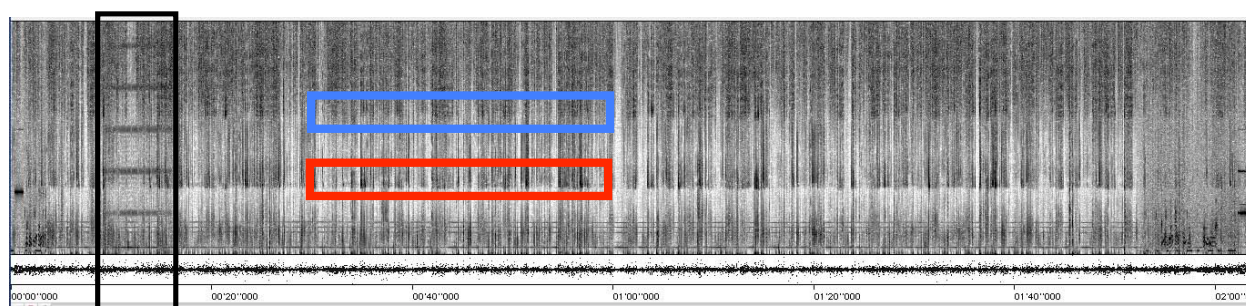


7 October Monitoring

For this monitoring session, I used **Site Two**. I arrived at the site a little late, at about 0445 MDT and had to rush to set up the monitoring equipment. I was able to monitor at 0500, 0600 and 0700 MDT. I observed 60 HZ related interference but it was much weaker than at **Site One**. LORAN was present and I had to monitor with the LORAN filter turned on. I detected three whistlers:

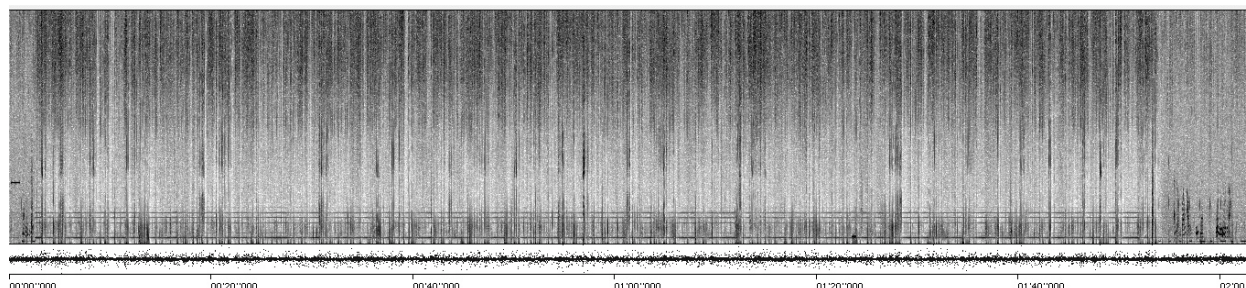
- a. Pair of weak whistlers at 05:01:56 MDT (11:01:56 UTC).
- b. Pair of weak diffuse whistlers at 06:00:57 MDT (12:00:57 UTC)
- c. Strong whistler at 06:11:16 MDT (12:11:16 MDT).



10/07/2007 0500 MDT 1100 UT (2 minutes)

