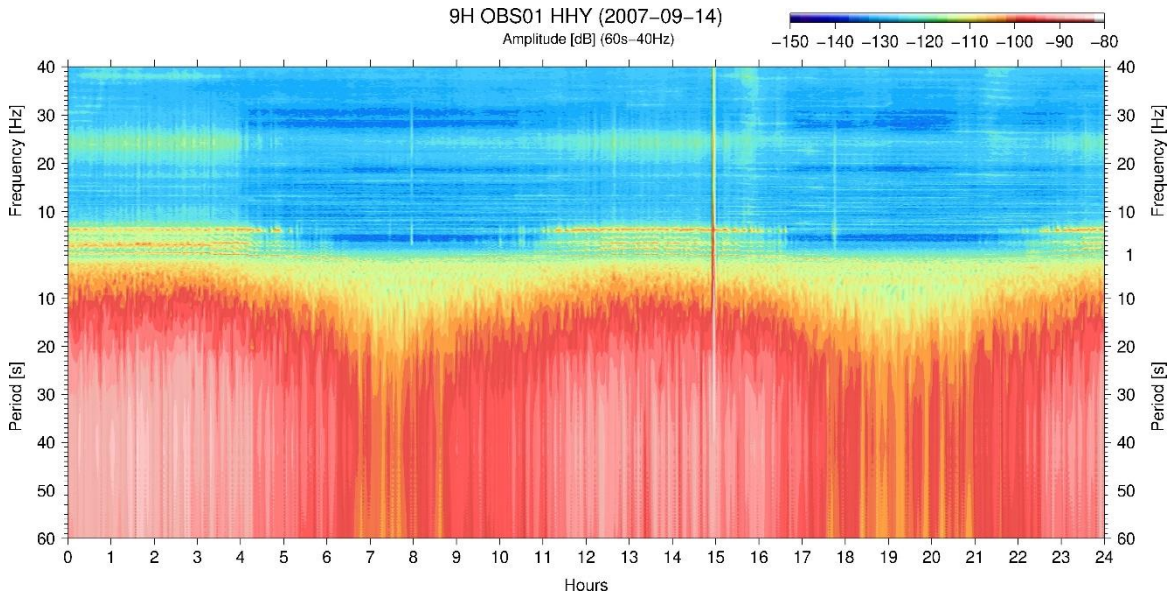

OBS01 HHY 2007-09-14
UTC (local time = UTC + 00:00)
time in minutes

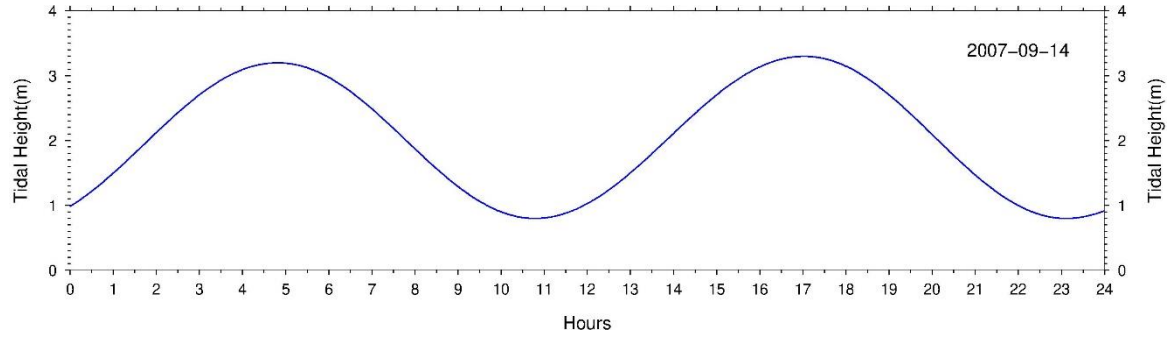

OBS03 HHZ 2007-09-14
UTC (local time = UTC + 00:00)
time in minutes

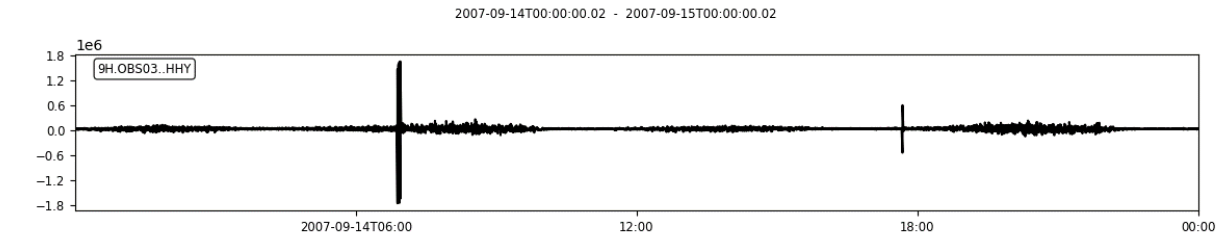

OBS03 HHY 2007-09-14
UTC (local time = UTC + 00:00)
time in minutes

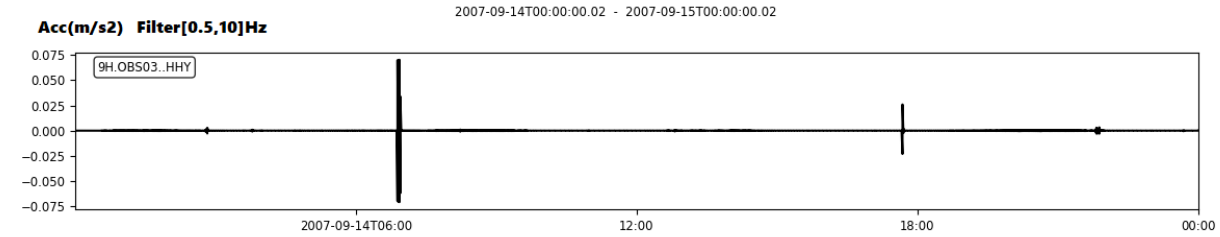

2007-09-14T00:00:00.02 - 2007-09-15T00:00:00
1e6
9H.OBS01..HHY
2007-09-14T06:00
12:00
18:00
00:00
2007-09-14T00:00:00.02 - 2007-09-15T00:00:00
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHY
2007-09-14T00:00:00.02 - 2007-09-15T00:00:00
Acc(m/s2) Filter[0.0167-0.1]Hz
9H.OBS01..HHY
2007-09-14T00:00:00.03 - 2007-09-15T00:00:00.01
1e6
9H.OBS01..HHZ
2007-09-14T00:00:00.03 - 2007-09-15T00:00:00.01
Acc(m/s2) Filter[0.5-10]Hz
9H.OBS01..HHZ
2007-09-14T00:00:00.03 - 2007-09-15T00:00:00.01
Acc(m/s2) Filter[0.0167-0.1]Hz
1e−6
9H.OBS01..HHZ

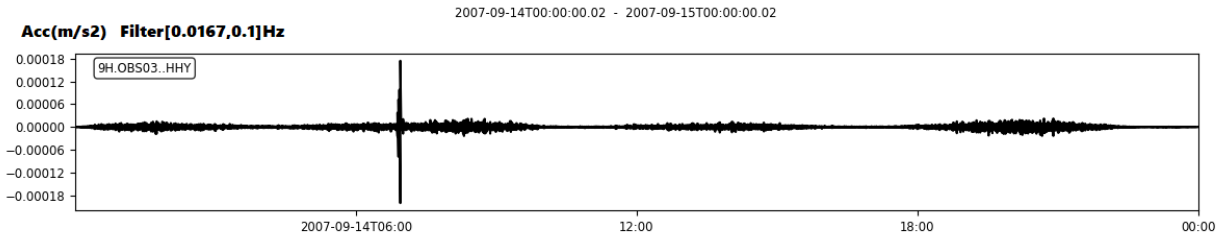

9H OBS01 HHZ (2007–09–14)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

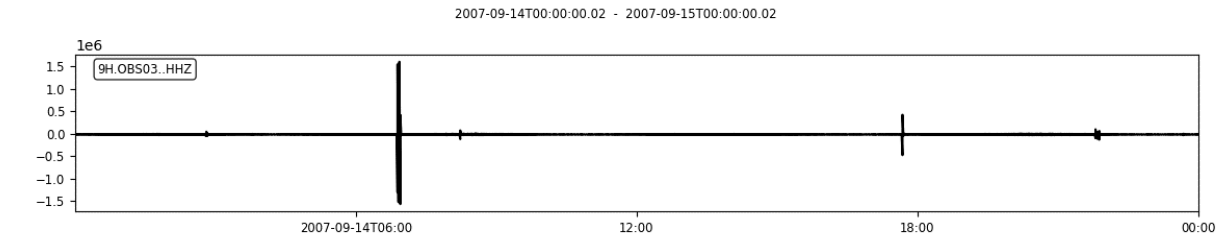

9H OBS01 HHY (2007–09–14)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

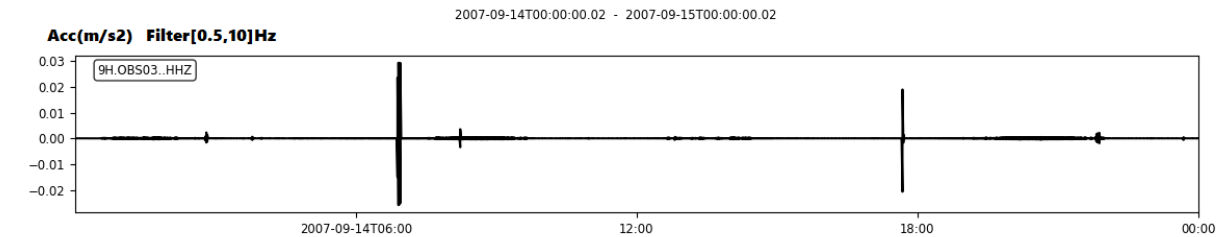

2007–09–14
Tidal Height(m)
Hours

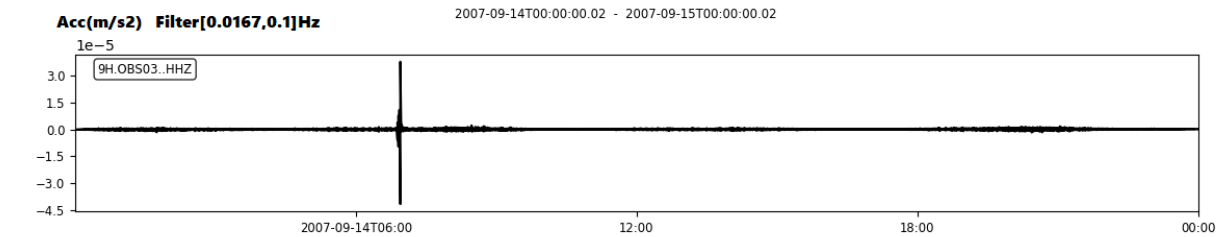

2007-09-14T00:00:00.02 - 2007-09-15T00:00:00.02
1e6
9H.OBS03..HHY
2007-09-14T06:00
12:00
18:00
00:00


2007-09-14T00:00:00.02 - 2007-09-15T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
2007-09-14T06:00
12:00
18:00
00:00


2007-09-14T00:00:00.02 - 2007-09-15T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
9H.OBS03..HHY
2007-09-14T06:00
12:00
18:00
00:00


2007-09-14T00:00:00.02 - 2007-09-15T00:00:00.02
1e6
9H.OBS03..HHZ
2007-09-14T06:00
12:00
18:00
00:00


2007-09-14T00:00:00.02 - 2007-09-15T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
2007-09-14T06:00
12:00
18:00
00:00


2007-09-14T00:00:00.02 - 2007-09-15T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHZ
2007-09-14T06:00
12:00
18:00
00:00

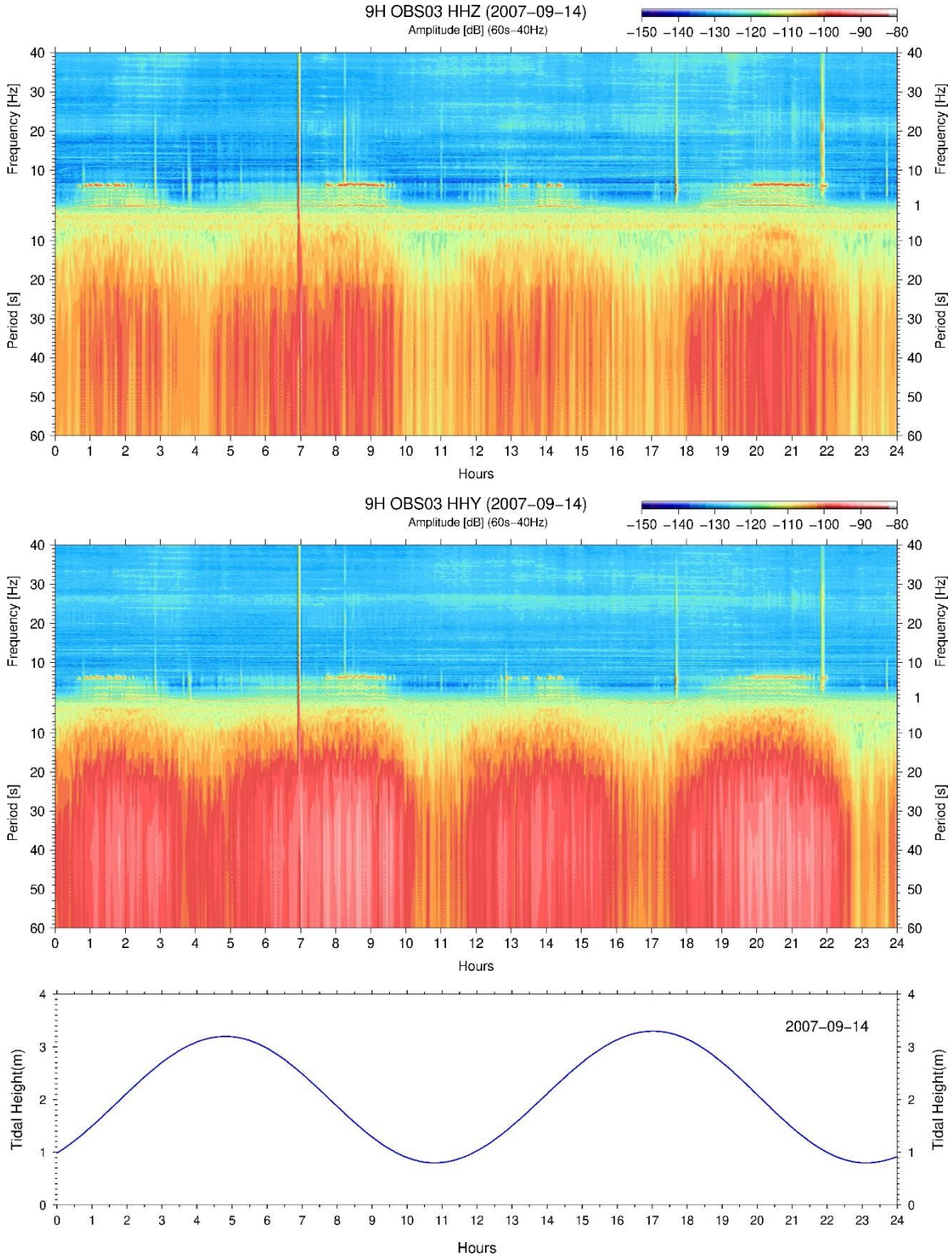
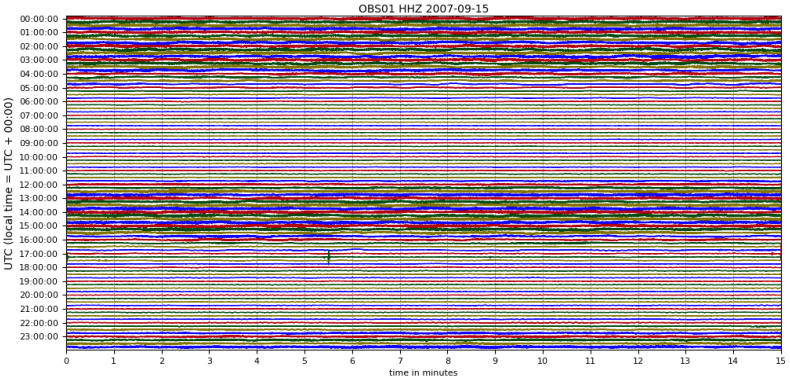
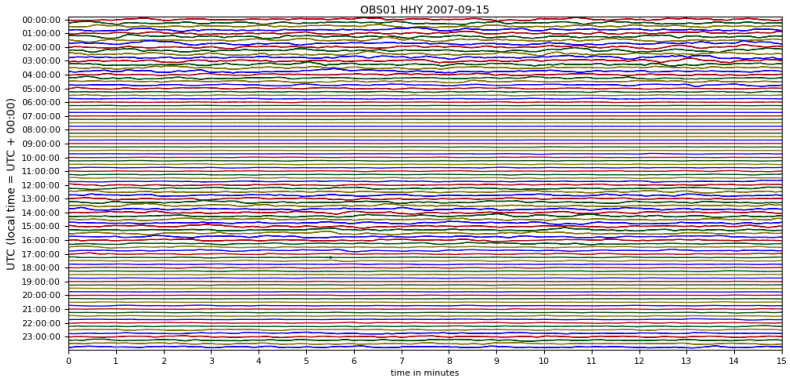
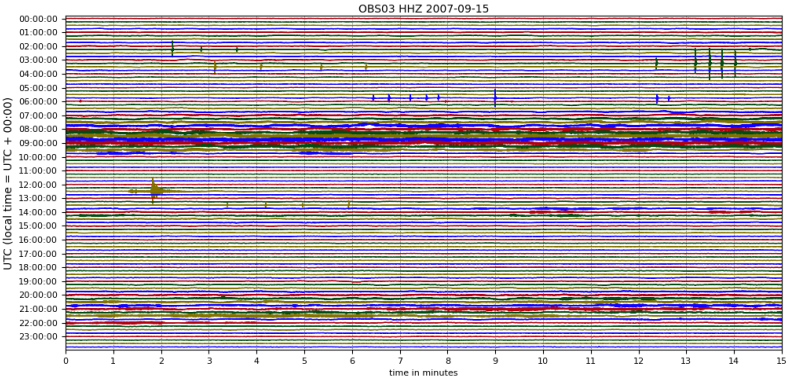
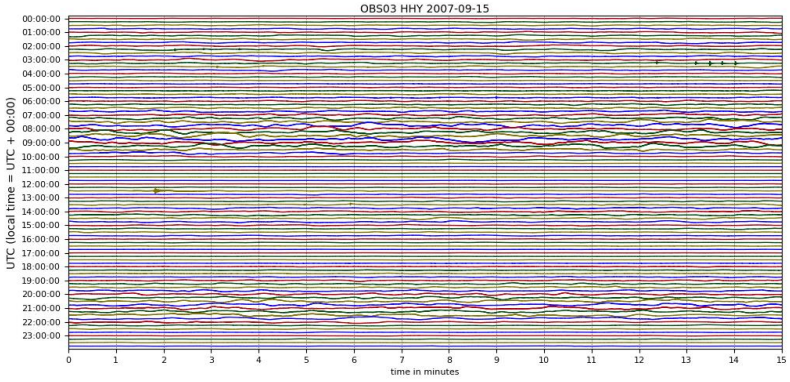


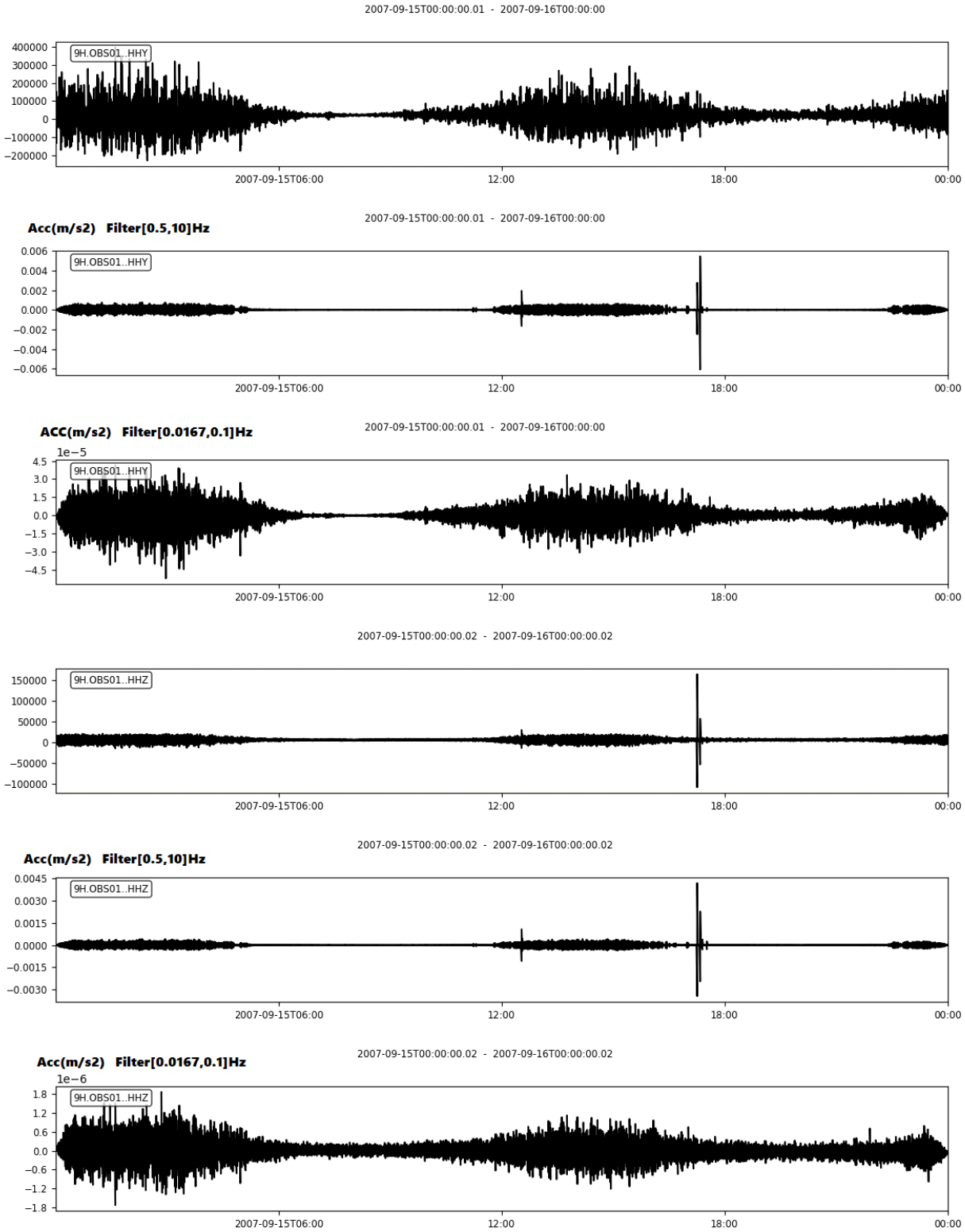

**Figure S5 | OBS01-OBS03 2007-09-14 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tide height in Sines (maximum tidal range of 2.6m), showing the seismometer gimble levelling around 15h (OBS01) and 7h (OBS03), the effect of tilt noise (20-60s) and harmonic tremor (0.5-6Hz).

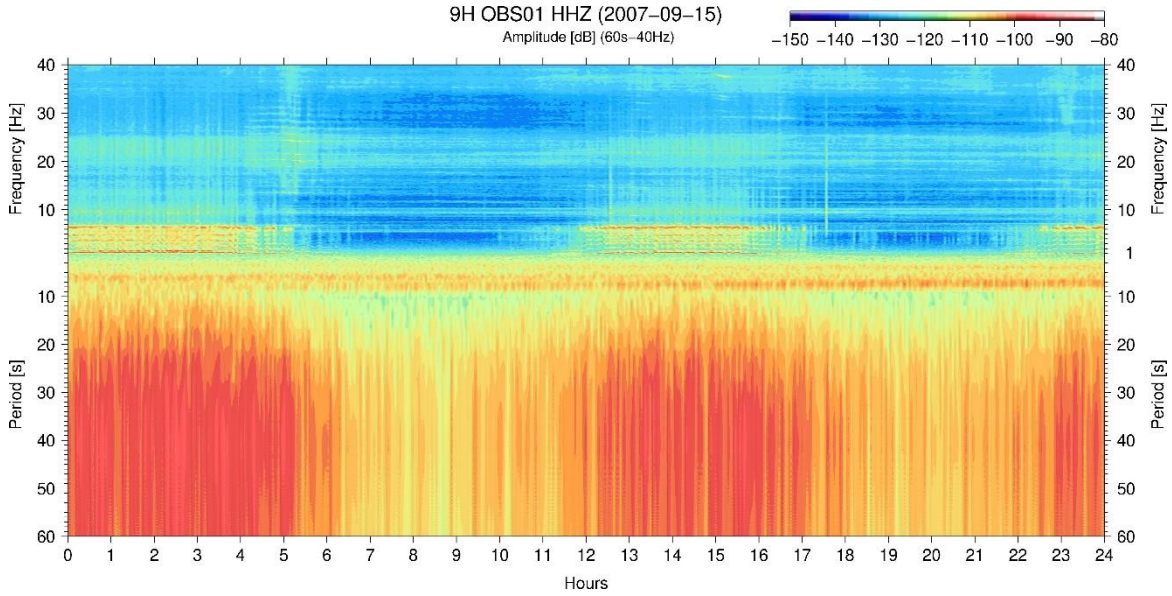

OBS01 HHZ 2007-09-15
UTC (local time = UTC + 00:00)
time in minutes

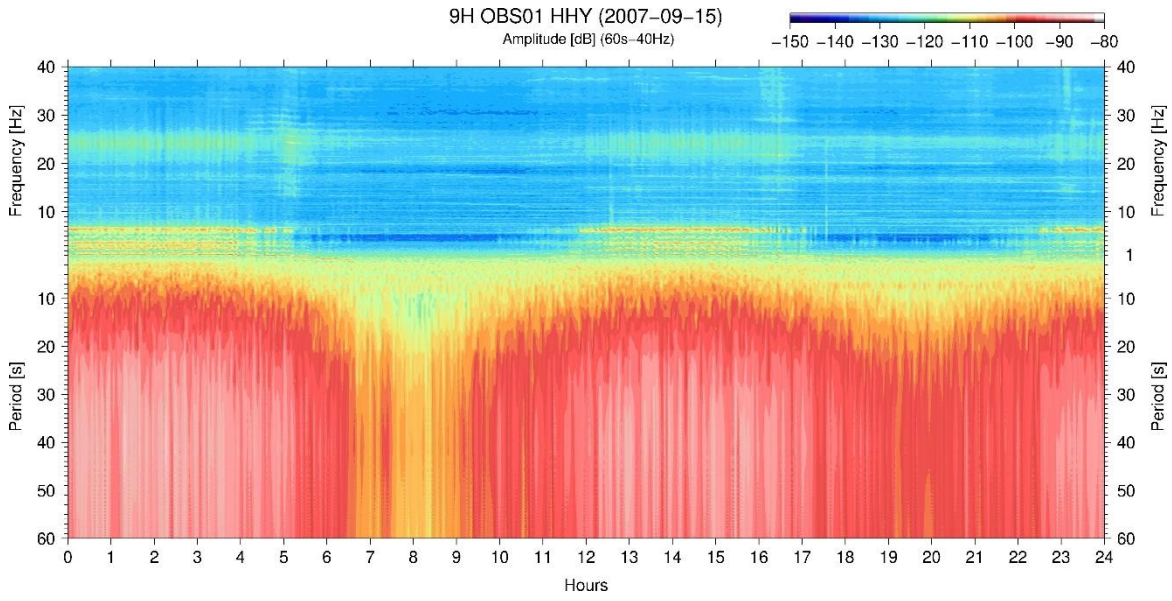

OBS01 HHY 2007-09-15
UTC (local time = UTC + 00:00)
time in minutes

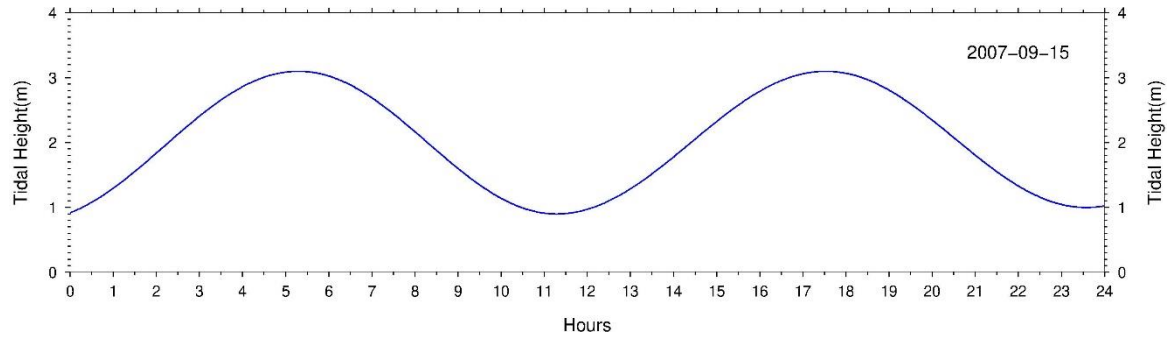

OBS03 HHZ 2007-09-15
UTC (local time = UTC + 00:00)
time in minutes

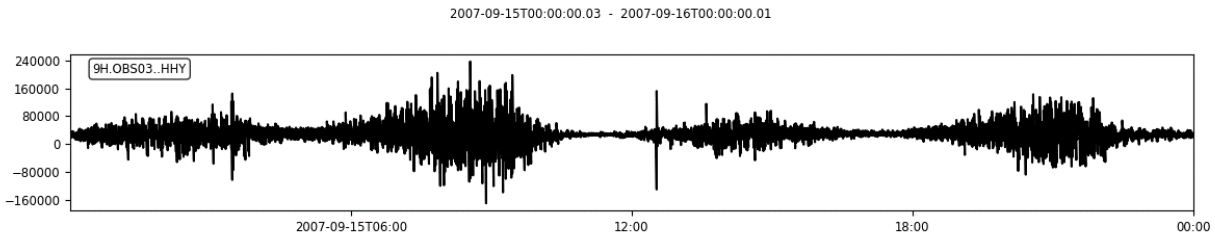

OBS03 HHY 2007-09-15
UTC (local time = UTC + 00:00)
time in minutes

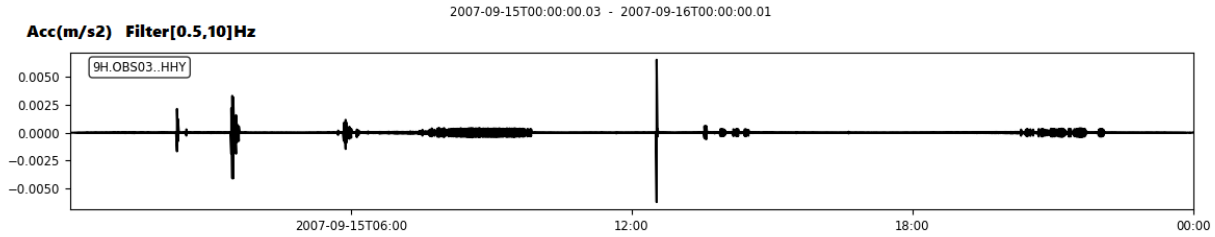

2007-09-15T00:00:00.01 - 2007-09-16T00:00:00
9H.OBS01..HHY
400000
300000
200000
100000
0
−100000
−200000
2007-09-15T06:00
12:00
18:00
00:00
2007-09-15T00:00:00.01 - 2007-09-16T00:00:00
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.006
0.004
0.002
0.000
−0.002
−0.004
−0.006
2007-09-15T06:00
12:00
18:00
00:00
2007-09-15T00:00:00.01 - 2007-09-16T00:00:00
ACC(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
4.5
3.0
1.5
0.0
−1.5
−3.0
−4.5
2007-09-15T06:00
12:00
18:00
00:00
2007-09-15T00:00:00.02 - 2007-09-16T00:00:00.02
9H.OBS01..HHZ
150000
100000
50000
0
−50000
−100000
2007-09-15T06:00
12:00
18:00
00:00
2007-09-15T00:00:00.02 - 2007-09-16T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.0045
0.0030
0.0015
0.0000
−0.0015
−0.0030
2007-09-15T06:00
12:00
18:00
00:00
2007-09-15T00:00:00.02 - 2007-09-16T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
1.8
1.2
0.6
0.0
−0.6
−1.2
−1.8
2007-09-15T06:00
12:00
18:00
00:00

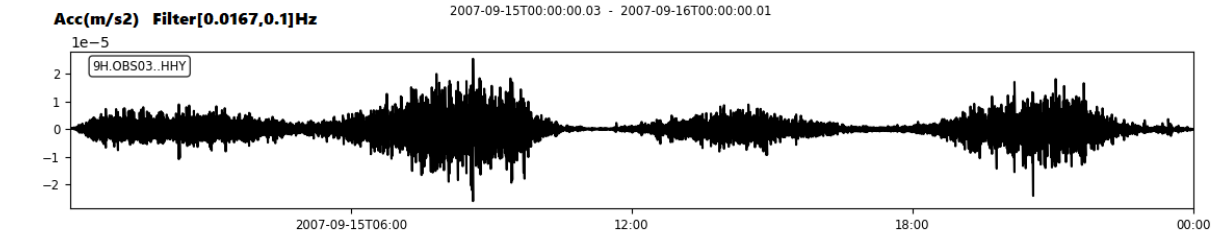

9H OBS01 HHZ (2007-09-15)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

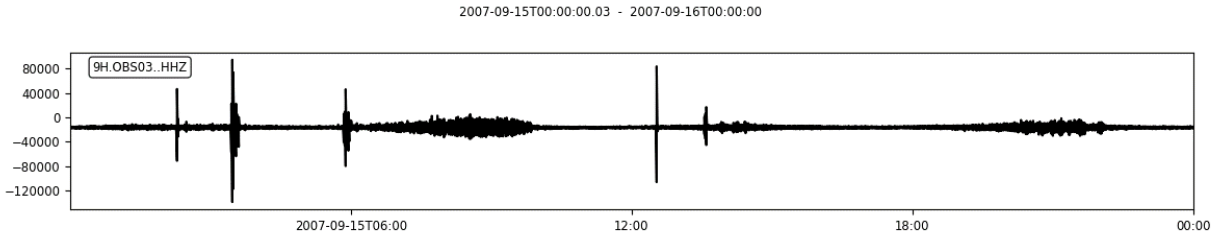

9H OBS01 HHY (2007-09-15)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

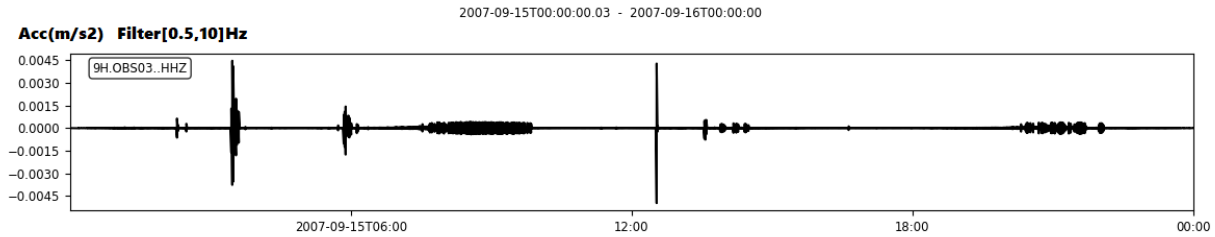

2007-09-15
Tidal Height(m)
Hours

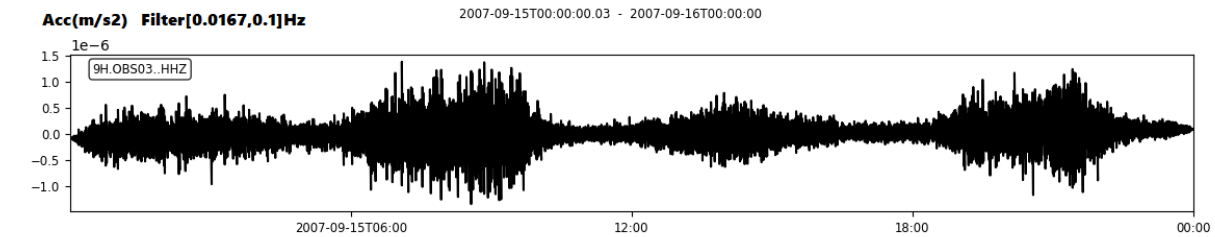

2007-09-15T00:00:00.03 - 2007-09-16T00:00:00.01
9H.OBS03..HHY
240000
160000
80000
0
−80000
−160000
2007-09-15T06:00
12:00
18:00
00:00


2007-09-15T00:00:00.03 - 2007-09-16T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0050
0.0025
0.0000
−0.0025
−0.0050
2007-09-15T06:00
12:00
18:00
00:00


2007-09-15T00:00:00.03 - 2007-09-16T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
2
1
0
−1
−2
2007-09-15T06:00
12:00
18:00
00:00


2007-09-15T00:00:00.03 - 2007-09-16T00:00:00
9H.OBS03..HHZ
80000
40000
0
−40000
−80000
−120000
2007-09-15T06:00
12:00
18:00
00:00


2007-09-15T00:00:00.03 - 2007-09-16T00:00:00
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0045
0.0030
0.0015
0.0000
−0.0015
−0.0030
−0.0045
2007-09-15T06:00
12:00
18:00
00:00


2007-09-15T00:00:00.03 - 2007-09-16T00:00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
1.5
1.0
0.5
0.0
−0.5
−1.0
2007-09-15T06:00
12:00
18:00
00:00

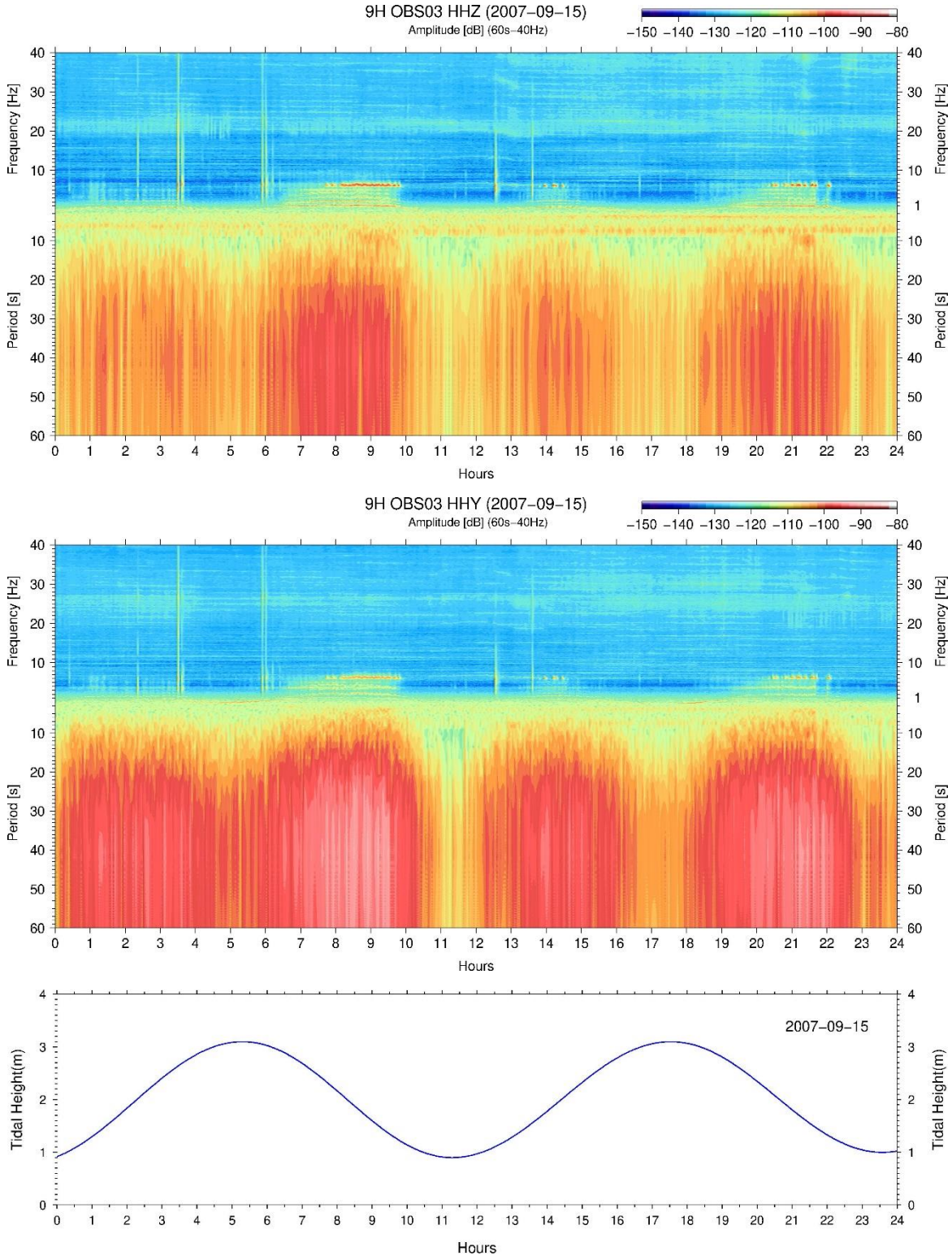
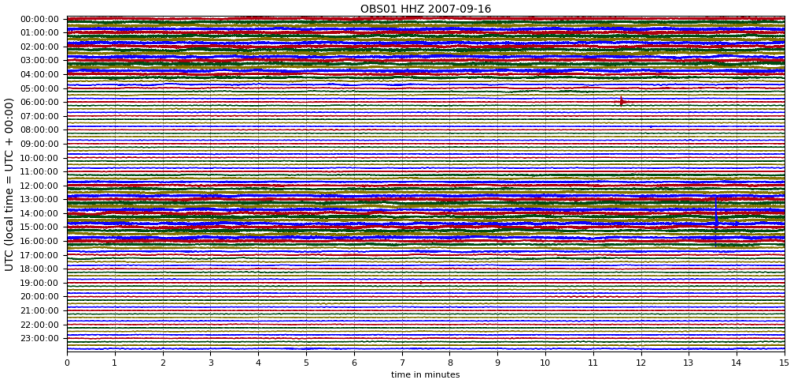
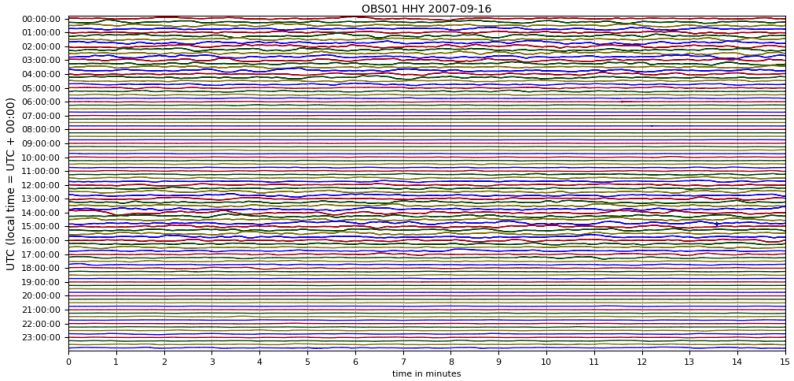
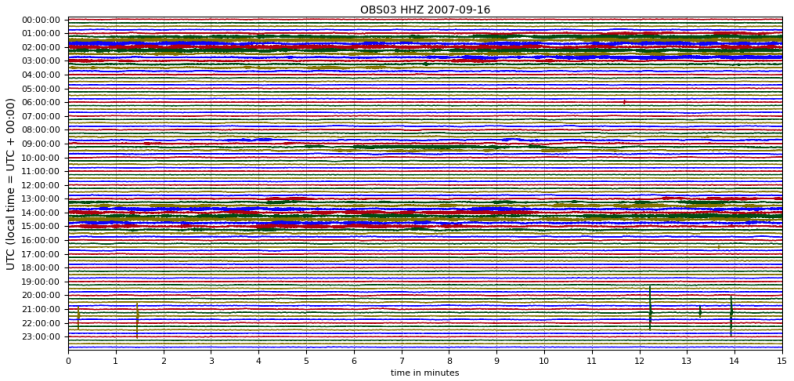
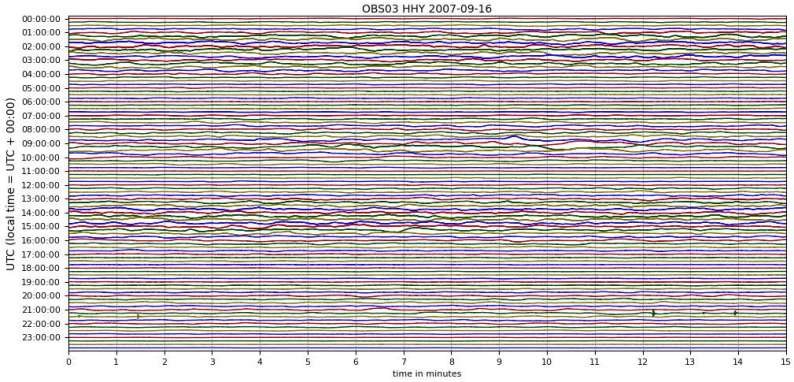


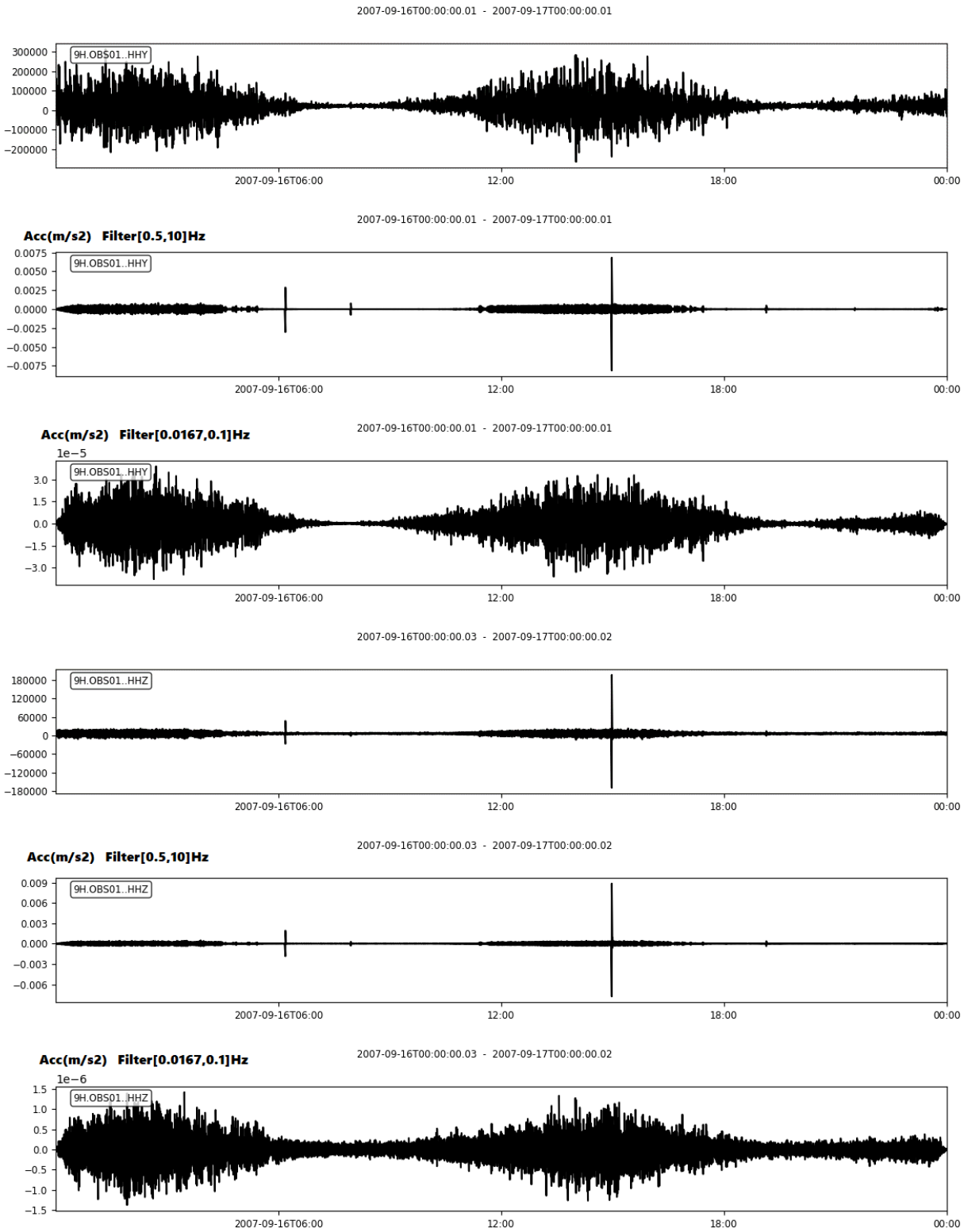

**Figure S6 | OBS01-OBS03 2007-09-15 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height in Sines (maximum tidal range of 2.4m), showing the effect of tilt noise (20-60s) and harmonic tremor (0.5-6Hz), short duration events and a local earthquake.