Sound file: btrack6.wav

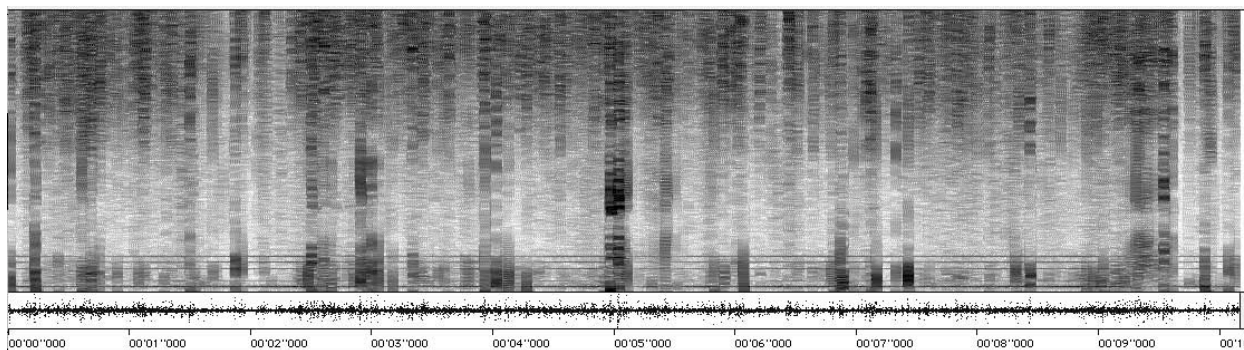
Again, on Sunday, dense sferics and tweeks predominate. In this file, the LORAN filter was switched off for a short time near the beginning and then switched on (box). The dense tweeks show up on the spectrogram as a dark region near the tweek “hooks” location at around 2 kHz (in red box). The blue box contains the first harmonic of the hooks, indicating that the tweeks are strong.



10/07/2007 0600 MDT 1200 UT (2 minutes)

Sound file: btrack7.wav

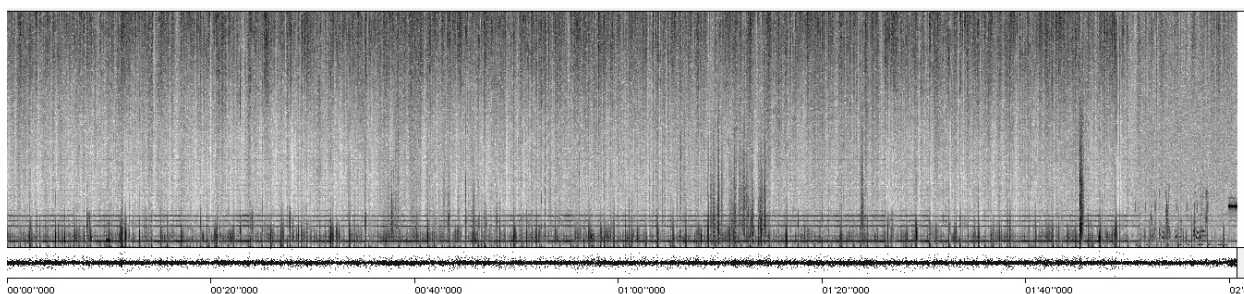
In the middle of this session (06:00:57 MDT (12:00:57 UTC) a whistler is logged.



10/07/2007 0601 MDT 1201 UT (10 seconds)

Sound file: *btrack7w.wav*

The whistler logged above is difficult to find in the dense sferics, but it is plainly audible in the sound file.



10/07/2007 0700 MDT 1300 UT (2 minutes)

Sound file: *btrack8.wav*

Strong dense sferics, no tweaks.

The monitoring session on 7 Oct was more successful than the previous ones.

Colorado Field Observations

7 October 2007

Field Logs and Data Recording: Shawn Korgan, Gilcrest, CO
Data Analysis and Spectrograms: Bill Pine, Upland, CA

NOTE: Text is contributed by the analyst (Pine); scans are from log sheets (Korgan).

October 7, 2007 1100UT

TRACK #1

INSPIRE Data

(copy as needed)