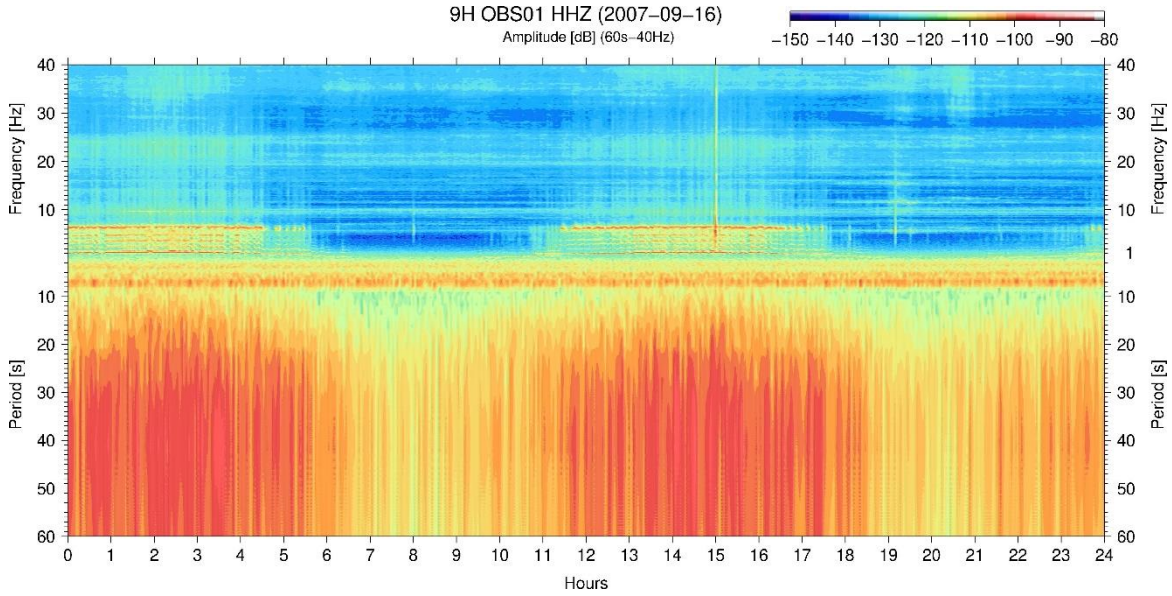

OBS01 HHZ 2007-09-16
UTC (local time = UTC + 00:00)
time in minutes

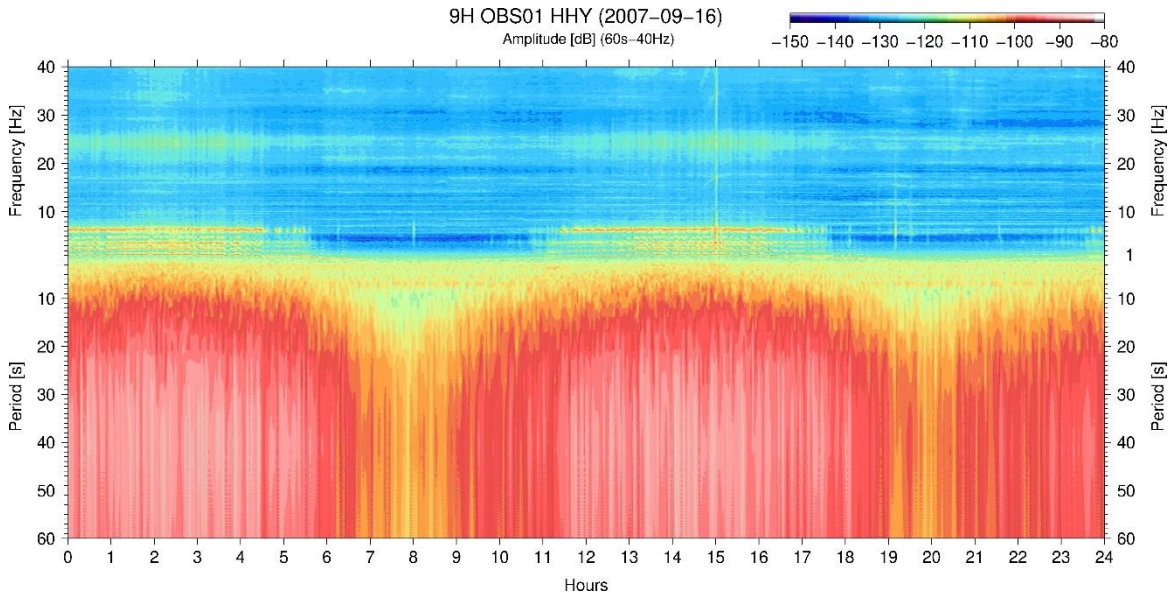

OBS01 HHY 2007-09-16
UTC (local time = UTC + 00:00)
time in minutes

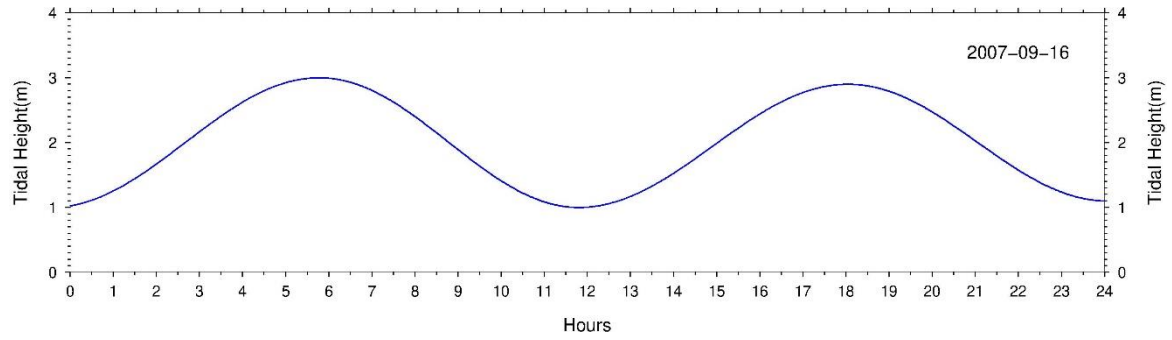

OBS03 HHZ 2007-09-16
UTC (local time = UTC + 00:00)
time in minutes

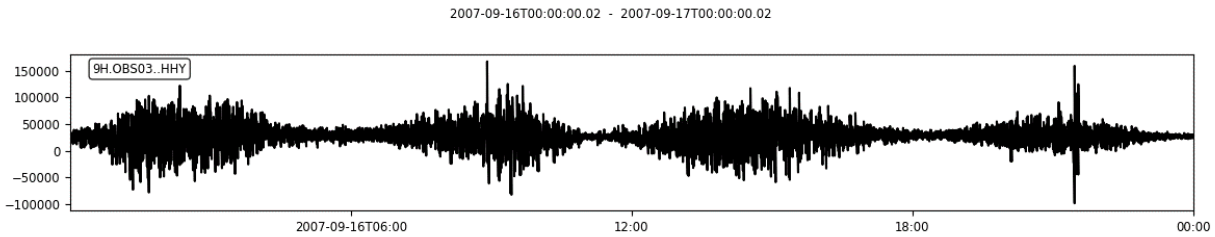

OBS03 HHY 2007-09-16
UTC (local time = UTC + 00:00)
time in minutes

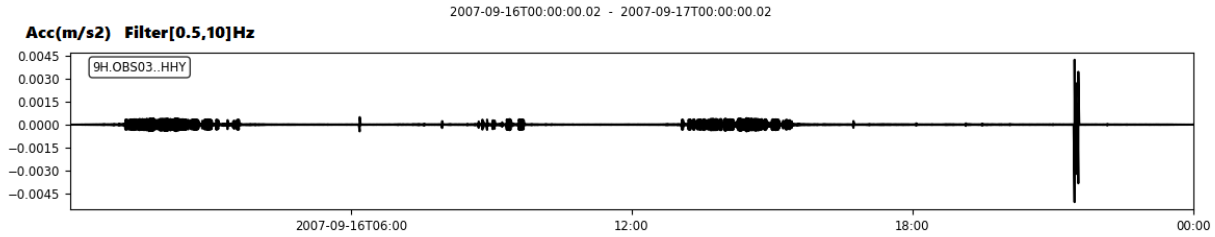

2007-09-16T00:00:00.01 - 2007-09-17T00:00:00.01
9H.OBS01..HHY
300000
200000
100000
0
−100000
−200000
2007-09-16T06:00
12:00
18:00
00:00
2007-09-16T00:00:00.01 - 2007-09-17T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0075
0.0050
0.0025
0.0000
−0.0025
−0.0050
−0.0075
2007-09-16T06:00
12:00
18:00
00:00
2007-09-16T00:00:00.01 - 2007-09-17T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
3.0
1.5
0.0
−1.5
−3.0
2007-09-16T06:00
12:00
18:00
00:00
2007-09-16T00:00:00.03 - 2007-09-17T00:00:00.02
9H.OBS01..HHZ
180000
120000
60000
0
−60000
−120000
−180000
2007-09-16T06:00
12:00
18:00
00:00
2007-09-16T00:00:00.03 - 2007-09-17T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.009
0.006
0.003
0.000
−0.003
−0.006
2007-09-16T06:00
12:00
18:00
00:00
2007-09-16T00:00:00.03 - 2007-09-17T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
2007-09-16T06:00
12:00
18:00
00:00

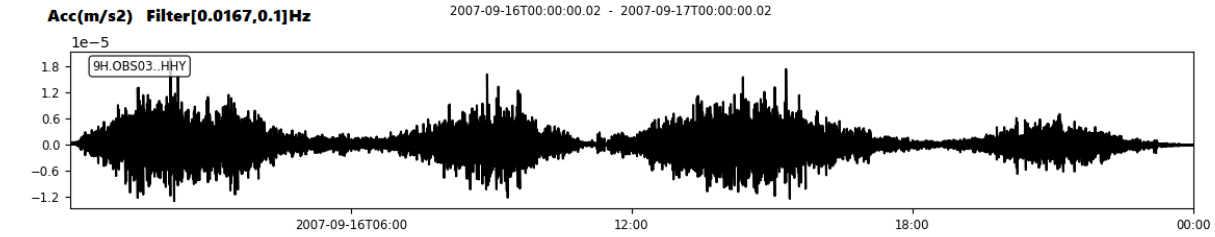

9H OBS01 HHZ (2007-09-16)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

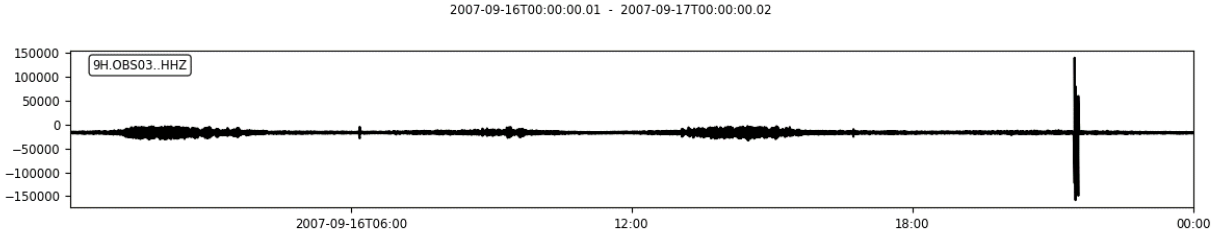

9H OBS01 HHY (2007-09-16)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

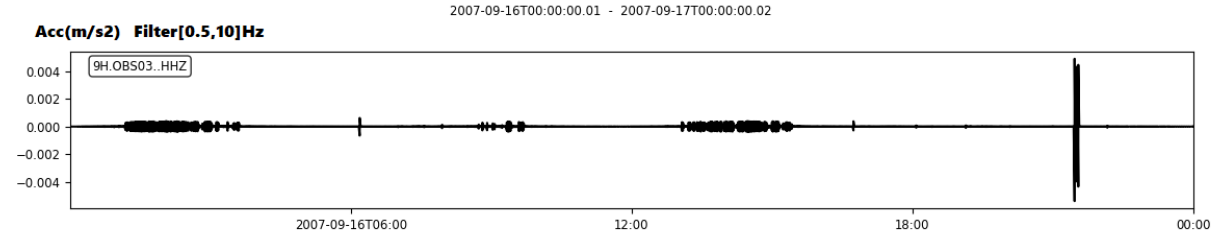

2007-09-16
Tidal Height(m)
Hours

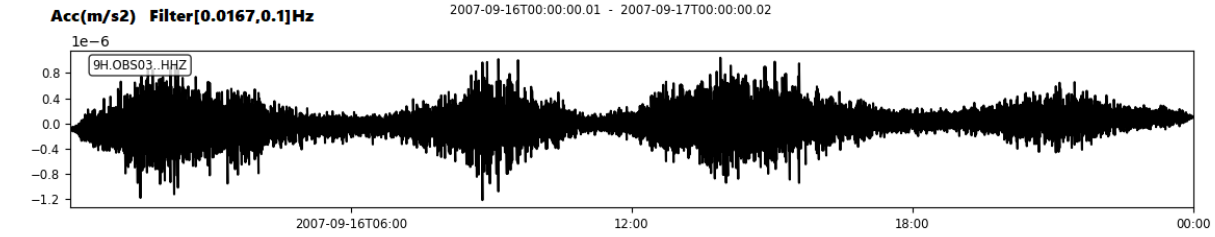

2007-09-16T00:00:00.02 - 2007-09-17T00:00:00.02
9H.OBS03..HHY
150000
100000
50000
0
−50000
−100000
2007-09-16T06:00
12:00
18:00
00:00


2007-09-16T00:00:00.02 - 2007-09-17T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0045
0.0030
0.0015
0.0000
−0.0015
−0.0030
−0.0045
2007-09-16T06:00
12:00
18:00
00:00


2007-09-16T00:00:00.02 - 2007-09-17T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
1.8
1.2
0.6
0.0
−0.6
−1.2
2007-09-16T06:00
12:00
18:00
00:00


2007-09-16T00:00:00.01 - 2007-09-17T00:00:00.02
9H.OBS03..HHZ
150000
100000
50000
0
−50000
−100000
−150000
2007-09-16T06:00
12:00
18:00
00:00


2007-09-16T00:00:00.01 - 2007-09-17T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.004
0.002
0.000
−0.002
−0.004
2007-09-16T06:00
12:00
18:00
00:00


2007-09-16T00:00:00.01 - 2007-09-17T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
0.8
0.4
0.0
−0.4
−0.8
−1.2
2007-09-16T06:00
12:00
18:00
00:00

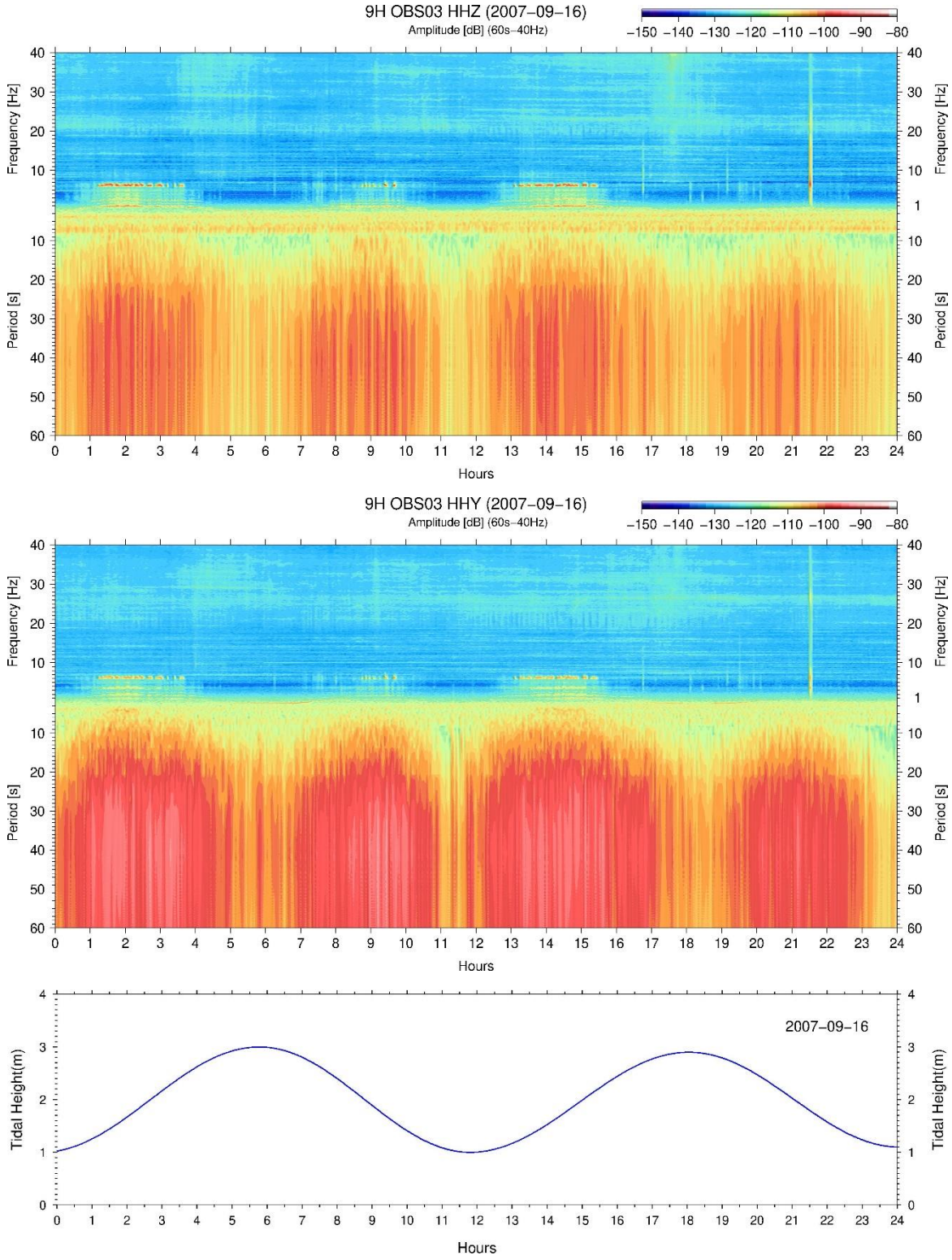
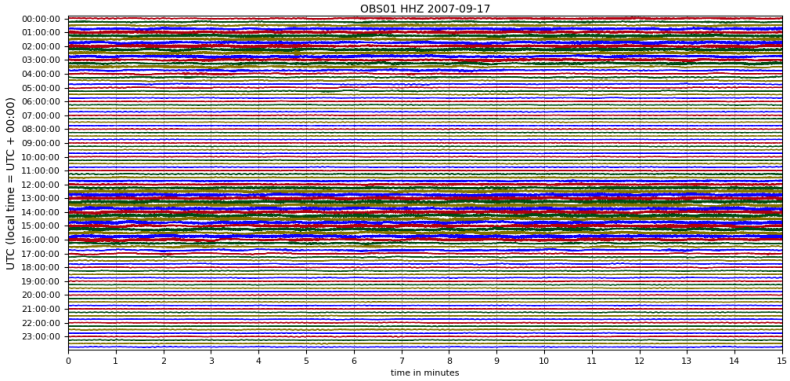
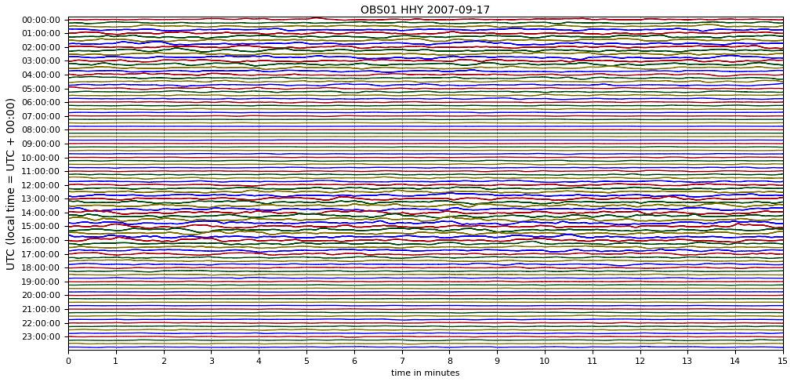
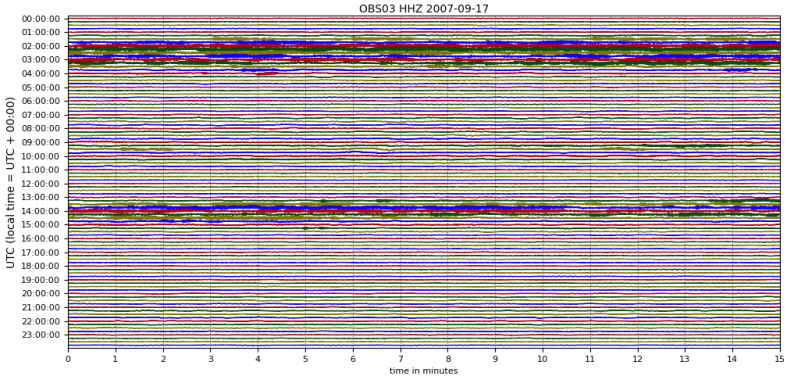
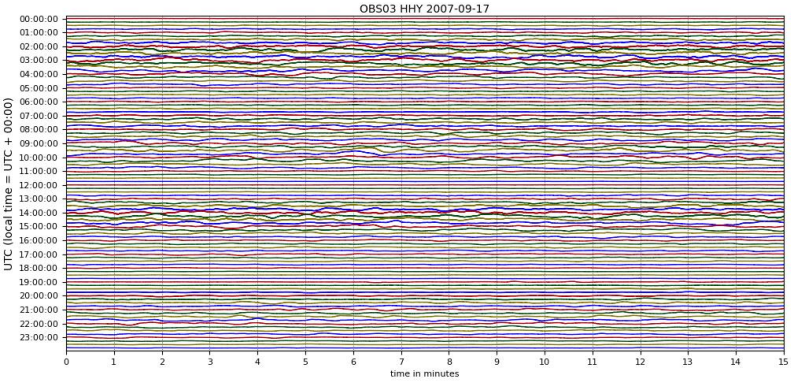


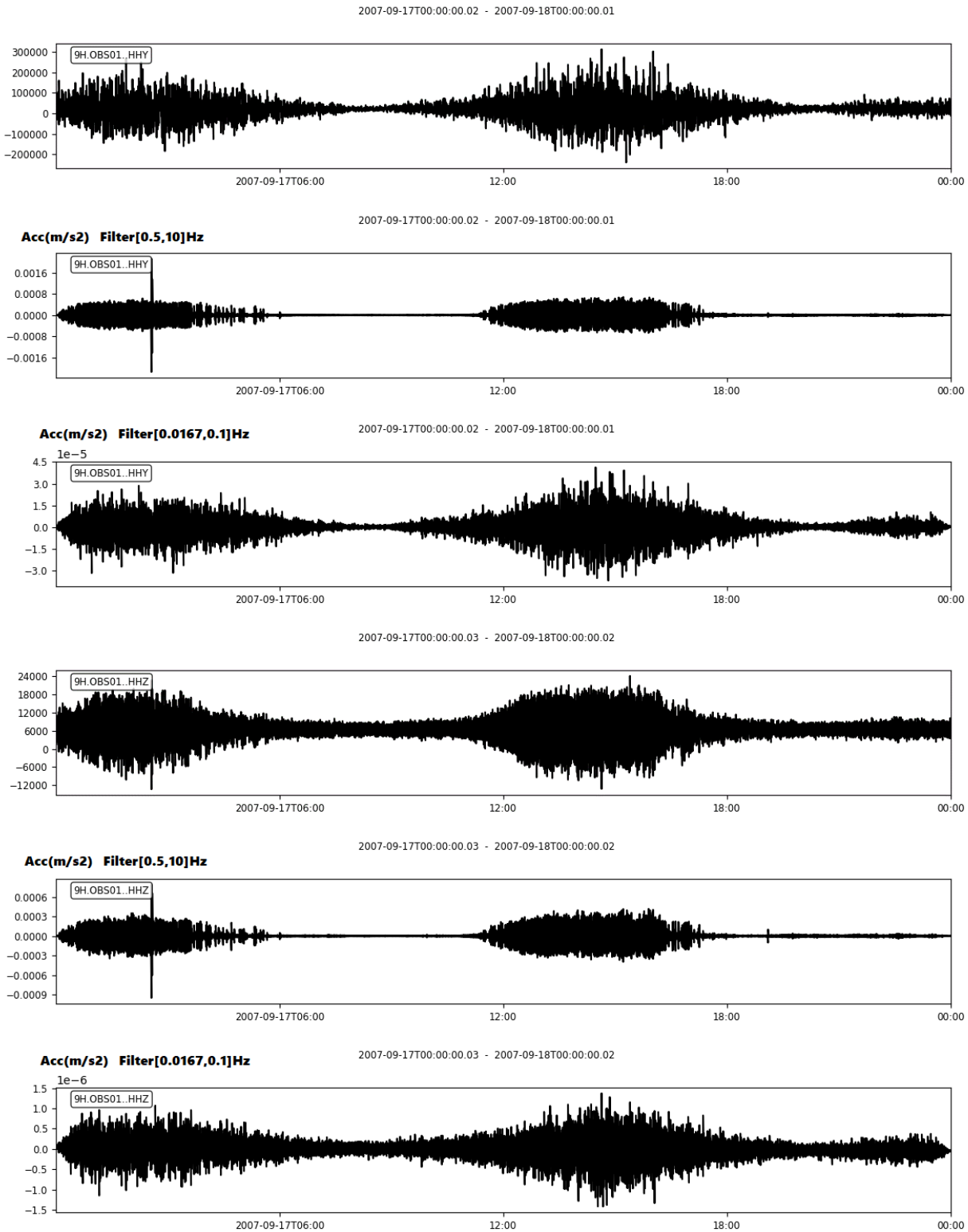

**Figure S7 | OBS01-OBS03 2007-09-16 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum tidal range of 2.1m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) and short duration events.

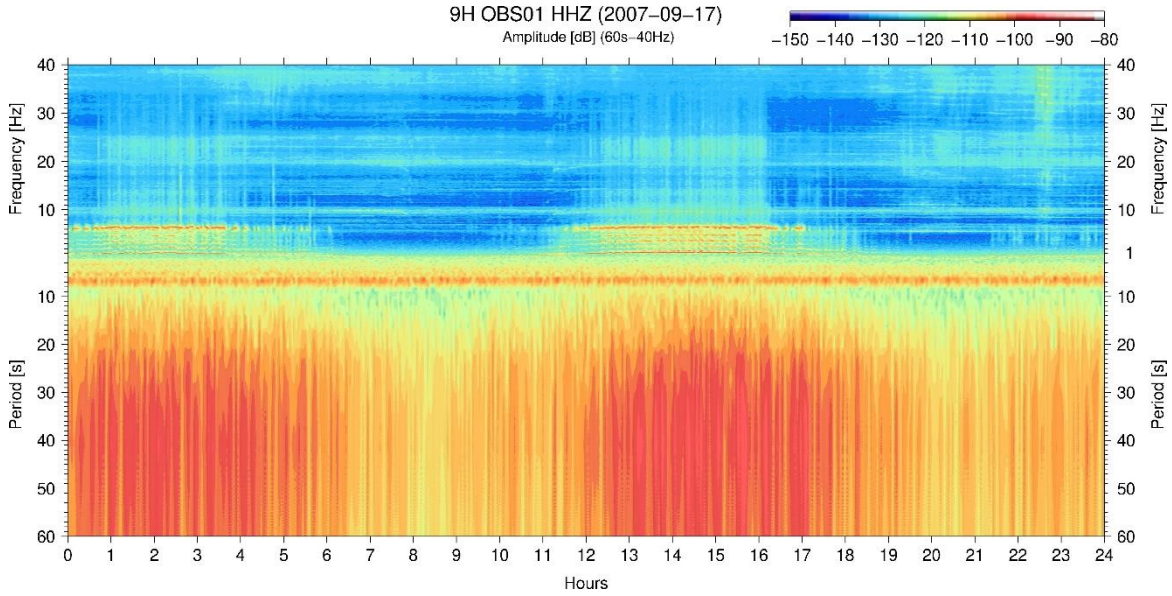

OBS01 HHZ 2007-09-17
UTC (local time = UTC + 00:00)
time in minutes

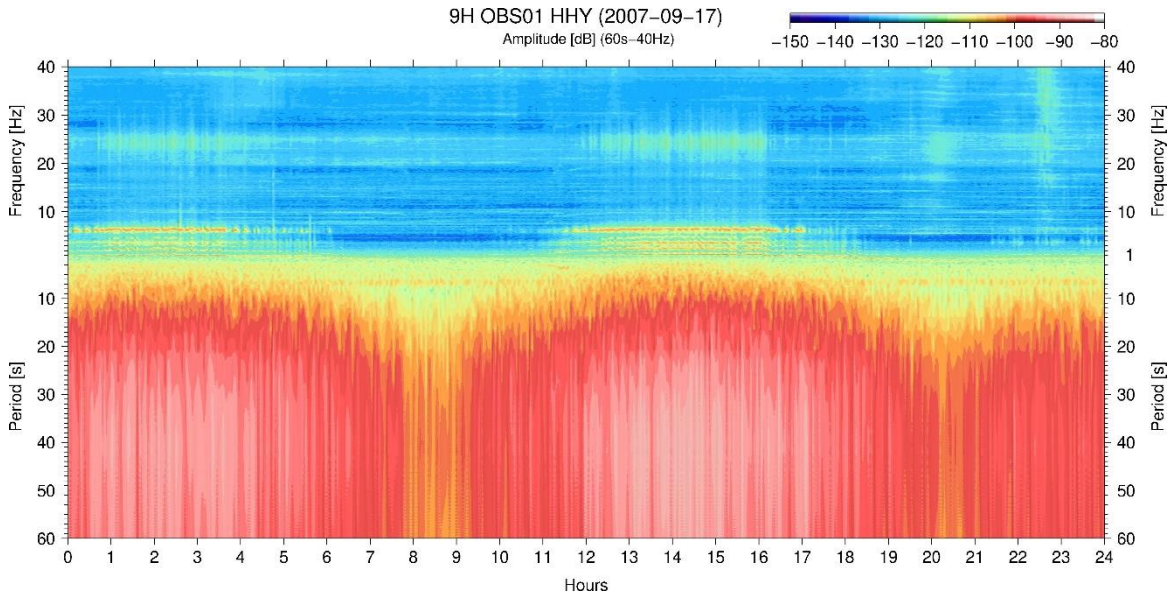

OBS01 HHY 2007-09-17
UTC (local time = UTC + 00:00)
time in minutes

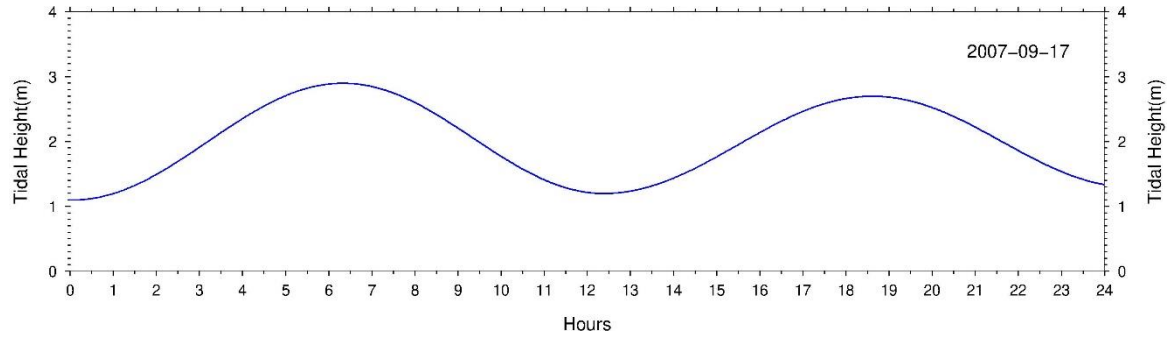

OBS03 HHZ 2007-09-17
UTC (local time = UTC + 00:00)
time in minutes

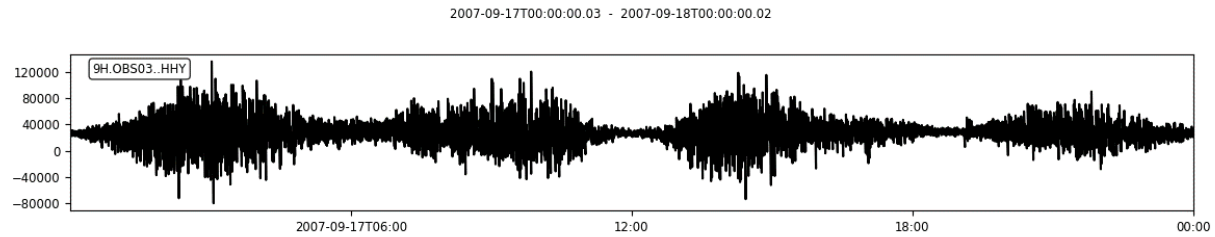

OBS03 HHY 2007-09-17
UTC (local time = UTC + 00:00)
time in minutes

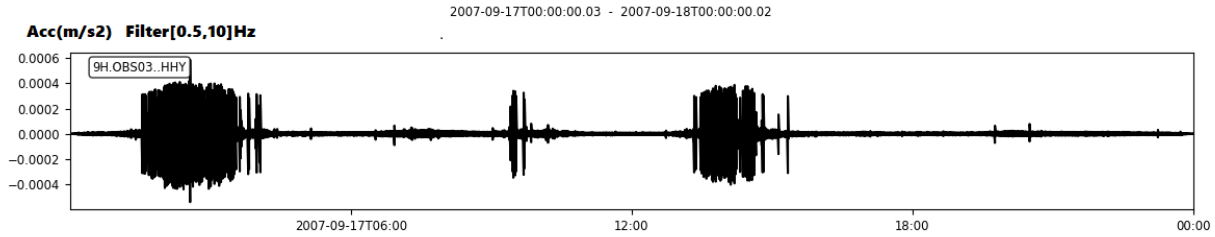

2007-09-17T00:00:00.02 - 2007-09-18T00:00:00.01
9H.OBS01..HHY
300000
200000
100000
0
−100000
−200000
2007-09-17T06:00
12:00
18:00
00:00
2007-09-17T00:00:00.02 - 2007-09-18T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0016
0.0008
0.0000
−0.0008
−0.0016
2007-09-17T06:00
12:00
18:00
00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
2007-09-17T00:00:00.02 - 2007-09-18T00:00:00.01
1e−5
9H.OBS01..HHY
4.5
3.0
1.5
0.0
−1.5
−3.0
2007-09-17T06:00
12:00
18:00
00:00
2007-09-17T00:00:00.03 - 2007-09-18T00:00:00.02
9H.OBS01..HHZ
24000
18000
12000
6000
0
−6000
−12000
2007-09-17T06:00
12:00
18:00
00:00
2007-09-17T00:00:00.03 - 2007-09-18T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.0006
0.0003
0.0000
−0.0003
−0.0006
−0.0009
2007-09-17T06:00
12:00
18:00
00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
2007-09-17T00:00:00.03 - 2007-09-18T00:00:00.02
1e−6
9H.OBS01..HHZ
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
2007-09-17T06:00
12:00
18:00
00:00

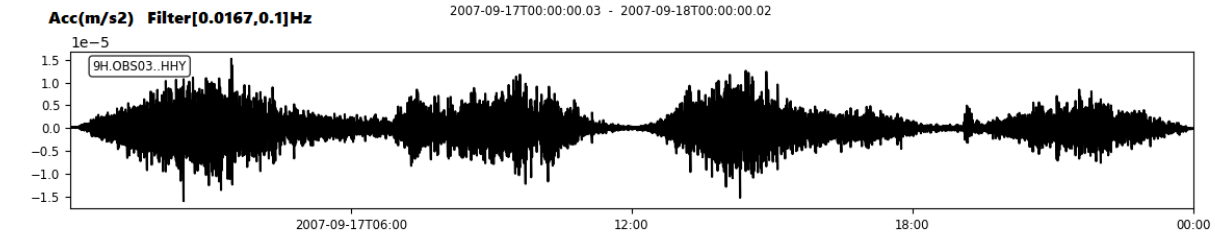

9H OBS01 HHZ (2007–09–17)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

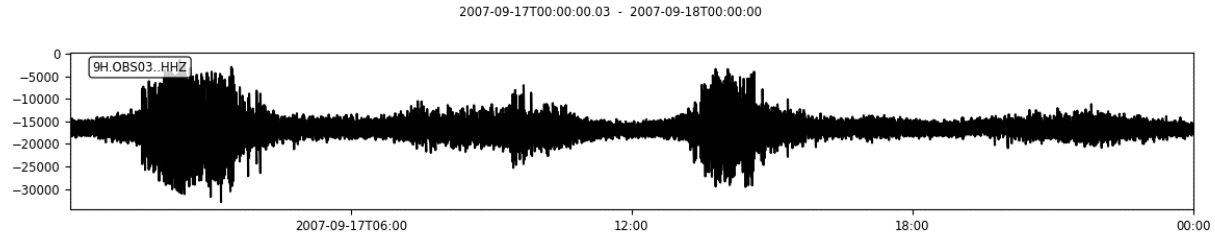

9H OBS01 HHY (2007–09–17)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

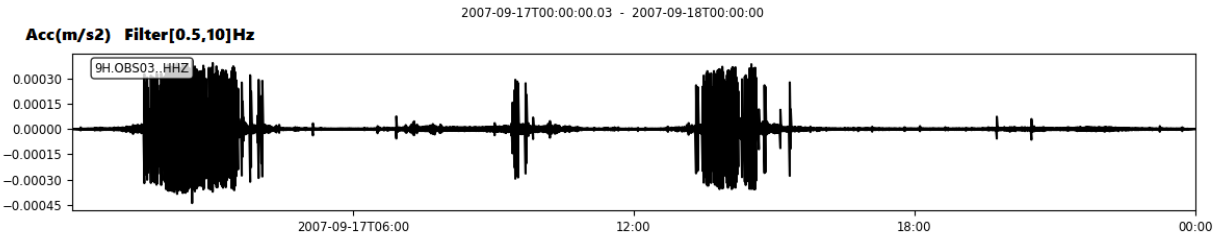

2007–09–17
Tidal Height(m)
Hours

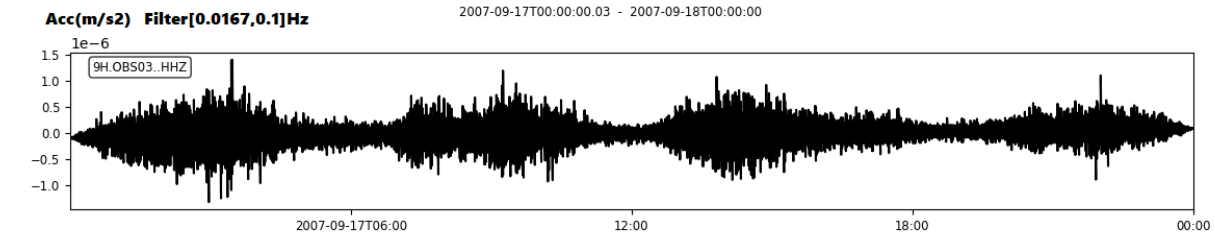

2007-09-17T00:00:00.03 - 2007-09-18T00:00:00.02
9H.OBS03..HHY
120000
80000
40000
0
−40000
−80000
2007-09-17T06:00
12:00
18:00
00:00


2007-09-17T00:00:00.03 - 2007-09-18T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
2007-09-17T06:00
12:00
18:00
00:00


2007-09-17T00:00:00.03 - 2007-09-18T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
2007-09-17T06:00
12:00
18:00
00:00


2007-09-17T00:00:00.03 - 2007-09-18T00:00:00
9H.OBS03..HHZ
0
−5000
−10000
−15000
−20000
−25000
−30000
2007-09-17T06:00
12:00
18:00
00:00


2007-09-17T00:00:00.03 - 2007-09-18T00:00:00
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.00030
0.00015
0.00000
−0.00015
−0.00030
−0.00045
2007-09-17T06:00
12:00
18:00
00:00


2007-09-17T00:00:00.03 - 2007-09-18T00:00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
1.5
1.0
0.5
0.0
−0.5
−1.0
2007-09-17T06:00
12:00
18:00
00:00

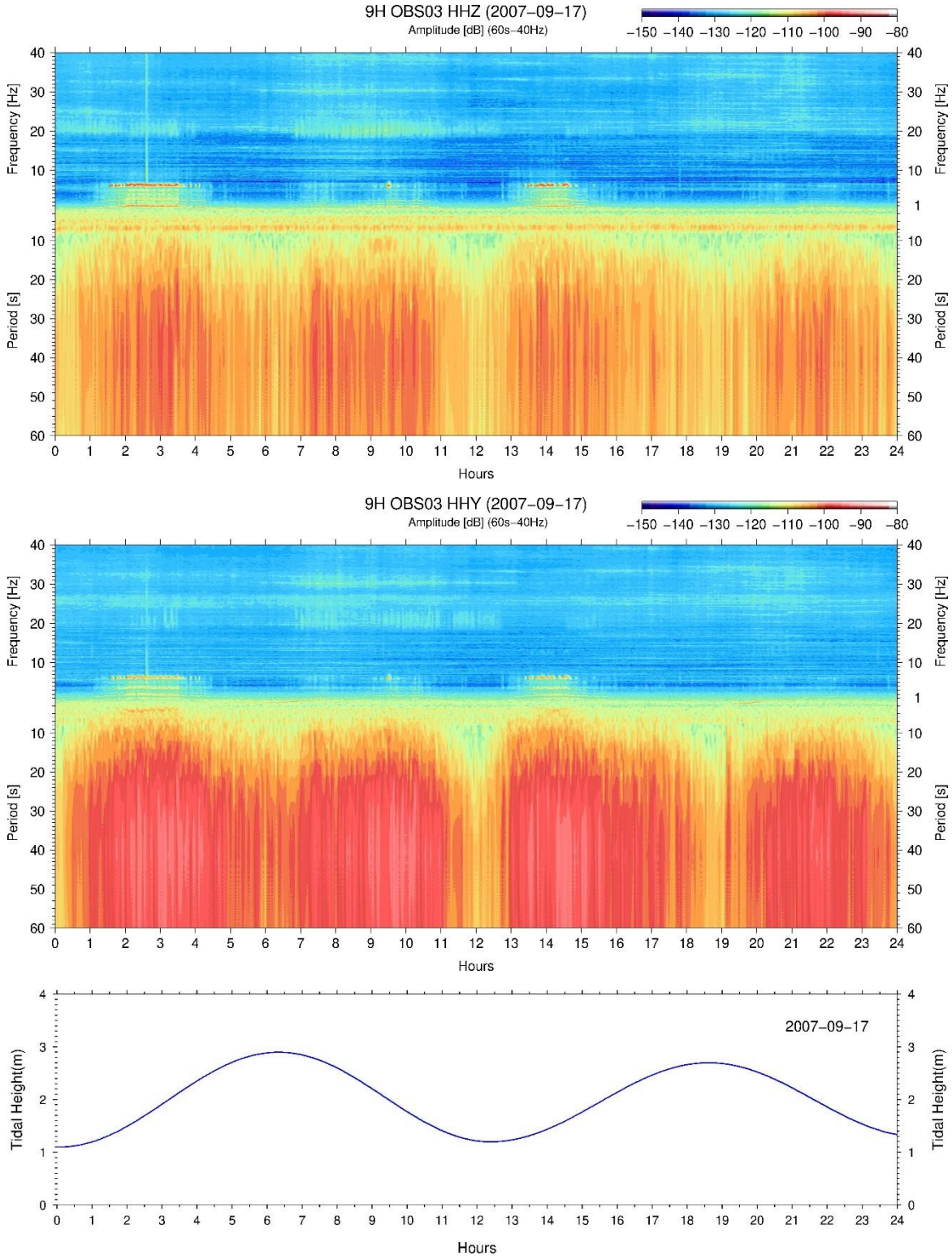
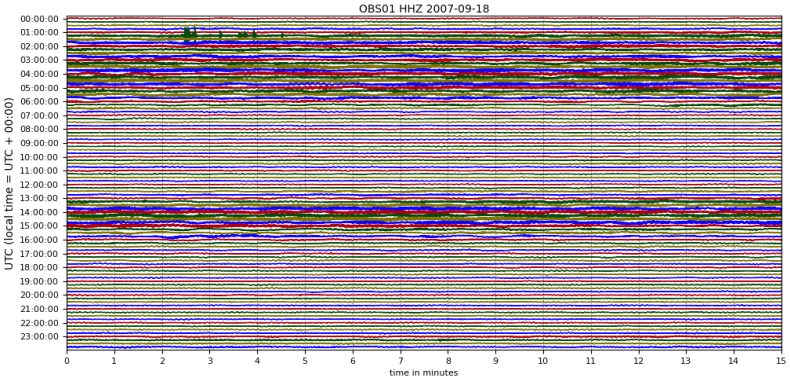
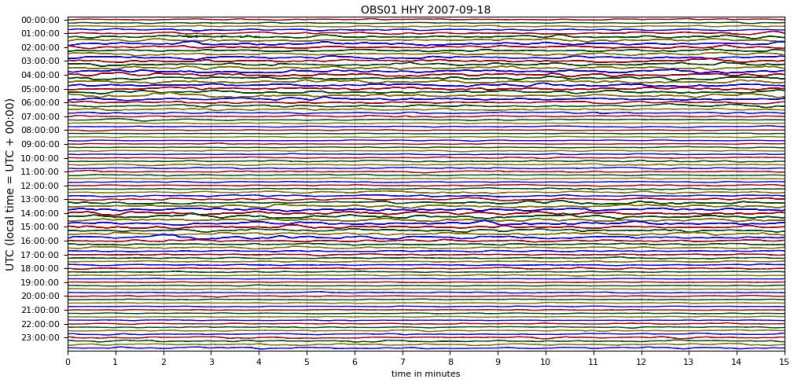
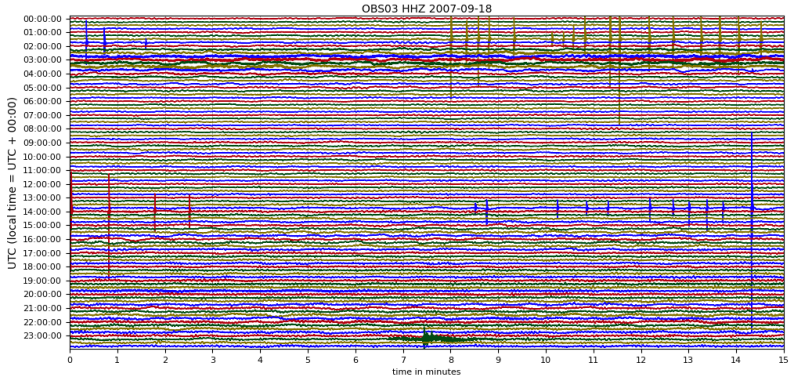
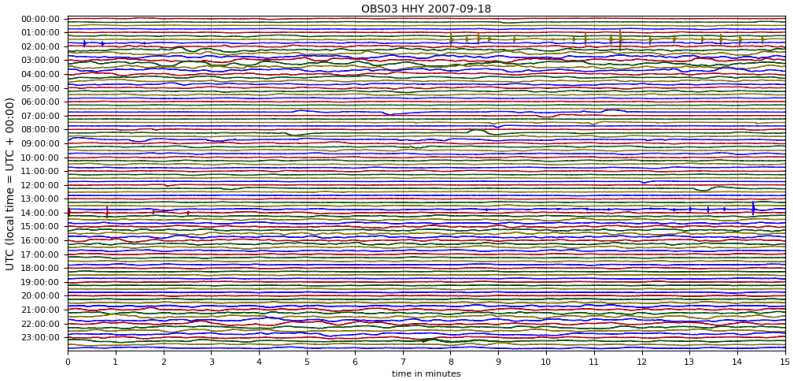


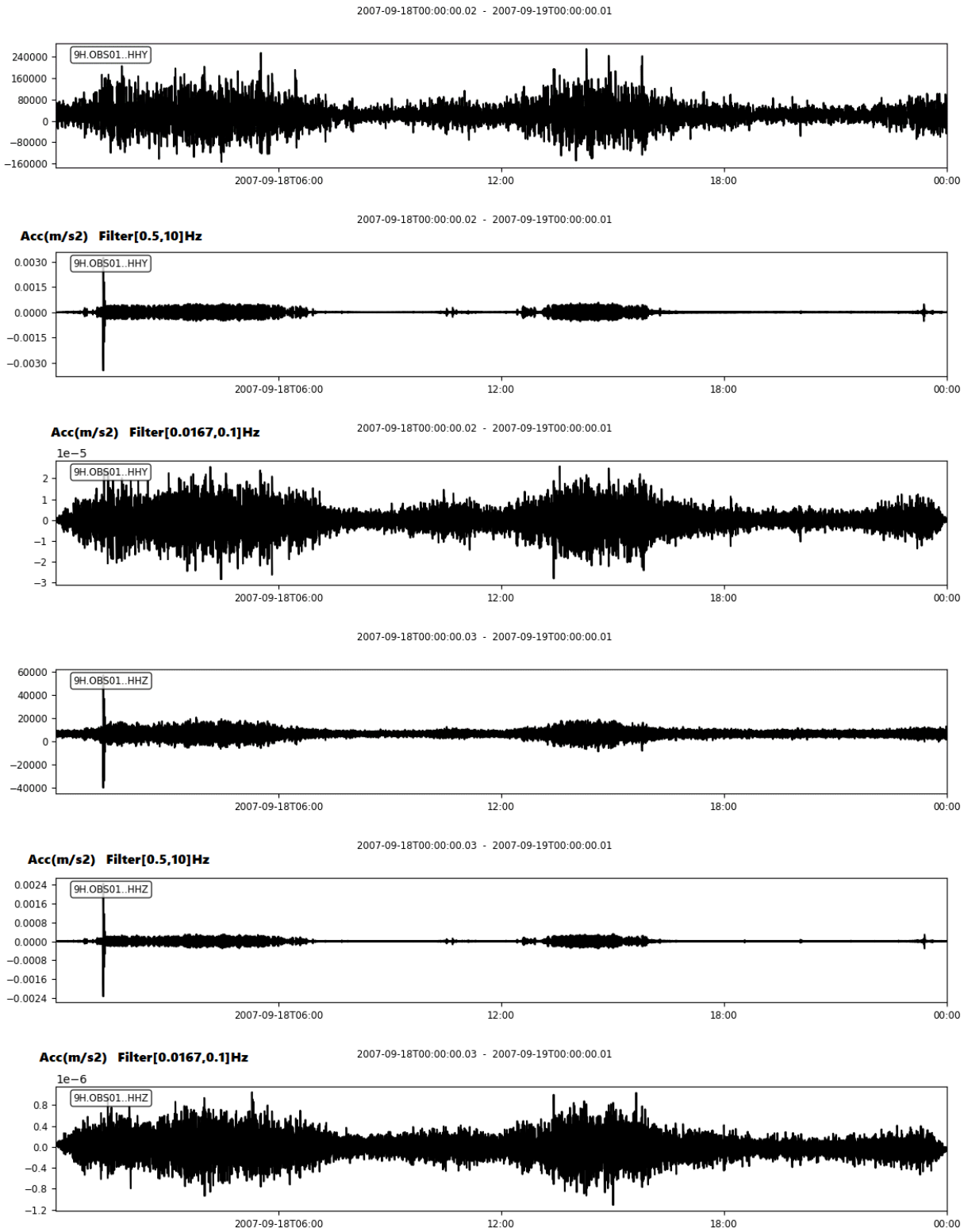

**Figure S8 | OBS01-OBS03 2007-09-17 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to display acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum tidal range of 1.9m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) and whales vocalisation (20-24Hz).

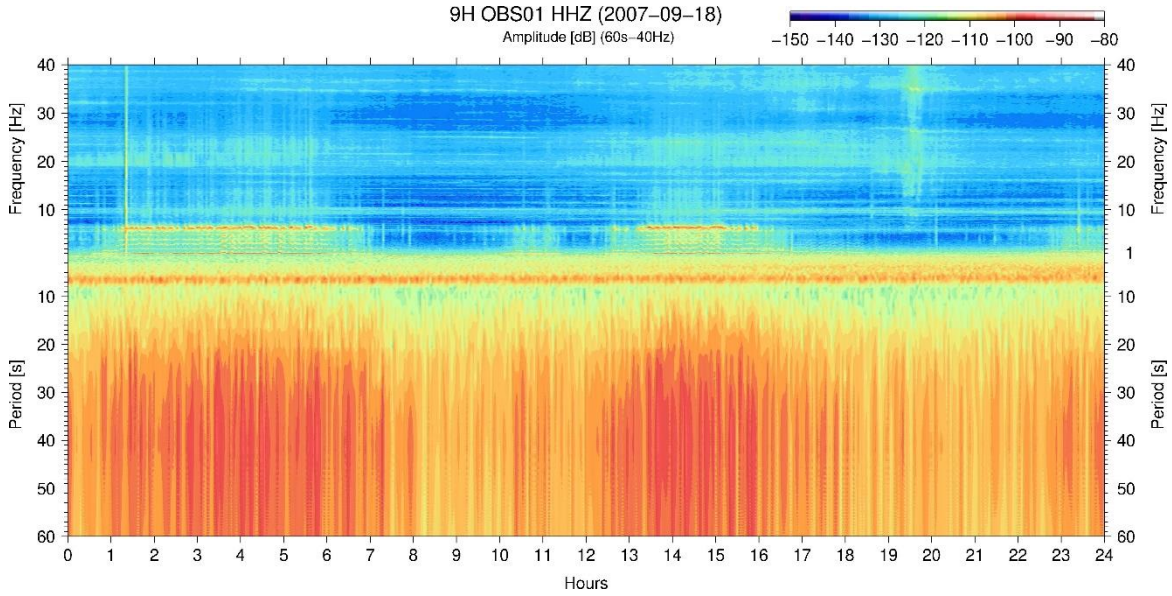

OBS01 HHZ 2007-09-18
UTC (local time = UTC + 00:00)
time in minutes

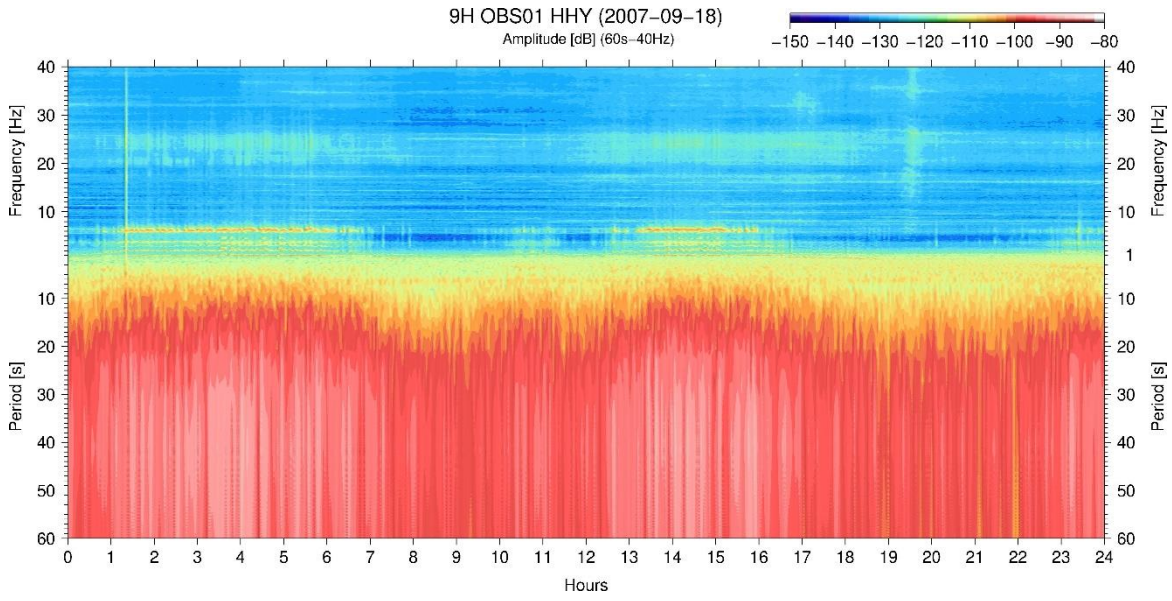

OBS01 HHY 2007-09-18
UTC (local time = UTC + 00:00)
time in minutes

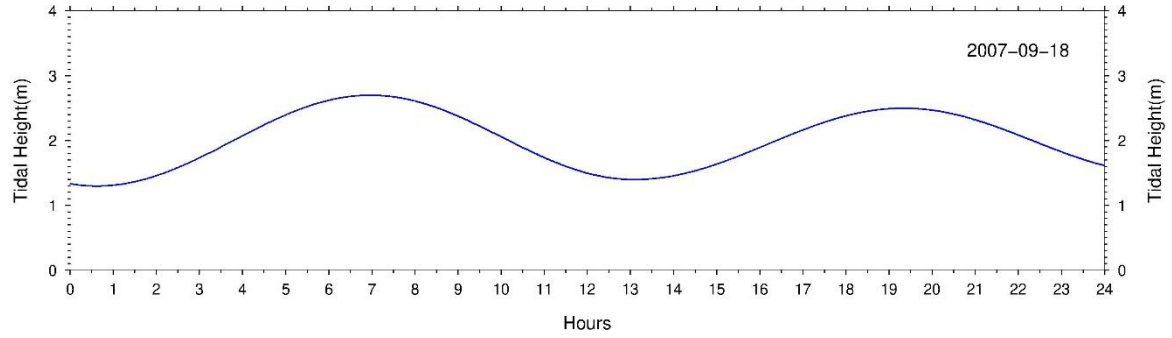

OBS03 HHZ 2007-09-18
UTC (local time = UTC + 00:00)
time in minutes

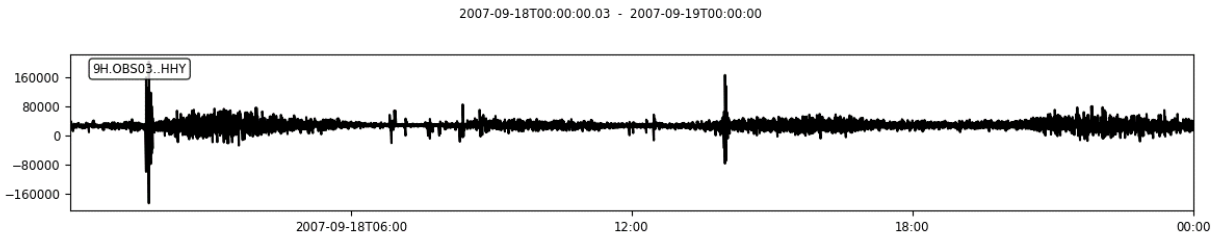

OBS03 HHY 2007-09-18
UTC (local time = UTC + 00:00)
time in minutes

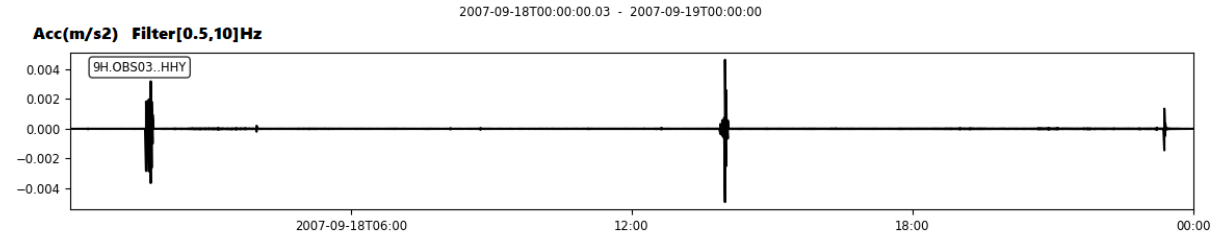

2007-09-18T00:00:00.02 - 2007-09-19T00:00:00.01
9H.OBS01..HHY
240000
160000
80000
0
−80000
−160000
2007-09-18T06:00
12:00
18:00
00:00
2007-09-18T00:00:00.02 - 2007-09-19T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0030
0.0015
0.0000
−0.0015
−0.0030
2007-09-18T06:00
12:00
18:00
00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
2007-09-18T00:00:00.02 - 2007-09-19T00:00:00.01
1e−5
9H.OBS01..HHY
2
1
0
−1
−2
−3
2007-09-18T06:00
12:00
18:00
00:00
2007-09-18T00:00:00.03 - 2007-09-19T00:00:00.01
9H.OBS01..HHZ
60000
40000
20000
0
−20000
−40000
2007-09-18T06:00
12:00
18:00
00:00
2007-09-18T00:00:00.03 - 2007-09-19T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.0024
0.0016
0.0008
0.0000
−0.0008
−0.0016
−0.0024
2007-09-18T06:00
12:00
18:00
00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
2007-09-18T00:00:00.03 - 2007-09-19T00:00:00.01
1e−6
9H.OBS01..HHZ
0.8
0.4
0.0
−0.4
−0.8
−1.2
2007-09-18T06:00
12:00
18:00
00:00

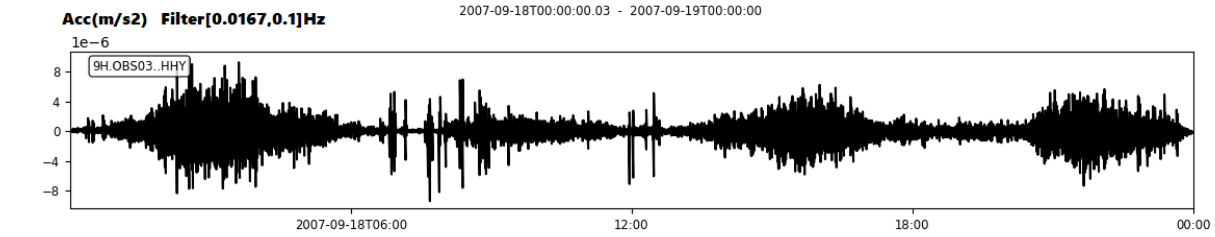

9H OBS01 HHZ (2007–09–18)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

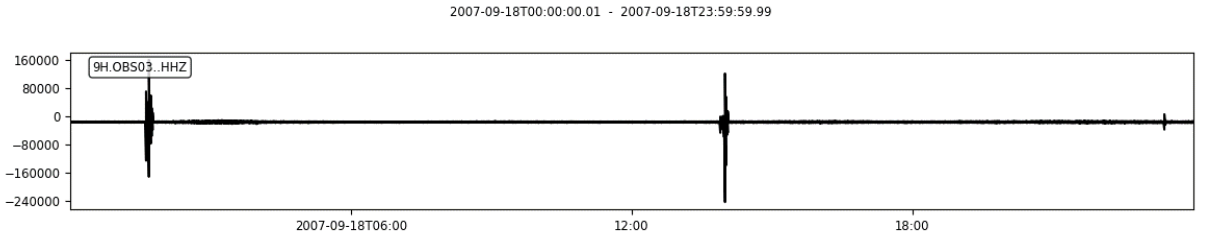

9H OBS01 HHY (2007–09–18)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

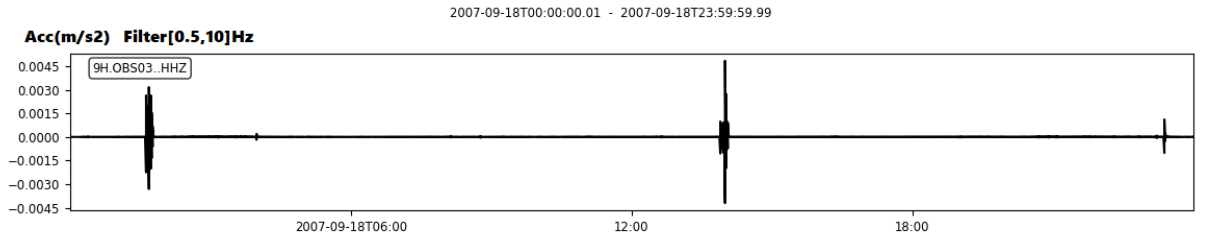

2007–09–18
Tidal Height(m)
Hours

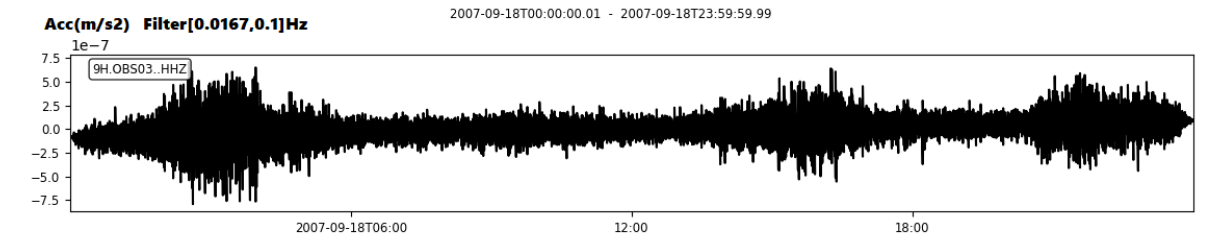

2007-09-18T00:00:00.03 - 2007-09-19T00:00:00
9H.OBS03..HHY
160000
80000
0
−80000
−160000
2007-09-18T06:00
12:00
18:00
00:00


2007-09-18T00:00:00.03 - 2007-09-19T00:00:00
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.004
0.002
0.000
−0.002
−0.004
2007-09-18T06:00
12:00
18:00
00:00


2007-09-18T00:00:00.03 - 2007-09-19T00:00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHY
8
4
0
−4
−8
2007-09-18T06:00
12:00
18:00
00:00


2007-09-18T00:00:00.01 - 2007-09-18T23:59:59.99
9H.OBS03..HHZ
160000
80000
0
−80000
−160000
−240000
2007-09-18T06:00
12:00
18:00


2007-09-18T00:00:00.01 - 2007-09-18T23:59:59.99
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0045
0.0030
0.0015
0.0000
−0.0015
−0.0030
−0.0045
2007-09-18T06:00
12:00
18:00


2007-09-18T00:00:00.01 - 2007-09-18T23:59:59.99
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−7
9H.OBS03..HHZ
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
2007-09-18T06:00
12:00
18:00

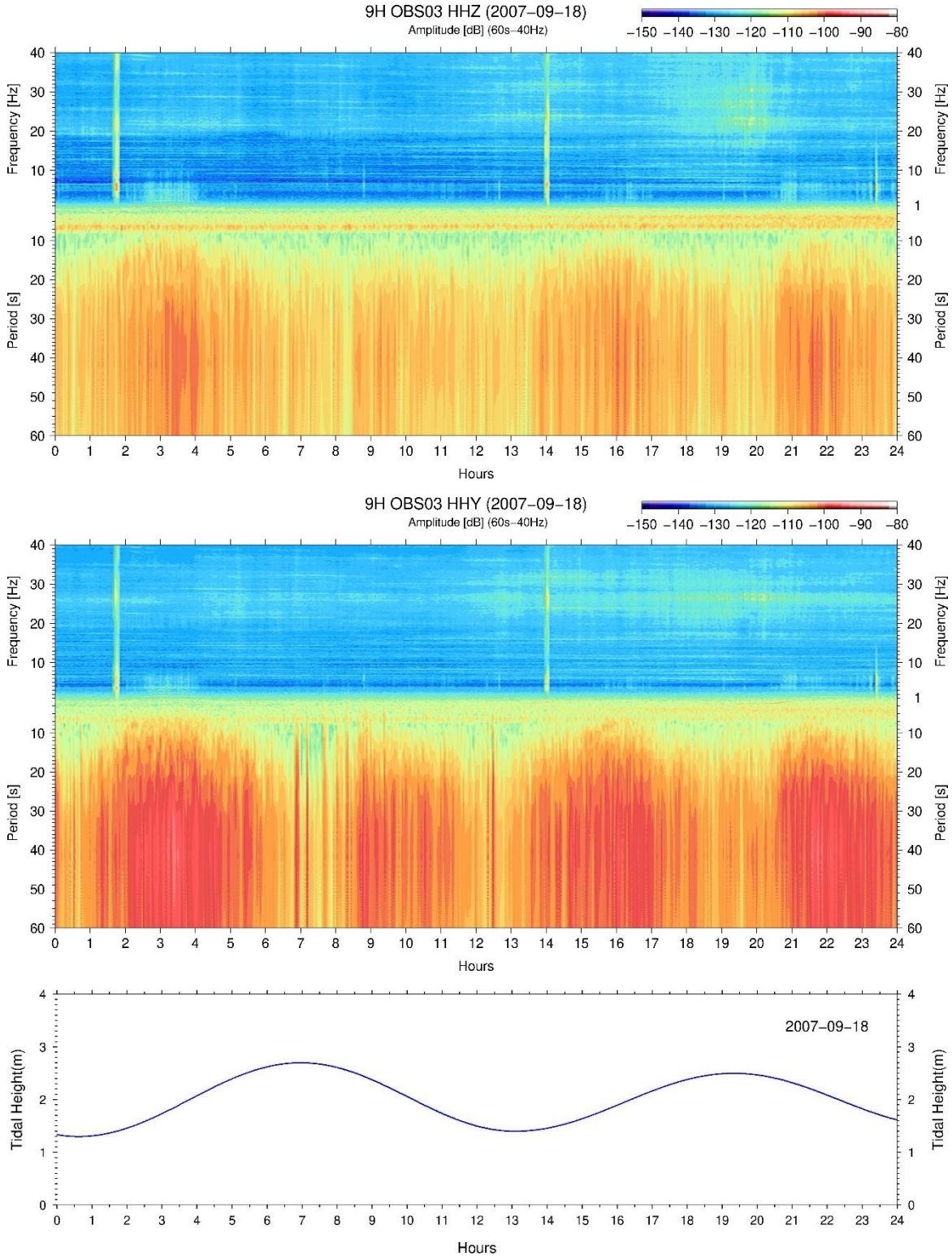
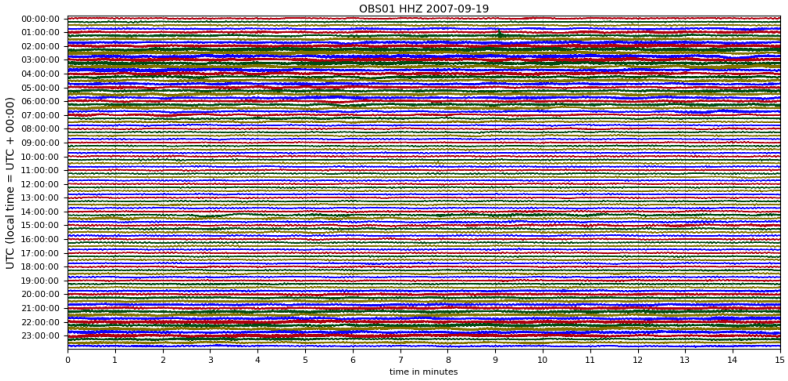
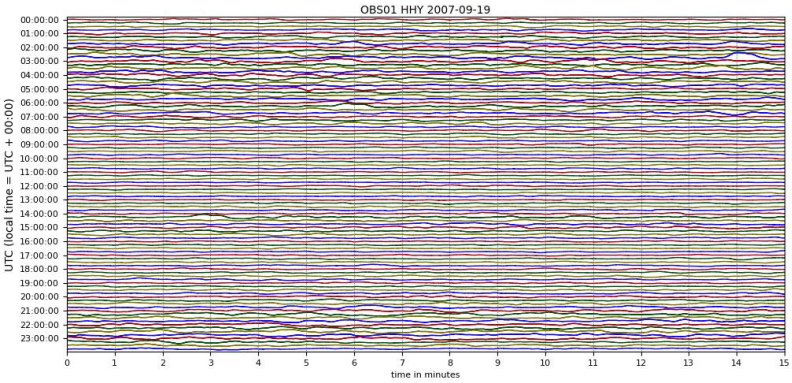
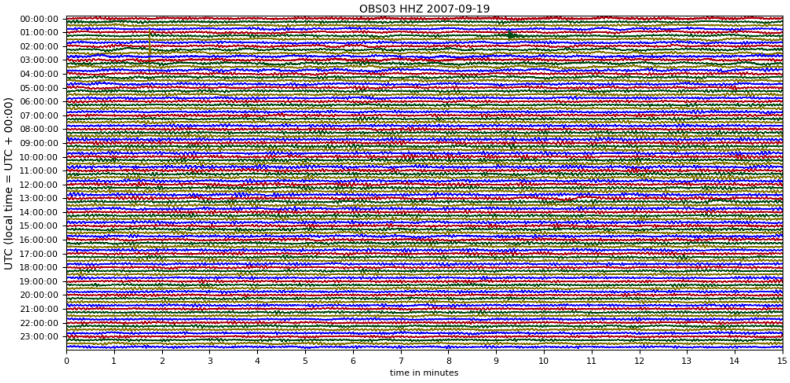
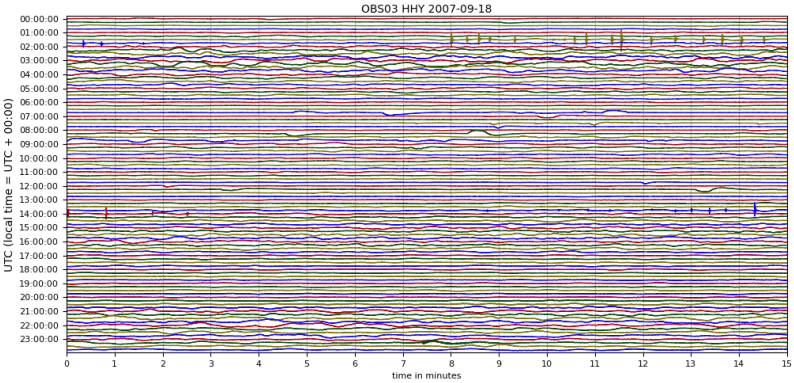


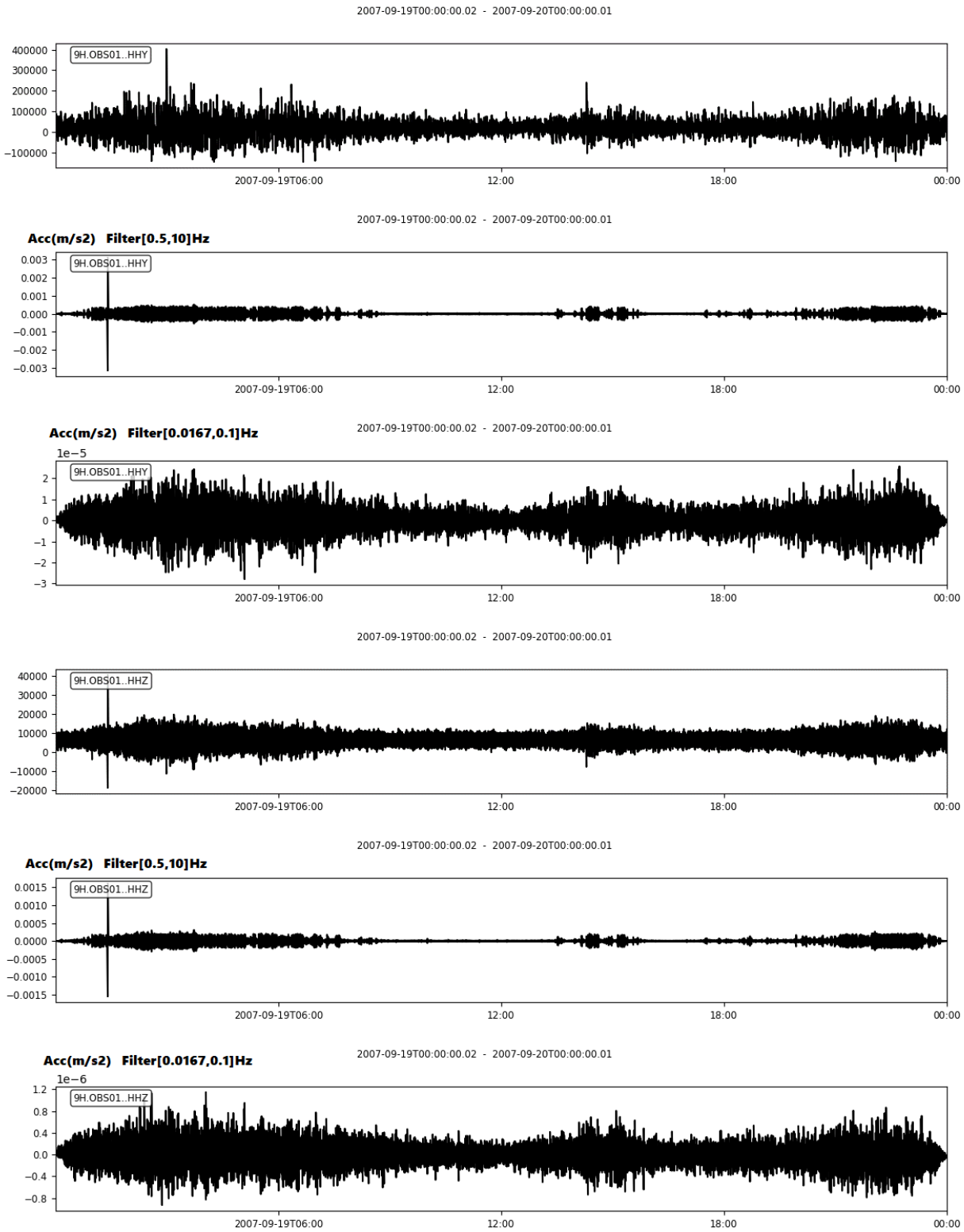

**Figure S9 | OBS01-OBS03 2007-09-18 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum tidal range of 1.5m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) and short duration events.

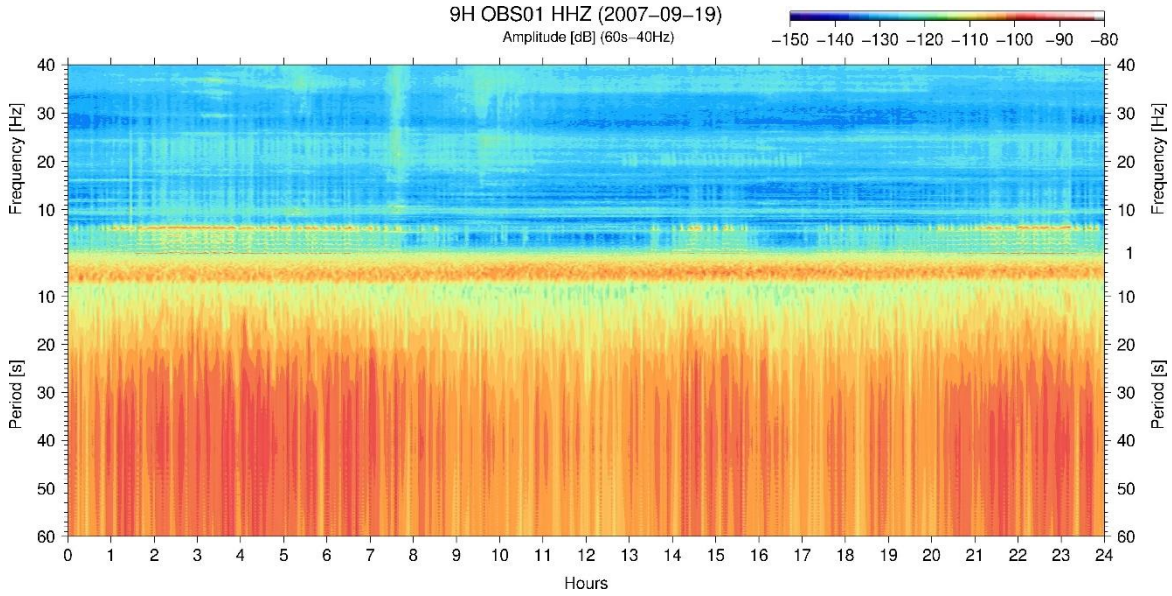

OBS01 HHZ 2007-09-19
UTC (local time = UTC + 00:00)
time in minutes

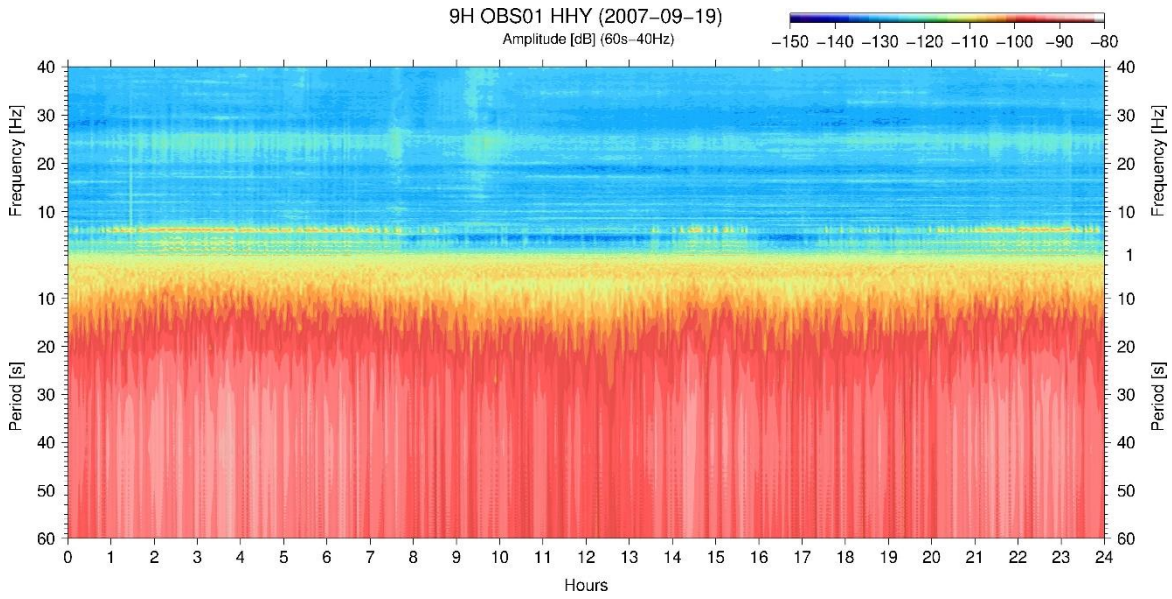

OBS01 HHY 2007-09-19
UTC (local time = UTC + 00:00)
time in minutes

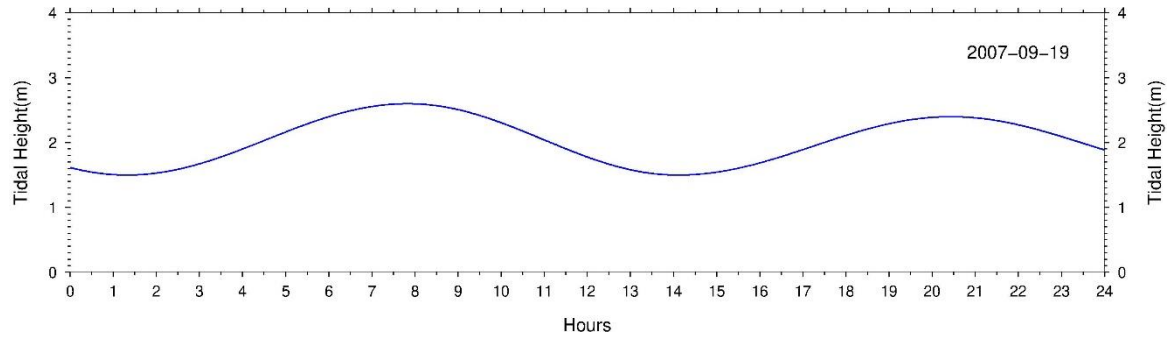

OBS03 HHZ 2007-09-19
UTC (local time = UTC + 00:00)
time in minutes

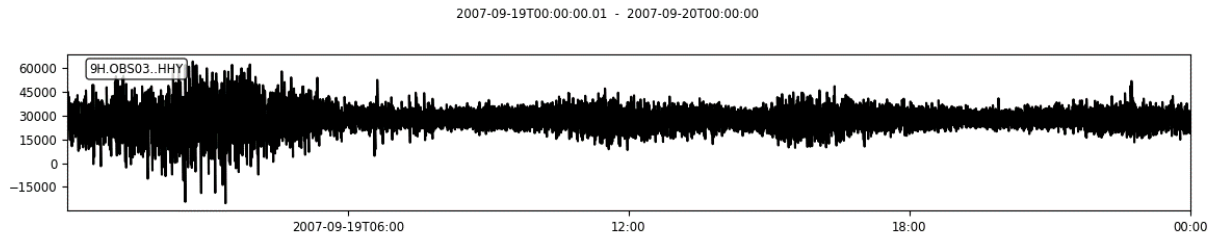

OBS03 HHY 2007-09-18
UTC (local time = UTC + 00:00)
time in minutes

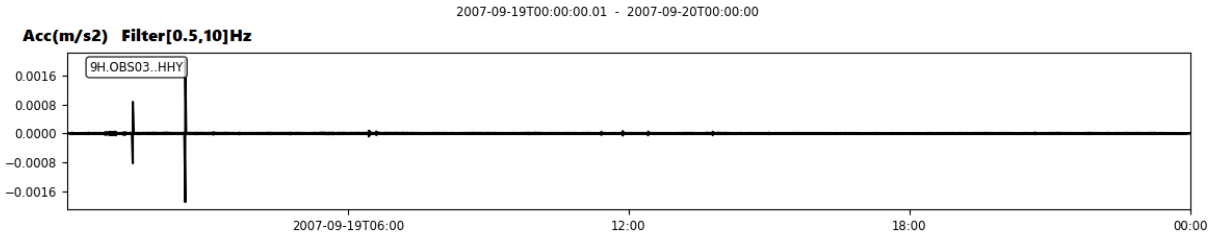

2007-09-19T00:00:00.02 - 2007-09-20T00:00:00.01
9H.OBS01..HHY
400000
300000
200000
100000
0
−100000
2007-09-19T06:00
12:00
18:00
00:00
2007-09-19T00:00:00.02 - 2007-09-20T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.003
0.002
0.001
0.000
−0.001
−0.002
−0.003
2007-09-19T06:00
12:00
18:00
00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
2007-09-19T00:00:00.02 - 2007-09-20T00:00:00.01
1e−5
9H.OBS01..HHY
2
1
0
−1
−2
−3
2007-09-19T06:00
12:00
18:00
00:00
2007-09-19T00:00:00.02 - 2007-09-20T00:00:00.01
9H.OBS01..HHZ
40000
30000
20000
10000
0
−10000
−20000
2007-09-19T06:00
12:00
18:00
00:00
2007-09-19T00:00:00.02 - 2007-09-20T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
2007-09-19T06:00
12:00
18:00
00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
2007-09-19T00:00:00.02 - 2007-09-20T00:00:00.01
1e−6
9H.OBS01..HHZ
1.2
0.8
0.4
0.0
−0.4
−0.8
2007-09-19T06:00
12:00
18:00
00:00

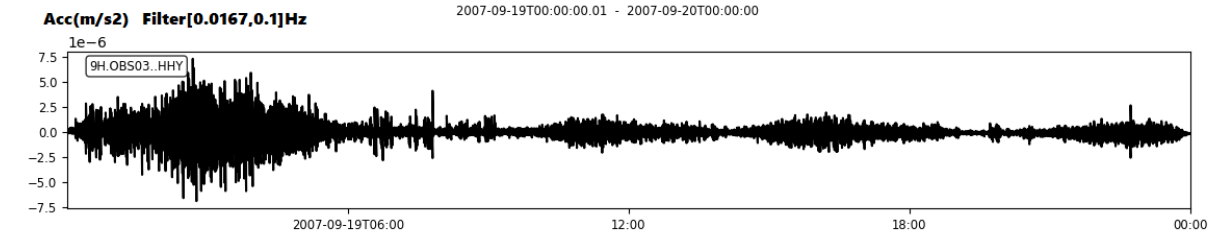

9H OBS01 HHZ (2007–09–19)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

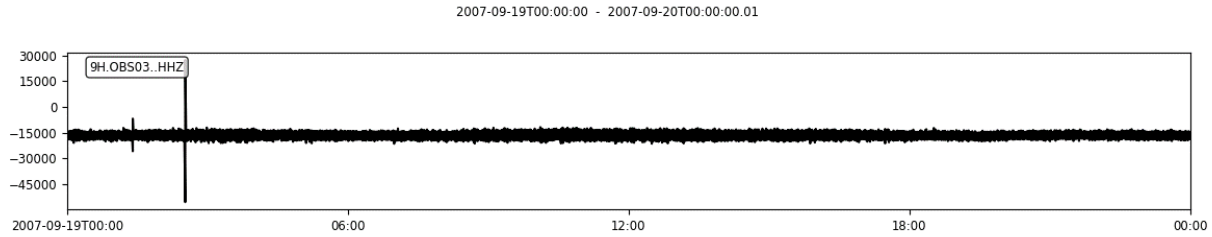

9H OBS01 HHY (2007–09–19)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

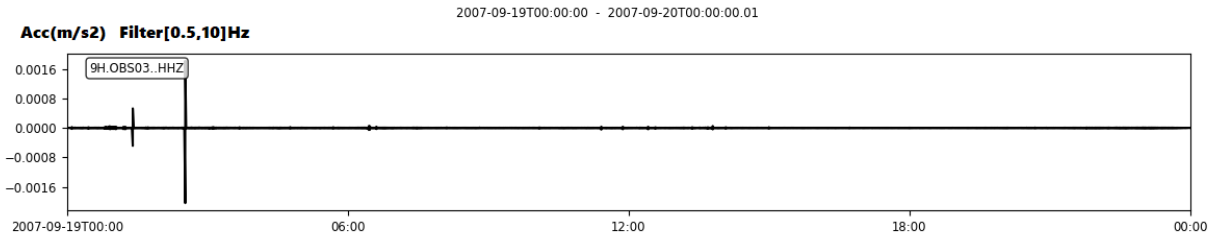

2007–09–19
Tidal Height(m)
Hours

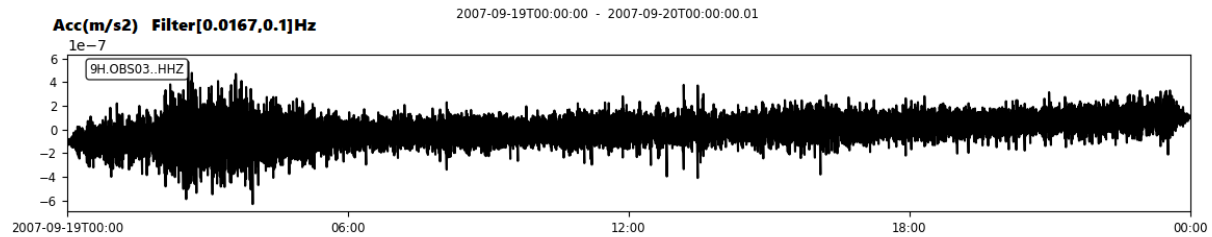

2007-09-19T00:00:00.01 - 2007-09-20T00:00:00
9H.OBS03..HHY
60000
45000
30000
15000
0
−15000
2007-09-19T06:00
12:00
18:00
00:00


2007-09-19T00:00:00.01 - 2007-09-20T00:00:00
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0016
0.0008
0.0000
−0.0008
−0.0016
2007-09-19T06:00
12:00
18:00
00:00


2007-09-19T00:00:00.01 - 2007-09-20T00:00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHY
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
2007-09-19T06:00
12:00
18:00
00:00


2007-09-19T00:00:00 - 2007-09-20T00:00:00.01
9H.OBS03..HHZ
30000
15000
0
−15000
−30000
−45000
2007-09-19T00:00
06:00
12:00
18:00
00:00


2007-09-19T00:00:00 - 2007-09-20T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0016
0.0008
0.0000
−0.0008
−0.0016
2007-09-19T00:00
06:00
12:00
18:00
00:00


2007-09-19T00:00:00 - 2007-09-20T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−7
9H.OBS03..HHZ
6
4
2
0
−2
−4
−6
2007-09-19T00:00
06:00
12:00
18:00
00:00

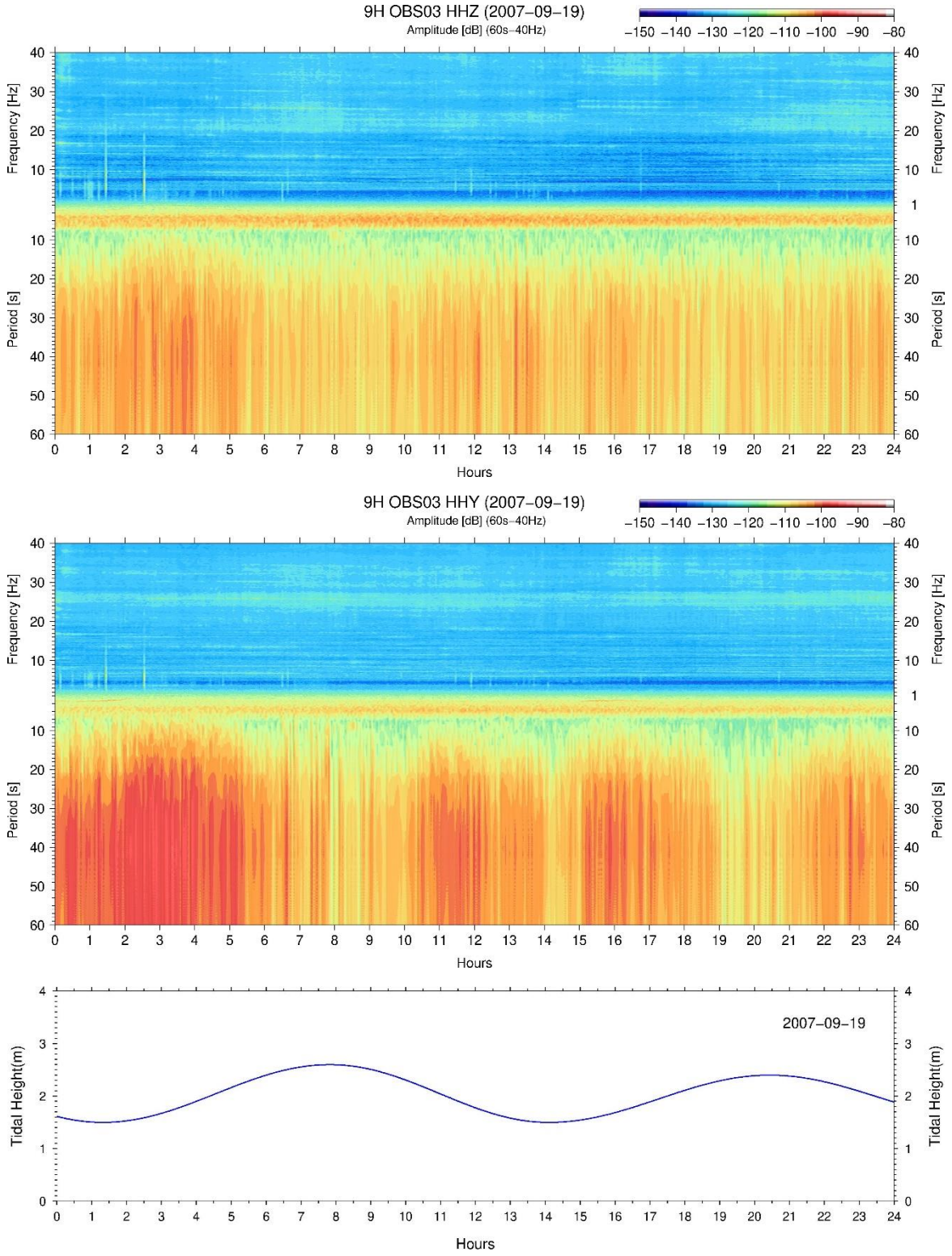
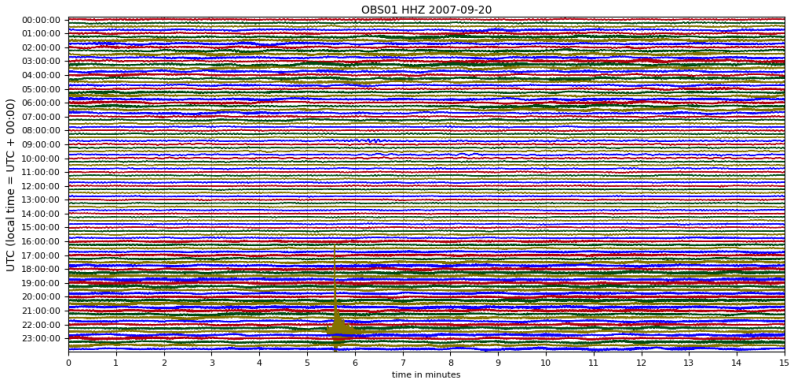
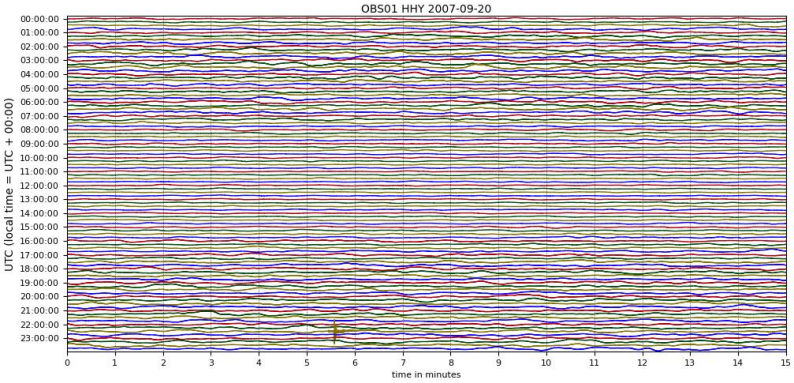
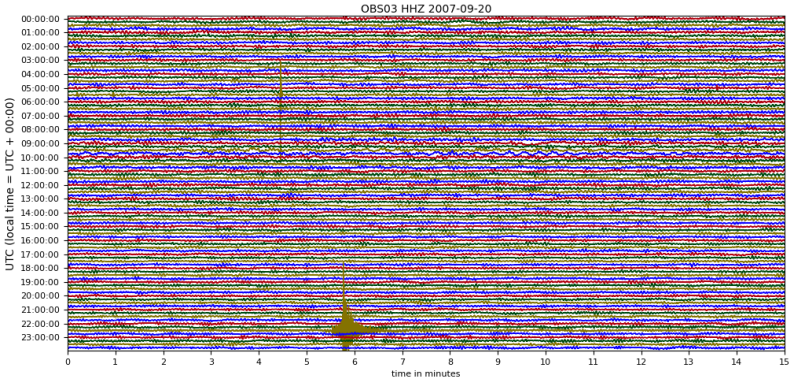
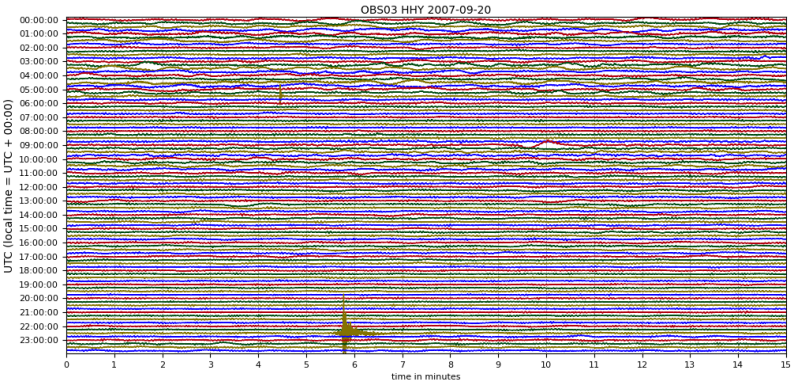


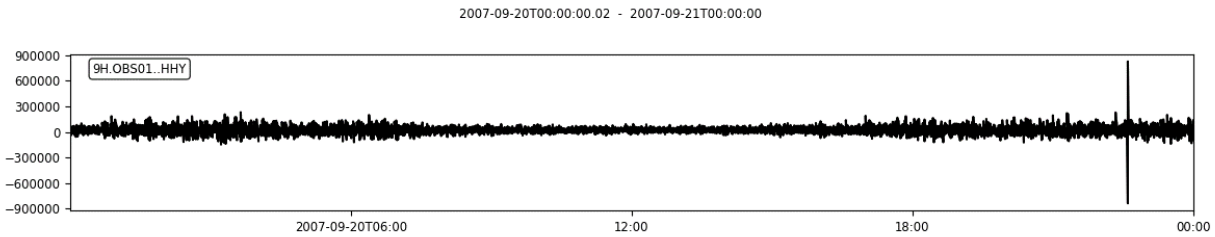

**Figure S10 | OBS01-OBS03 2007-09-19 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum tidal range of 1.2m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) in OBS01 and short duration events in OBS03.

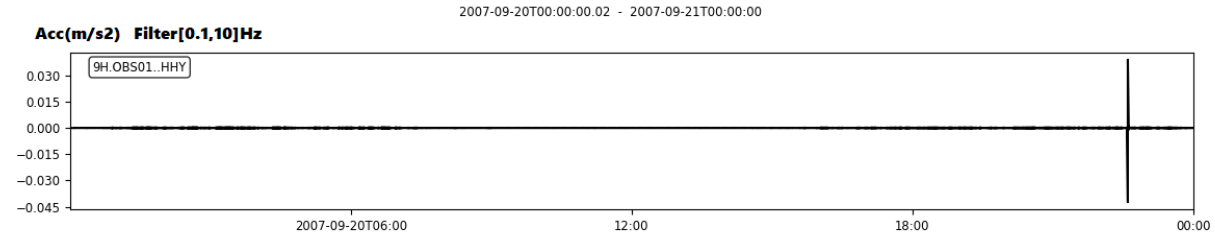

OBS01 HHZ 2007-09-20
UTC (local time = UTC + 00:00)
time in minutes

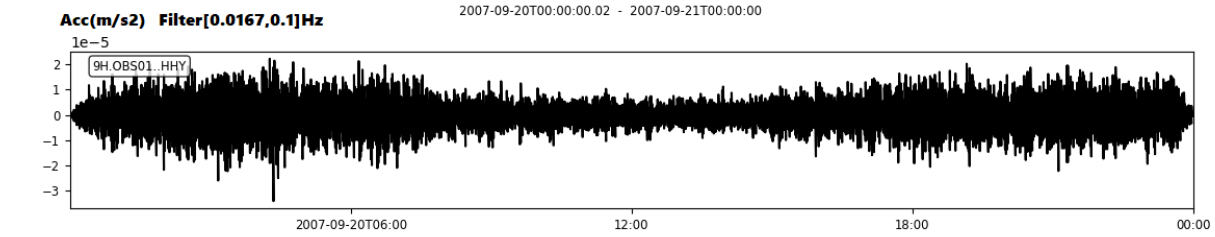

OBS01 HHY 2007-09-20
UTC (local time = UTC + 00:00)
time in minutes

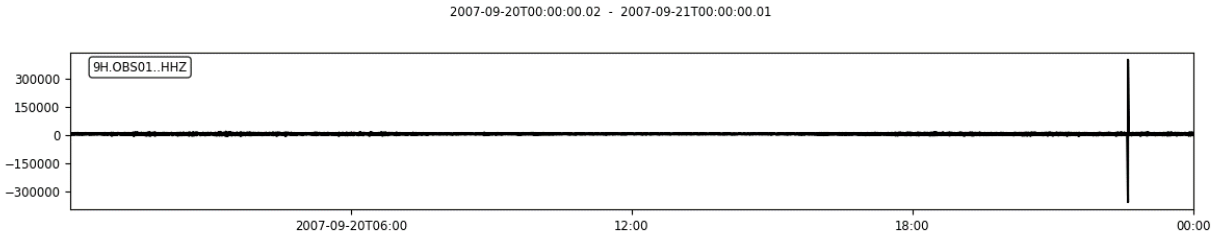

OBS03 HHZ 2007-09-20
UTC (local time = UTC + 00:00)
time in minutes

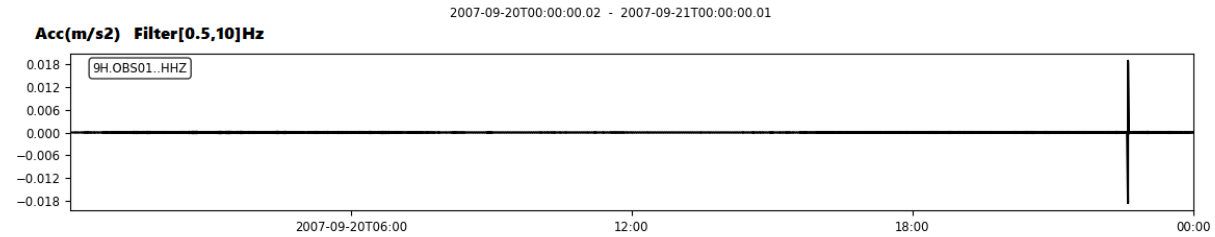

OBS03 HHY 2007-09-20
UTC (local time = UTC + 00:00)
time in minutes

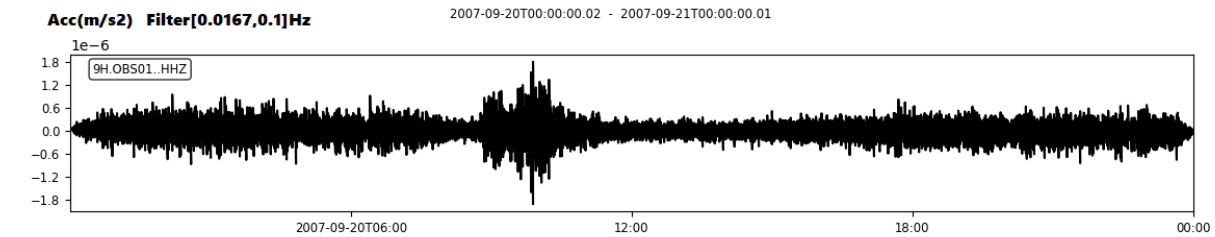

2007-09-20T00:00:00.02 - 2007-09-21T00:00:00
9H.OBS01..HHY
900000
600000
300000
0
−300000
−600000
−900000
2007-09-20T06:00
12:00
18:00
00:00

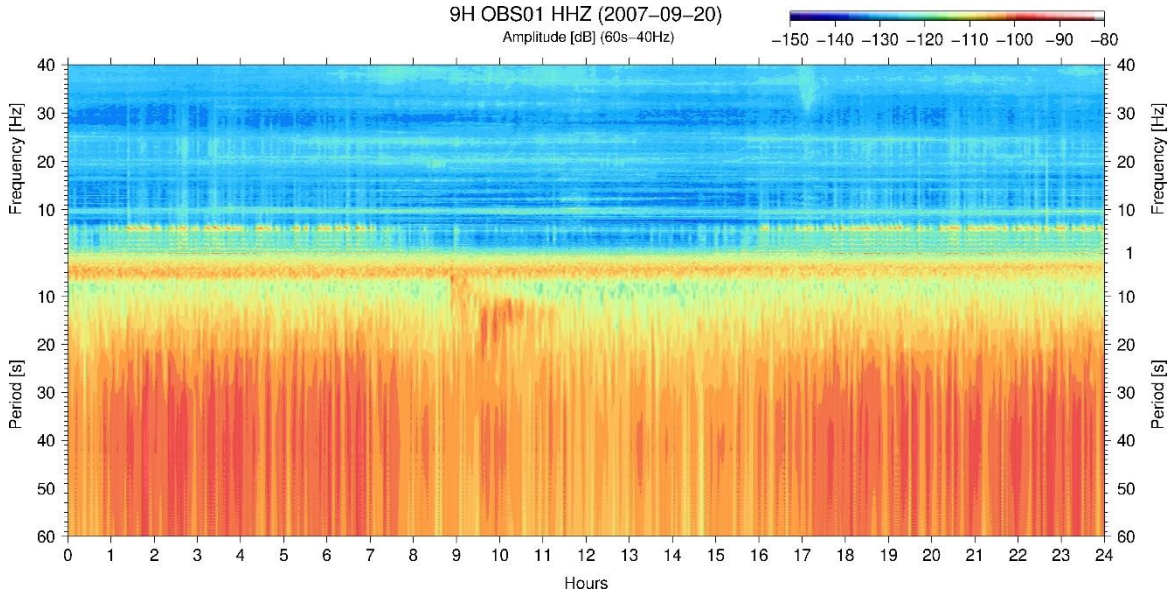

2007-09-20T00:00:00.02 - 2007-09-21T00:00:00
Acc(m/s2) Filter[0.1,10]Hz
9H.OBS01..HHY
0.030
0.015
0.000
−0.015
−0.030
−0.045
2007-09-20T06:00
12:00
18:00
00:00