INSPIRE Observer Team DAWN RISERS

Team Number: 5-1

Coordinated Observation Date: 10/7/07

Receiver SK-1

Tape Start Time (UT) 1100

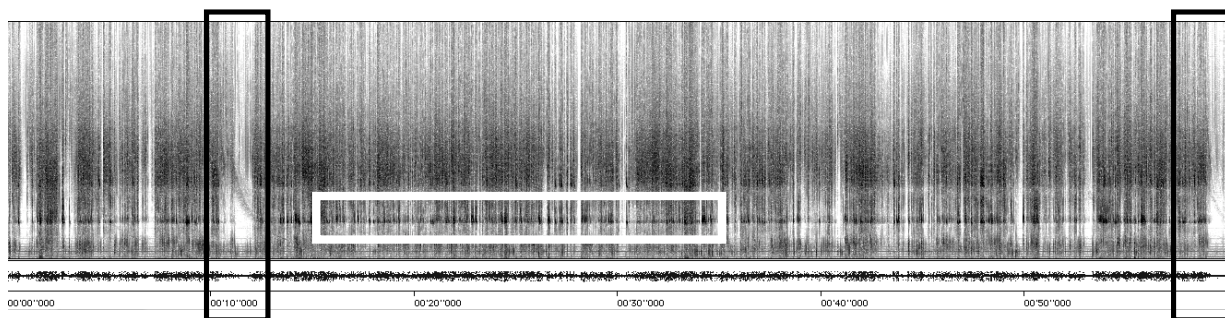
Tape Start Time (Local) 5:00 AM MST

Local weather: Slight breeze, 50°, partially overcast

Code: M - Mark (WWV or Voice) S - sferics T - tweek W - whistler A - Alpha C - chorus
Sferic Density: D: 3 Scale of 1-5 (1 - Very Low, 3 - Medium, 5 - Very High)

Time (UT)	Entry	Observer
00 03	M-WWV M-V ST C(W) D: <u>2</u>	
10	M-WWV M-V ST C(W) D: <u>3</u>	
36	M-WWV M-V ST C(W) D: <u>2</u>	
59	M-WWV M-V ST C(W) D: <u>2</u>	
01 26	M-WWV M-V ST C(W) D: <u>2</u>	
34	M-WWV M-V ST C(W) D: <u>2</u>	
36	M-WWV M-V ST C(W) D: <u>2</u>	
52	M-WWV M-V ST C(W) D: <u>2</u>	
55	M-WWV M-V ST C(W) D: <u>2</u>	
02 03	M-WWV M-V ST C(W) D: <u>2</u>	

10/06/2007 0500 MDT 1100 UT

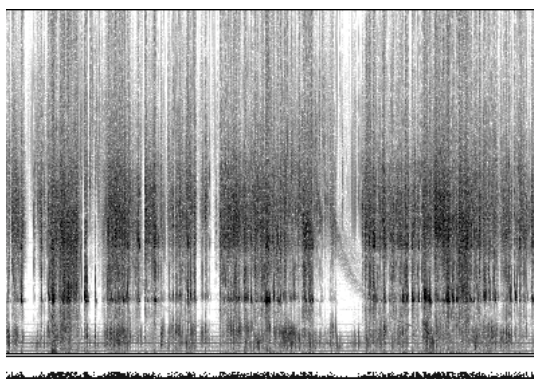


First minute of session.

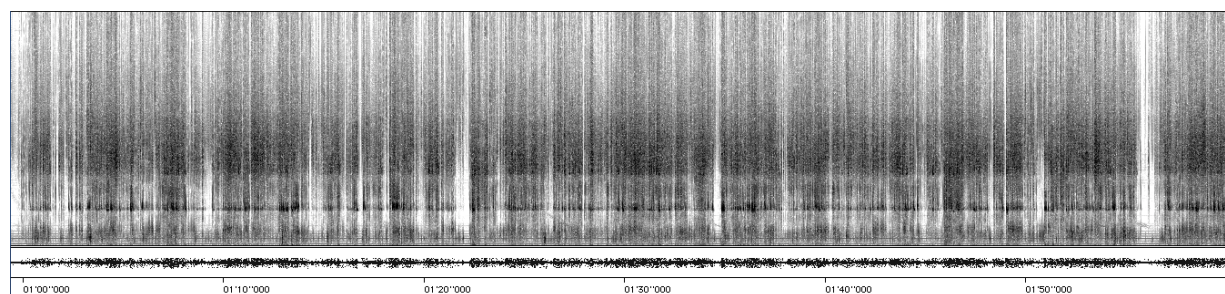
Sound file: sk100711u2.wav (2 minute file)

Session features dense sferics and tweeks. Note the dark band (horizontal white box) at about 2 kHz. This is the frequency of the tweek “hooks”, or cutoff frequency. Whistlers of low to medium intensity are audible, but are not easy to find in the spectrogram.