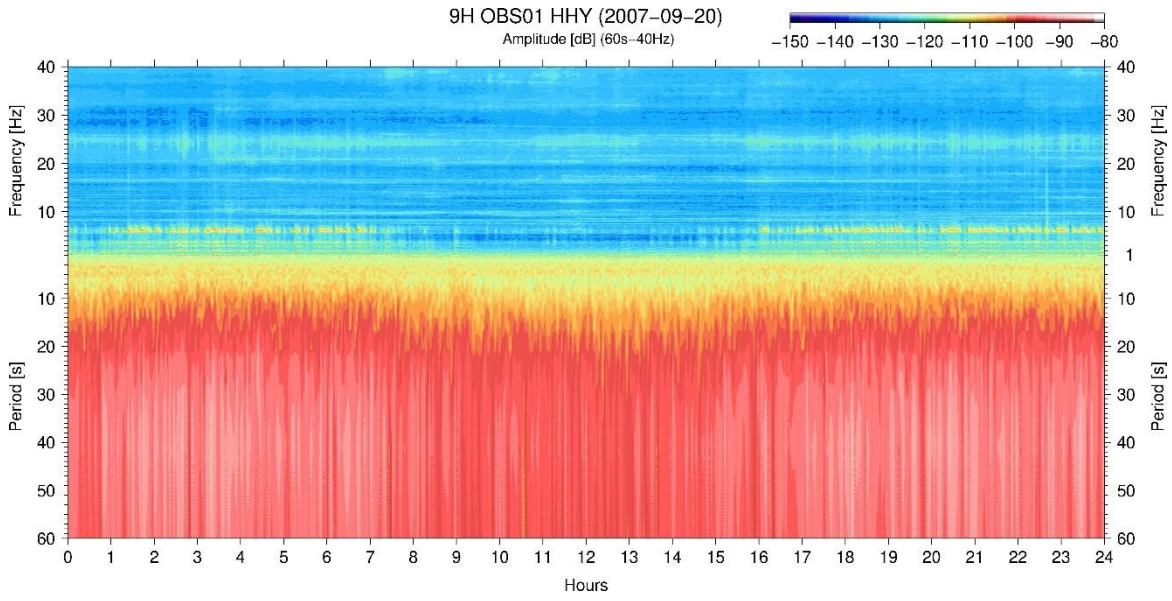

2007-09-20T00:00:00.02 - 2007-09-21T00:00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
2
1
0
−1
−2
−3
2007-09-20T06:00
12:00
18:00
00:00

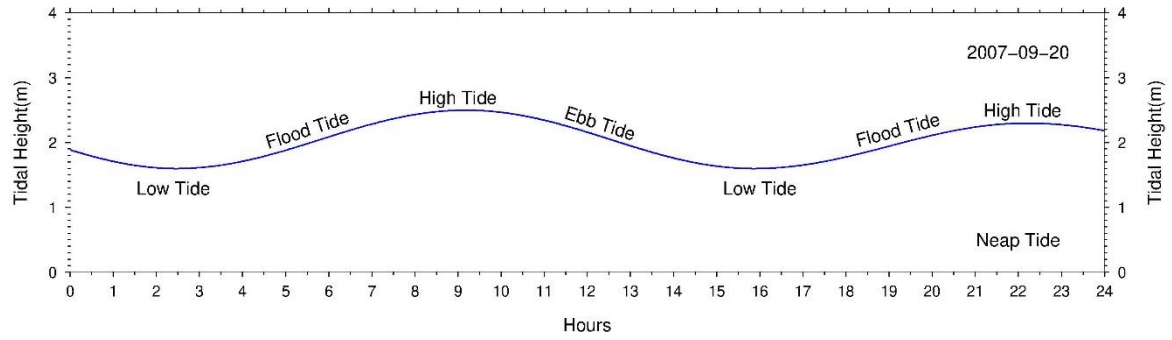

2007-09-20T00:00:00.02 - 2007-09-21T00:00:00.01
9H.OBS01..HHZ
300000
150000
0
−150000
−300000
2007-09-20T06:00
12:00
18:00
00:00

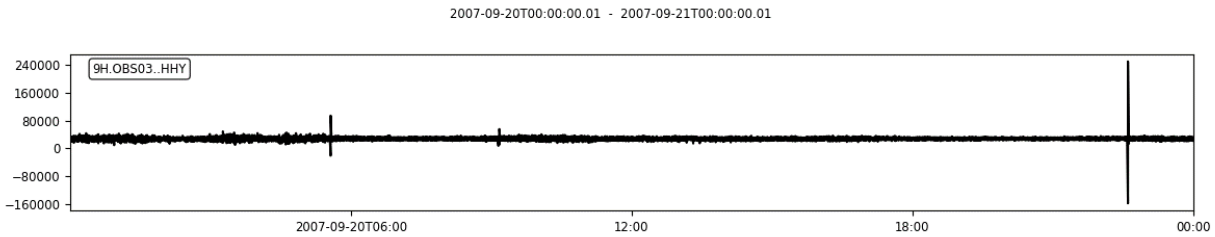

2007-09-20T00:00:00.02 - 2007-09-21T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.018
0.012
0.006
0.000
−0.006
−0.012
−0.018
2007-09-20T06:00
12:00
18:00
00:00

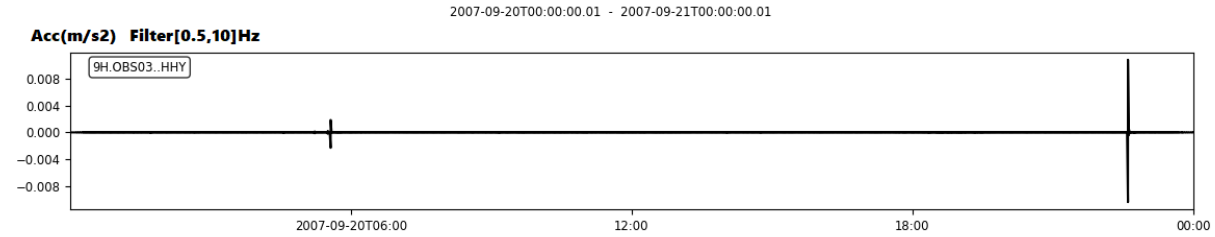

2007-09-20T00:00:00.02 - 2007-09-21T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
1.8
1.2
0.6
0.0
−0.6
−1.2
−1.8
2007-09-20T06:00
12:00
18:00
00:00

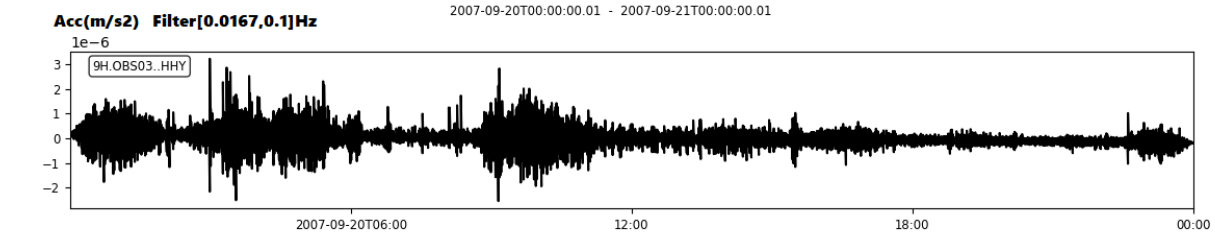

9H OBS01 HHZ (2007–09–20)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

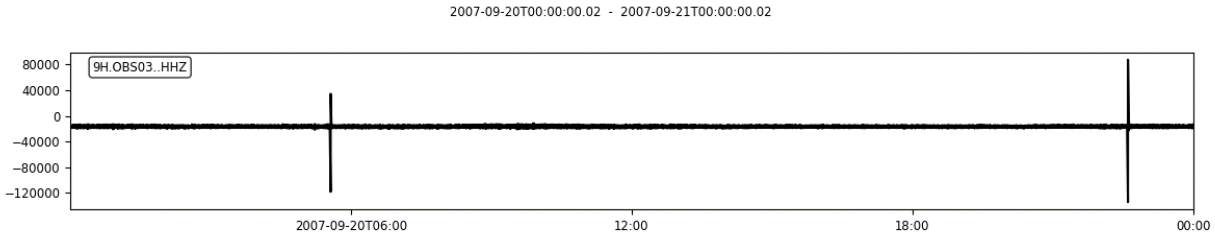

9H OBS01 HHY (2007–09–20)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

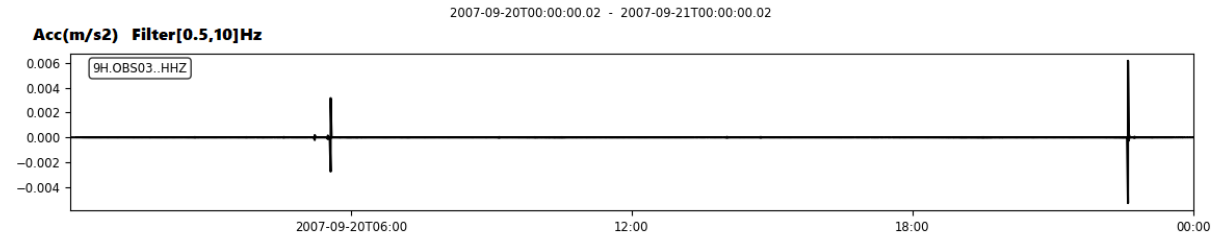

2007–09–20
Tidal Height(m)
Low Tide
Flood Tide
High Tide
Ebb Tide
Low Tide
Flood Tide
High Tide
Neap Tide
Hours

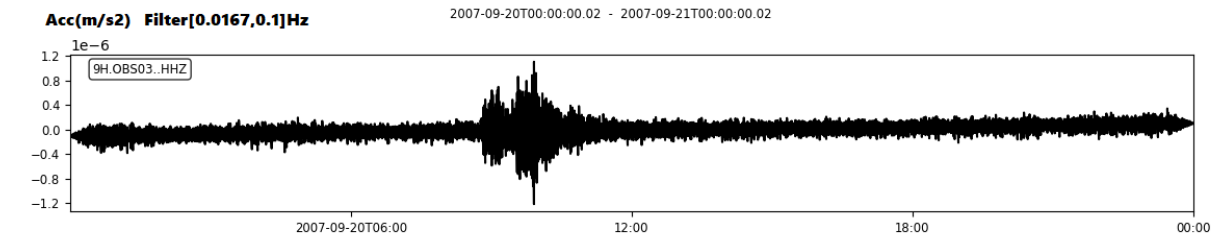

2007-09-20T00:00:00.01 - 2007-09-21T00:00:00.01
9H.OBS03..HHY
240000
160000
80000
0
−80000
−160000
2007-09-20T06:00
12:00
18:00
00:00


2007-09-20T00:00:00.01 - 2007-09-21T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.008
0.004
0.000
−0.004
−0.008
2007-09-20T06:00
12:00
18:00
00:00


2007-09-20T00:00:00.01 - 2007-09-21T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHY
3
2
1
0
−1
−2
2007-09-20T06:00
12:00
18:00
00:00


2007-09-20T00:00:00.02 - 2007-09-21T00:00:00.02
9H.OBS03..HHZ
80000
40000
0
−40000
−80000
−120000
2007-09-20T06:00
12:00
18:00
00:00


2007-09-20T00:00:00.02 - 2007-09-21T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.006
0.004
0.002
0.000
−0.002
−0.004
2007-09-20T06:00
12:00
18:00
00:00


2007-09-20T00:00:00.02 - 2007-09-21T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
1.2
0.8
0.4
0.0
−0.4
−0.8
−1.2
2007-09-20T06:00
12:00
18:00
00:00

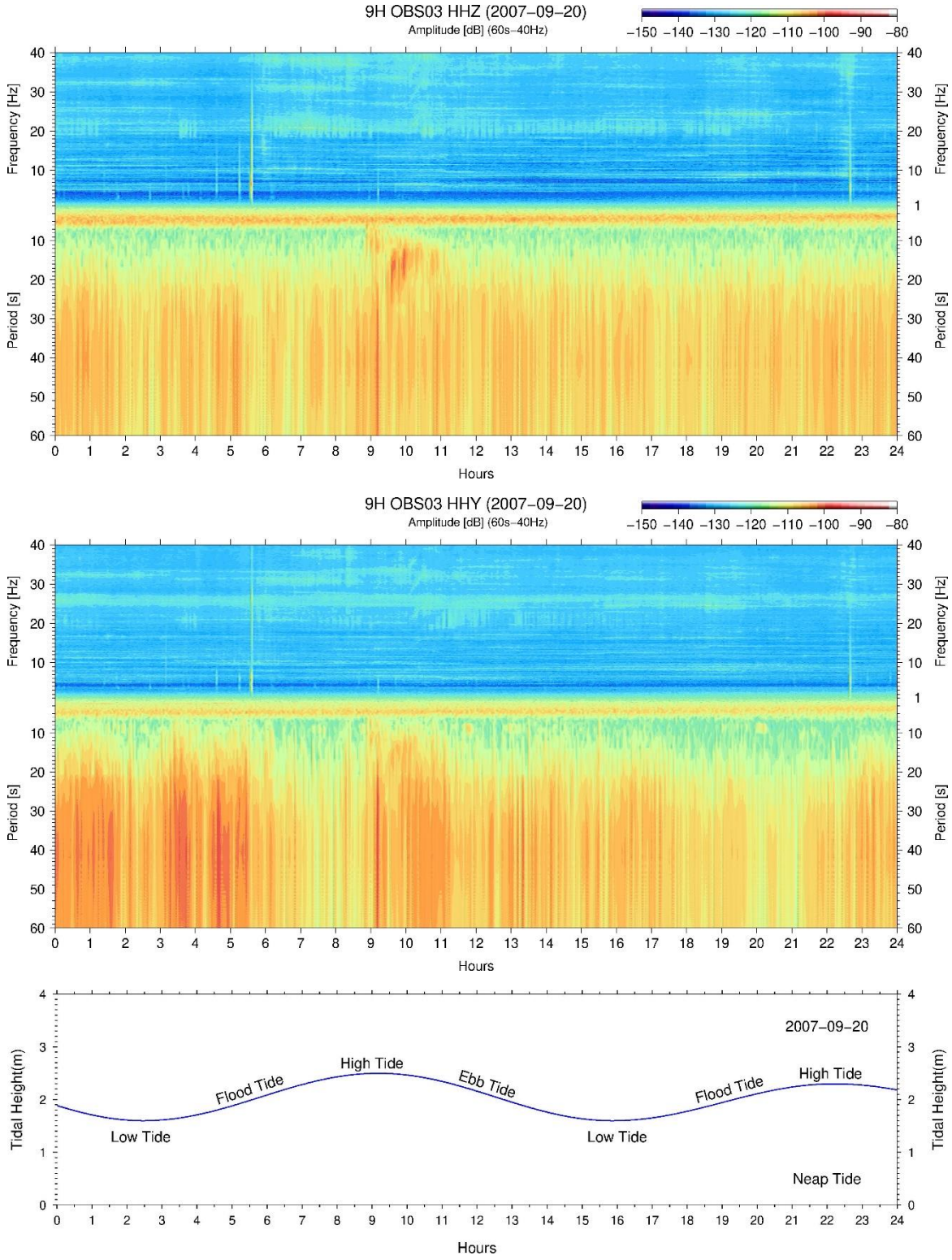
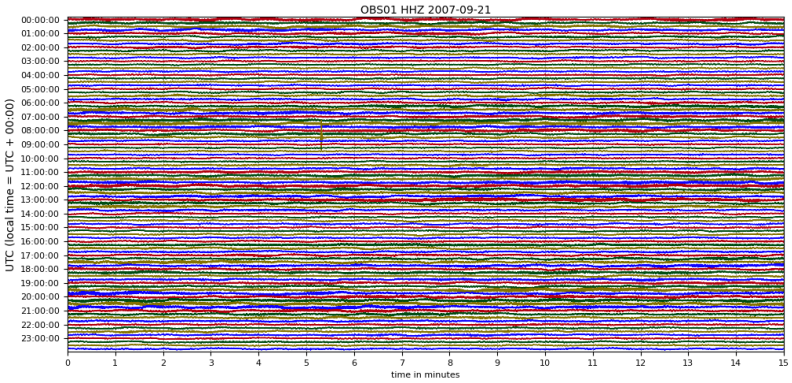
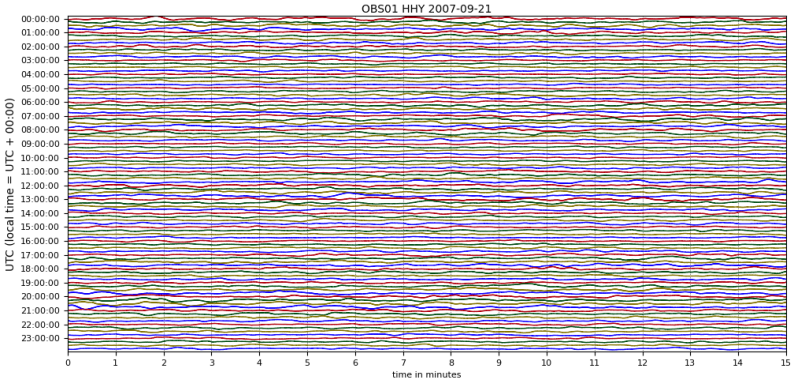
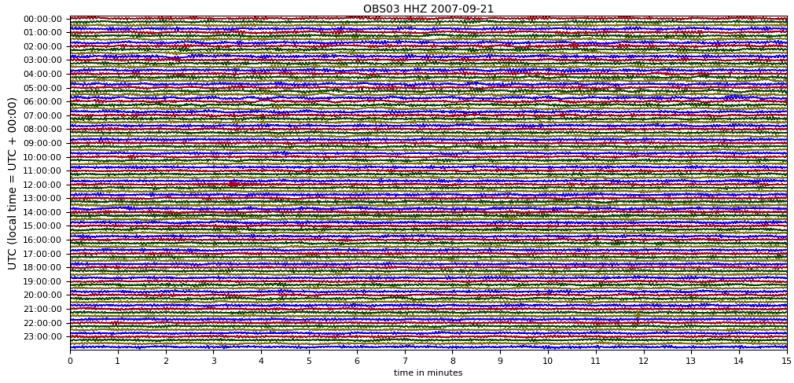
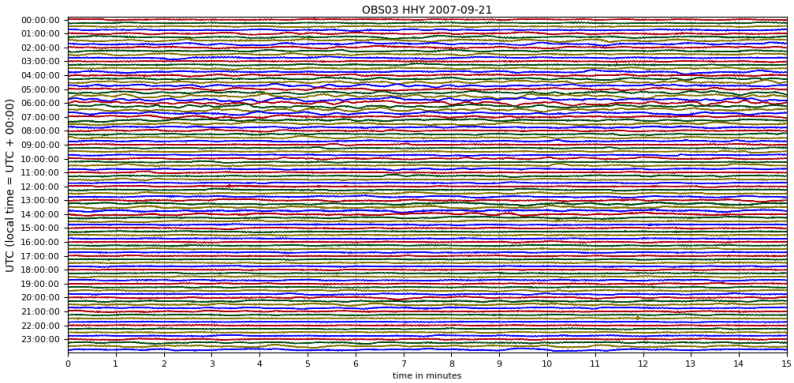


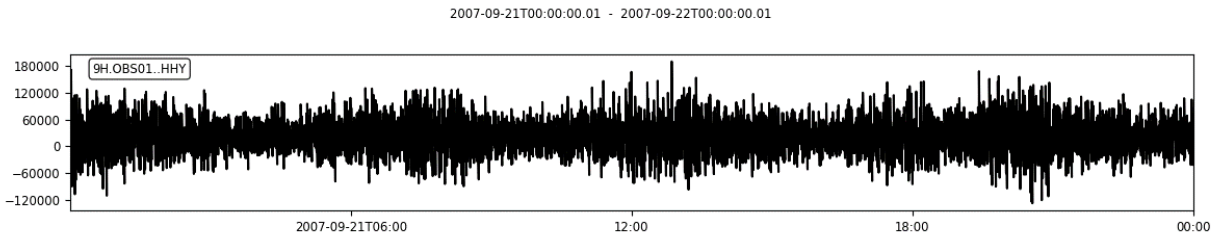

**Figure S11 | OBS01-OBS03 2007-09-20 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum tidal range of 0.9m), showing one distant earthquake (Sumatra, Indonesia: origin time: 08:31:14, with Mw of 6.6), a regional earthquake (Azores-Cape S. Vincent: origin time: 22:35:21, with ML 3.2), the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) in OBS01 and whales vocalization in OBS03 during neap tide.

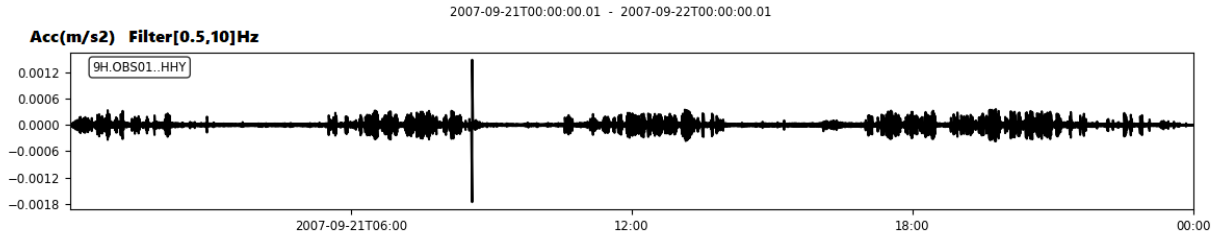

OBS01 HHZ 2007-09-21
UTC (local time = UTC + 00:00)
time in minutes

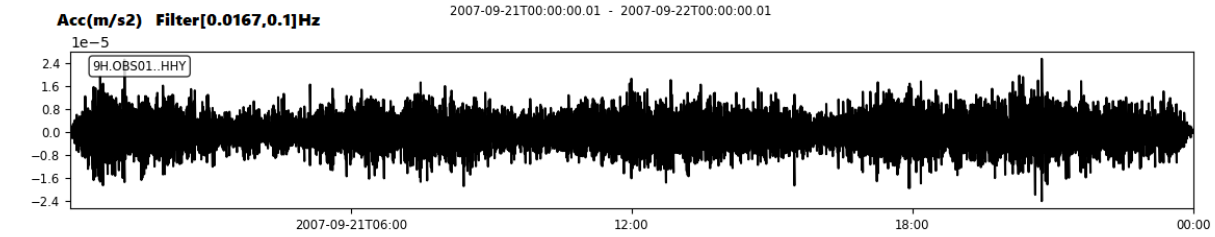

OBS01 HHY 2007-09-21
UTC (local time = UTC + 00:00)
time in minutes

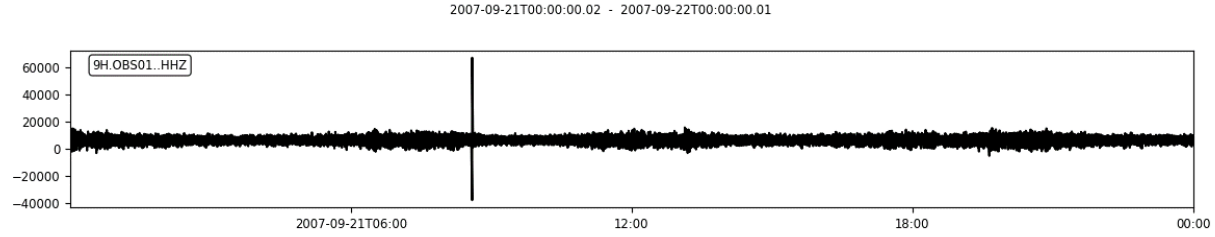

OBS03 HHZ 2007-09-21
UTC (local time = UTC + 00:00)
time in minutes

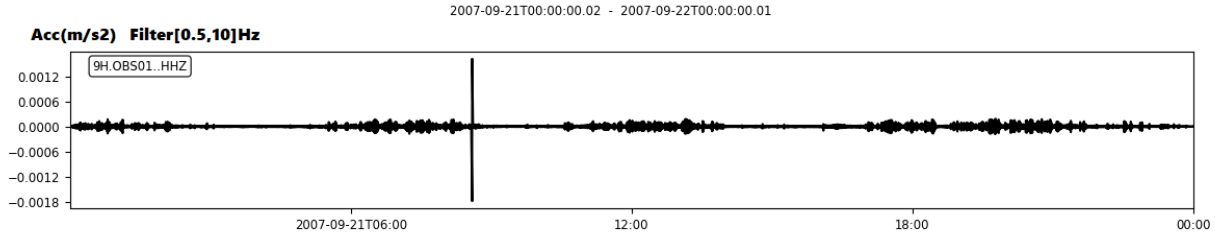

OBS03 HHY 2007-09-21
UTC (local time = UTC + 00:00)
time in minutes

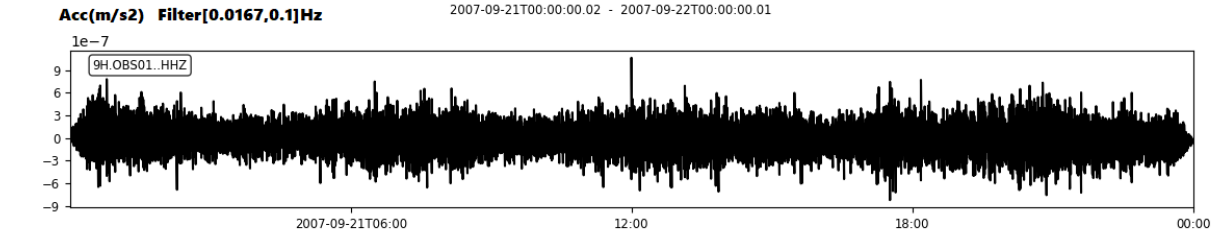

2007-09-21T00:00:00.01 - 2007-09-22T00:00:00.01
9H.OBS01..HHY
180000
120000
60000
0
−60000
−120000
2007-09-21T06:00
12:00
18:00
00:00

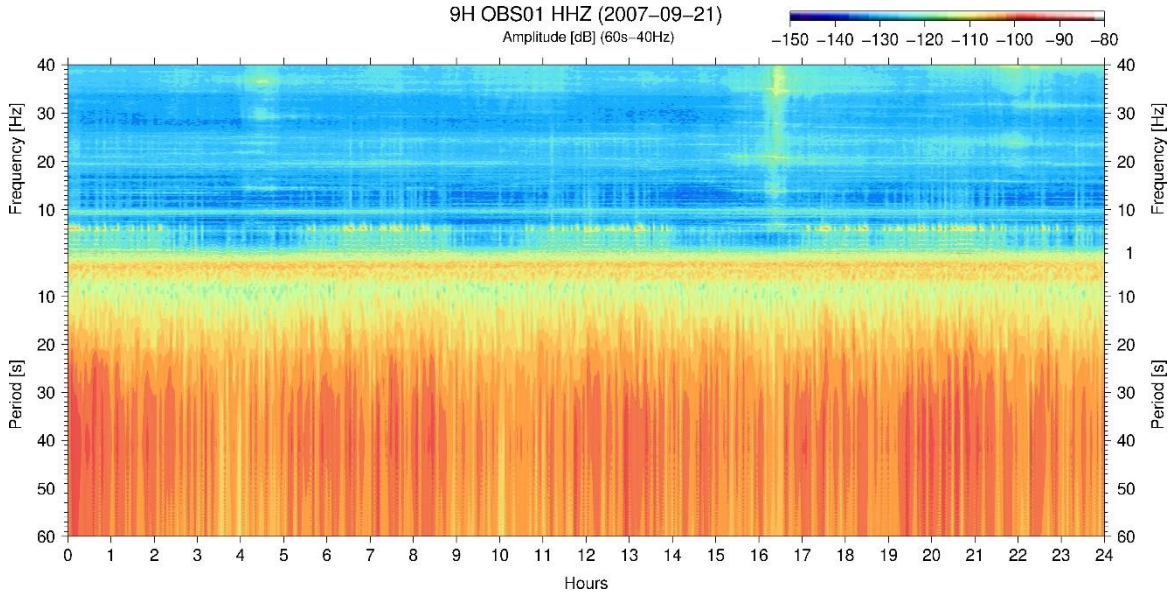

2007-09-21T00:00:00.01 - 2007-09-22T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0012
0.0006
0.0000
−0.0006
−0.0012
−0.0018
2007-09-21T06:00
12:00
18:00
00:00

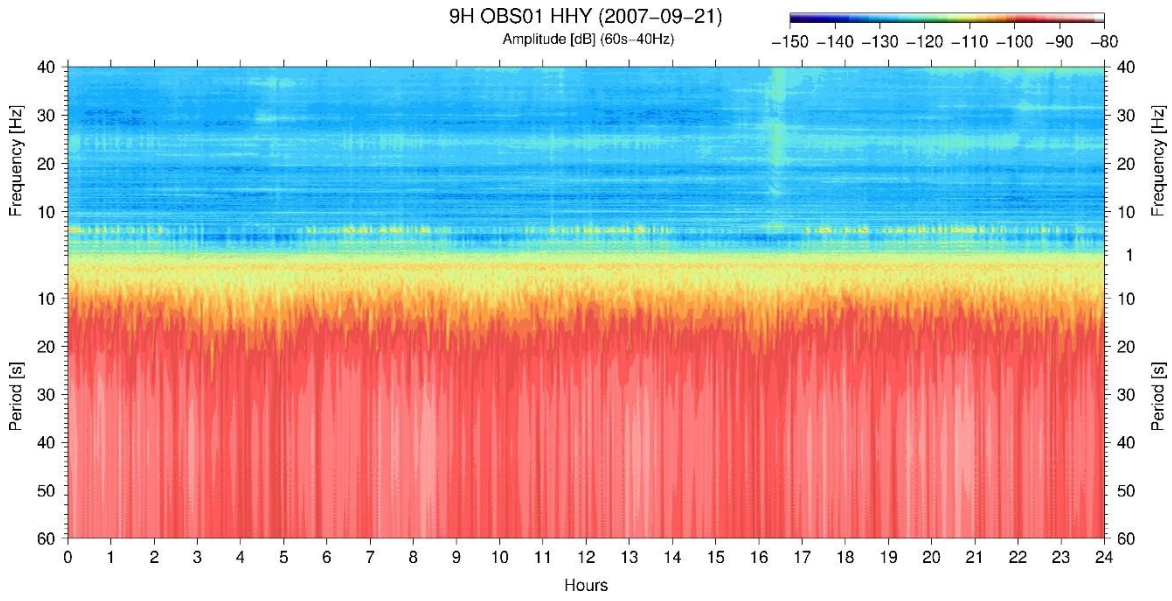

2007-09-21T00:00:00.01 - 2007-09-22T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
2.4
1.6
0.8
0.0
−0.8
−1.6
−2.4
2007-09-21T06:00
12:00
18:00
00:00

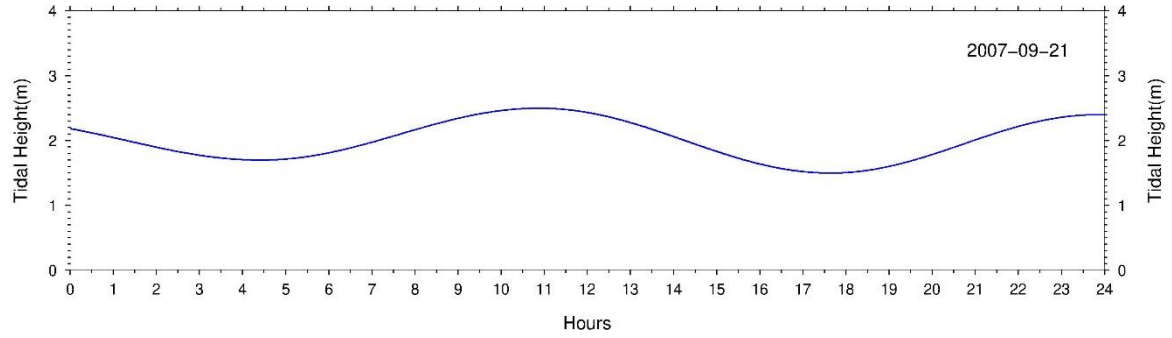

2007-09-21T00:00:00.02 - 2007-09-22T00:00:00.01
9H.OBS01..HHZ
60000
40000
20000
0
−20000
−40000
2007-09-21T06:00
12:00
18:00
00:00

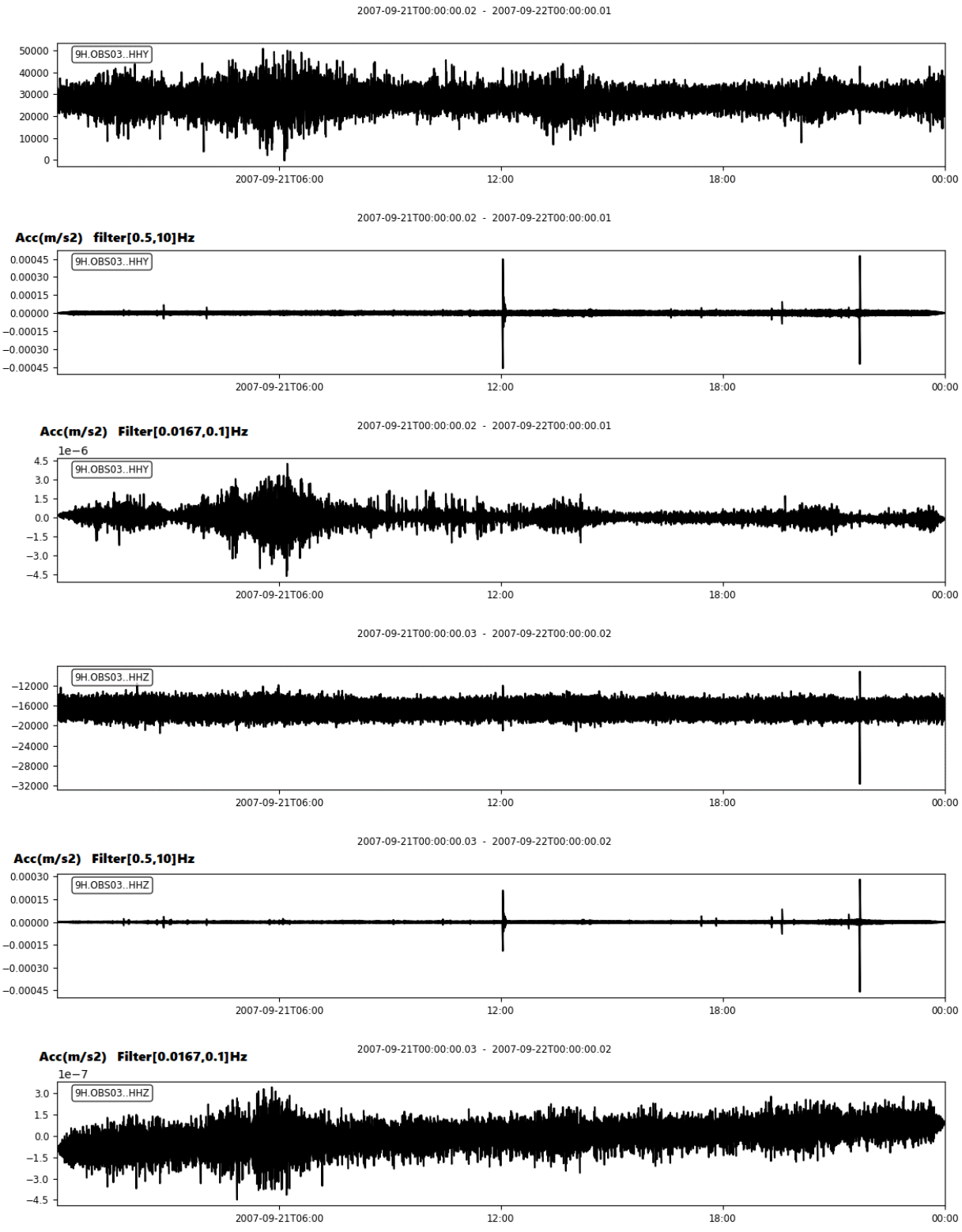

2007-09-21T00:00:00.02 - 2007-09-22T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.0012
0.0006
0.0000
−0.0006
−0.0012
−0.0018
2007-09-21T06:00
12:00
18:00
00:00


2007-09-21T00:00:00.02 - 2007-09-22T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−7
9H.OBS01..HHZ
9
6
3
0
−3
−6
−9
2007-09-21T06:00
12:00
18:00
00:00


9H OBS01 HHZ (2007–09–21)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours


9H OBS01 HHY (2007–09–21)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours


2007–09–21
Tidal Height(m)
Hours


2007-09-21T00:00:00.02 - 2007-09-22T00:00:00.01
9H.OBS03..HHY
50000
40000
30000
20000
10000
0
2007-09-21T06:00
12:00
18:00
00:00
2007-09-21T00:00:00.02 - 2007-09-22T00:00:00.01
Acc(m/s2) filter[0.5,10]Hz
9H.OBS03..HHY
0.00045
0.00030
0.00015
0.00000
−0.00015
−0.00030
−0.00045
2007-09-21T06:00
12:00
18:00
00:00
2007-09-21T00:00:00.02 - 2007-09-22T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHY
4.5
3.0
1.5
0.0
−1.5
−3.0
−4.5
2007-09-21T06:00
12:00
18:00
00:00
2007-09-21T00:00:00.03 - 2007-09-22T00:00:00.02
9H.OBS03..HHZ
−12000
−16000
−20000
−24000
−28000
−32000
2007-09-21T06:00
12:00
18:00
00:00
2007-09-21T00:00:00.03 - 2007-09-22T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.00030
0.00015
0.00000
−0.00015
−0.00030
−0.00045
2007-09-21T06:00
12:00
18:00
00:00
2007-09-21T00:00:00.03 - 2007-09-22T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−7
9H.OBS03..HHZ
3.0
1.5
0.0
−1.5
−3.0
−4.5
2007-09-21T06:00
12:00
18:00
00:00

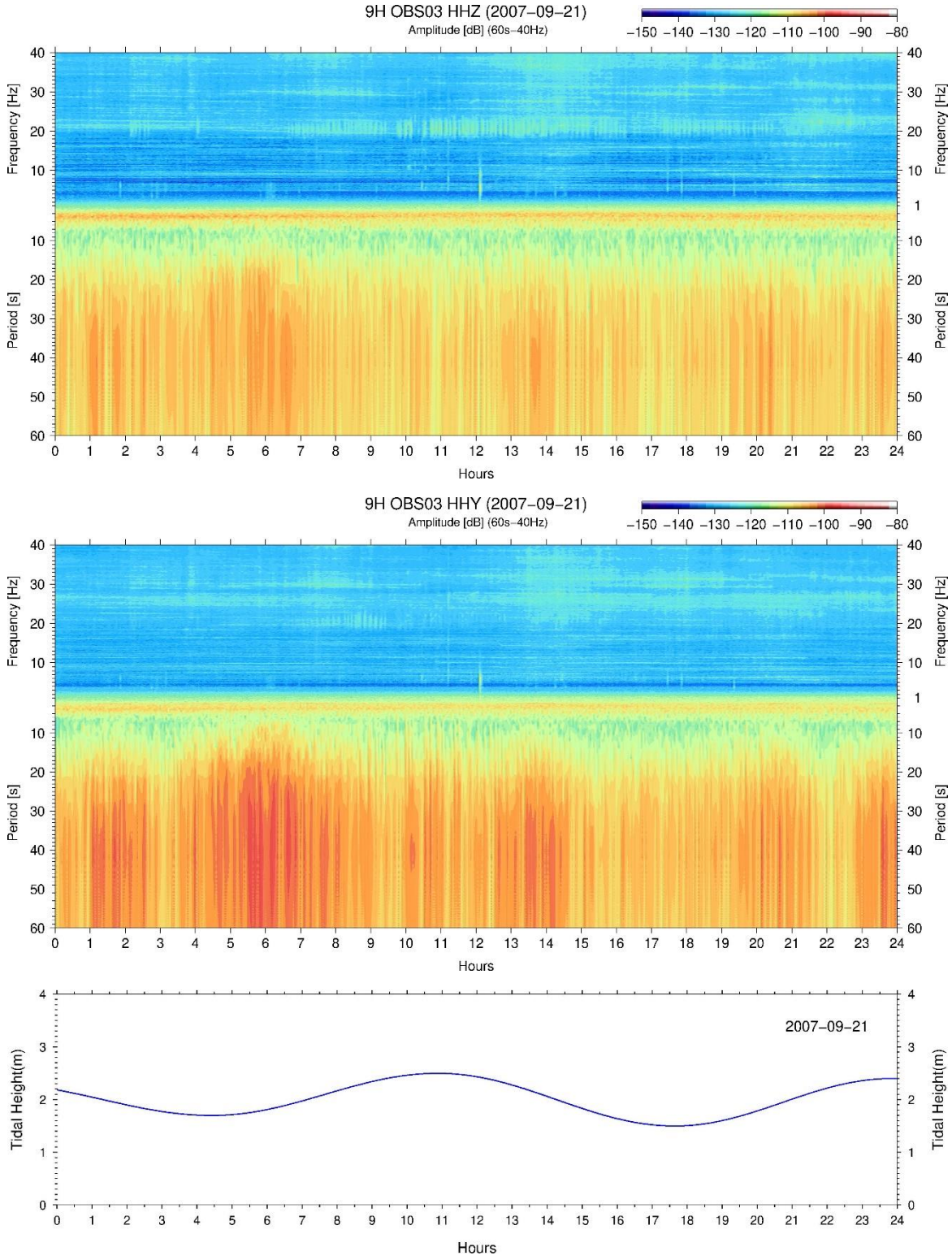
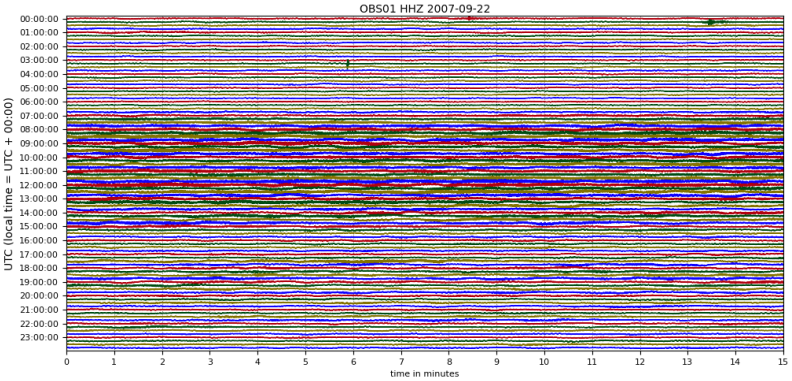
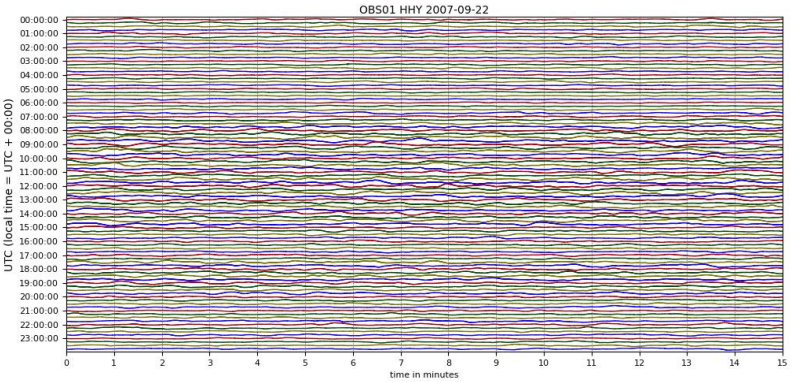
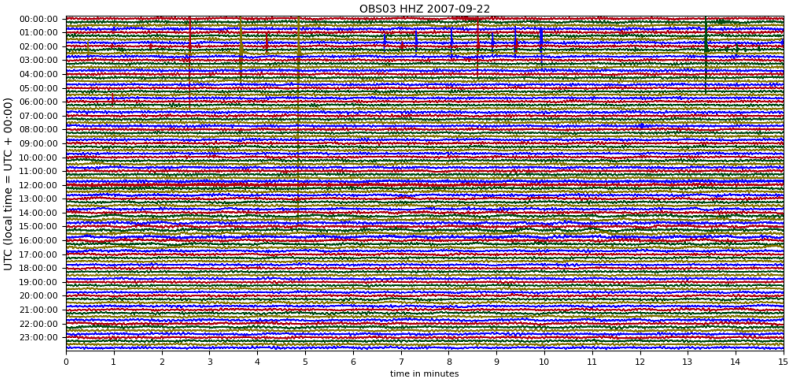
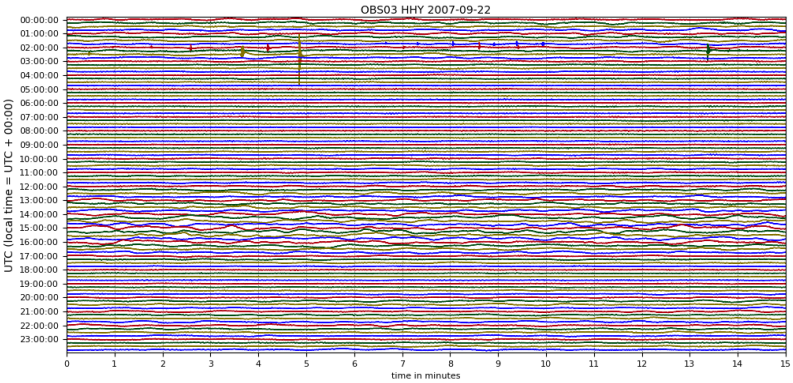


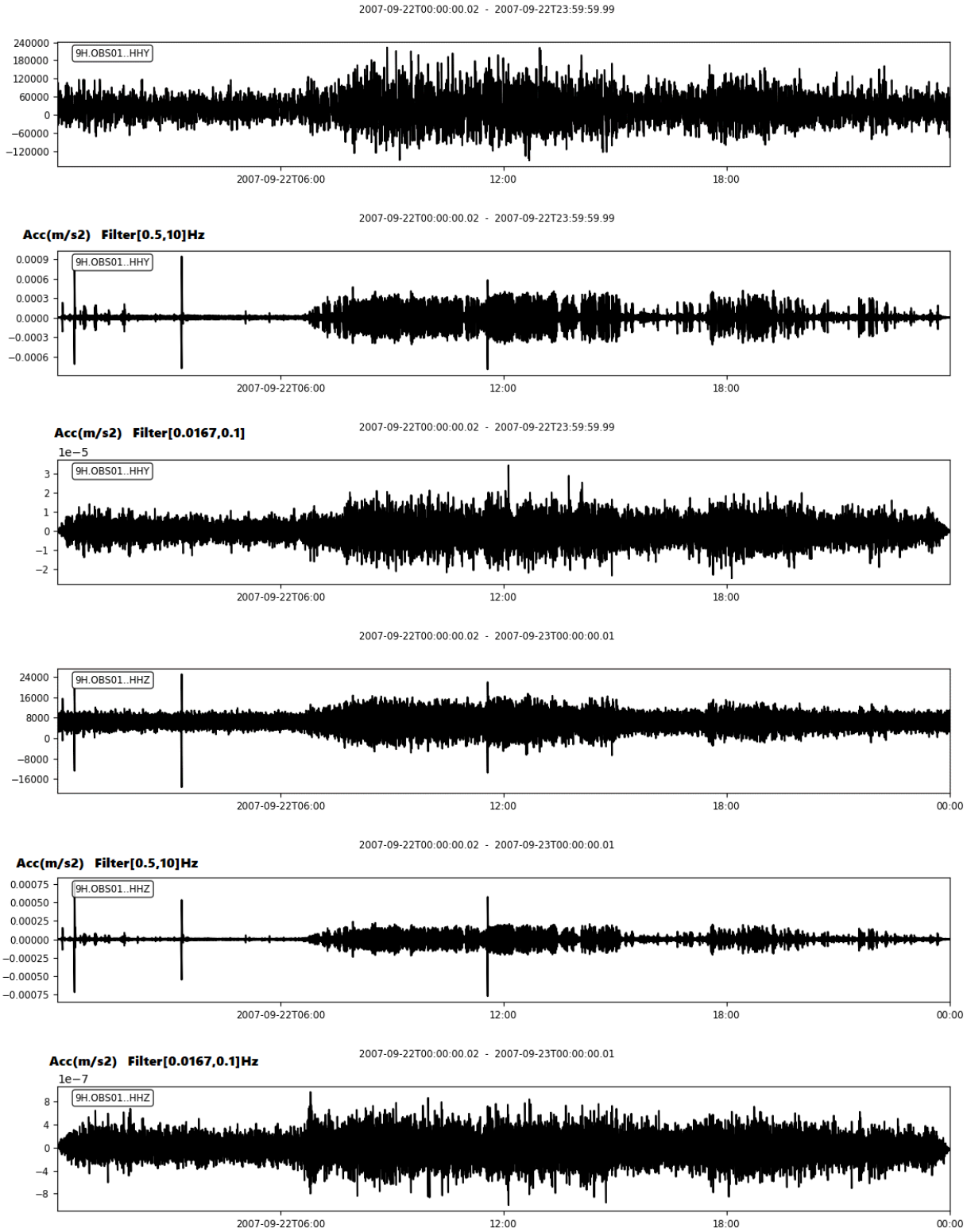

**Figure S12 | OBS01-OBS03 2007-09-21 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum tidal range of 1.0m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) in OBS01 and whale vocalisation (20-24Hz) in OBS03 during neap tide.

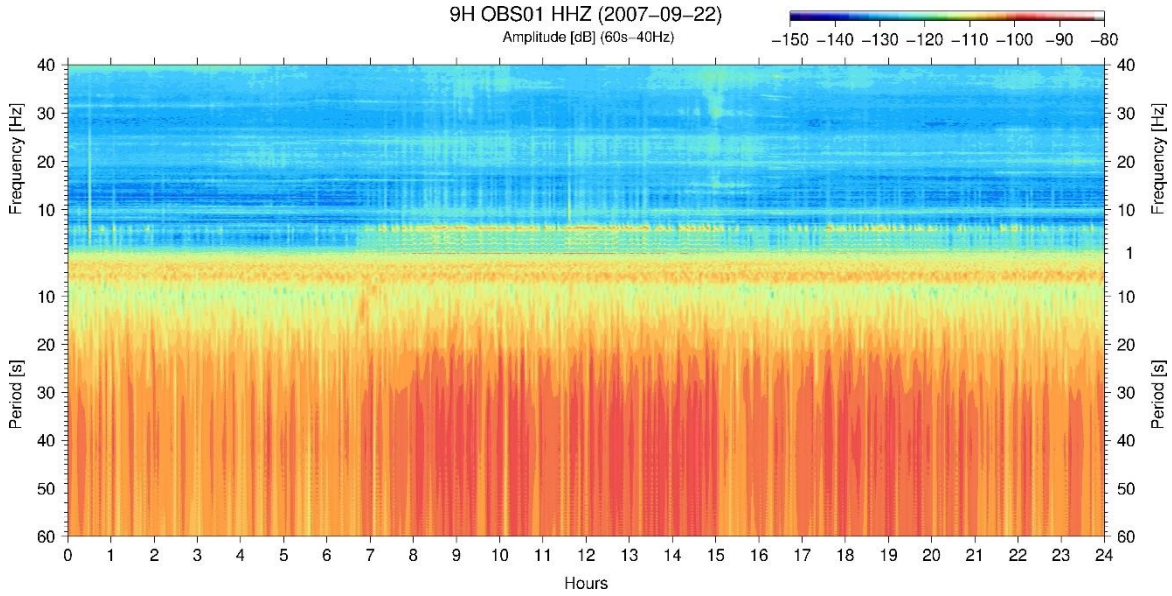

OBS01 HHZ 2007-09-22
UTC (local time = UTC + 00:00)
time in minutes

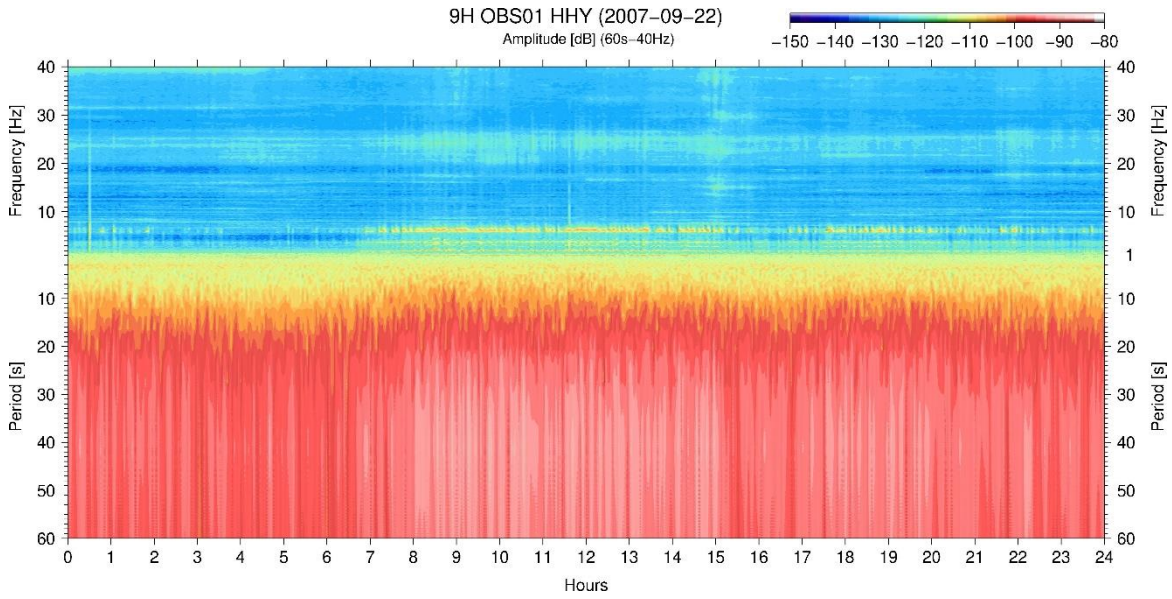

OBS01 HHY 2007-09-22
UTC (local time = UTC + 00:00)
time in minutes

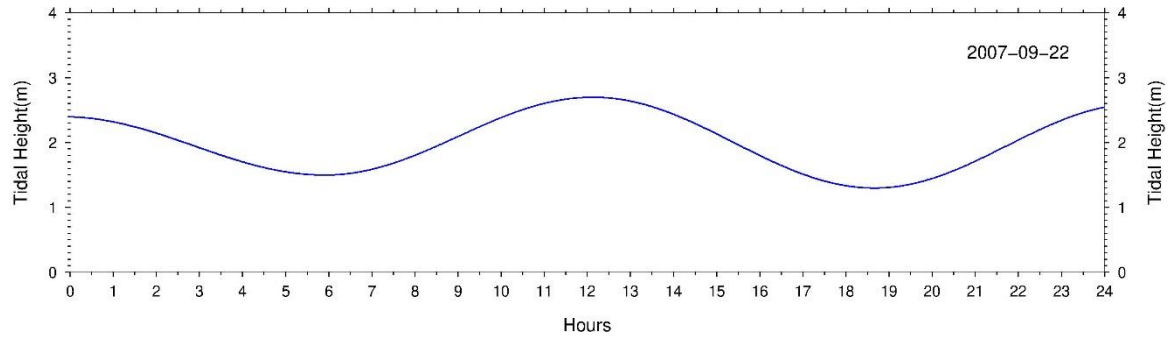

OBS03 HHZ 2007-09-22
UTC (local time = UTC + 00:00)
time in minutes

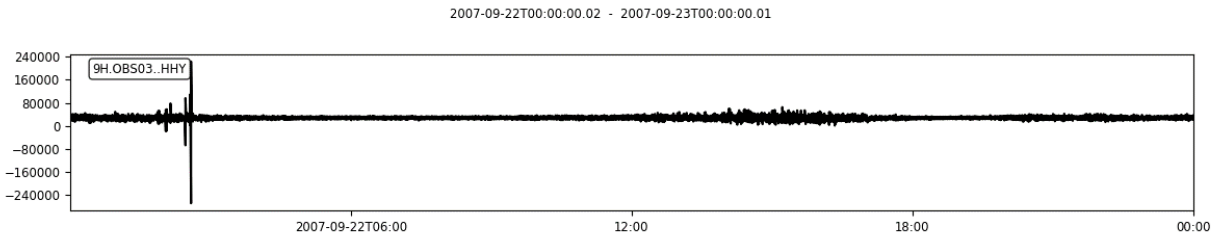

OBS03 HHY 2007-09-22
UTC (local time = UTC + 00:00)
time in minutes

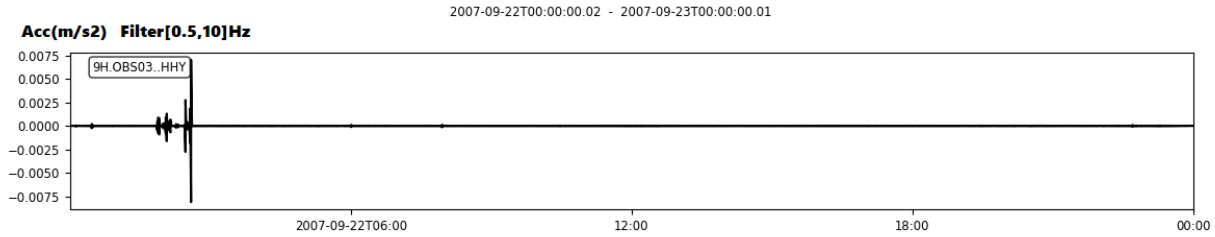

2007-09-22T00:00:00.02 - 2007-09-22T23:59:59.99
9H.OBS01..HHY
240000
180000
120000
60000
0
−60000
−120000
2007-09-22T06:00
12:00
18:00
2007-09-22T00:00:00.02 - 2007-09-22T23:59:59.99
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0009
0.0006
0.0003
0.0000
−0.0003
−0.0006
2007-09-22T06:00
12:00
18:00
2007-09-22T00:00:00.02 - 2007-09-22T23:59:59.99
Acc(m/s2) Filter[0.0167,0.1]
1e−5
9H.OBS01..HHY
3
2
1
0
−1
−2
2007-09-22T06:00
12:00
18:00
2007-09-22T00:00:00.02 - 2007-09-23T00:00:00.01
9H.OBS01..HHZ
24000
16000
8000
0
−8000
−16000
2007-09-22T06:00
12:00
18:00
00:00
2007-09-22T00:00:00.02 - 2007-09-23T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.00075
0.00050
0.00025
0.00000
−0.00025
−0.00050
−0.00075
2007-09-22T06:00
12:00
18:00
00:00
2007-09-22T00:00:00.02 - 2007-09-23T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−7
9H.OBS01..HHZ
8
4
0
−4
−8
2007-09-22T06:00
12:00
18:00
00:00

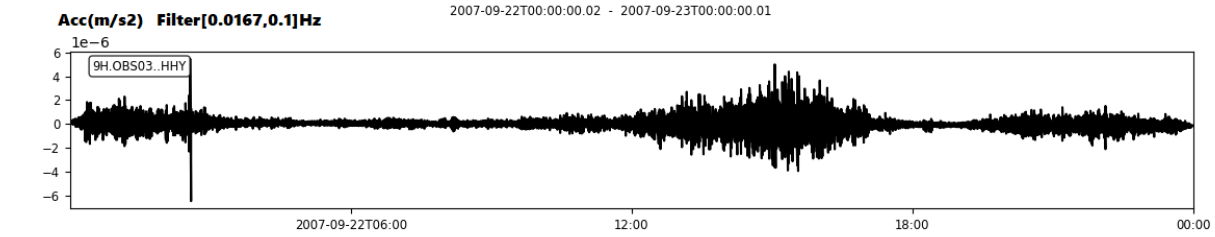

9H OBS01 HHZ (2007–09–22)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

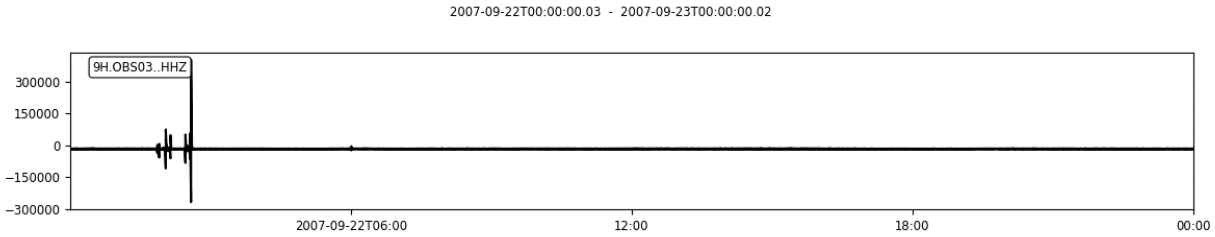

9H OBS01 HHY (2007–09–22)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

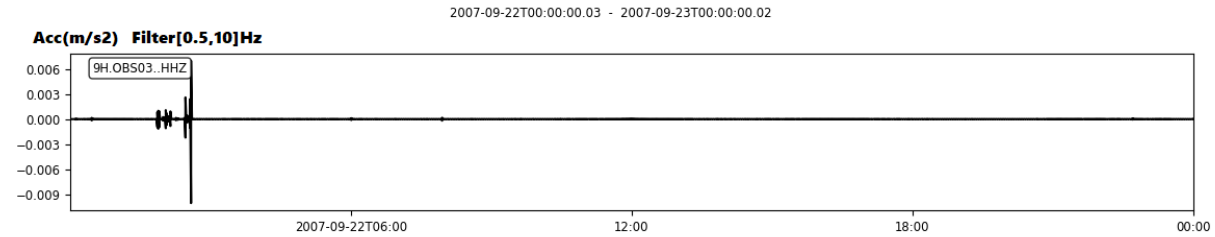

2007–09–22
Tidal Height(m)
Hours

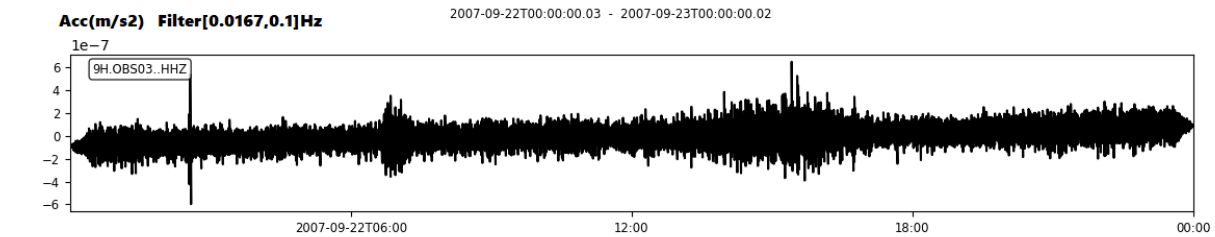

2007-09-22T00:00:00.02 - 2007-09-23T00:00:00.01
9H.OBS03..HHY
240000
160000
80000
0
−80000
−160000
−240000
2007-09-22T06:00
12:00
18:00
00:00


2007-09-22T00:00:00.02 - 2007-09-23T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0075
0.0050
0.0025
0.0000
−0.0025
−0.0050
−0.0075
2007-09-22T06:00
12:00
18:00
00:00


2007-09-22T00:00:00.02 - 2007-09-23T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHY
6
4
2
0
−2
−4
−6
2007-09-22T06:00
12:00
18:00
00:00


2007-09-22T00:00:00.03 - 2007-09-23T00:00:00.02
9H.OBS03..HHZ
300000
150000
0
−150000
−300000
2007-09-22T06:00
12:00
18:00
00:00


2007-09-22T00:00:00.03 - 2007-09-23T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.006
0.003
0.000
−0.003
−0.006
−0.009
2007-09-22T06:00
12:00
18:00
00:00


2007-09-22T00:00:00.03 - 2007-09-23T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−7
9H.OBS03..HHZ
6
4
2
0
−2
−4
−6
2007-09-22T06:00
12:00
18:00
00:00

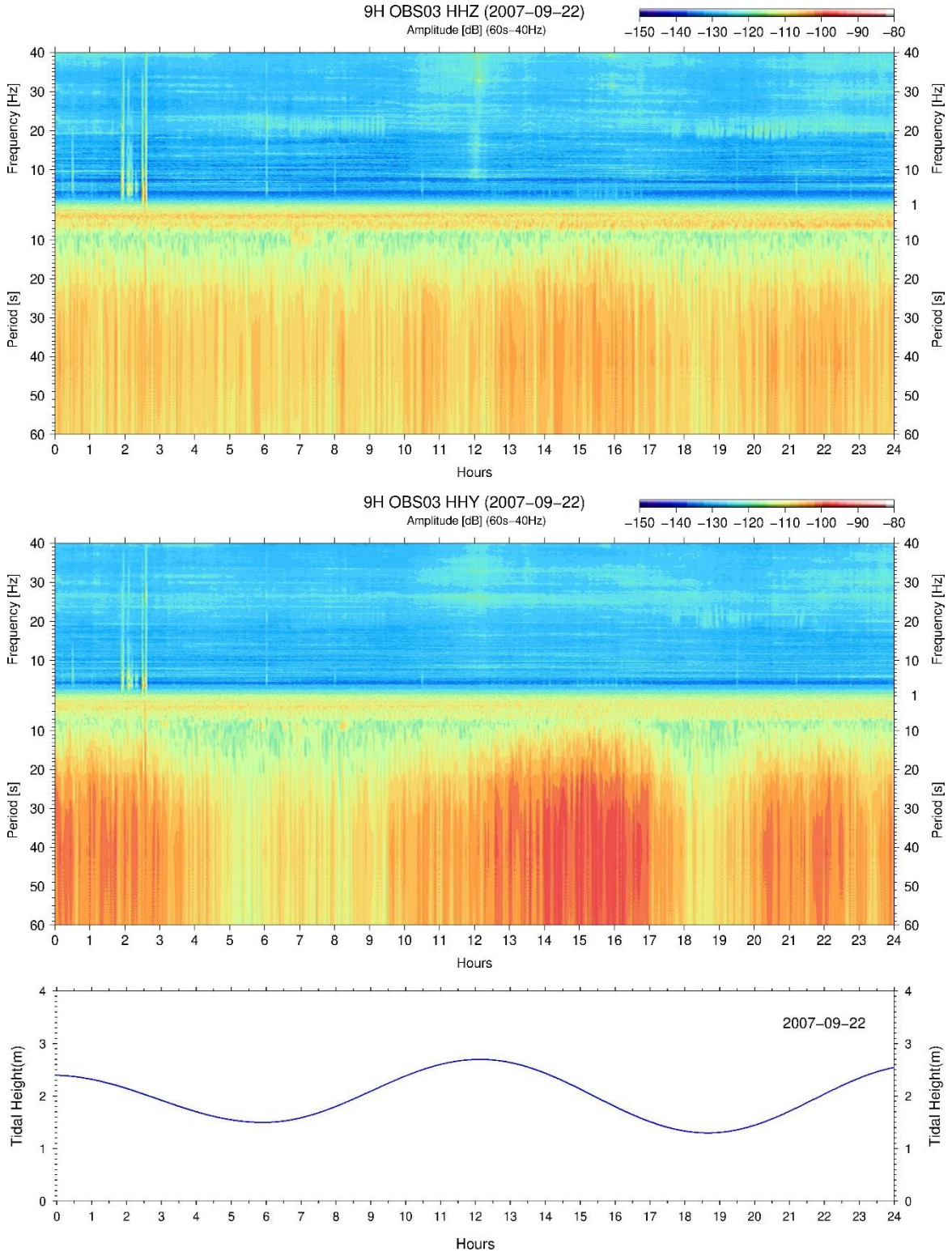
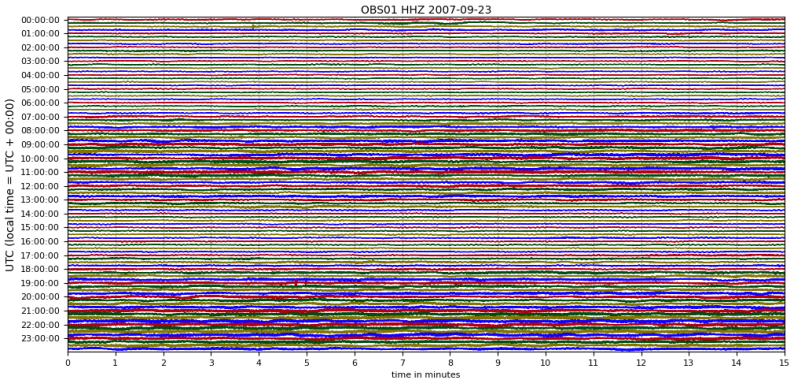
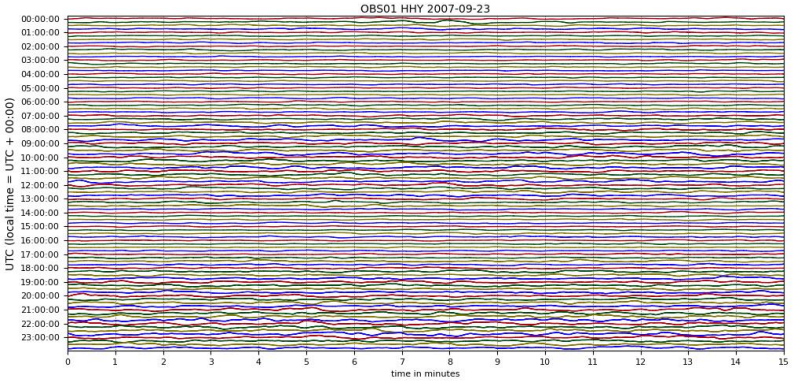
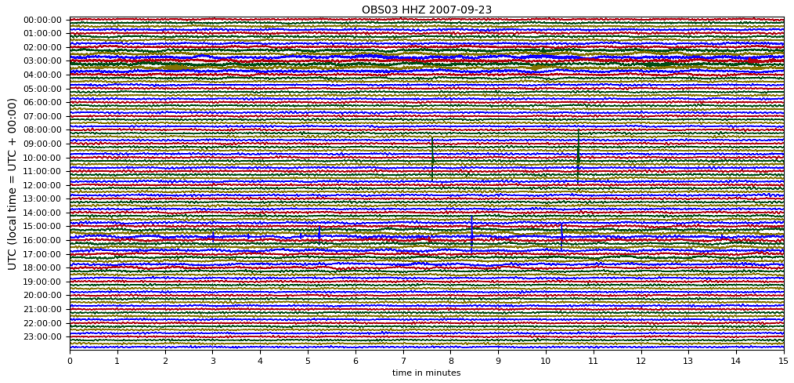
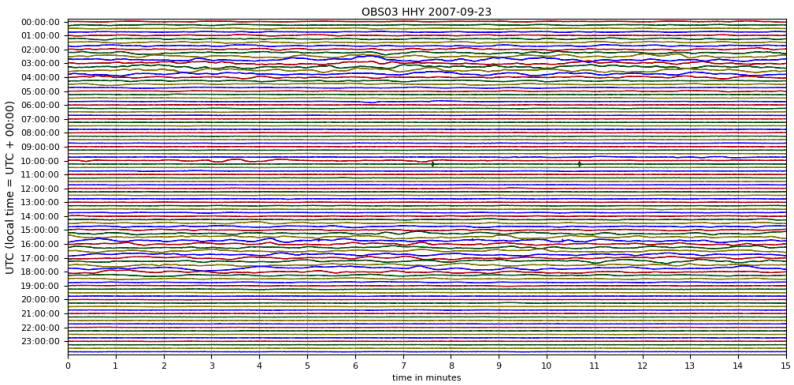


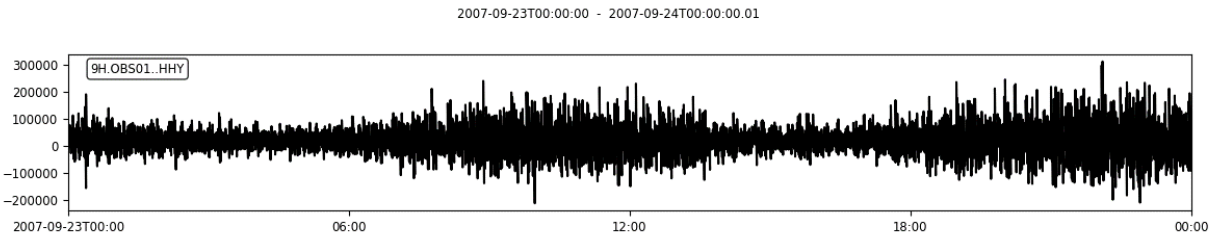

**Figure S13 | OBS01-OBS03 2007-09-22 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum tidal range of 1.5m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) in OBS01, whale vocalisation (20-24Hz) and short duration events in OBS03.

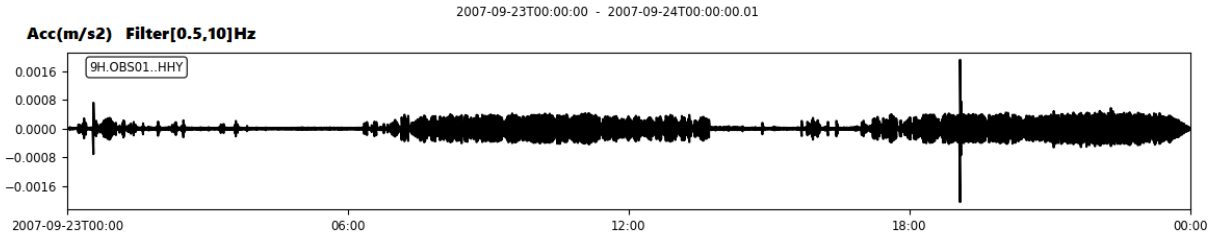

OBS01 HHZ 2007-09-23
UTC (local time = UTC + 00:00)
time in minutes

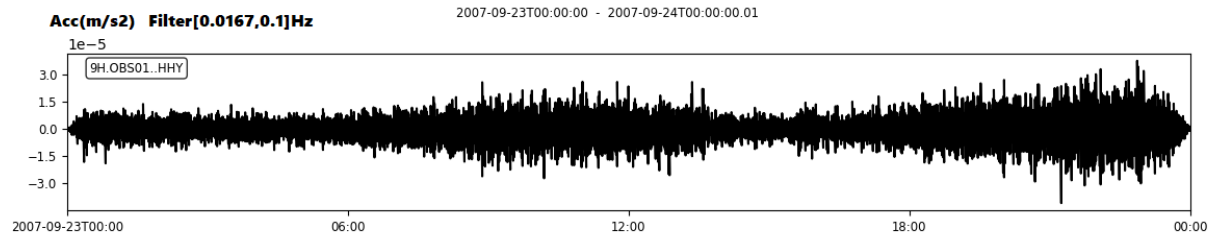

OBS01 HHY 2007-09-23
UTC (local time = UTC + 00:00)
time in minutes

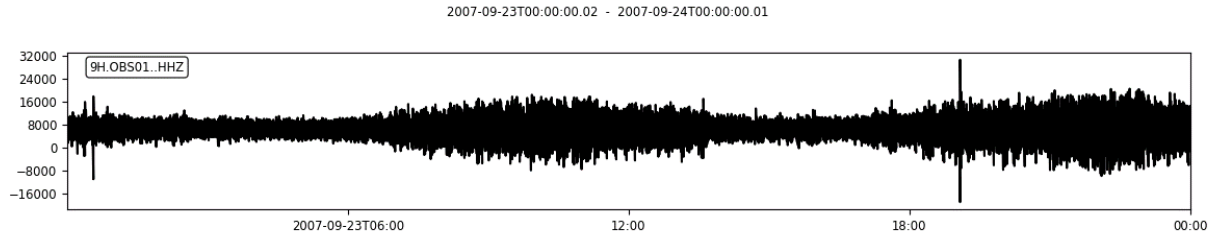

OBS03 HHZ 2007-09-23
UTC (local time = UTC + 00:00)
time in minutes

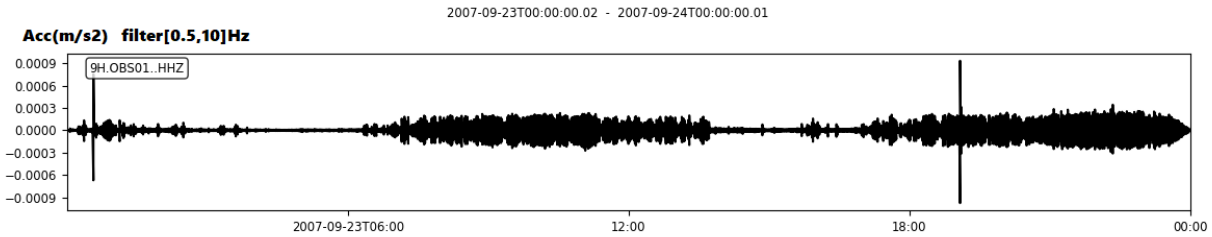

OBS03 HHY 2007-09-23
UTC (local time = UTC + 00:00)
time in minutes

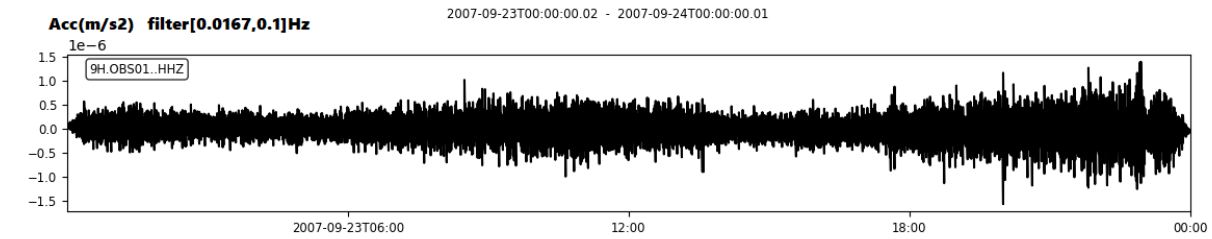

2007-09-23T00:00:00 - 2007-09-24T00:00:00.01
9H.OBS01..HHY
300000
200000
100000
0
−100000
−200000
2007-09-23T00:00
06:00
12:00
18:00
00:00

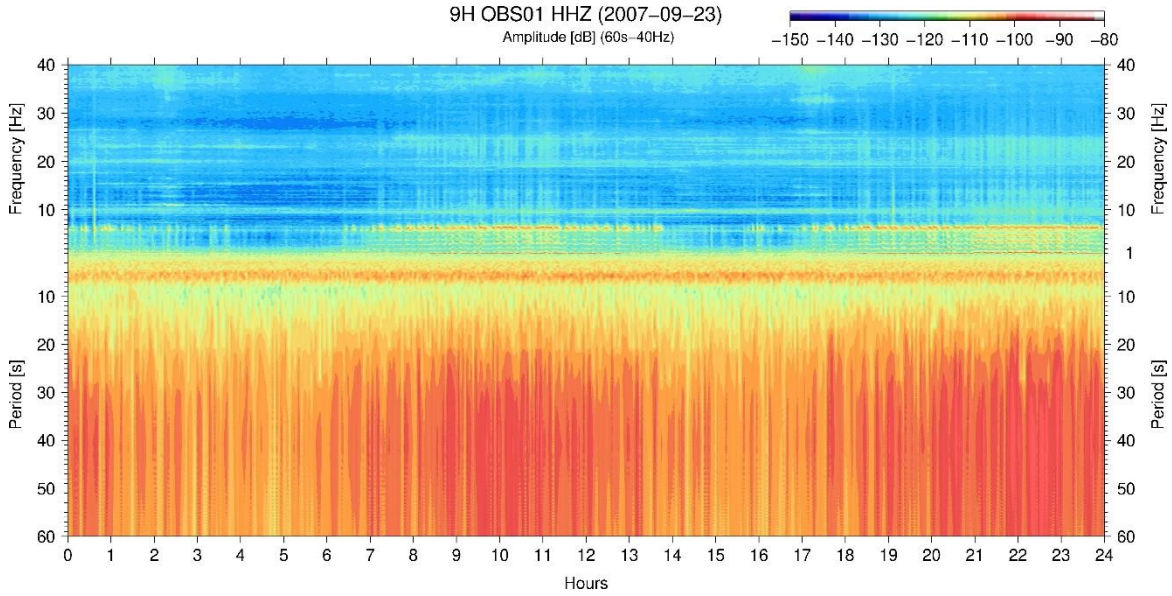

2007-09-23T00:00:00 - 2007-09-24T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0016
0.0008
0.0000
−0.0008
−0.0016
2007-09-23T00:00
06:00
12:00
18:00
00:00

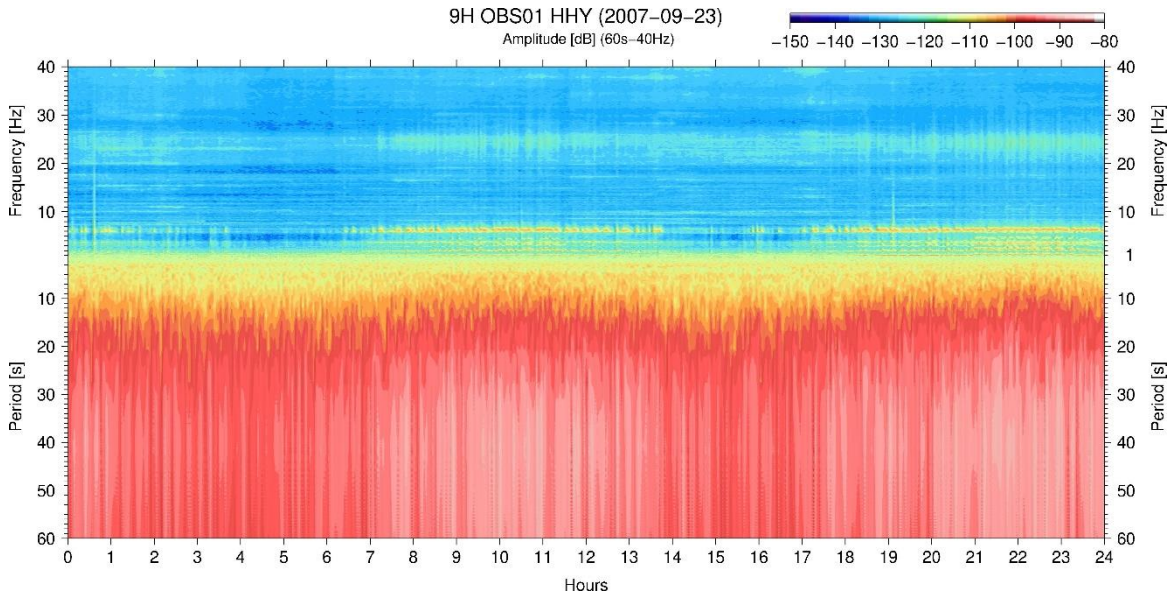

2007-09-23T00:00:00 - 2007-09-24T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
3.0
1.5
0.0
−1.5
−3.0
2007-09-23T00:00
06:00
12:00
18:00
00:00

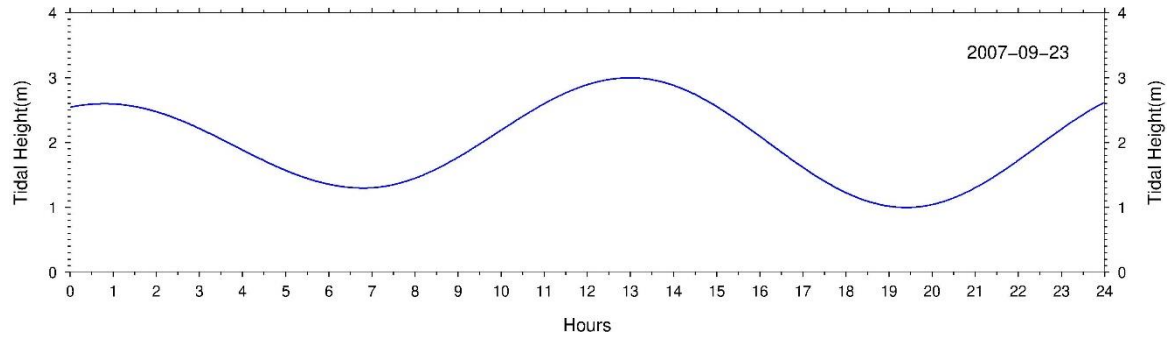

2007-09-23T00:00:00.02 - 2007-09-24T00:00:00.01
9H.OBS01..HHZ
32000
24000
16000
8000
0
−8000
−16000
2007-09-23T06:00
12:00
18:00
00:00

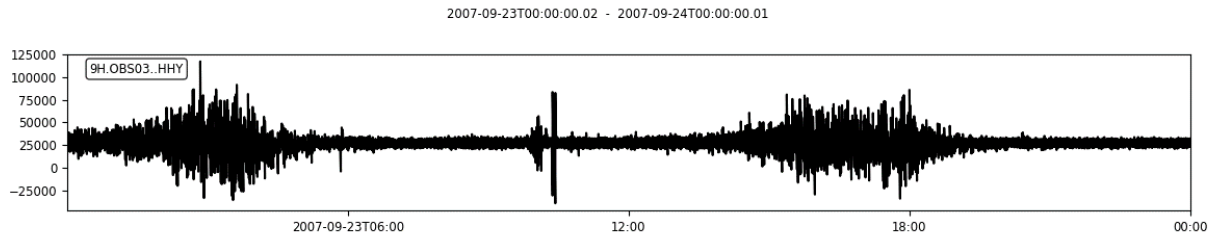

2007-09-23T00:00:00.02 - 2007-09-24T00:00:00.01
Acc(m/s2) filter[0.5,10]Hz
9H.OBS01..HHZ
0.0009
0.0006
0.0003
0.0000
−0.0003
−0.0006
−0.0009
2007-09-23T06:00
12:00
18:00
00:00

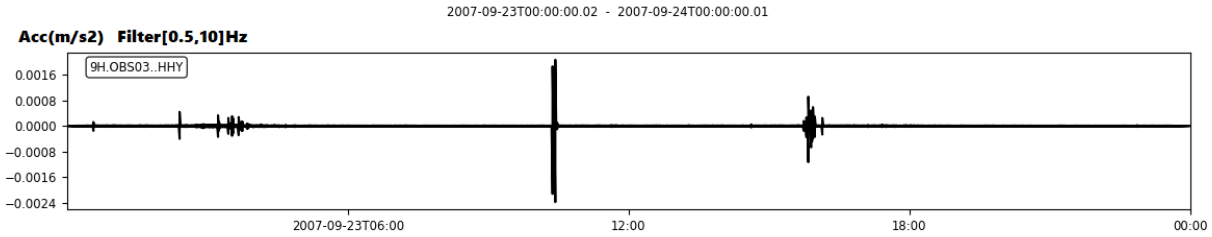

2007-09-23T00:00:00.02 - 2007-09-24T00:00:00.01
Acc(m/s2) filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
2007-09-23T06:00
12:00
18:00
00:00

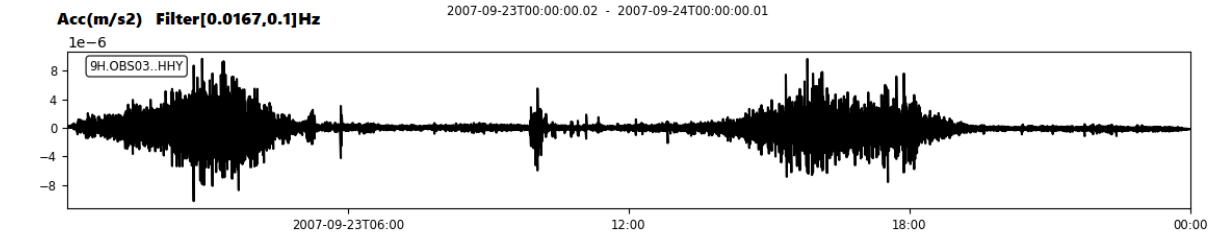

9H OBS01 HHZ (2007-09-23)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

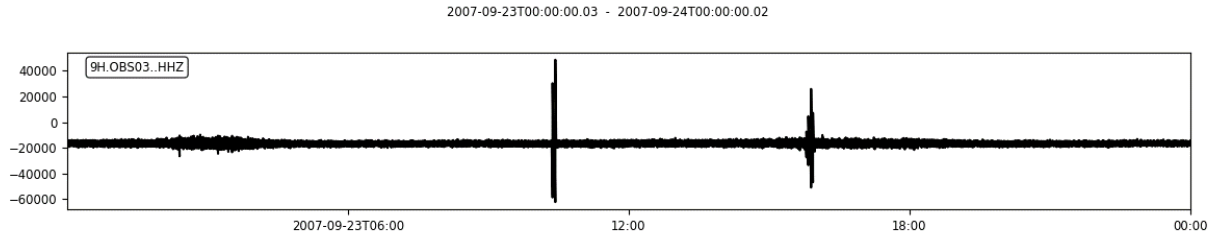

9H OBS01 HHY (2007-09-23)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

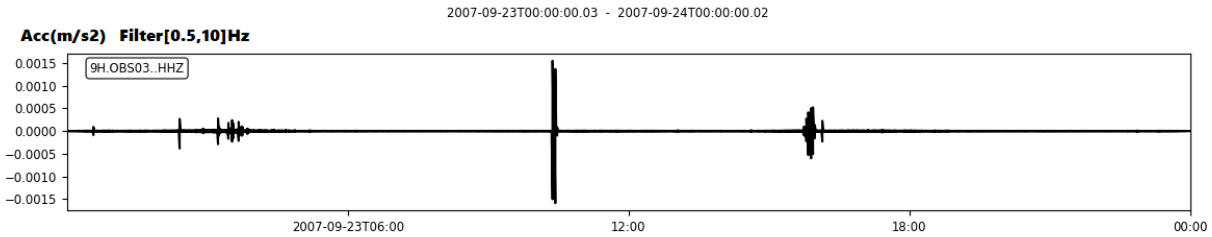

2007-09-23
Tidal Height(m)
Hours

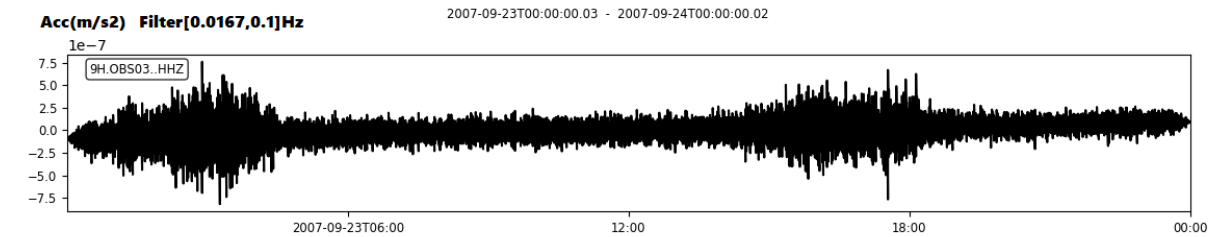

2007-09-23T00:00:00.02 - 2007-09-24T00:00:00.01
9H.OBS03..HHY
125000
100000
75000
50000
25000
0
−25000
2007-09-23T06:00
12:00
18:00
00:00


2007-09-23T00:00:00.02 - 2007-09-24T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0016
0.0008
0.0000
−0.0008
−0.0016
−0.0024
2007-09-23T06:00
12:00
18:00
00:00


2007-09-23T00:00:00.02 - 2007-09-24T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHY
8
4
0
−4
−8
2007-09-23T06:00
12:00
18:00
00:00


2007-09-23T00:00:00.03 - 2007-09-24T00:00:00.02
9H.OBS03..HHZ
40000
20000
0
−20000
−40000
−60000
2007-09-23T06:00
12:00
18:00
00:00


2007-09-23T00:00:00.03 - 2007-09-24T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
2007-09-23T06:00
12:00
18:00
00:00


2007-09-23T00:00:00.03 - 2007-09-24T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−7
9H.OBS03..HHZ
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
2007-09-23T06:00
12:00
18:00
00:00

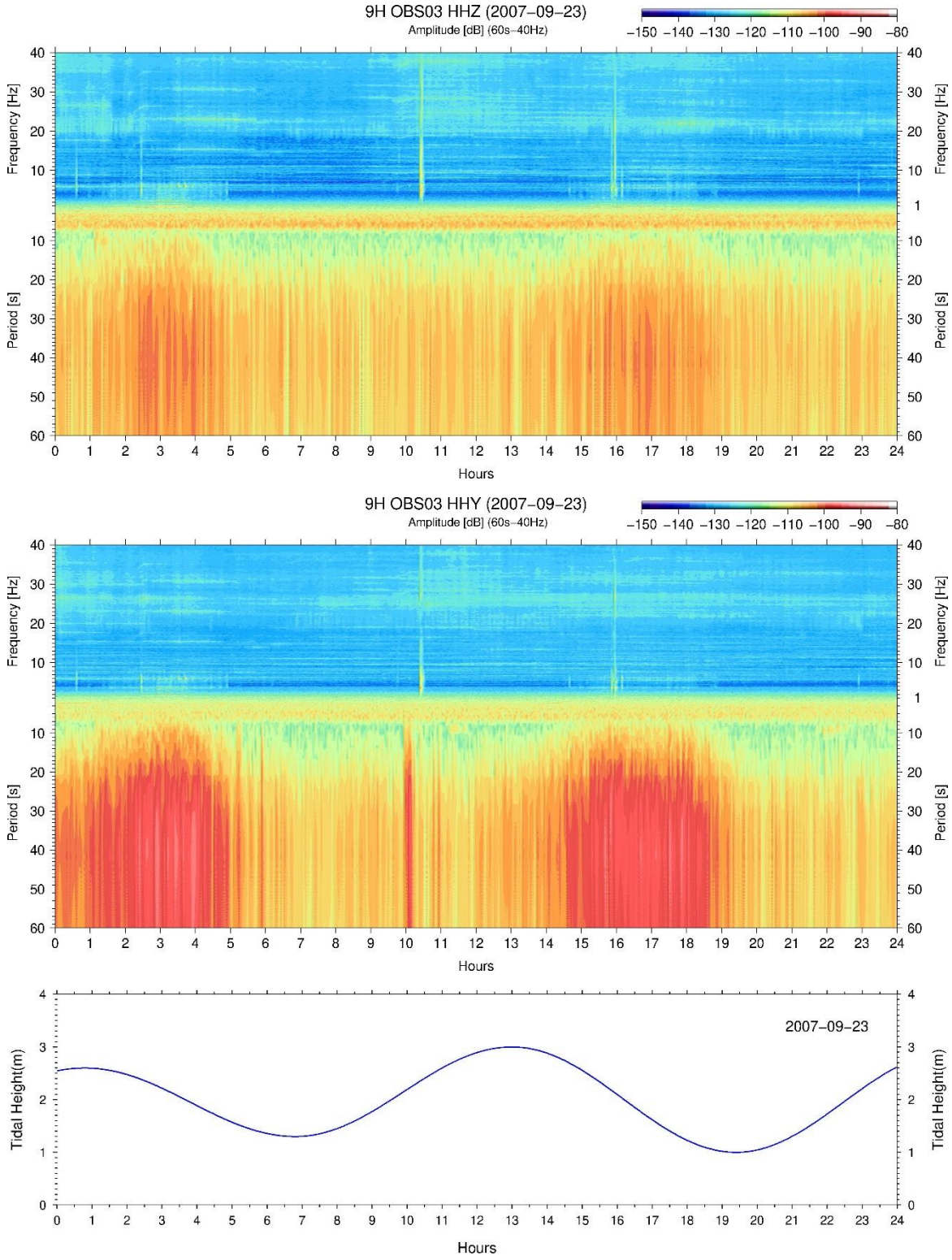
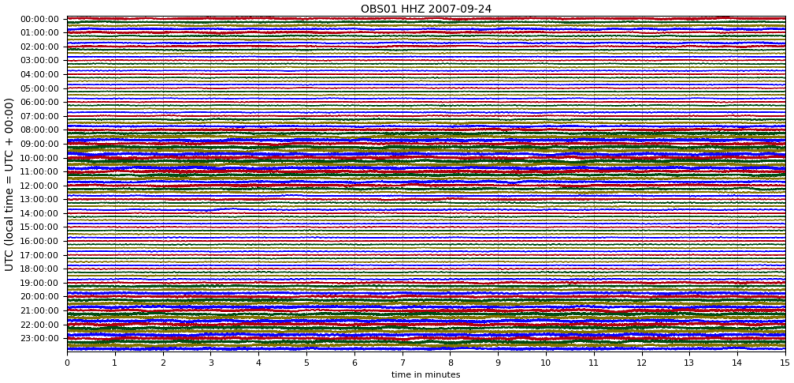
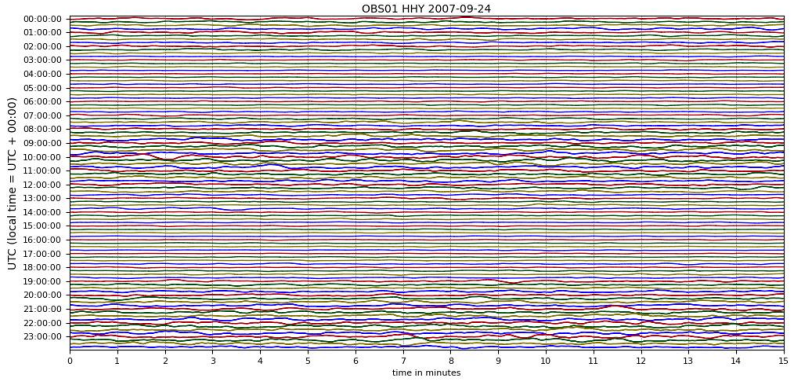
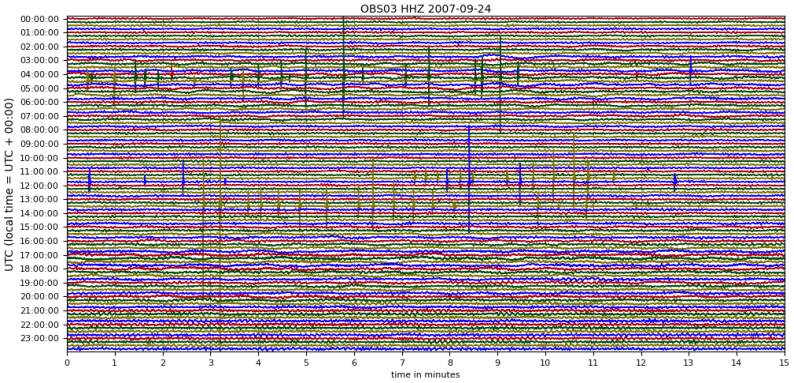
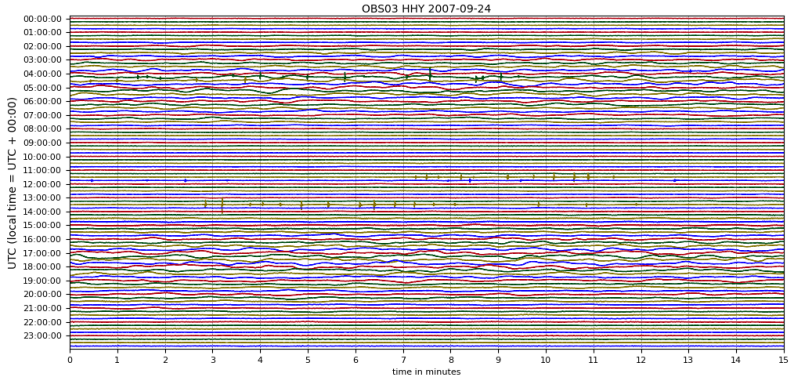


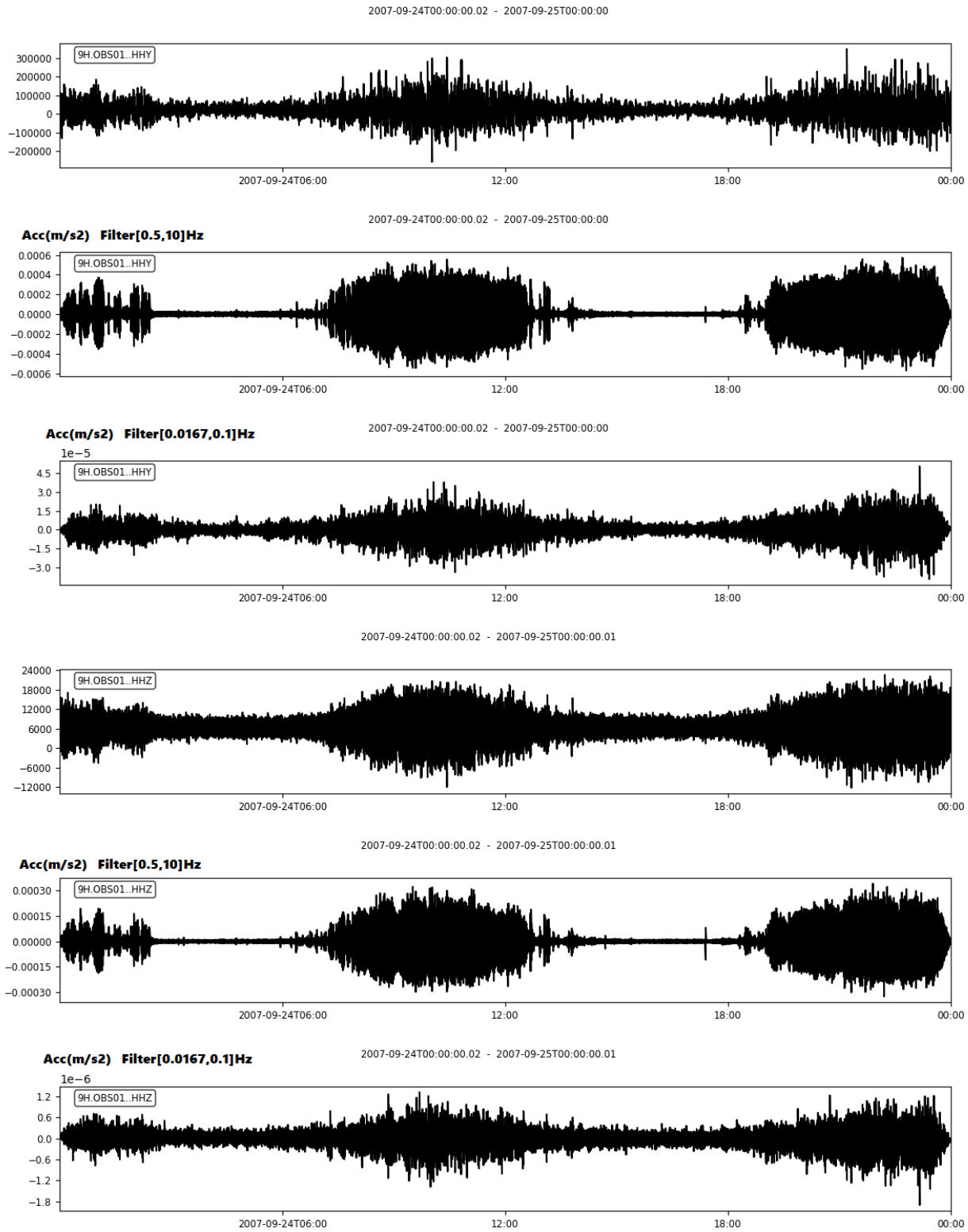

**Figure S14 | OBS01-OBS03 2007-09-23 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum tidal range of 1.5m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) in OBS01 and short duration events and whale vocalisation (20-24Hz) in OBS03.