Whistlers logged at :03, :10, :36 and :59. Whistlers at :36 and :59 are visible in lulls in the background (boxes).



Whistler logged at 11:00:36 UT



Second minute: Whistlers logged at 1:26, 1:34, 1:36, 1:52 and 1:56.

A total of 53 whistlers were logged in the 12 minute session.

October 7, 2007 1200UT

INSPIRE Data (copy as needed)

INSPIRE Observer Team DAWN RISERS Team Number: T-1

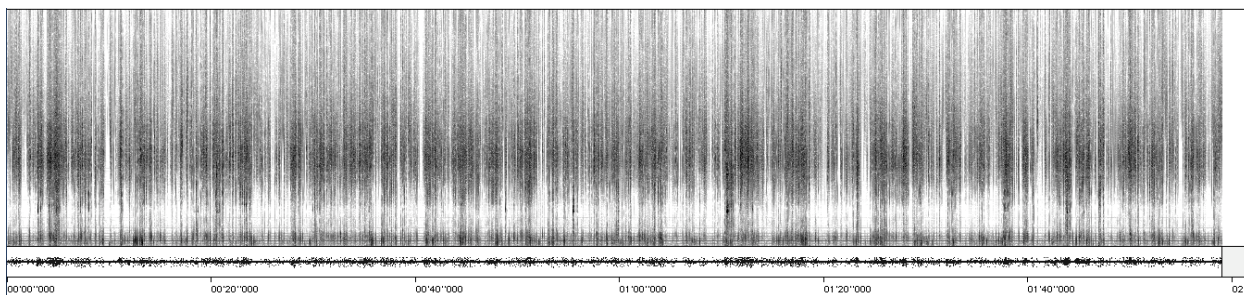
Coordinated Observation Date: 10/7/07 Receiver SK-1

Tape Start Time (UT) 1200 Tape Start Time (Local) 6:00 Am MST

Local weather: Slight breeze, 50°, partially overcast

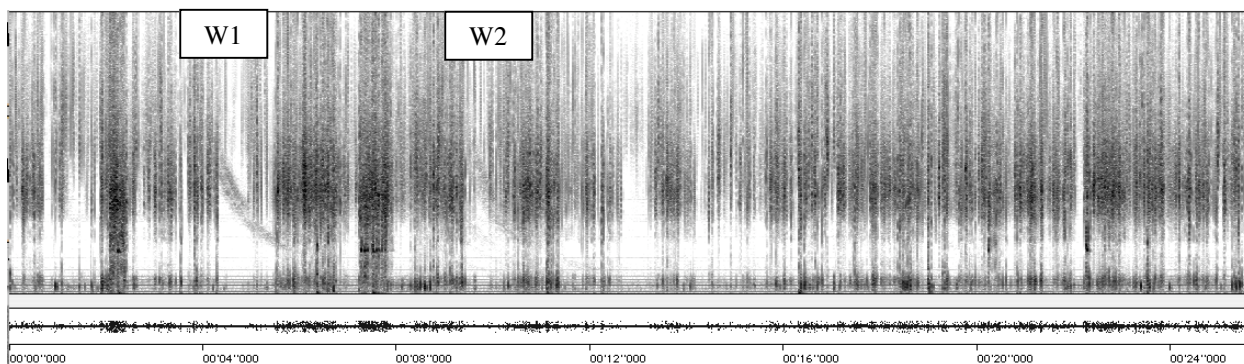
Code: M - Mark (WWV or Voice) S - sferics T - tweek W - whistler A - Alpha C - chorus
Sferic Density: D: 3 Scale of 1-5 (1 - Very Low, 3 - Medium, 5 - Very High)

Time (UT)	Entry	Observer
L 00 43	M-WWV M-V STC (W)	D: 2
58	M-WWV M-V STC (W)	D: 2
01 13	M-WWV M-V STC (W)	D: 2
46	M-WWV M-V STC (W)	D: 2
02 07	M-WWV M-V STC (W)	D: 2
29	M-WWV M-V STC (W) also a riser	D: 1