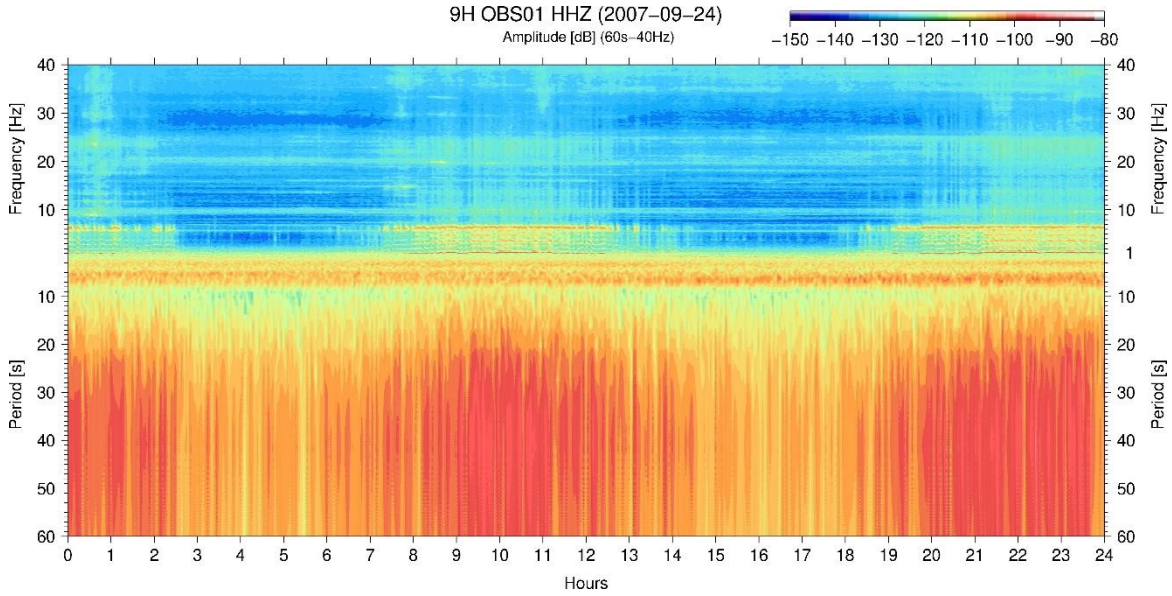

OBS01 HHZ 2007-09-24
UTC (local time = UTC + 00:00)
time in minutes

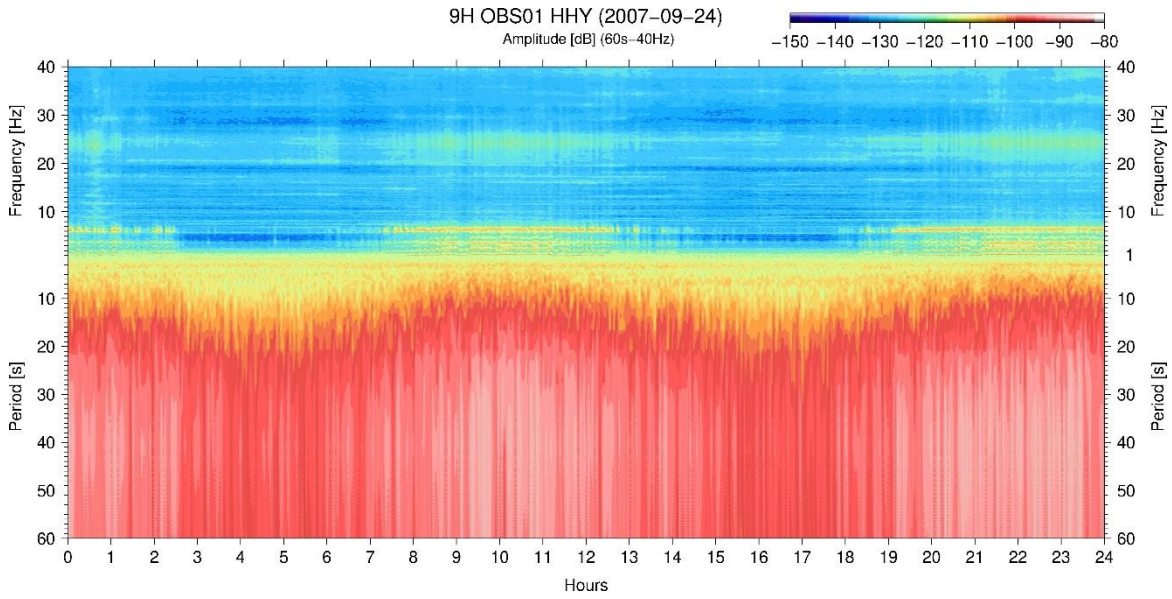

OBS01 HHY 2007-09-24
UTC (local time = UTC + 00:00)
time in minutes

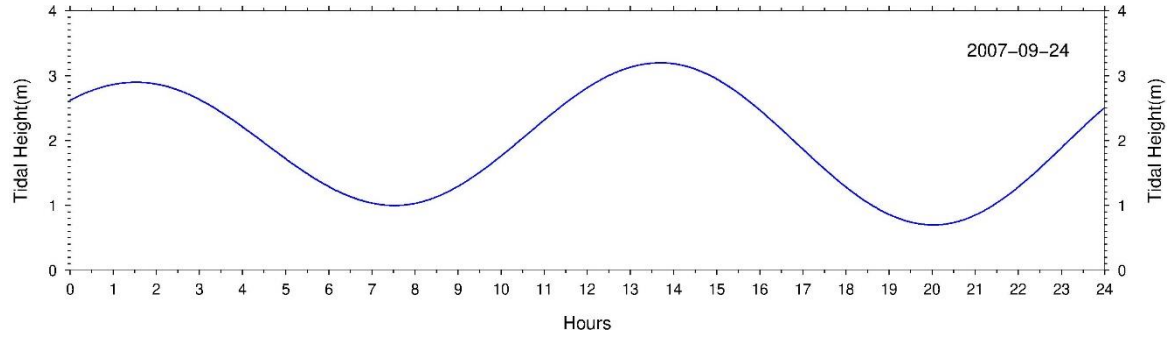

OBS03 HHZ 2007-09-24
UTC (local time = UTC + 00:00)
time in minutes

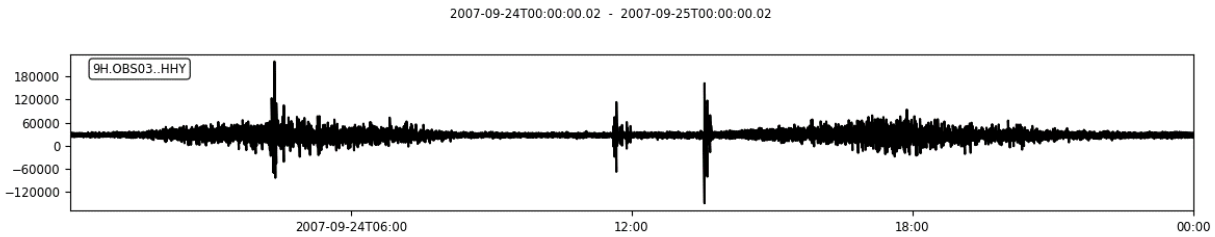

OBS03 HHY 2007-09-24
UTC (local time = UTC + 00:00)
time in minutes

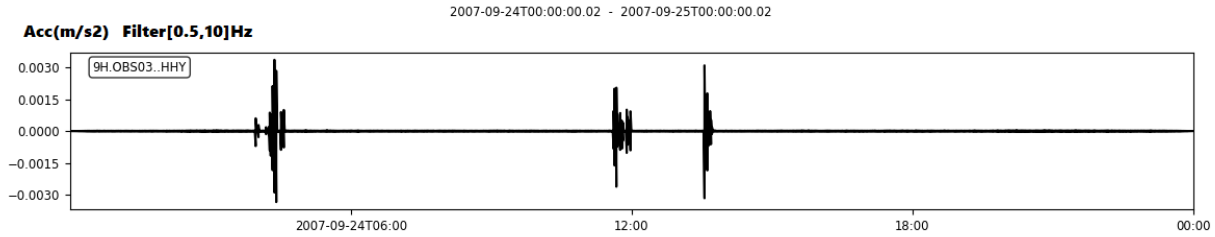

2007-09-24T00:00:00.02 - 2007-09-25T00:00:00
9H.OBS01..HHY
300000
200000
100000
0
−100000
−200000
2007-09-24T06:00
12:00
18:00
00:00
2007-09-24T00:00:00.02 - 2007-09-25T00:00:00
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0006
0.0004
0.0002
0.0000
−0.0002
−0.0004
−0.0006
2007-09-24T06:00
12:00
18:00
00:00
2007-09-24T00:00:00.02 - 2007-09-25T00:00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
4.5
3.0
1.5
0.0
−1.5
−3.0
2007-09-24T06:00
12:00
18:00
00:00
2007-09-24T00:00:00.02 - 2007-09-25T00:00:00.01
9H.OBS01..HHZ
24000
18000
12000
6000
0
−6000
−12000
2007-09-24T06:00
12:00
18:00
00:00
2007-09-24T00:00:00.02 - 2007-09-25T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.00030
0.00015
0.00000
−0.00015
−0.00030
2007-09-24T06:00
12:00
18:00
00:00
2007-09-24T00:00:00.02 - 2007-09-25T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
1.2
0.6
0.0
−0.6
−1.2
−1.8
2007-09-24T06:00
12:00
18:00
00:00

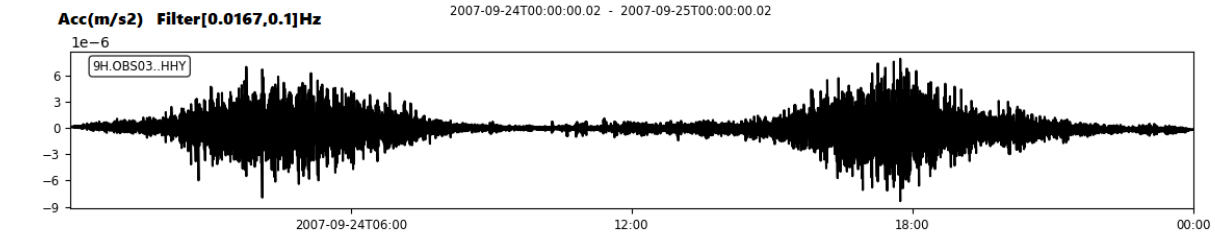

9H OBS01 HHZ (2007–09–24)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

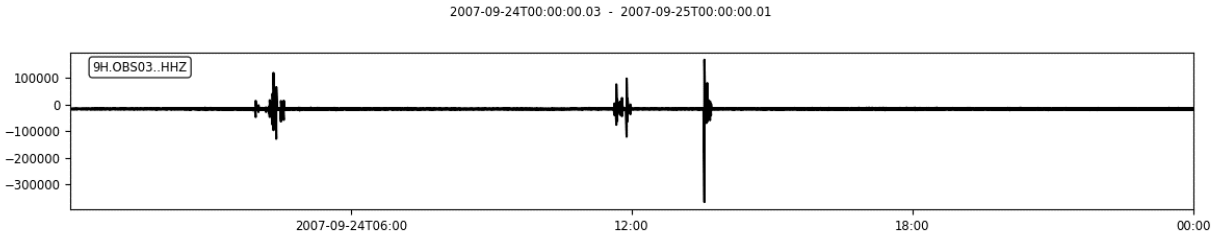

9H OBS01 HHY (2007–09–24)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

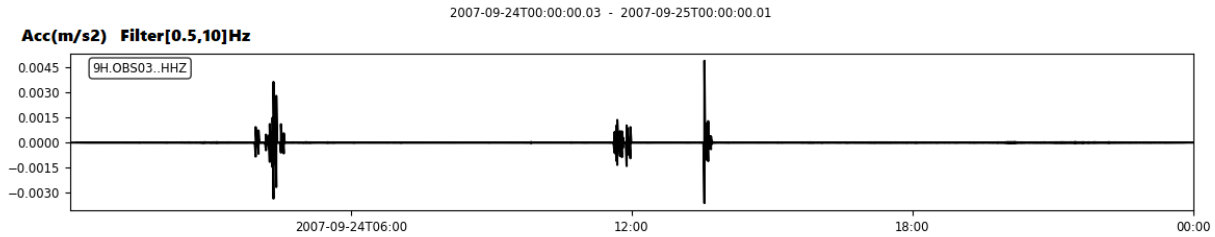

2007–09–24
Tidal Height(m)
Hours

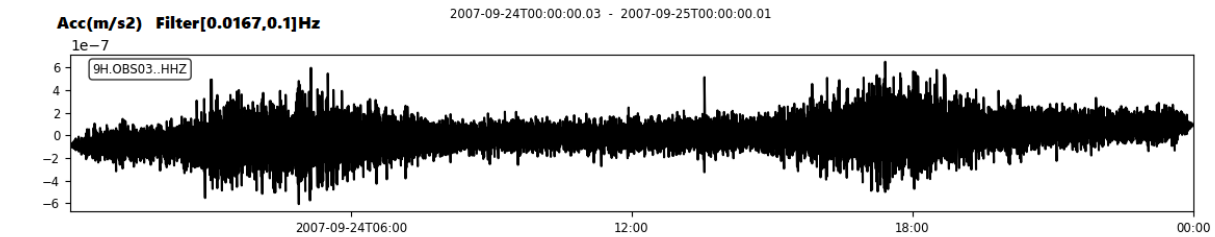

2007-09-24T00:00:00.02 - 2007-09-25T00:00:00.02
9H.OBS03..HHY
180000
120000
60000
0
−60000
−120000
2007-09-24T06:00
12:00
18:00
00:00


2007-09-24T00:00:00.02 - 2007-09-25T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0030
0.0015
0.0000
−0.0015
−0.0030
2007-09-24T06:00
12:00
18:00
00:00


2007-09-24T00:00:00.02 - 2007-09-25T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHY
6
3
0
−3
−6
−9
2007-09-24T06:00
12:00
18:00
00:00


2007-09-24T00:00:00.03 - 2007-09-25T00:00:00.01
9H.OBS03..HHZ
100000
0
−100000
−200000
−300000
2007-09-24T06:00
12:00
18:00
00:00


2007-09-24T00:00:00.03 - 2007-09-25T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0045
0.0030
0.0015
0.0000
−0.0015
−0.0030
2007-09-24T06:00
12:00
18:00
00:00


2007-09-24T00:00:00.03 - 2007-09-25T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−7
9H.OBS03..HHZ
6
4
2
0
−2
−4
−6
2007-09-24T06:00
12:00
18:00
00:00

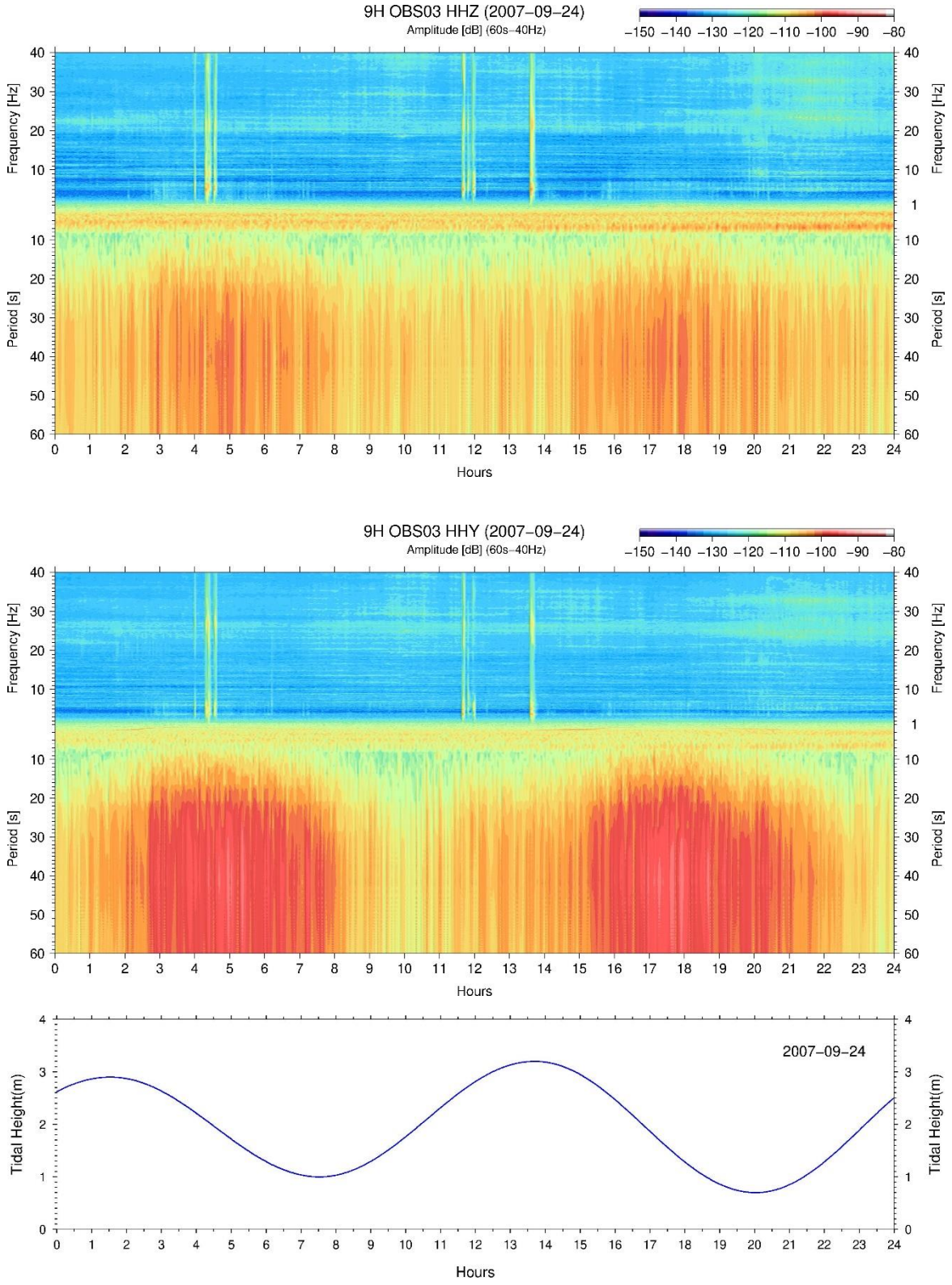
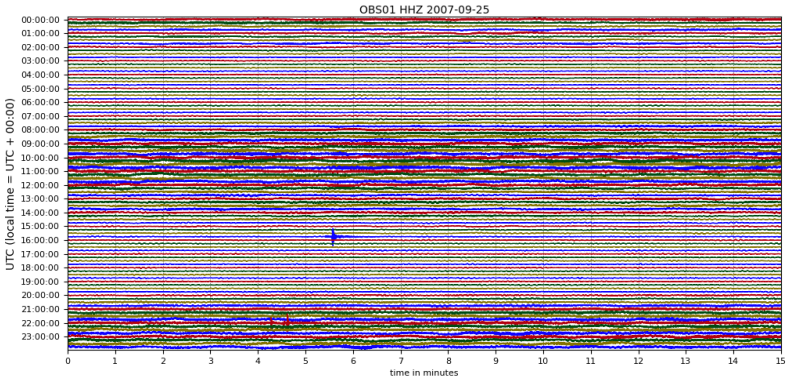
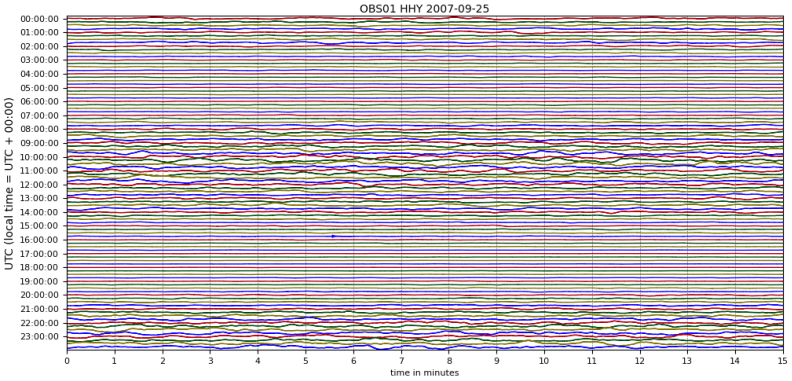
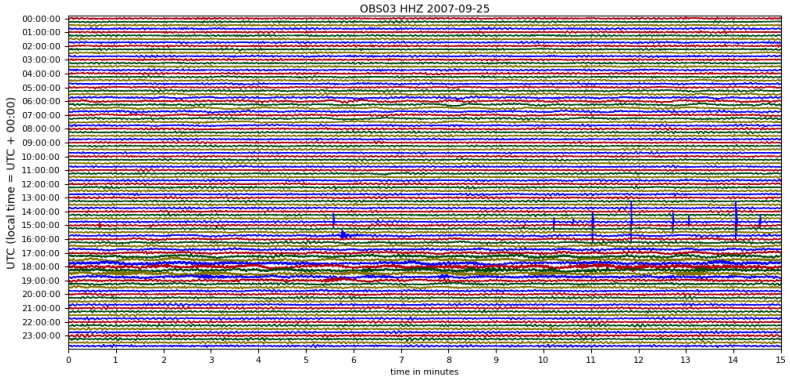
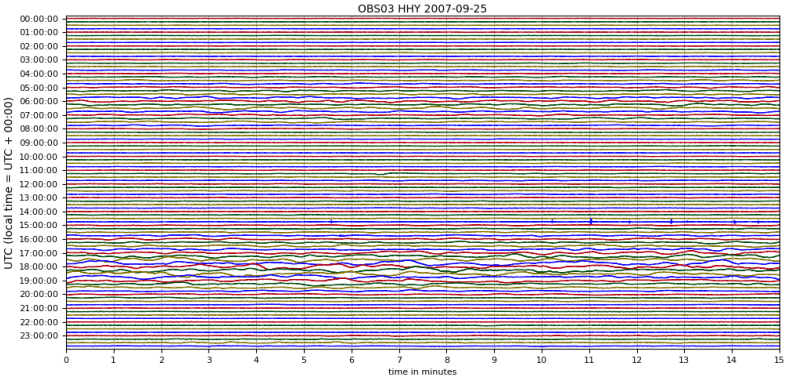


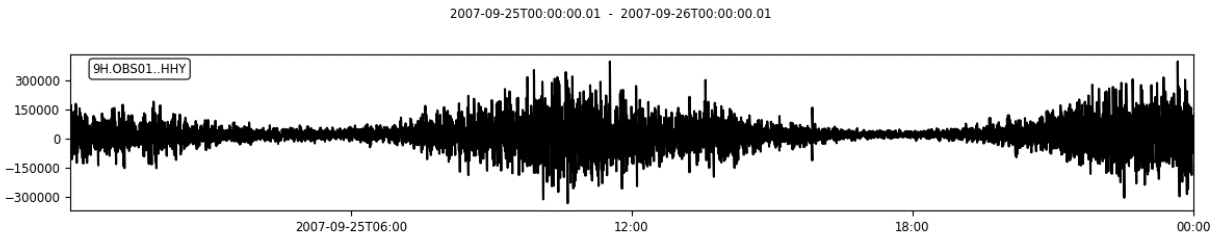

**Figure S15 | OBS01 2007-09-24 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height of Sines (maximum Tidal range of 2.5m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz) in OBS01, short duration events (OBS03) and secondary microseisms (6-7s).

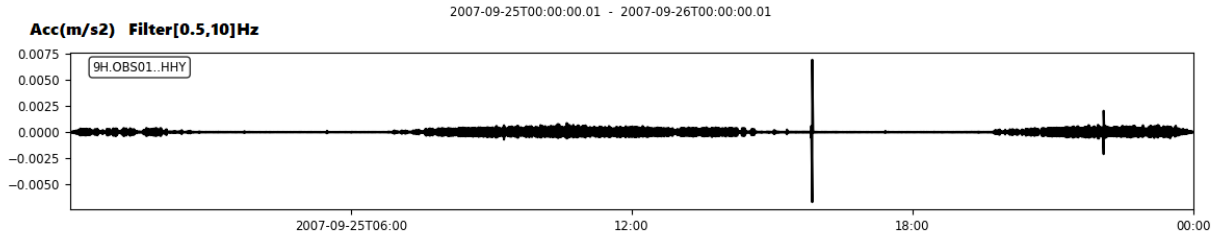

OBS01 HHZ 2007-09-25
UTC (local time = UTC + 00:00)
time in minutes

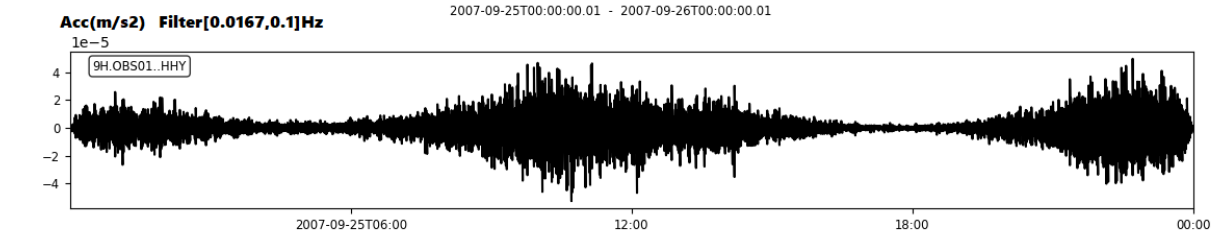

OBS01 HHY 2007-09-25
UTC (local time = UTC + 00:00)
time in minutes

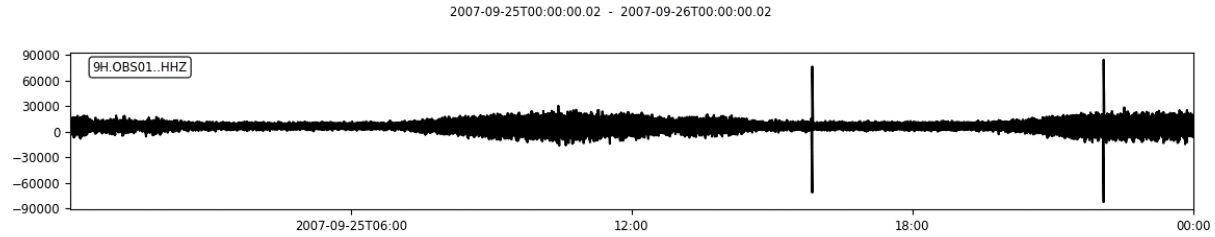

OBS03 HHZ 2007-09-25
UTC (local time = UTC + 00:00)
time in minutes

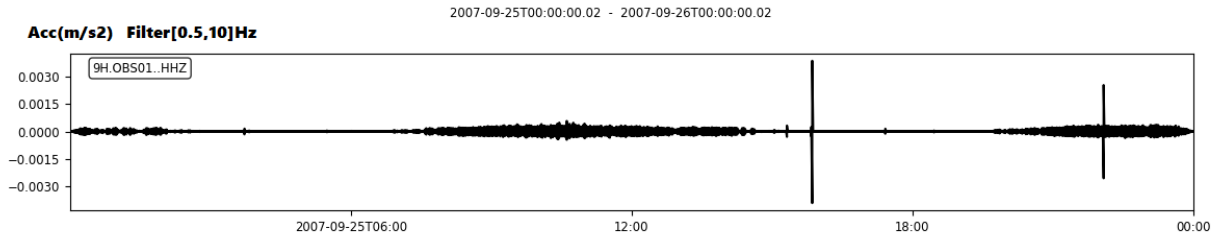

OBS03 HHY 2007-09-25
UTC (local time = UTC + 00:00)
time in minutes

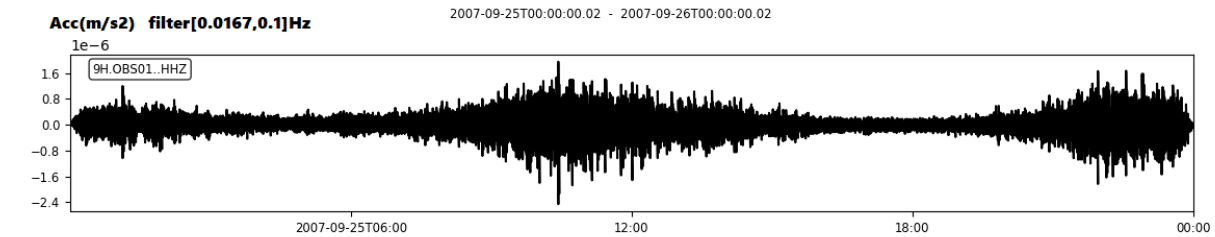

2007-09-25T00:00:00.01 - 2007-09-26T00:00:00.01
9H.OBS01..HHY
300000
150000
0
−150000
−300000
2007-09-25T06:00
12:00
18:00
00:00

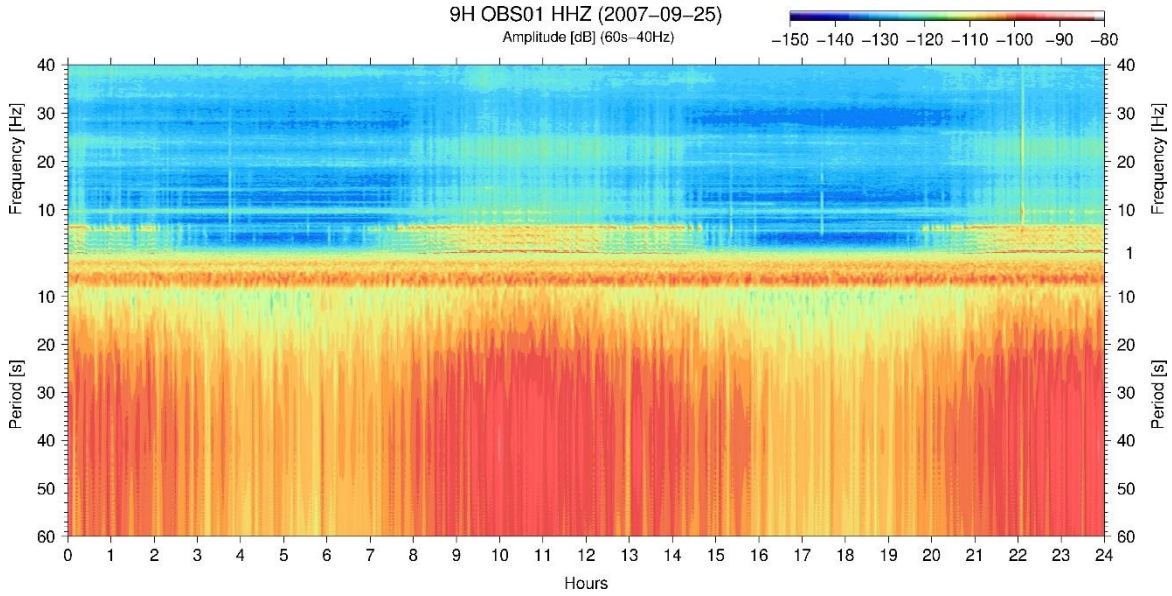

2007-09-25T00:00:00.01 - 2007-09-26T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0075
0.0050
0.0025
0.0000
−0.0025
−0.0050
2007-09-25T06:00
12:00
18:00
00:00

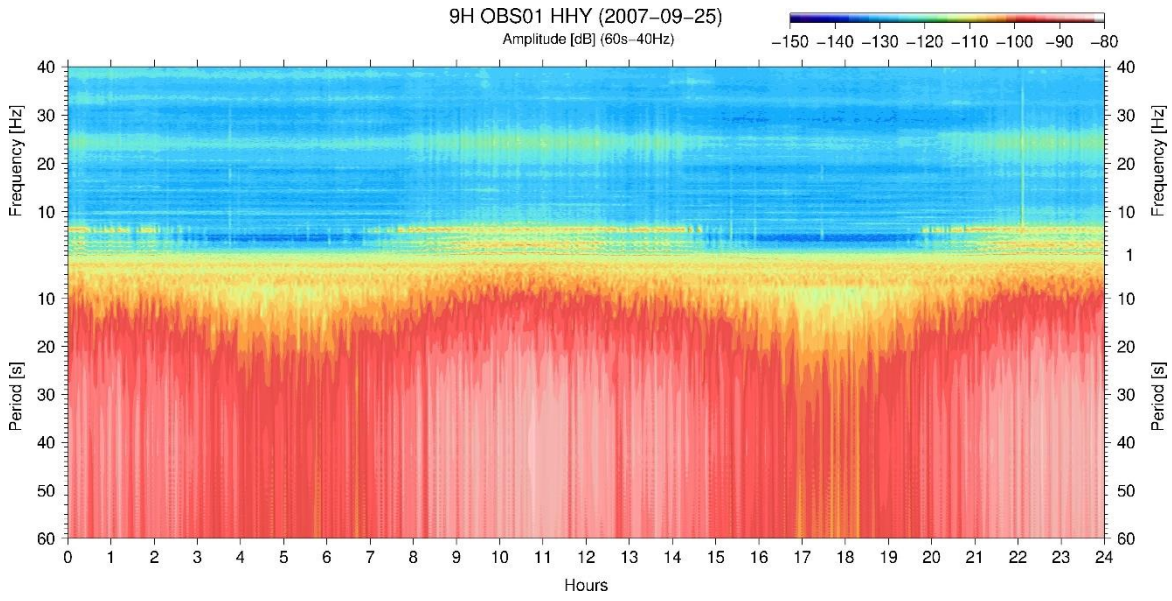

2007-09-25T00:00:00.01 - 2007-09-26T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
4
2
0
−2
−4
2007-09-25T06:00
12:00
18:00
00:00

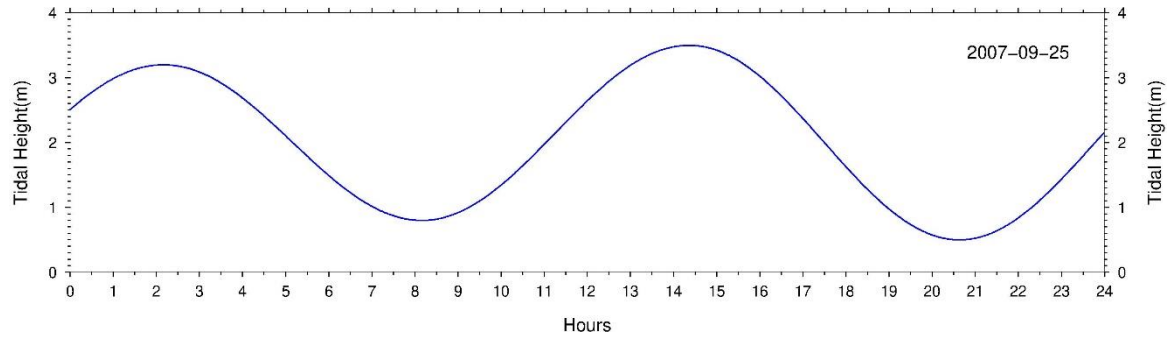

2007-09-25T00:00:00.02 - 2007-09-26T00:00:00.02
9H.OBS01..HHZ
90000
60000
30000
0
−30000
−60000
−90000
2007-09-25T06:00
12:00
18:00
00:00

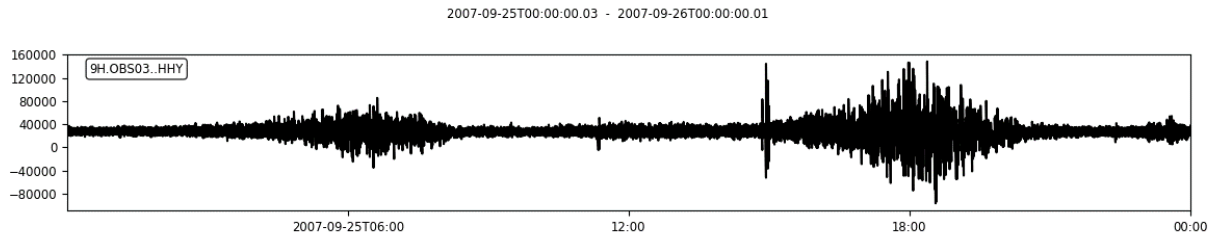

2007-09-25T00:00:00.02 - 2007-09-26T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.0030
0.0015
0.0000
−0.0015
−0.0030
2007-09-25T06:00
12:00
18:00
00:00

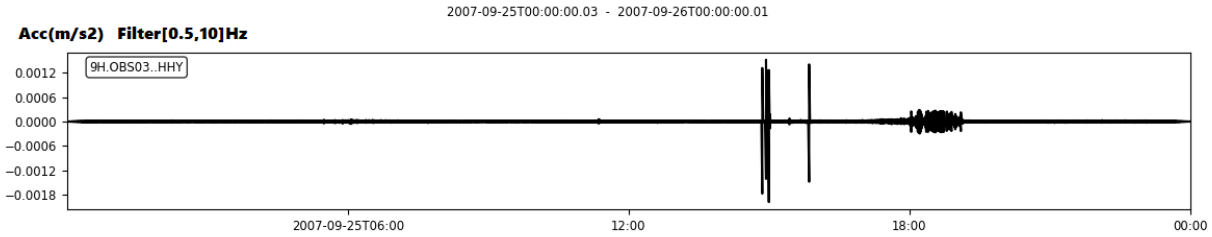

2007-09-25T00:00:00.02 - 2007-09-26T00:00:00.02
Acc(m/s2) filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
1.6
0.8
0.0
−0.8
−1.6
−2.4
2007-09-25T06:00
12:00
18:00
00:00

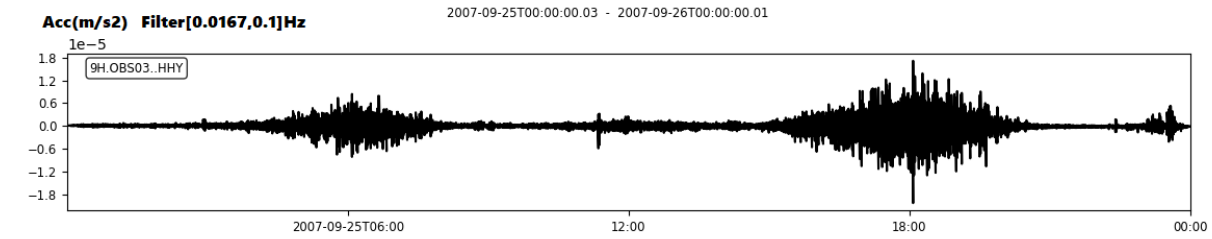

9H OBS01 HHZ (2007-09-25)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

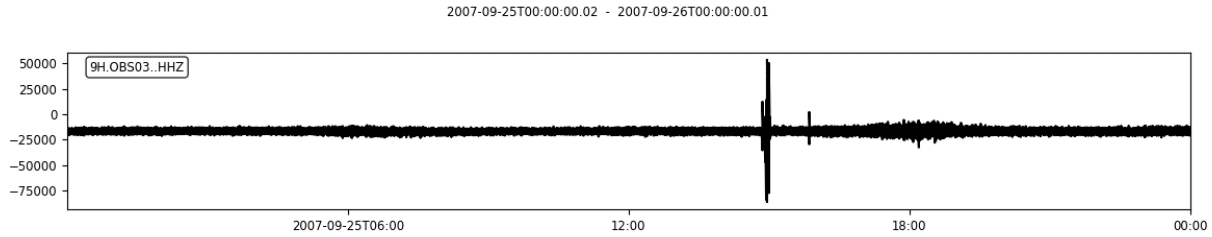

9H OBS01 HHY (2007-09-25)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

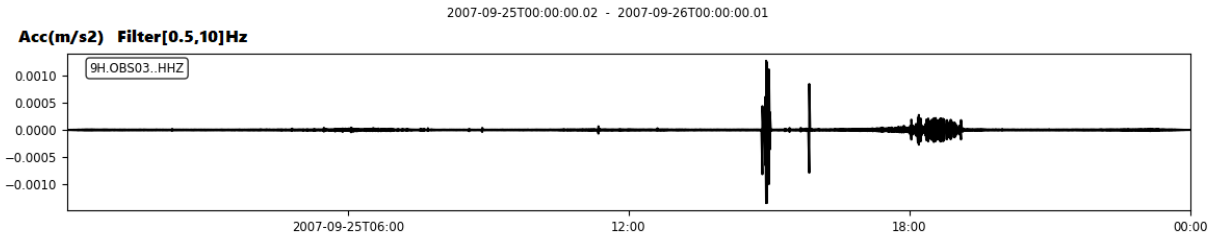

2007-09-25
Tidal Height(m)
Hours

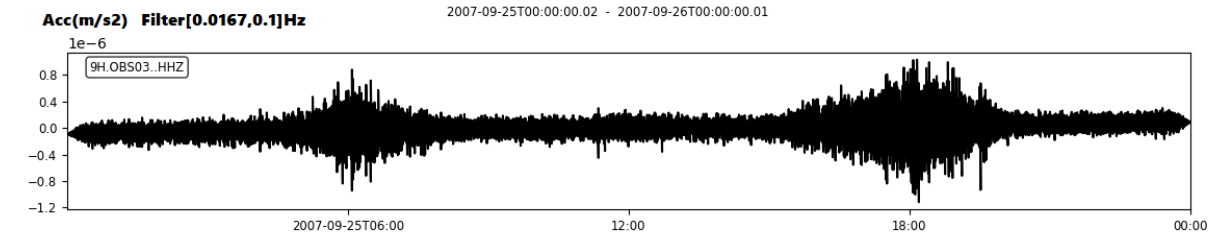

2007-09-25T00:00:00.03 - 2007-09-26T00:00:00.01
9H.OBS03..HHY
160000
120000
80000
40000
0
−40000
−80000
2007-09-25T06:00
12:00
18:00
00:00


2007-09-25T00:00:00.03 - 2007-09-26T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0012
0.0006
0.0000
−0.0006
−0.0012
−0.0018
2007-09-25T06:00
12:00
18:00
00:00


2007-09-25T00:00:00.03 - 2007-09-26T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
1.8
1.2
0.6
0.0
−0.6
−1.2
−1.8
2007-09-25T06:00
12:00
18:00
00:00


2007-09-25T00:00:00.02 - 2007-09-26T00:00:00.01
9H.OBS03..HHZ
50000
25000
0
−25000
−50000
−75000
2007-09-25T06:00
12:00
18:00
00:00


2007-09-25T00:00:00.02 - 2007-09-26T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0010
0.0005
0.0000
−0.0005
−0.0010
2007-09-25T06:00
12:00
18:00
00:00


2007-09-25T00:00:00.02 - 2007-09-26T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
0.8
0.4
0.0
−0.4
−0.8
−1.2
2007-09-25T06:00
12:00
18:00
00:00

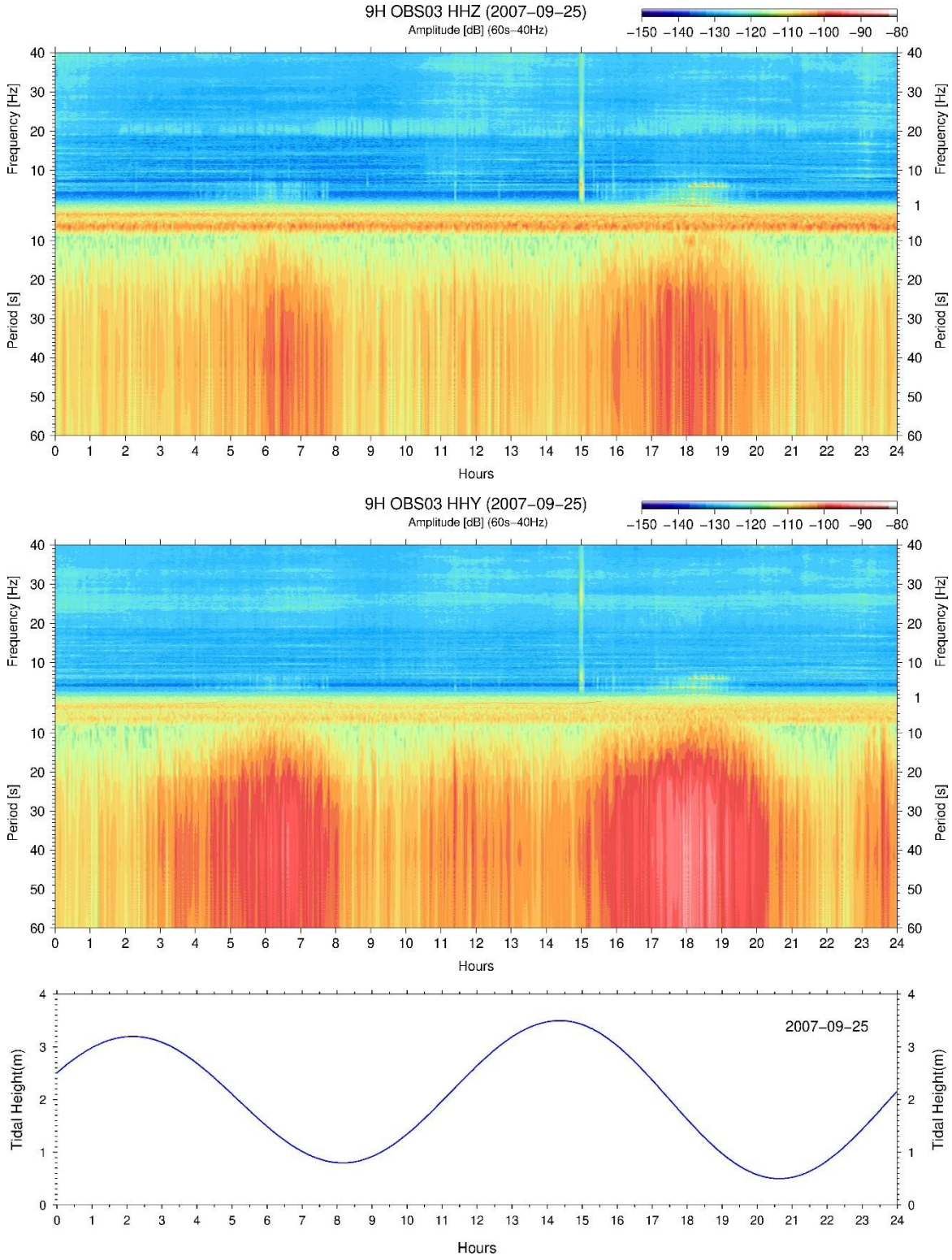
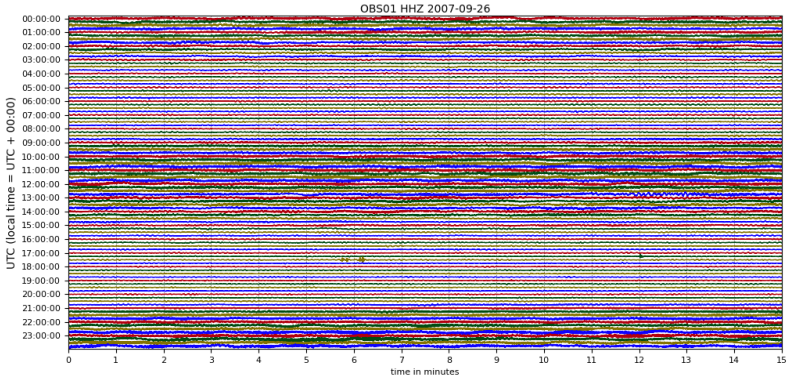
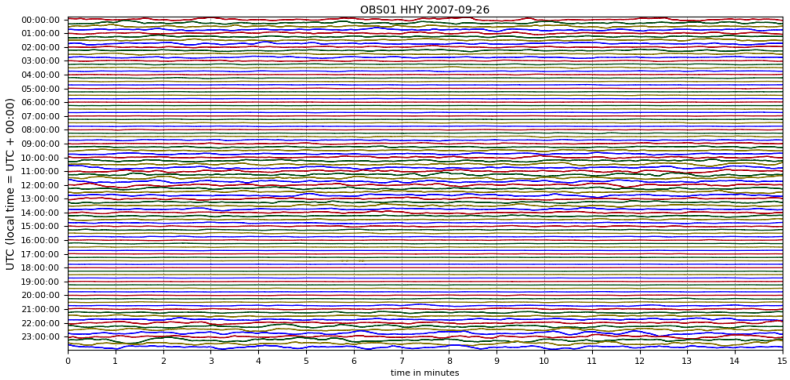
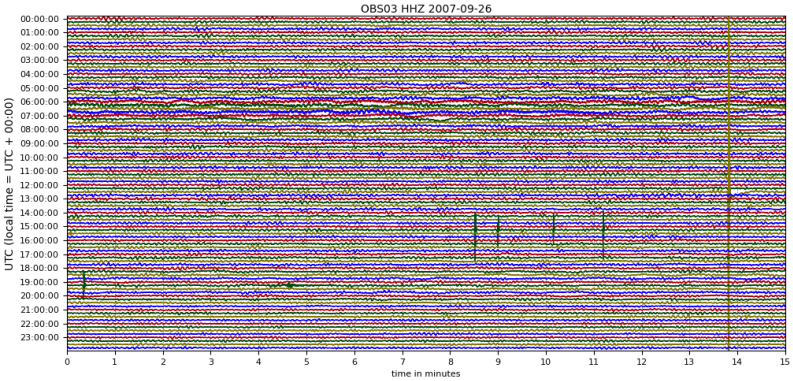
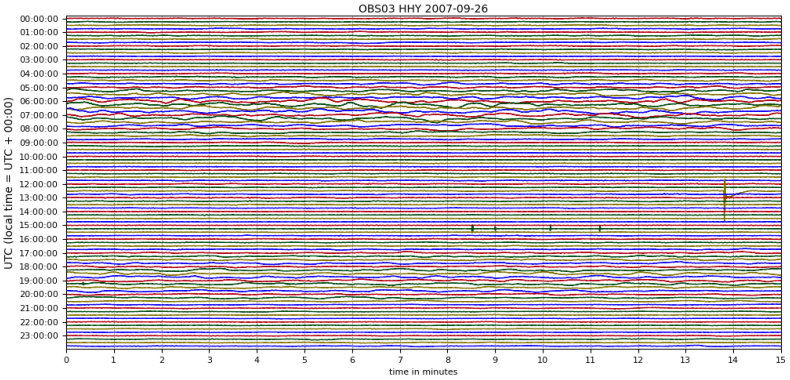


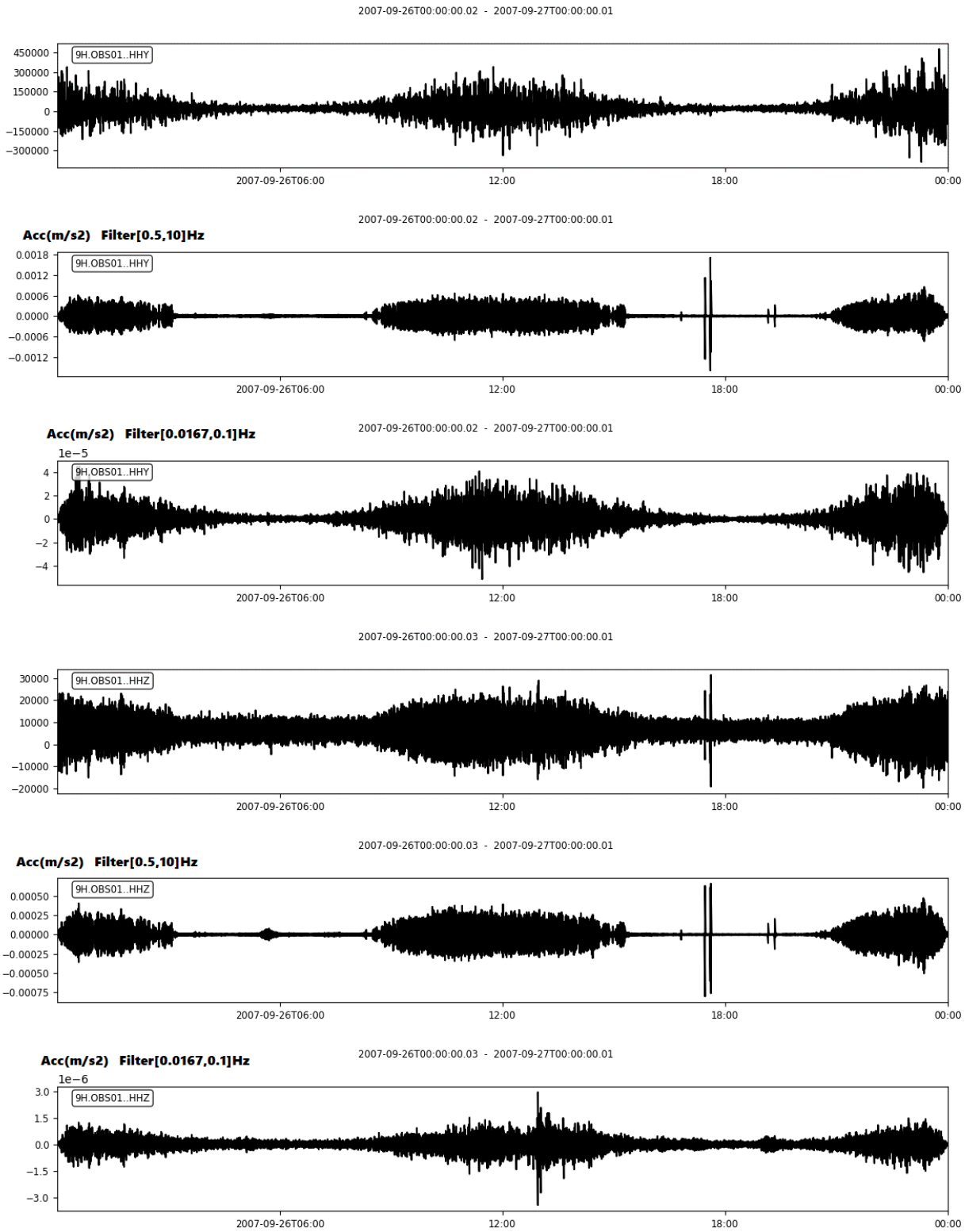

**Figure S16 | OBS01-OBS03 2007-09-25 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height in Sines (maximum tidal range of 3.0m), showing one local earthquake, the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz), short duration events and whales vocalization (20-24Hz) in OBS03.

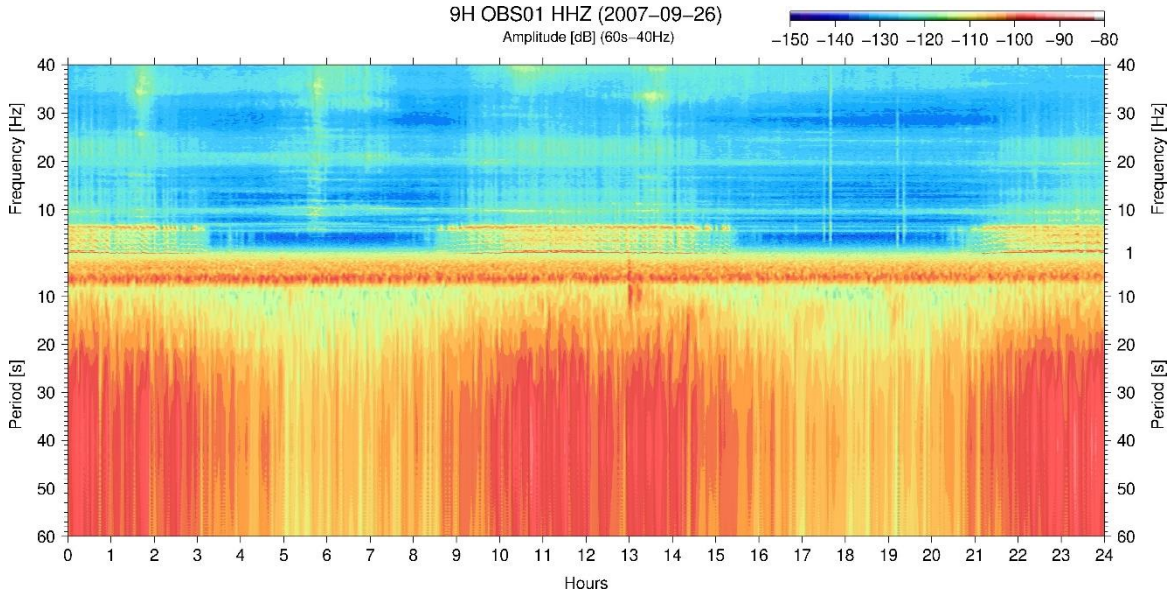

OBS01 HHZ 2007-09-26
UTC (local time = UTC + 00:00)
time in minutes

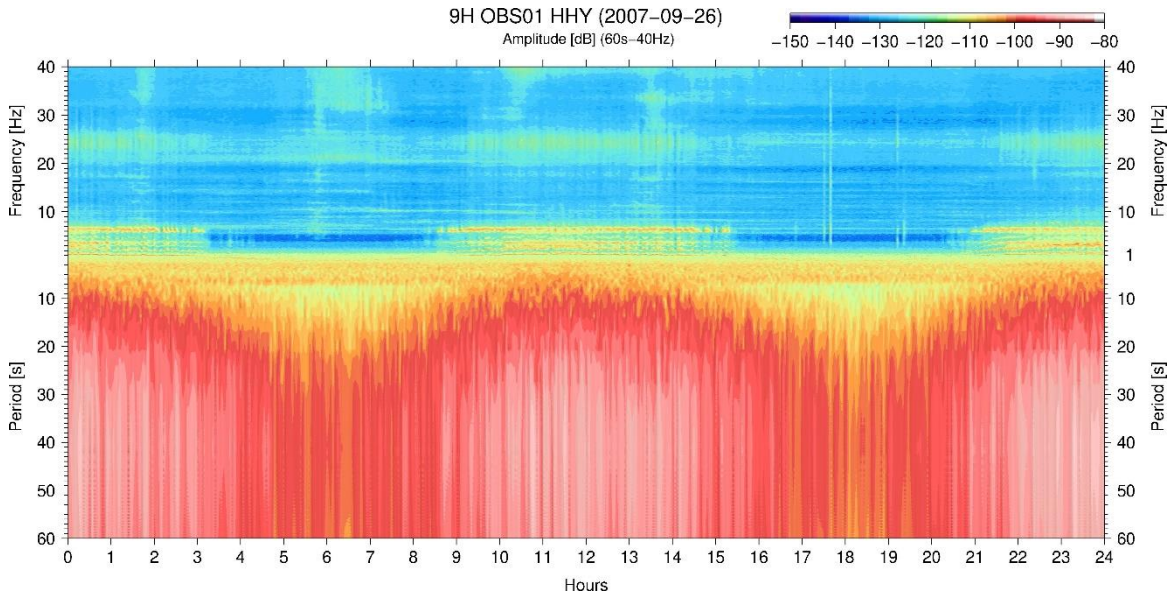

OBS01 HHY 2007-09-26
UTC (local time = UTC + 00:00)
time in minutes

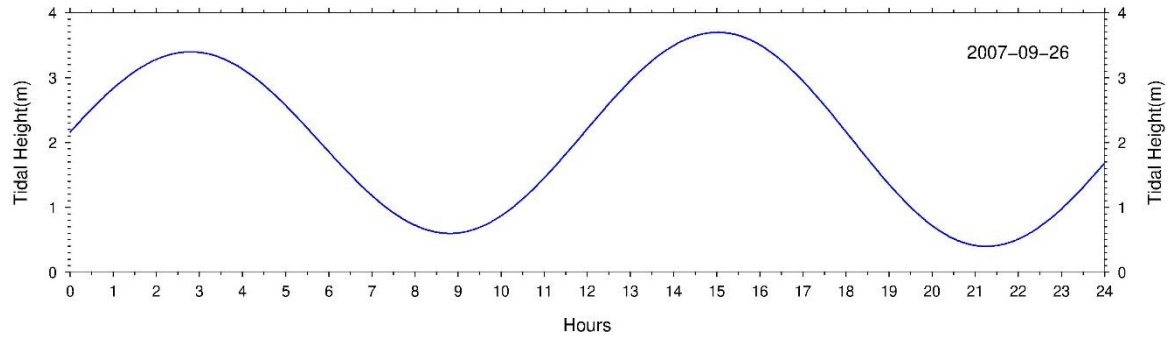

OBS03 HHZ 2007-09-26
UTC (local time = UTC + 00:00)
time in minutes

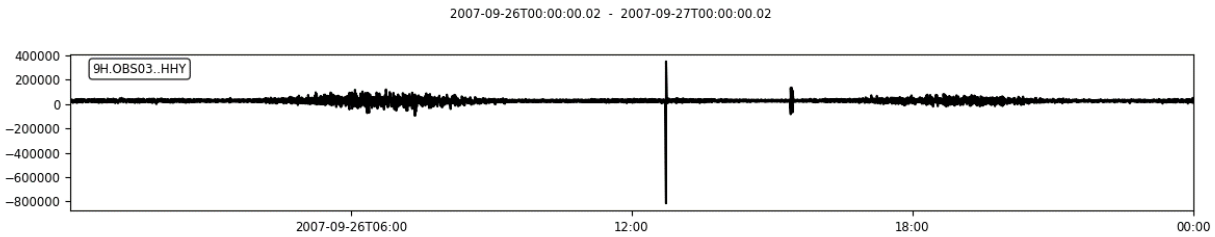

OBS03 HHY 2007-09-26
UTC (local time = UTC + 00:00)
time in minutes

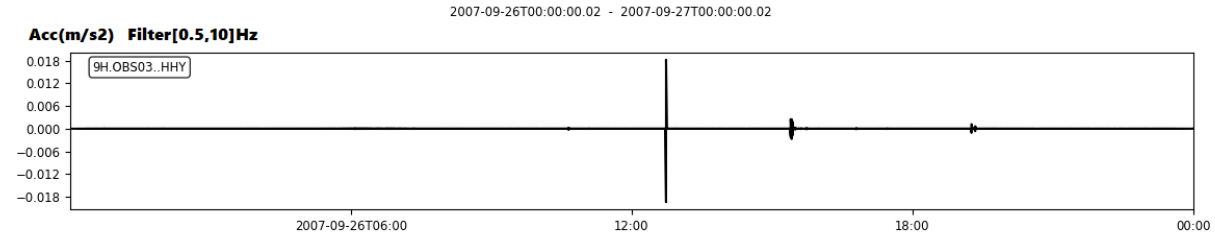

2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.01
9H.OBS01..HHY
450000
300000
150000
0
−150000
−300000
2007-09-26T06:00
12:00
18:00
00:00
2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0018
0.0012
0.0006
0.0000
−0.0006
−0.0012
2007-09-26T06:00
12:00
18:00
00:00
2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
4
2
0
−2
−4
2007-09-26T06:00
12:00
18:00
00:00
2007-09-26T00:00:00.03 - 2007-09-27T00:00:00.01
9H.OBS01..HHZ
30000
20000
10000
0
−10000
−20000
2007-09-26T06:00
12:00
18:00
00:00
2007-09-26T00:00:00.03 - 2007-09-27T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.00050
0.00025
0.00000
−0.00025
−0.00050
−0.00075
2007-09-26T06:00
12:00
18:00
00:00
2007-09-26T00:00:00.03 - 2007-09-27T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
3.0
1.5
0.0
−1.5
−3.0
2007-09-26T06:00
12:00
18:00
00:00

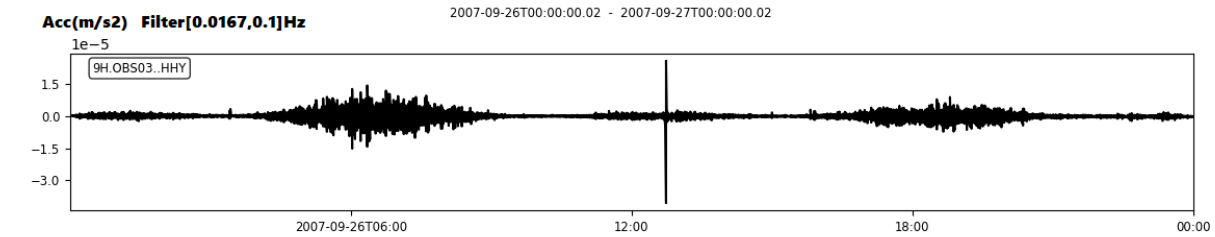

9H OBS01 HHZ (2007-09-26)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

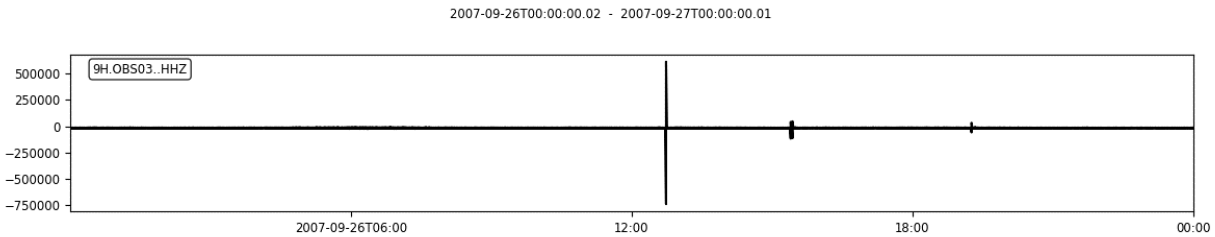

9H OBS01 HHY (2007-09-26)
Amplitude [dB] (60s-40Hz)
-150 -140 -130 -120 -110 -100 -90 -80
Frequency [Hz]
Period [s]
Hours

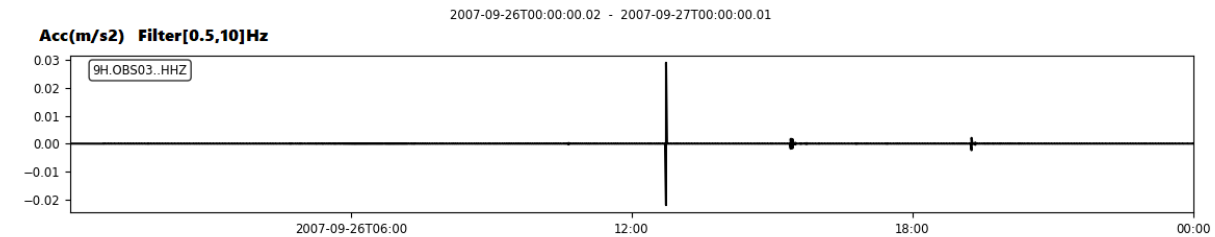

2007-09-26
Tidal Height(m)
Hours

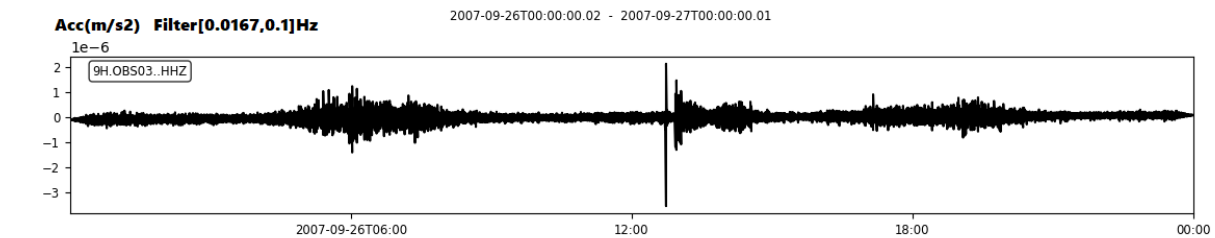

2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.02
9H.OBS03..HHY
400000
200000
0
−200000
−400000
−600000
−800000
2007-09-26T06:00
12:00
18:00
00:00


2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.02
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.018
0.012
0.006
0.000
−0.006
−0.012
−0.018
2007-09-26T06:00
12:00
18:00
00:00


2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.02
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
1.5
0.0
−1.5
−3.0
2007-09-26T06:00
12:00
18:00
00:00


2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.01
9H.OBS03..HHZ
500000
250000
0
−250000
−500000
−750000
2007-09-26T06:00
12:00
18:00
00:00


2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.03
0.02
0.01
0.00
−0.01
−0.02
2007-09-26T06:00
12:00
18:00
00:00


2007-09-26T00:00:00.02 - 2007-09-27T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
2
1
0
−1
−2
−3
2007-09-26T06:00
12:00
18:00
00:00

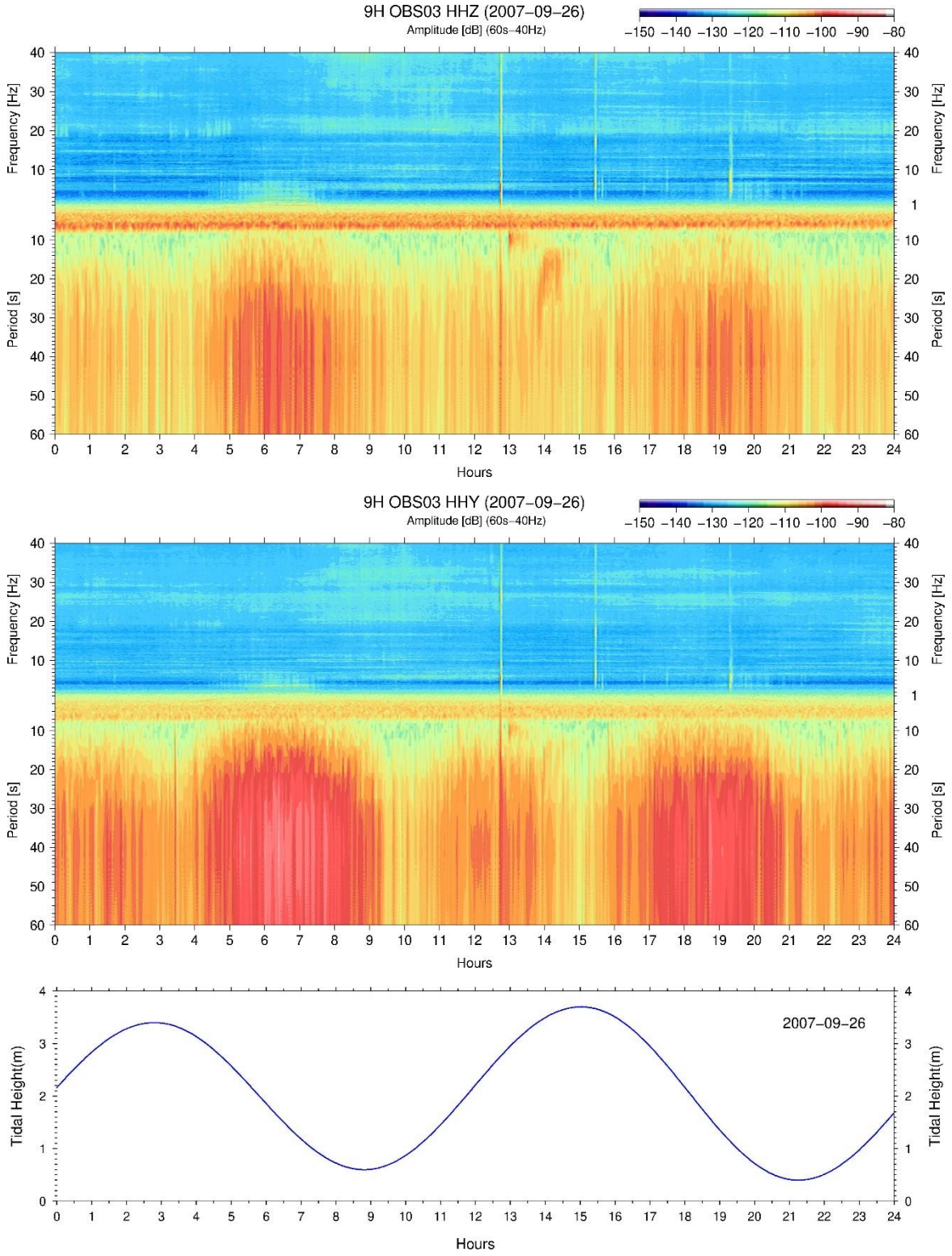
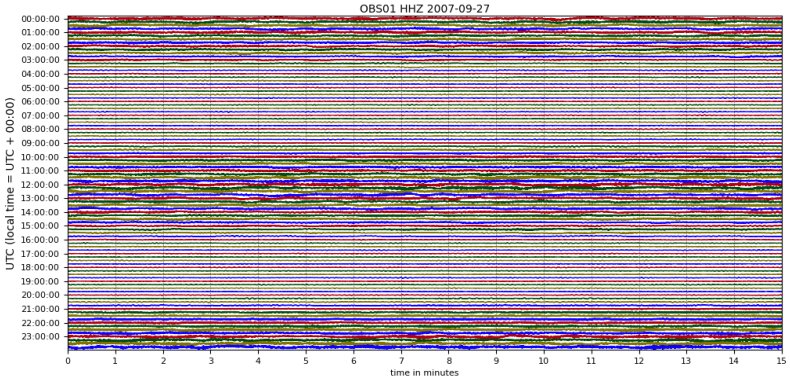
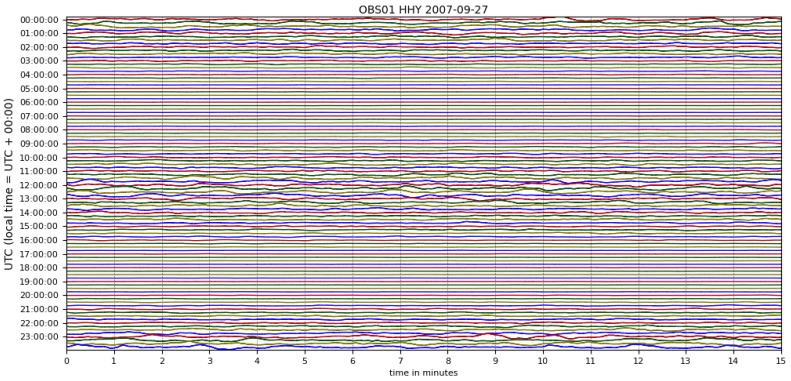
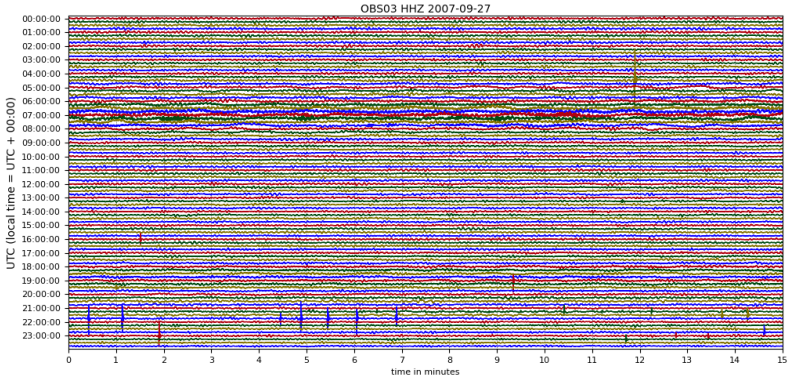
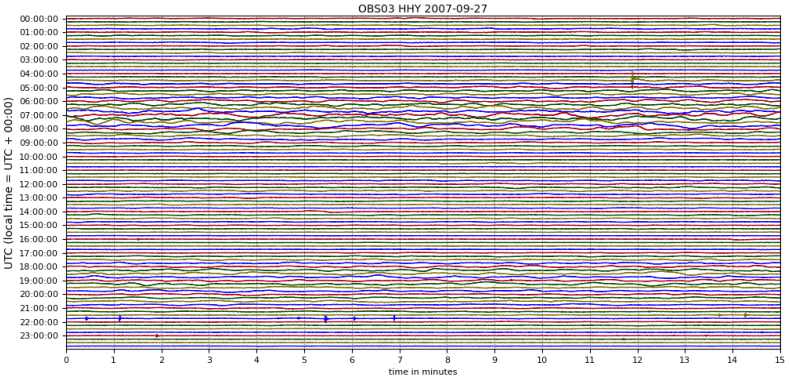


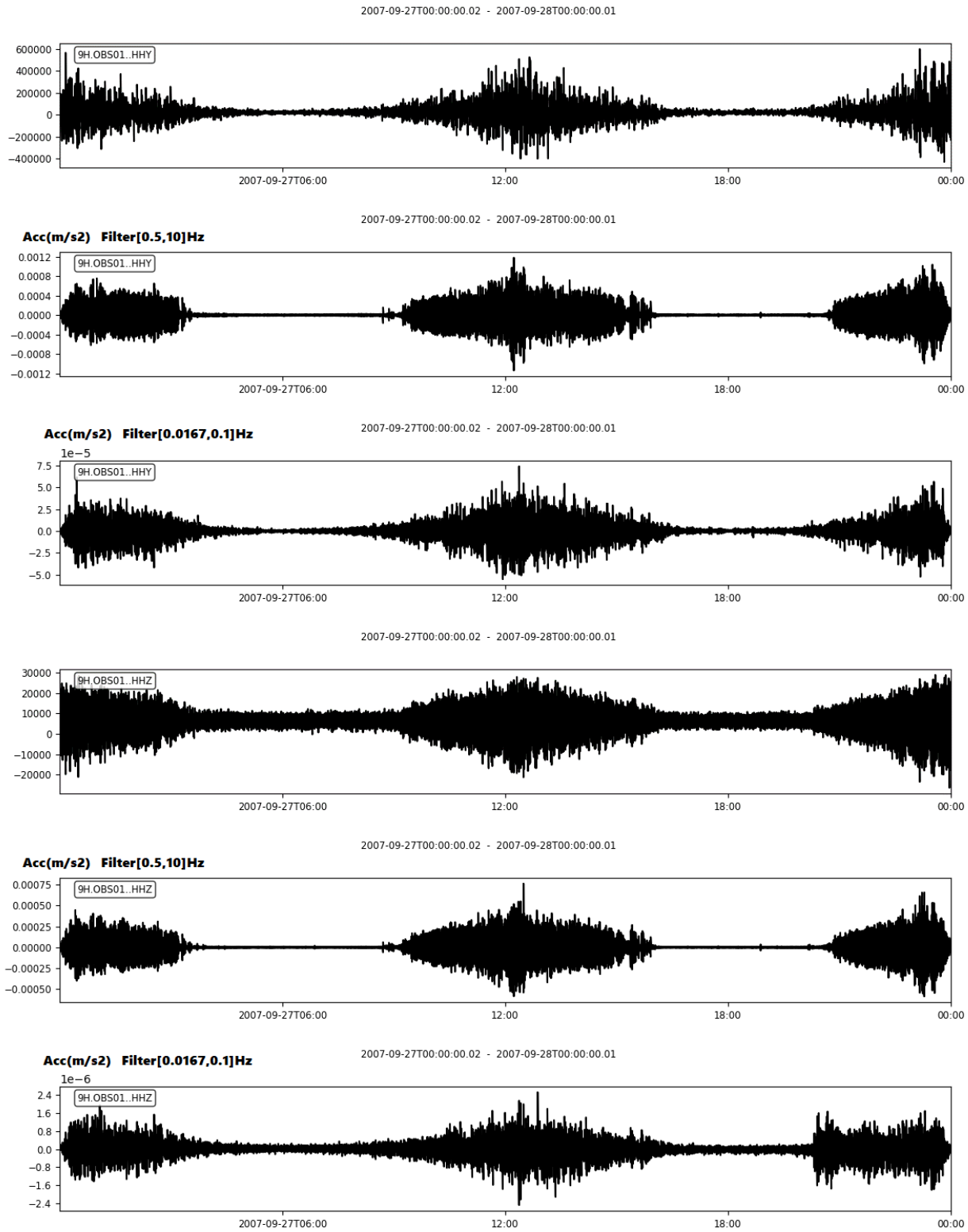

**Figure S17 | OBS01-OBS03 2007-09-26 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height in Sines (maximum tidal range of 3.4m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz), short duration events and secondary microseism.

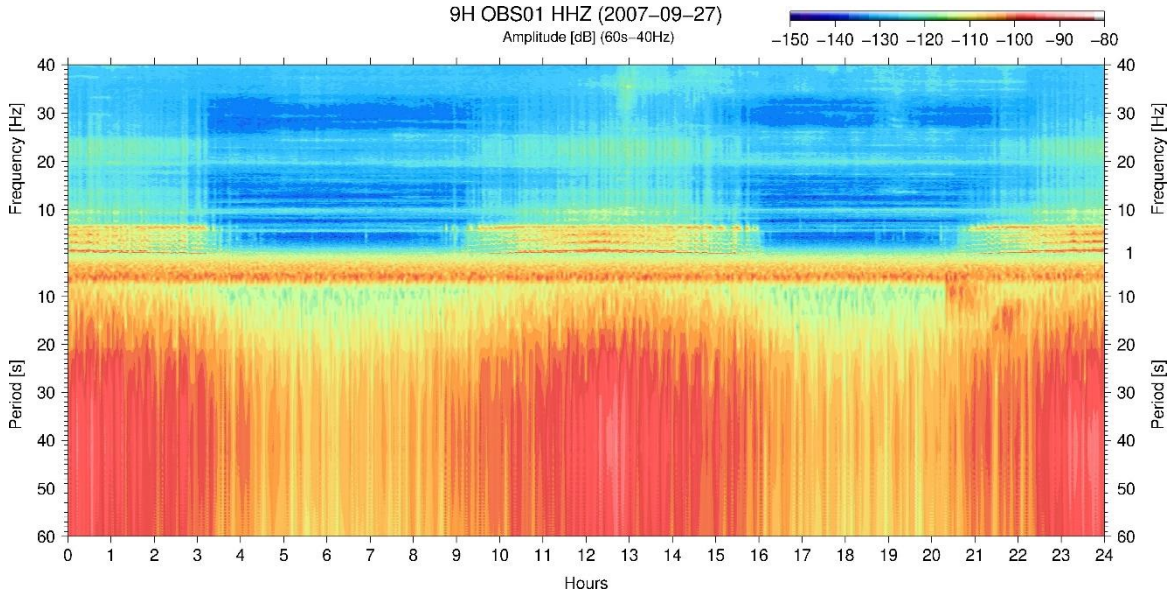

OBS01 HHZ 2007-09-27
UTC (local time = UTC + 00:00)
time in minutes

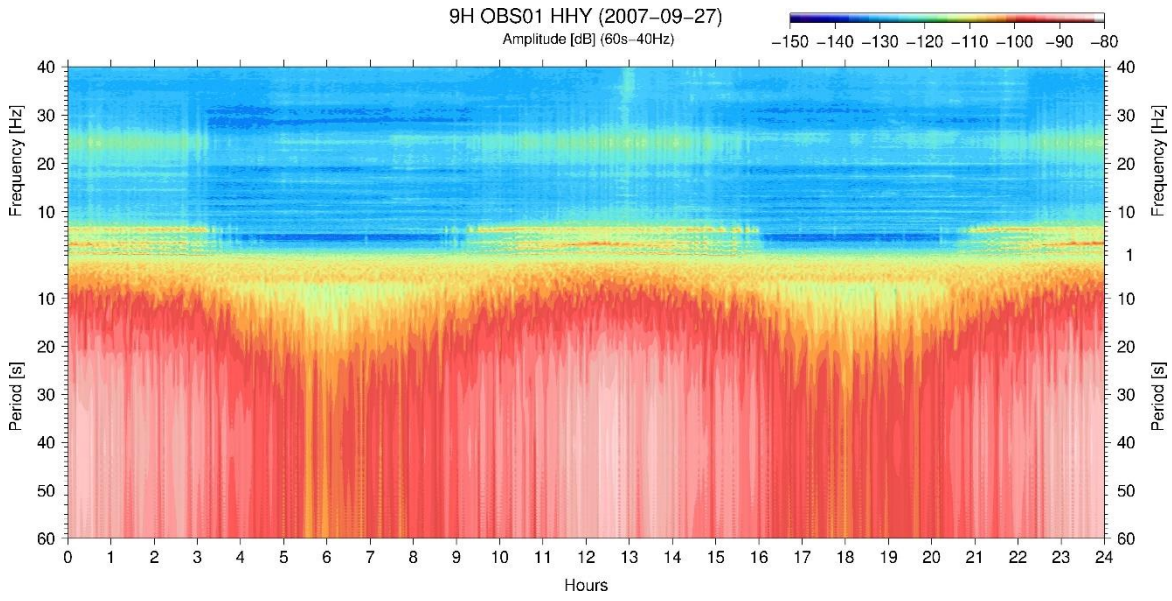

OBS01 HHY 2007-09-27
UTC (local time = UTC + 00:00)
time in minutes

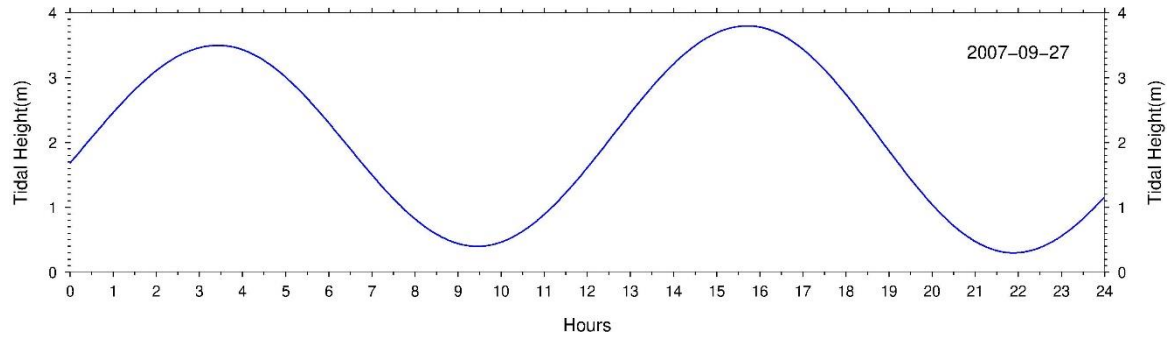

OBS03 HHZ 2007-09-27
UTC (local time = UTC + 00:00)
time in minutes

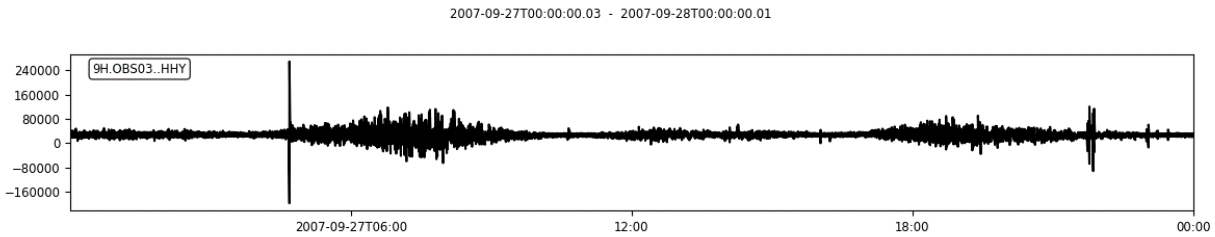

OBS03 HHY 2007-09-27
UTC (local time = UTC + 00:00)
time in minutes

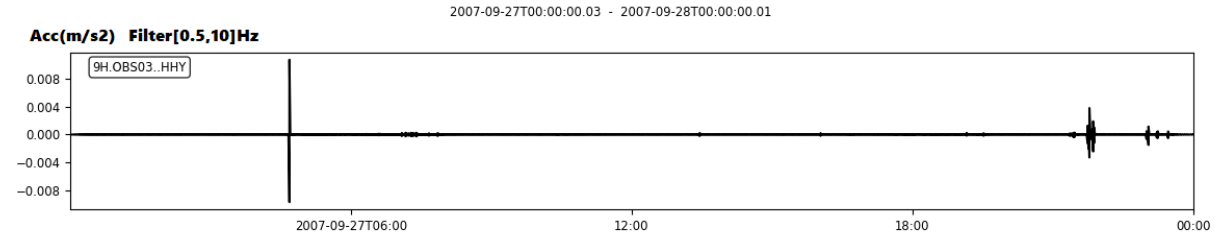

2007-09-27T00:00:00.02 - 2007-09-28T00:00:00.01
9H.OBS01..HHY
600000
400000
200000
0
−200000
−400000
2007-09-27T06:00
12:00
18:00
00:00
2007-09-27T00:00:00.02 - 2007-09-28T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0012
0.0008
0.0004
0.0000
−0.0004
−0.0008
−0.0012
2007-09-27T06:00
12:00
18:00
00:00
2007-09-27T00:00:00.02 - 2007-09-28T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
7.5
5.0
2.5
0.0
−2.5
−5.0
2007-09-27T06:00
12:00
18:00
00:00
2007-09-27T00:00:00.02 - 2007-09-28T00:00:00.01
9H.OBS01..HHZ
30000
20000
10000
0
−10000
−20000
2007-09-27T06:00
12:00
18:00
00:00
2007-09-27T00:00:00.02 - 2007-09-28T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.00075
0.00050
0.00025
0.00000
−0.00025
−0.00050
2007-09-27T06:00
12:00
18:00
00:00
2007-09-27T00:00:00.02 - 2007-09-28T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
2.4
1.6
0.8
0.0
−0.8
−1.6
−2.4
2007-09-27T06:00
12:00
18:00
00:00

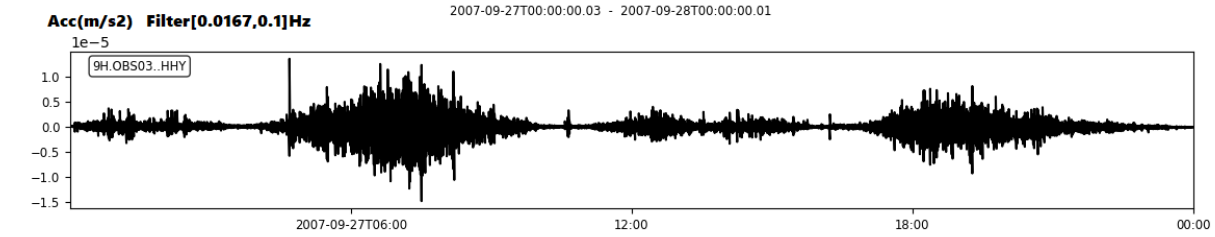

9H OBS01 HHZ (2007–09–27)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

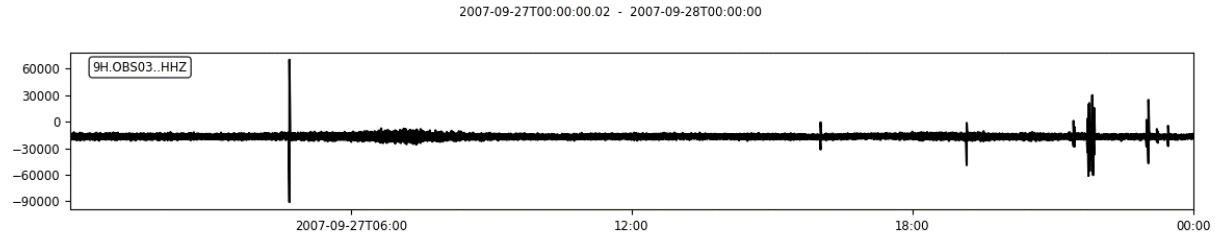

9H OBS01 HHY (2007–09–27)
Amplitude [dB] (60s–40Hz)
–150 –140 –130 –120 –110 –100 –90 –80
Frequency [Hz]
Period [s]
Hours

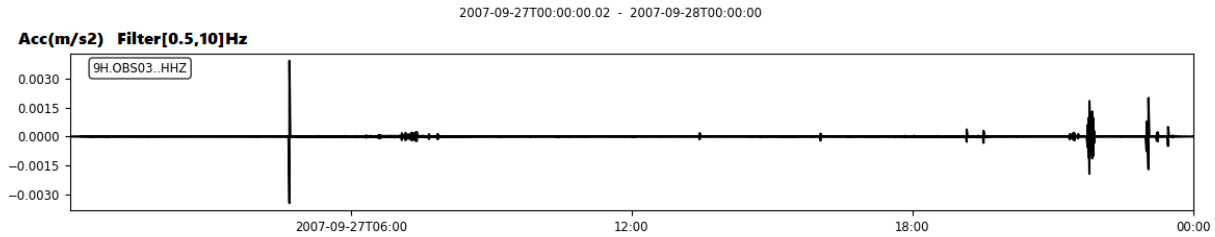

2007–09–27
Tidal Height(m)
Hours

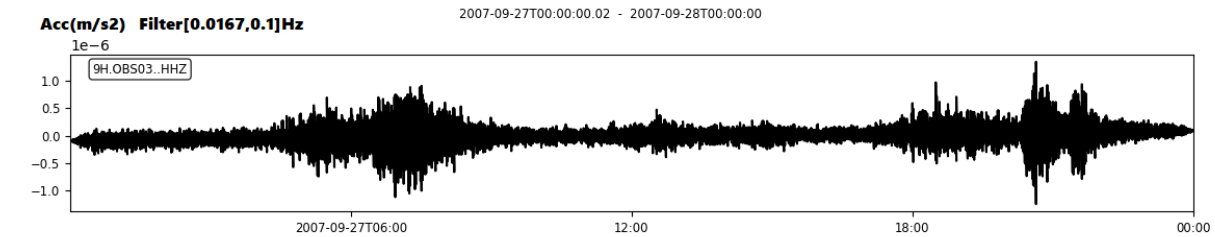

2007-09-27T00:00:00.03 - 2007-09-28T00:00:00.01
9H.OBS03..HHY
240000
160000
80000
0
−80000
−160000
2007-09-27T06:00
12:00
18:00
00:00


2007-09-27T00:00:00.03 - 2007-09-28T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.008
0.004
0.000
−0.004
−0.008
2007-09-27T06:00
12:00
18:00
00:00


2007-09-27T00:00:00.03 - 2007-09-28T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
1.0
0.5
0.0
−0.5
−1.0
−1.5
2007-09-27T06:00
12:00
18:00
00:00


2007-09-27T00:00:00.02 - 2007-09-28T00:00:00
9H.OBS03..HHZ
60000
30000
0
−30000
−60000
−90000
2007-09-27T06:00
12:00
18:00
00:00


2007-09-27T00:00:00.02 - 2007-09-28T00:00:00
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.0030
0.0015
0.0000
−0.0015
−0.0030
2007-09-27T06:00
12:00
18:00
00:00


2007-09-27T00:00:00.02 - 2007-09-28T00:00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
1.0
0.5
0.0
−0.5
−1.0
2007-09-27T06:00
12:00
18:00
00:00

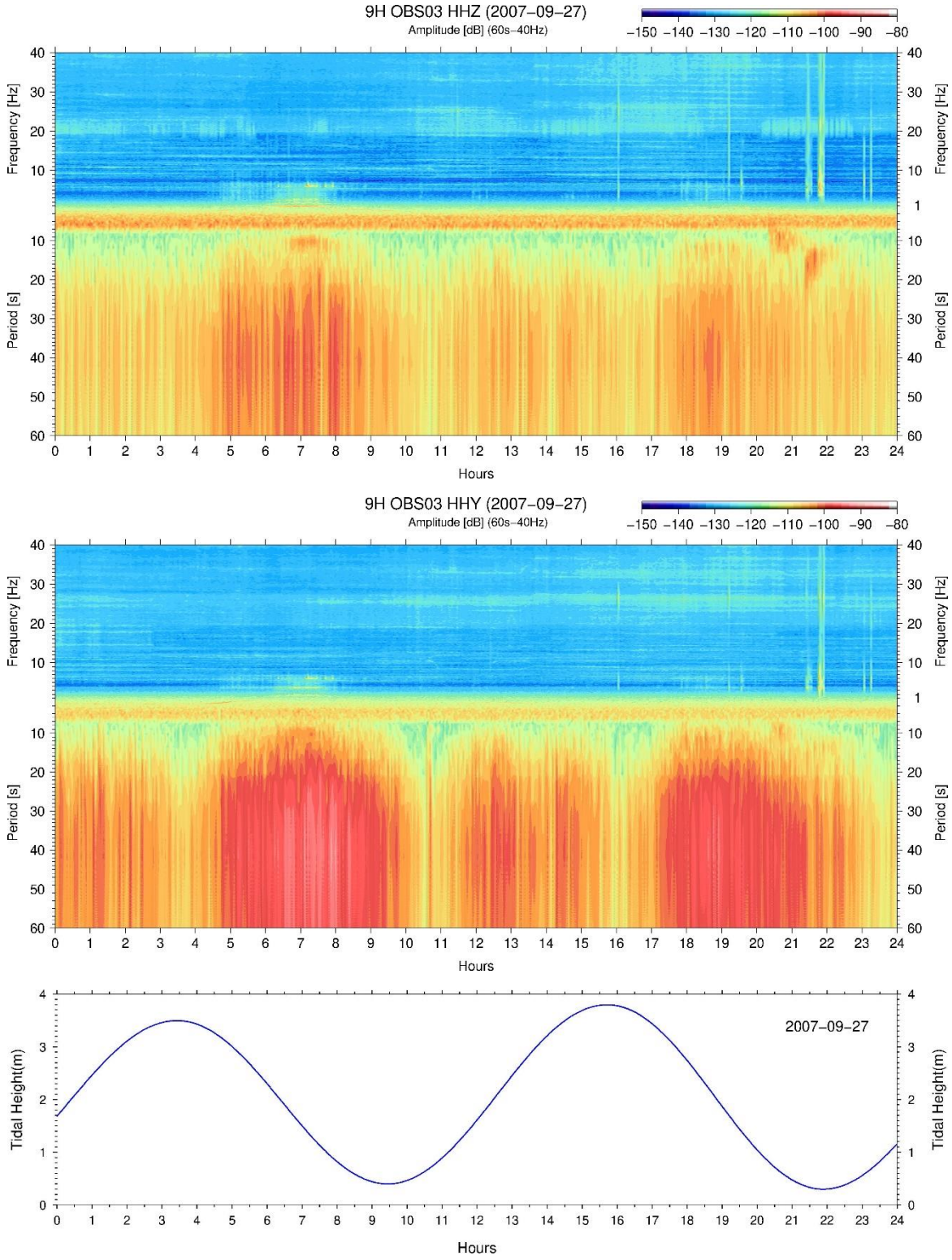
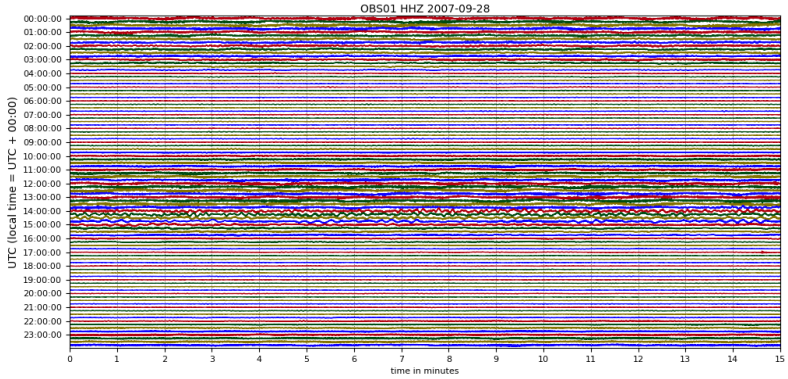
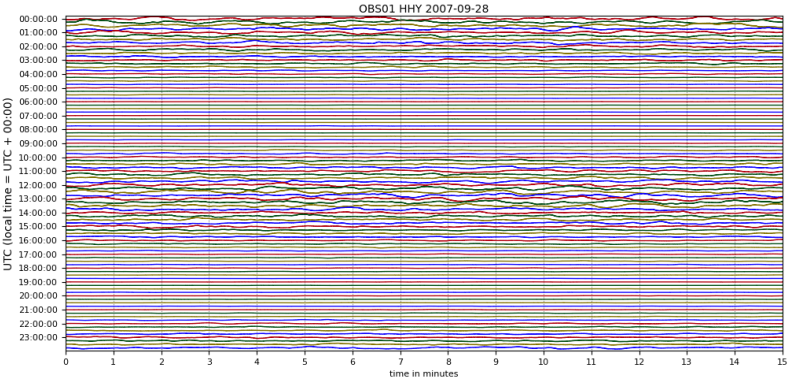
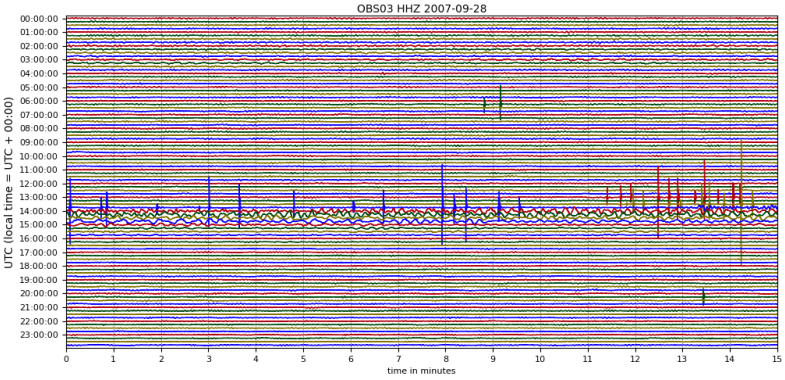
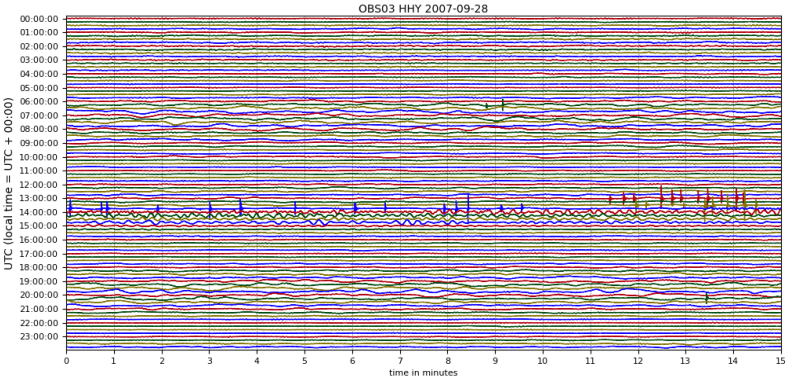


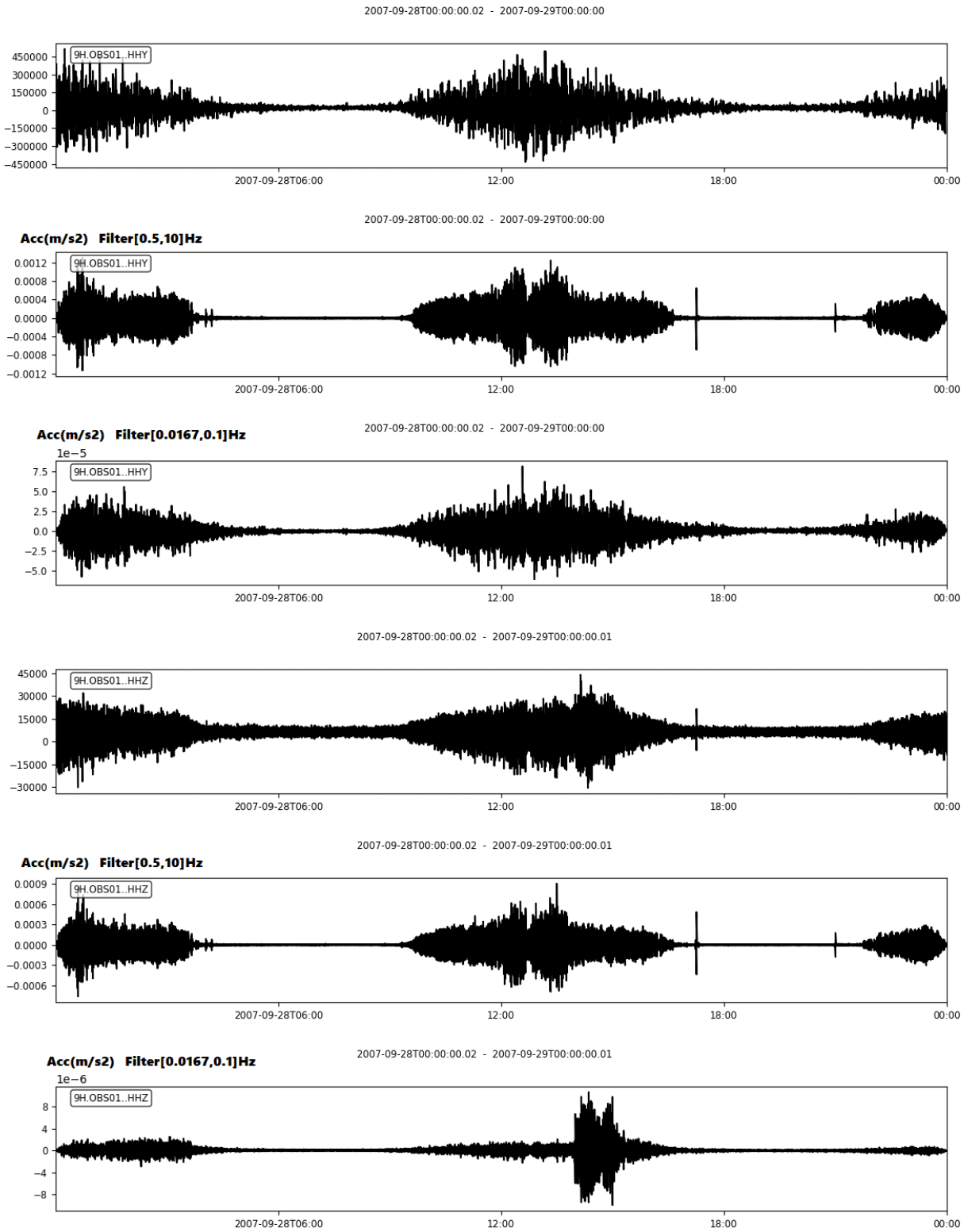

**Figure S18 | OBS01-OBS03 2007-09-27 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height in Sines (maximum tidal range of 3.6m), showing the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz), short duration events, whale vocalization, secondary microseism and regional seismicity during spring tide.

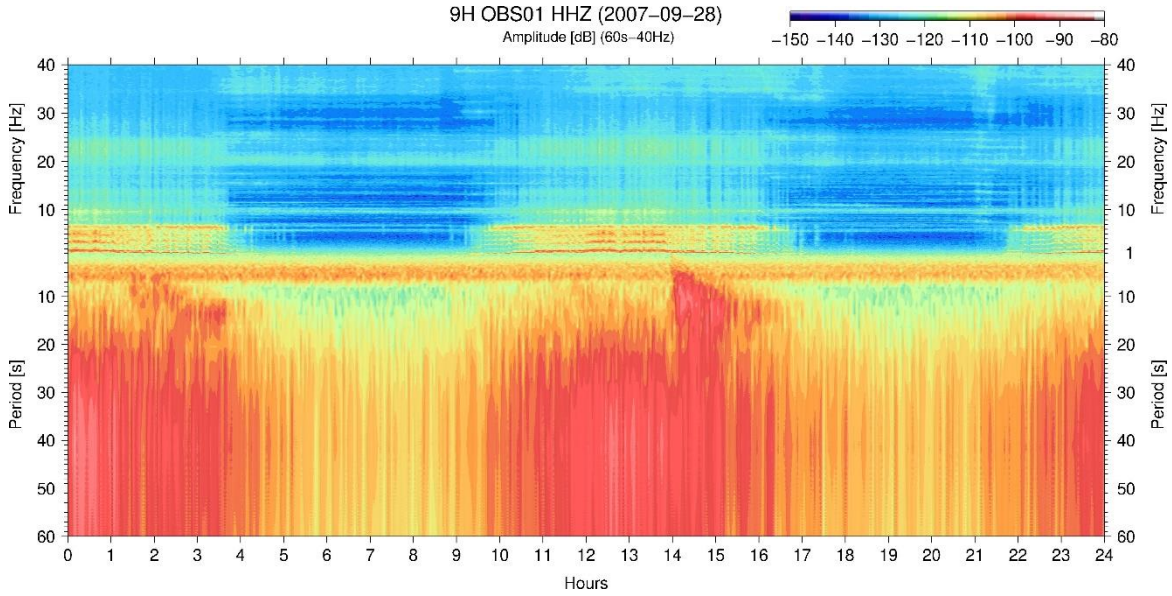

OBS01 HHZ 2007-09-28
UTC (local time = UTC + 00:00)
time in minutes

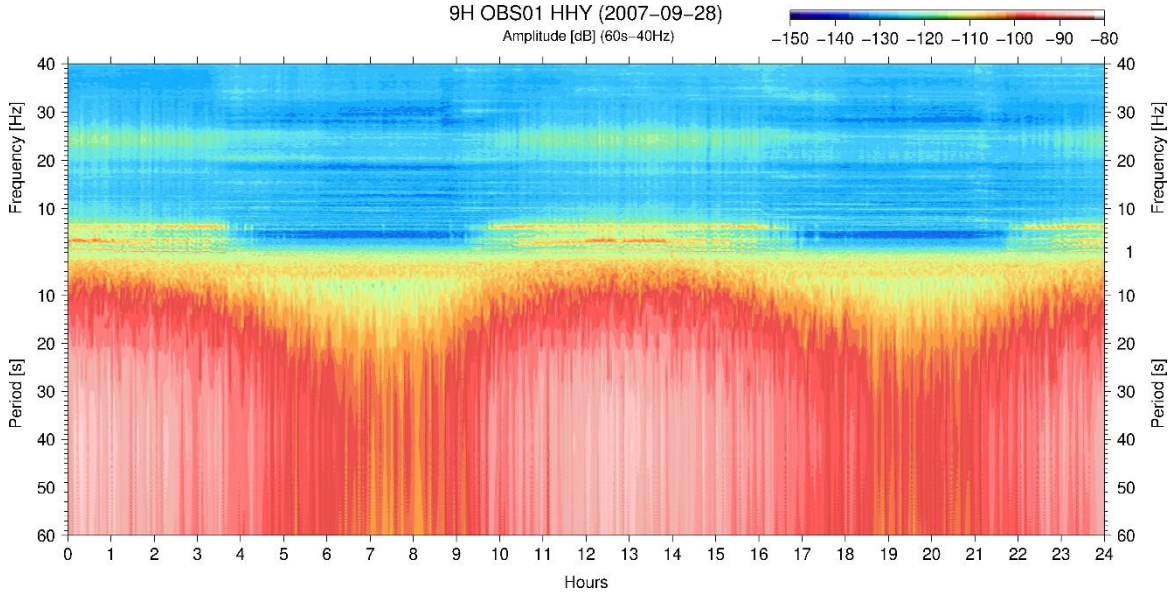

OBS01 HHY 2007-09-28
UTC (local time = UTC + 00:00)
time in minutes

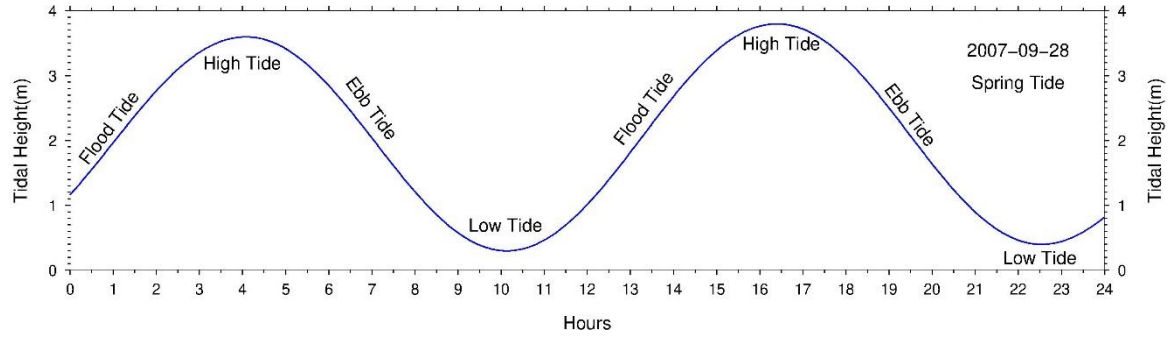

OBS03 HHZ 2007-09-28
UTC (local time = UTC + 00:00)
time in minutes

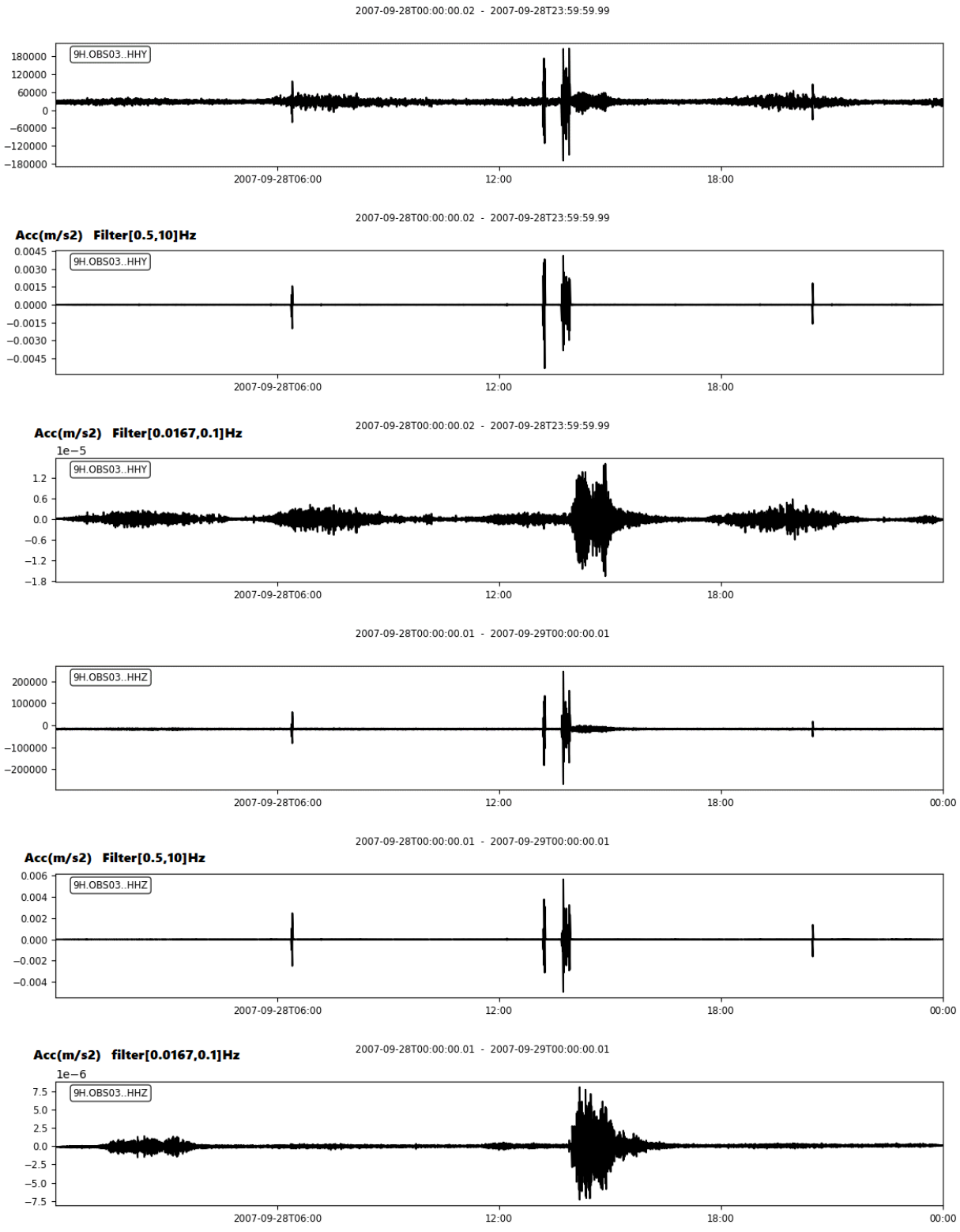

OBS03 HHY 2007-09-28
UTC (local time = UTC + 00:00)
time in minutes


2007-09-28T00:00:00.02 - 2007-09-29T00:00:00
9H.OBS01..HHY
450000
300000
150000
0
−150000
−300000
−450000
2007-09-28T06:00
12:00
18:00
00:00
2007-09-28T00:00:00.02 - 2007-09-29T00:00:00
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHY
0.0012
0.0008
0.0004
0.0000
−0.0004
−0.0008
−0.0012
2007-09-28T06:00
12:00
18:00
00:00
2007-09-28T00:00:00.02 - 2007-09-29T00:00:00
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS01..HHY
7.5
5.0
2.5
0.0
−2.5
−5.0
2007-09-28T06:00
12:00
18:00
00:00
2007-09-28T00:00:00.02 - 2007-09-29T00:00:00.01
9H.OBS01..HHZ
45000
30000
15000
0
−15000
−30000
2007-09-28T06:00
12:00
18:00
00:00
2007-09-28T00:00:00.02 - 2007-09-29T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS01..HHZ
0.0009
0.0006
0.0003
0.0000
−0.0003
−0.0006
2007-09-28T06:00
12:00
18:00
00:00
2007-09-28T00:00:00.02 - 2007-09-29T00:00:00.01
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−6
9H.OBS01..HHZ
8
4
0
−4
−8
2007-09-28T06:00
12:00
18:00
00:00


9H OBS01 HHZ (2007–09–28)
Amplitude [dB] (60s–40Hz)
−150 −140 −130 −120 −110 −100 −90 −80
Frequency [Hz]
Period [s]
Hours


9H OBS01 HHY (2007–09–28)
Amplitude [dB] (60s–40Hz)
−150 −140 −130 −120 −110 −100 −90 −80
Frequency [Hz]
Period [s]
Hours


Flood Tide
High Tide
Ebb Tide
Low Tide
Flood Tide
High Tide
Ebb Tide
Low Tide
2007–09–28
Spring Tide
Tidal Height(m)
Hours


2007-09-28T00:00:00.02 - 2007-09-28T23:59:59.99
9H.OBS03..HHY
180000
120000
60000
0
−60000
−120000
−180000
2007-09-28T06:00
12:00
18:00
2007-09-28T00:00:00.02 - 2007-09-28T23:59:59.99
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHY
0.0045
0.0030
0.0015
0.0000
−0.0015
−0.0030
−0.0045
2007-09-28T06:00
12:00
18:00
2007-09-28T00:00:00.02 - 2007-09-28T23:59:59.99
Acc(m/s2) Filter[0.0167,0.1]Hz
1e−5
9H.OBS03..HHY
1.2
0.6
0.0
−0.6
−1.2
−1.8
2007-09-28T06:00
12:00
18:00
2007-09-28T00:00:00.01 - 2007-09-29T00:00:00.01
9H.OBS03..HHZ
200000
100000
0
−100000
−200000
2007-09-28T06:00
12:00
18:00
00:00
2007-09-28T00:00:00.01 - 2007-09-29T00:00:00.01
Acc(m/s2) Filter[0.5,10]Hz
9H.OBS03..HHZ
0.006
0.004
0.002
0.000
−0.002
−0.004
2007-09-28T06:00
12:00
18:00
00:00
2007-09-28T00:00:00.01 - 2007-09-29T00:00:00.01
Acc(m/s2) filter[0.0167,0.1]Hz
1e−6
9H.OBS03..HHZ
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
2007-09-28T06:00
12:00
18:00
00:00

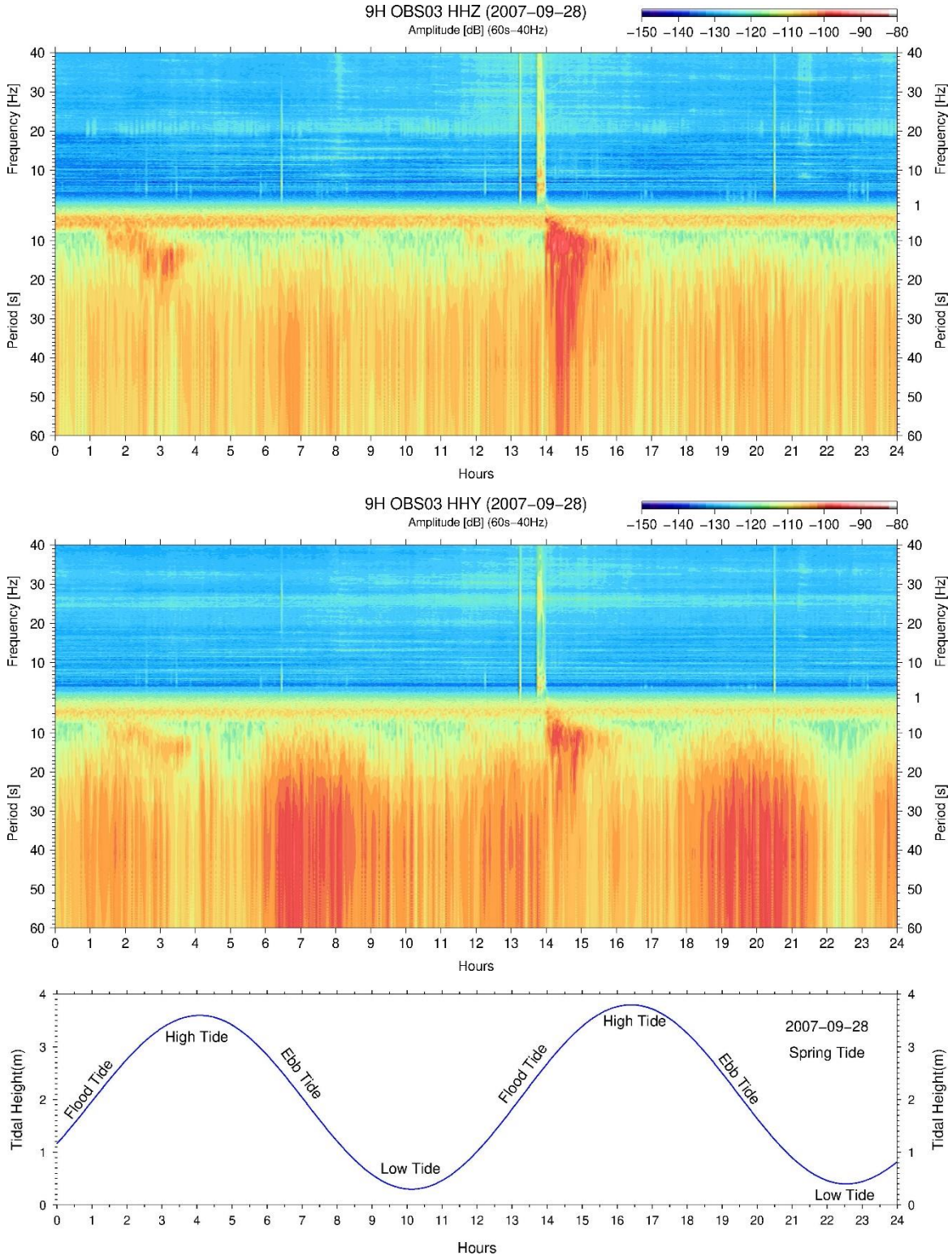
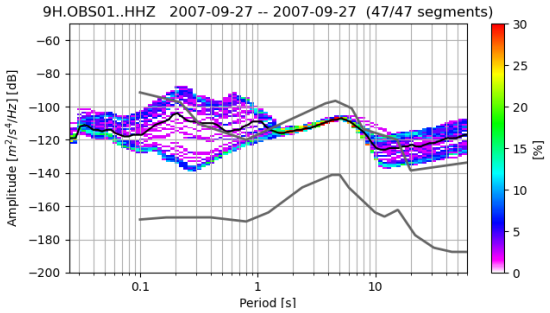
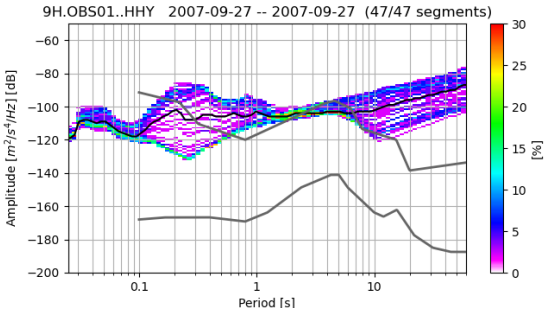
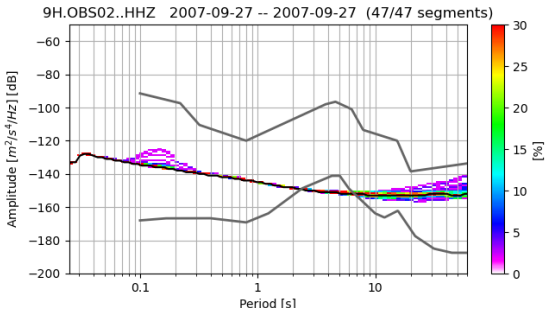
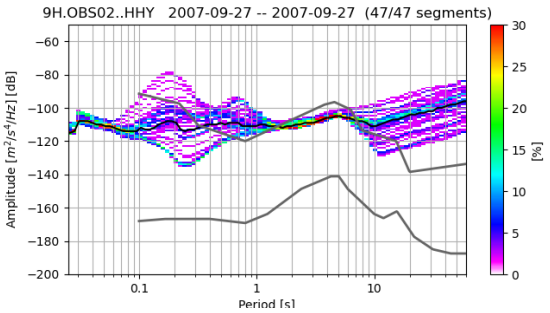


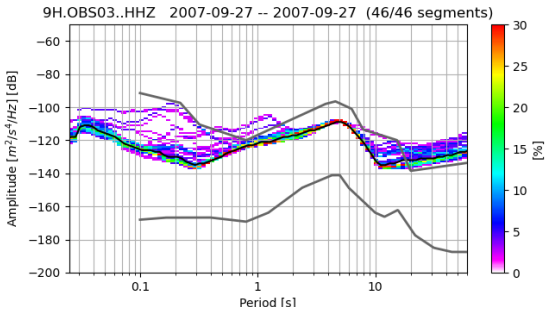

**Figure S19 | OBS01-OBS03 2007-09-28 –** Day plot, the raw waveform in counts of the vertical Z and horizontal Y components, signals corrected for instrument response to show acceleration ($m/s^2$) and filtered in the short and long period band, spectrogram and tidal height in Sines (maximum tidal range of 3.6m), showing two distant earthquakes (Volcano Islands, Japan: origin time: 13:38:56, with Mw of 7.4 and Southeast of Loyalty Islands: origin time: 01:35:54 with Mw 6.6), the effect of tilt noise (20-60s), harmonic tremor (0.5-6Hz), short duration events and whale vocalisation (OBS03) during spring tide.

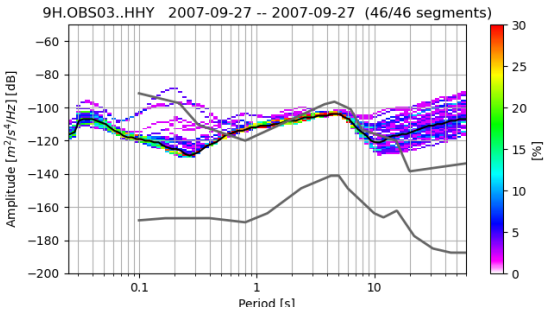

9H.OBS01..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

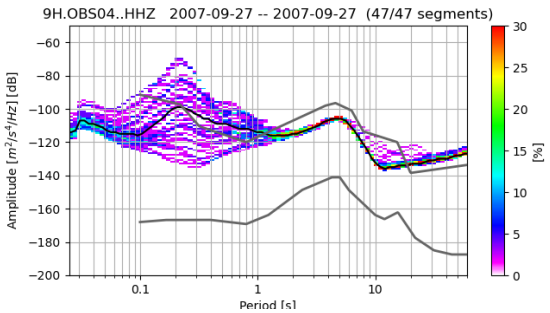

9H.OBS01..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

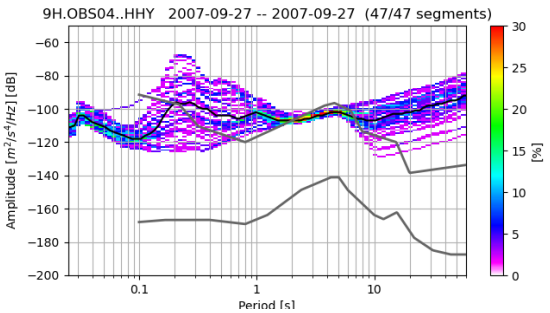

9H.OBS02..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

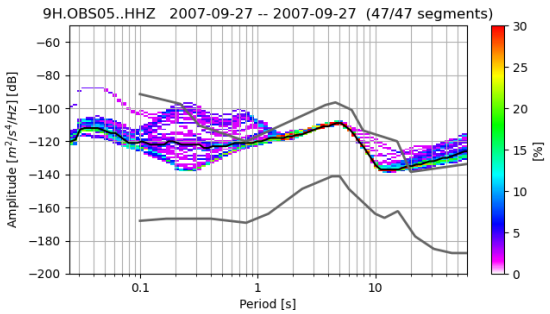

9H.OBS02..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

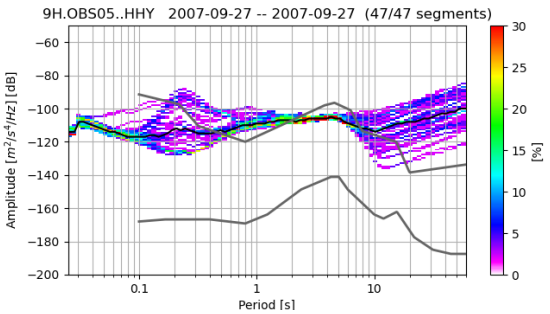

9H.OBS03..HHZ 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

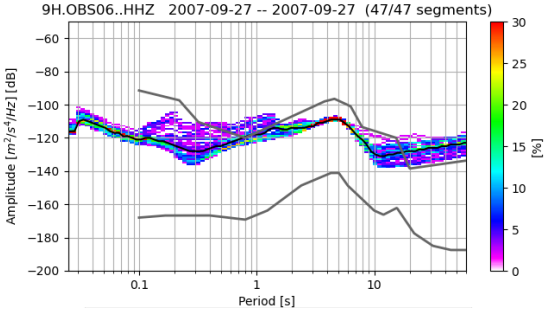

9H.OBS03..HHY 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

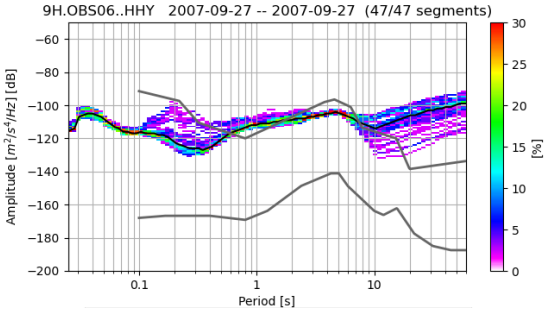

9H.OBS04..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

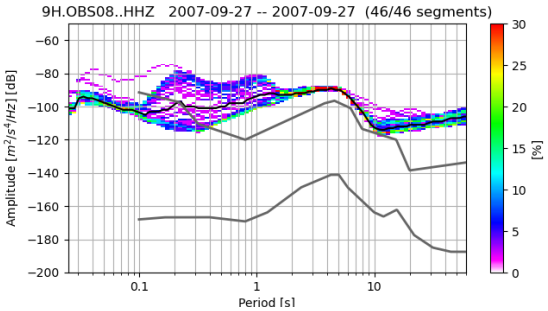

9H.OBS04..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

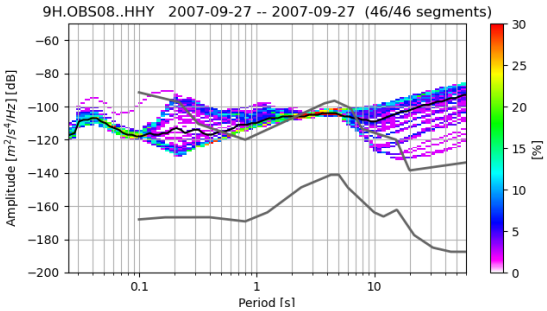

9H.OBS05..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

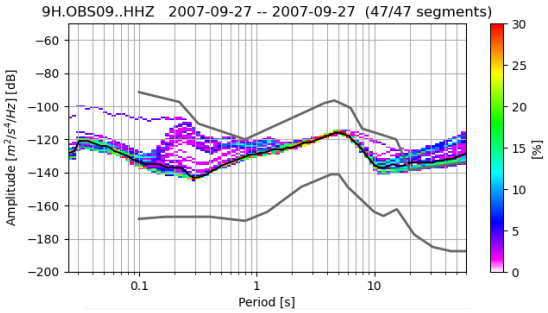

9H.OBS05..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

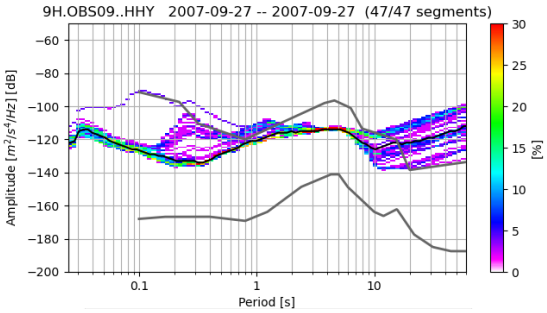

9H.OBS06..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

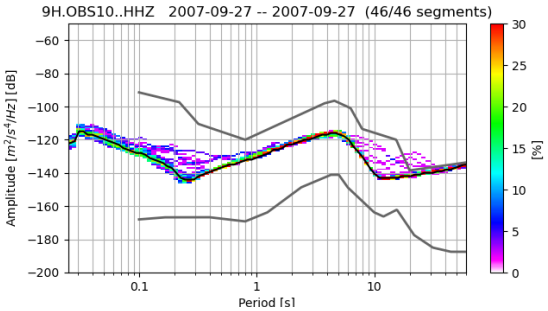

9H.OBS06..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

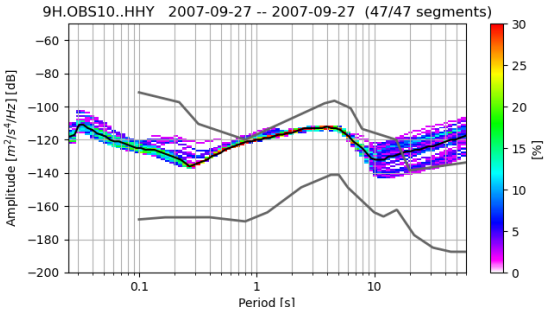

9H.OBS08..HHZ 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

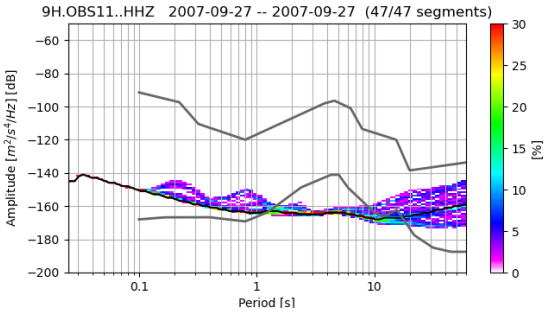

9H.OBS08..HHY 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

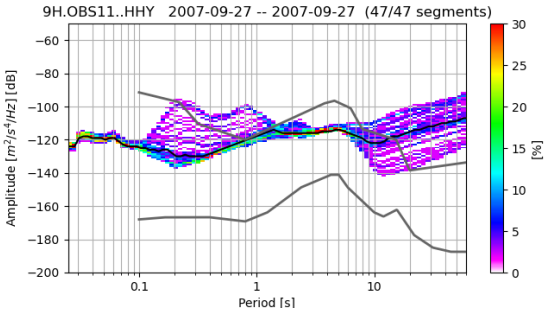

9H.OBS09..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

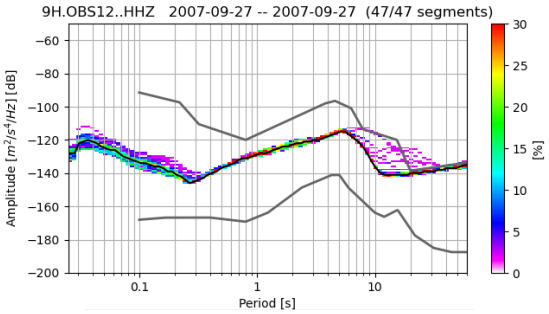

9H.OBS09..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

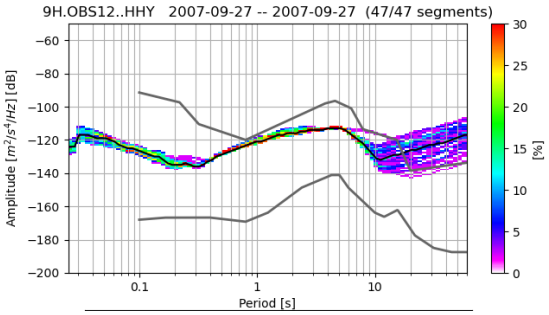

9H.OBS10..HHZ 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

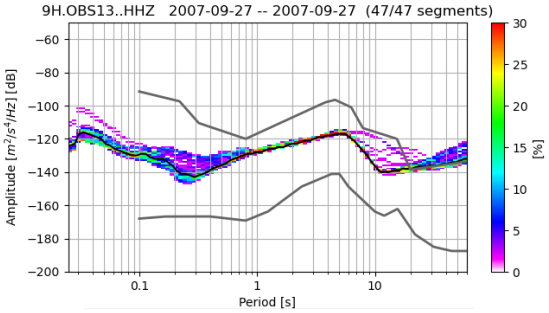

9H.OBS10..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

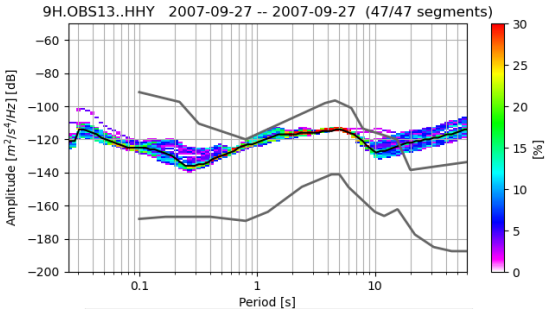

9H.OBS11..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

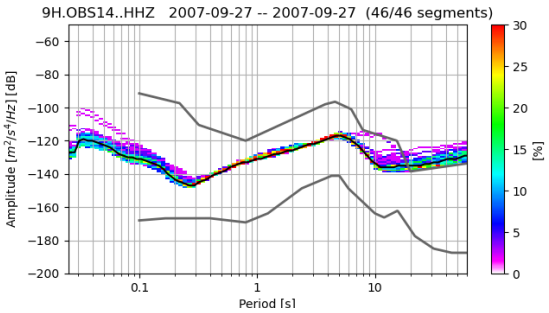

9H.OBS11..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

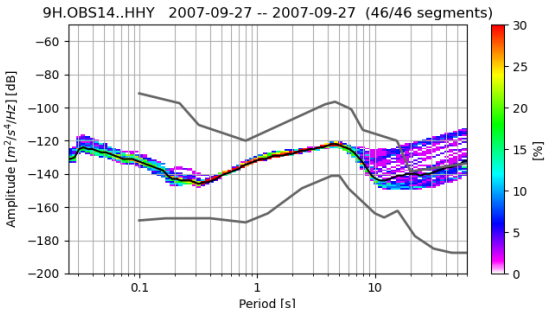

9H.OBS12..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

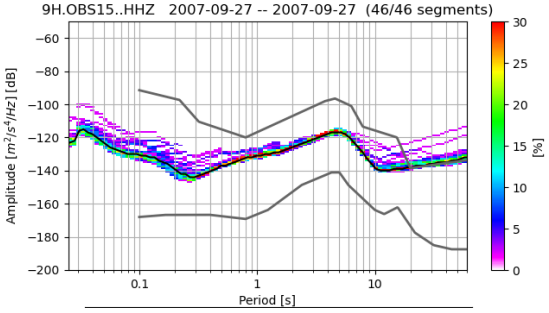

9H.OBS12..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

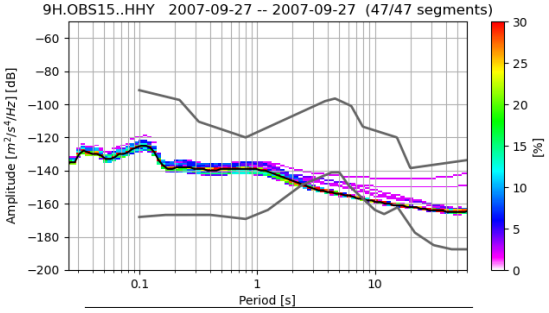

9H.OBS13..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

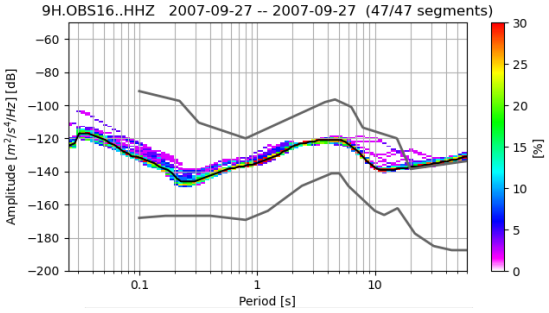

9H.OBS13..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

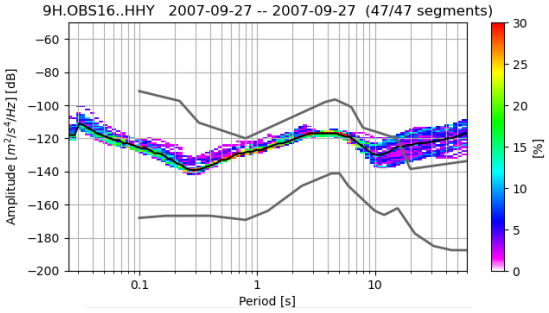

9H.OBS14..HHZ 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

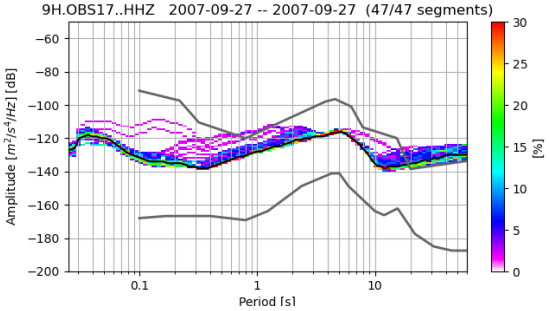

9H.OBS14..HHY 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

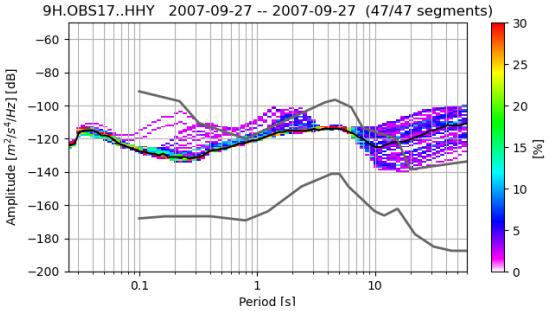

9H.OBS15..HHZ 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

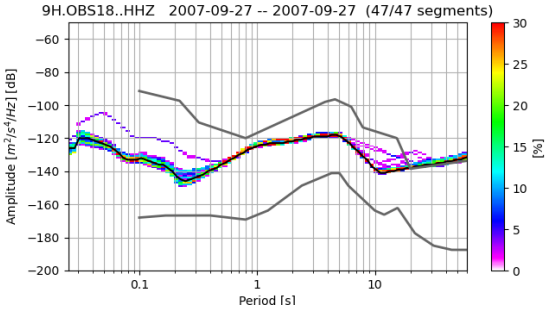

9H.OBS15..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

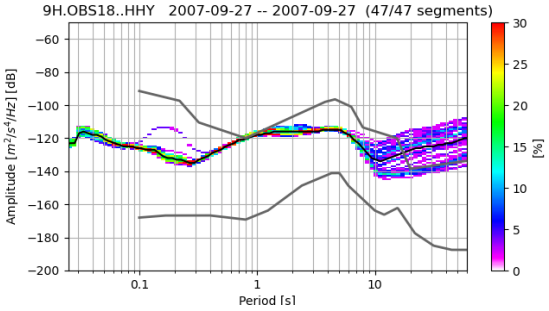

9H.OBS16..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

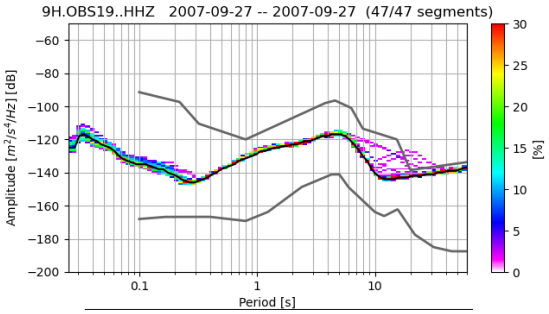

9H.OBS16..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

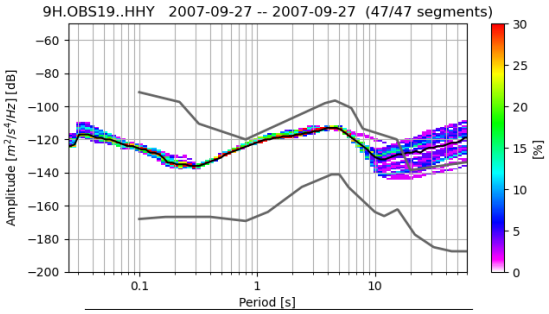

9H.OBS17..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

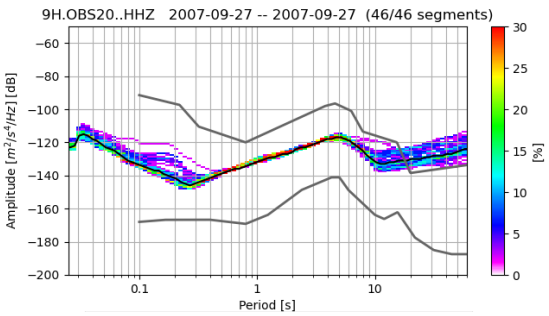

9H.OBS17..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

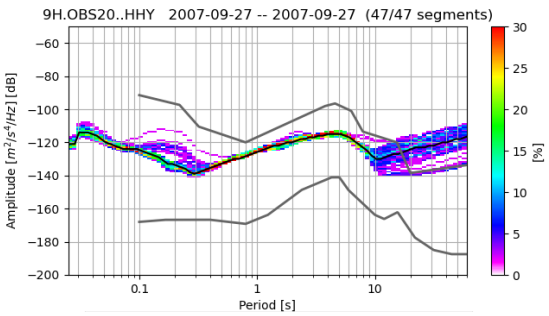

9H.OBS18..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

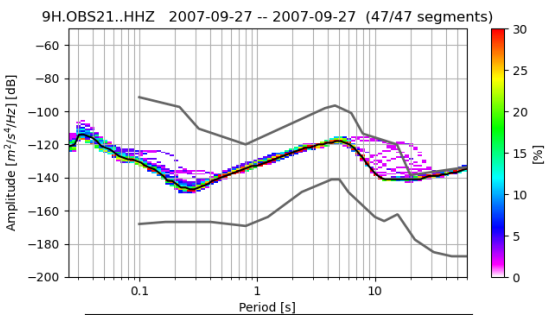

9H.OBS18..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

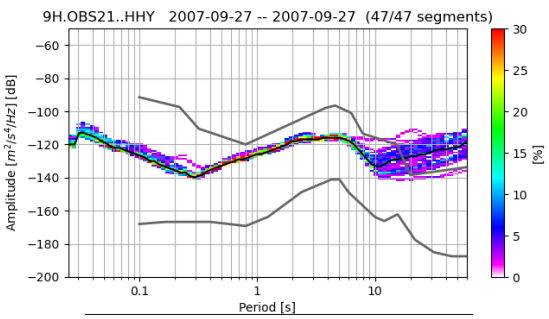

9H.OBS19..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]


9H.OBS19..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]


9H.OBS20..HHZ 2007-09-27 -- 2007-09-27 (46/46 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]


9H.OBS20..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]


9H.OBS21..HHZ 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]


9H.OBS21..HHY 2007-09-27 -- 2007-09-27 (47/47 segments)
Amplitude [m²/s⁴/Hz] [dB]
Period [s]
[%]

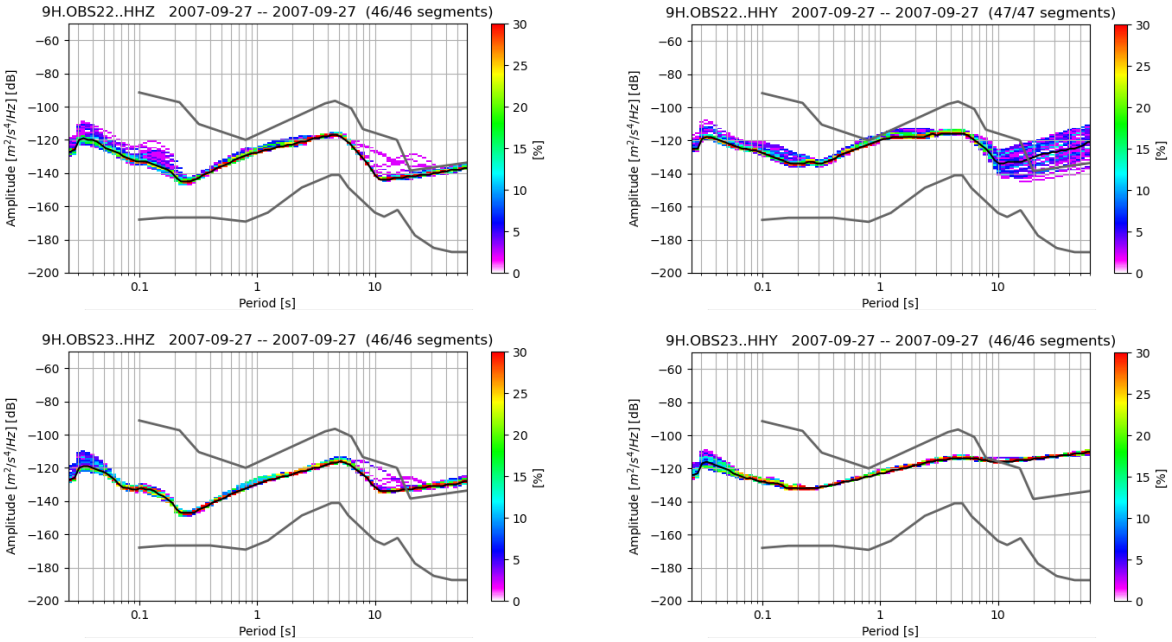
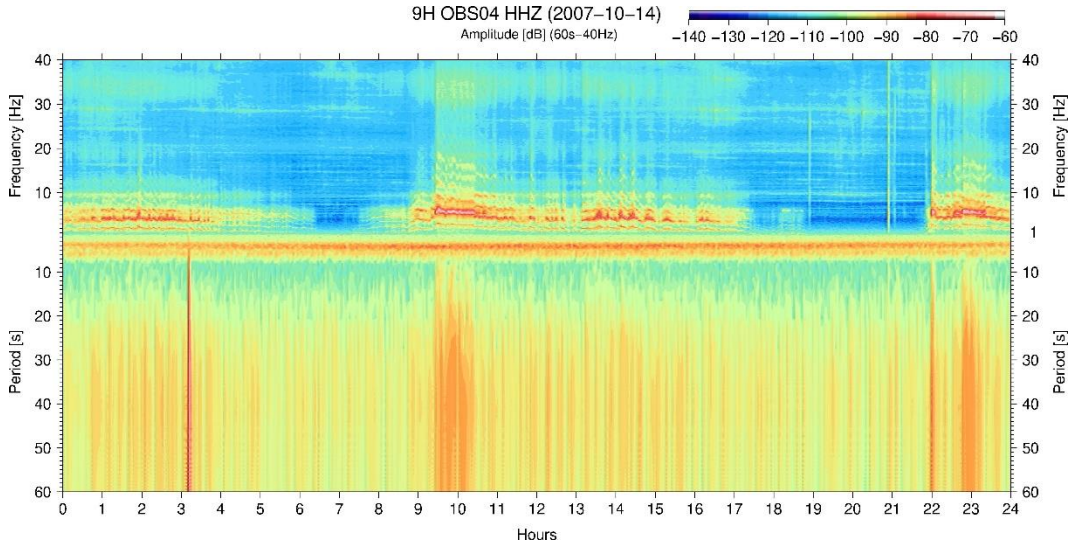
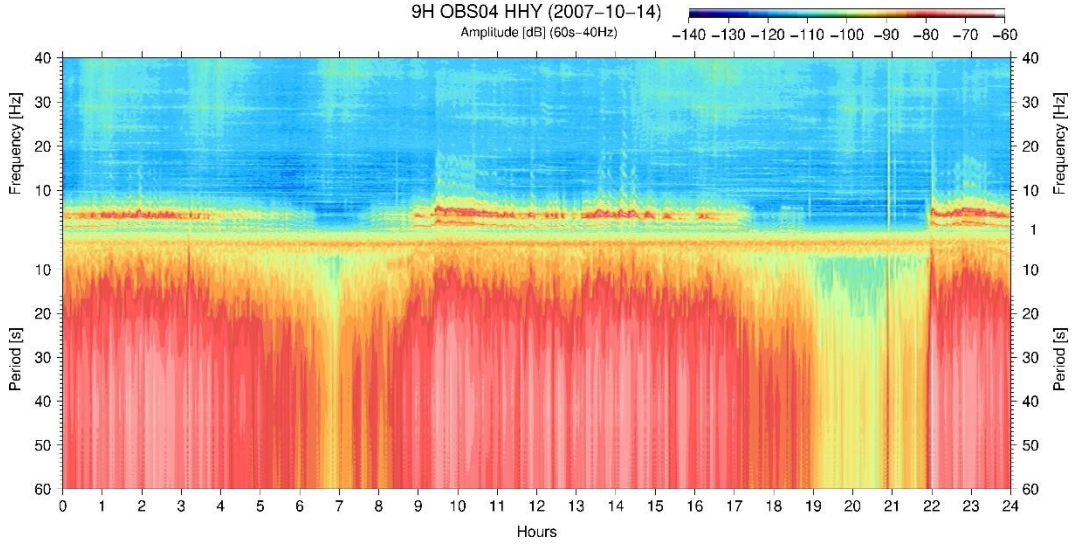
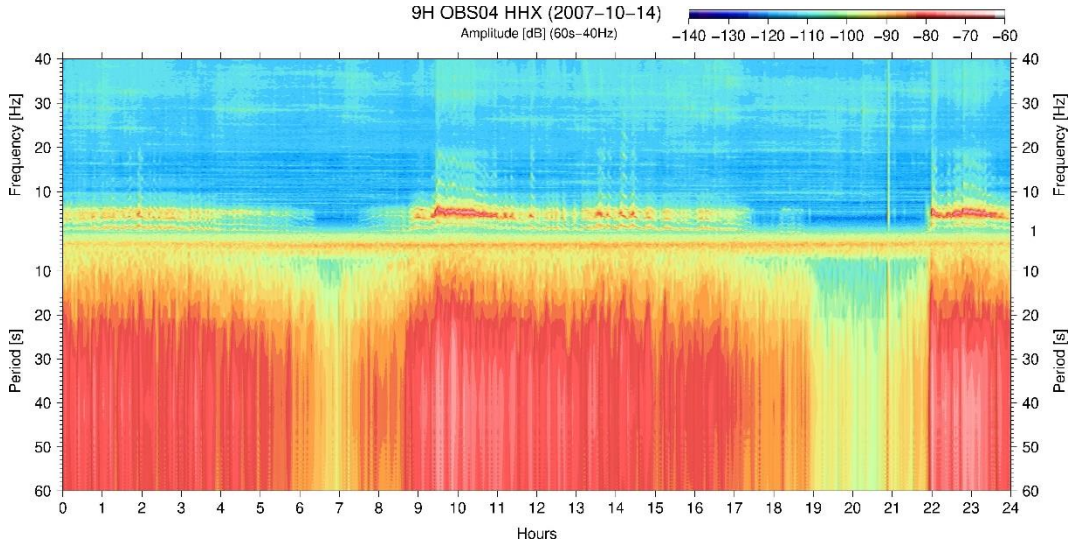



**Figure S20 | PPSD of the active network 9H for the day 27-09-2007 during the spring tide –** PPSD of the entire network for 27-09-2007 to establish the OBS affected by the bottom current speed flow.


9H OBS04 HHZ (2007–10–14)
Amplitude [dB] (60s–40Hz)
−140 −130 −120 −110 −100 −90 −80 −70 −60
Frequency [Hz]
Period [s]
Hours


9H OBS04 HHY (2007–10–14)
Amplitude [dB] (60s–40Hz)
−140 −130 −120 −110 −100 −90 −80 −70 −60
Frequency [Hz]
Period [s]
Hours


9H OBS04 HHX (2007–10–14)
Amplitude [dB] (60s–40Hz)
−140 −130 −120 −110 −100 −90 −80 −70 −60
Frequency [Hz]
Period [s]
Hours

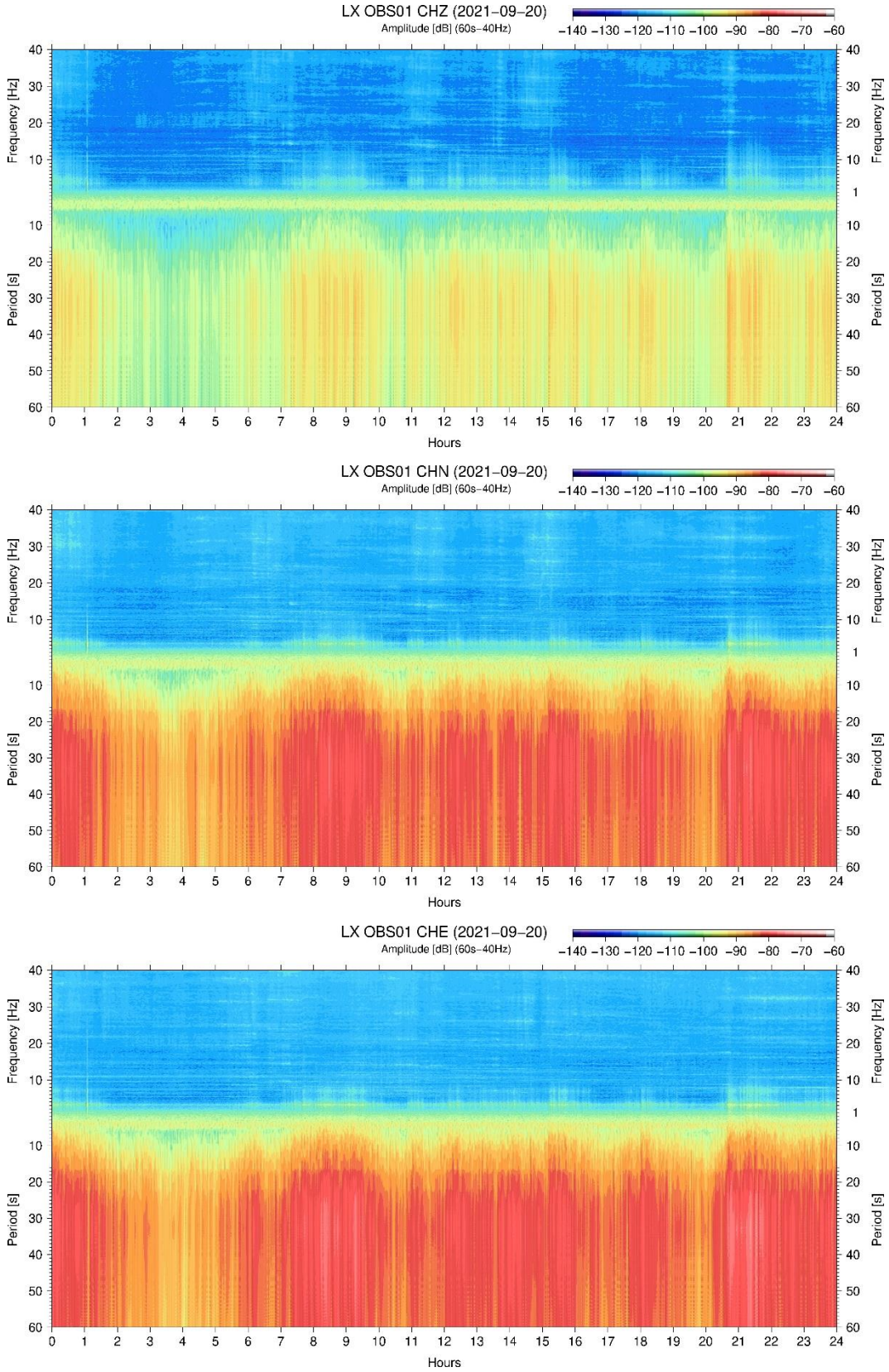



**Figure S21 | Spectrograms of 9H OBS04 and LX OBS01 for current direction –** Three-component seismometer showing standard signals recorded with different spectral amplitudes.