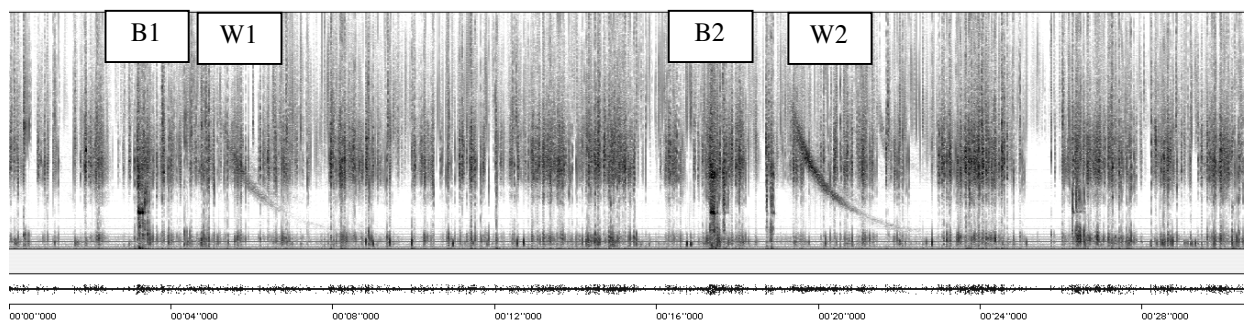
The first 2 minutes of this session were characterized by dense sferics. Note the absence of the tweek hook band. Almost no tweeks an hour after tweeks were common. Four whistlers logged in the two minutes.

(Audio file (2 minutes): sk100712u2.wav)



Whistler (W1) logged at 120650 UT is shown followed by a fainter whistler (W2) logged at 120655.

(Audio file (28 seconds): sk100712uw1.wav)



Whistler (W1) logged at 121100 UT followed by a second whistler (W2) at 121115 UT. Each whistler is preceded by a strong sferic burst (B1 and B2) indicating that these are two-hop whistlers originating from local sferics and bouncing off the ionosphere at the magnetic conjugate point and returning as a whistler. Since the sferic density is less than earlier in the day, it makes it easier to recognize the originating bursts. It is probable that most or all of the whistlers observed this day were two-hop whistlers.

(Audio file (32 seconds): sk100712uw2.wav)

October 7, 2007 1311UT

INSPIRE Data

(copy as needed)

INSPIRE Observer Team

DAWN RISERS

Team Number: I-1

Coordinated Observation Date:

10/7/07

Receiver SK-1

Tape Start Time (UT)

1311

Tape Start Time (Local)

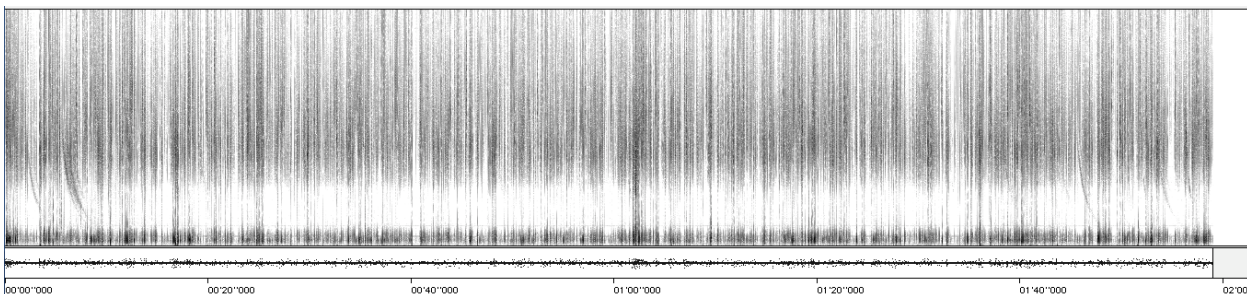
7:11 AM MST

Local weather:

Slight breeze, 50°, partially overcast

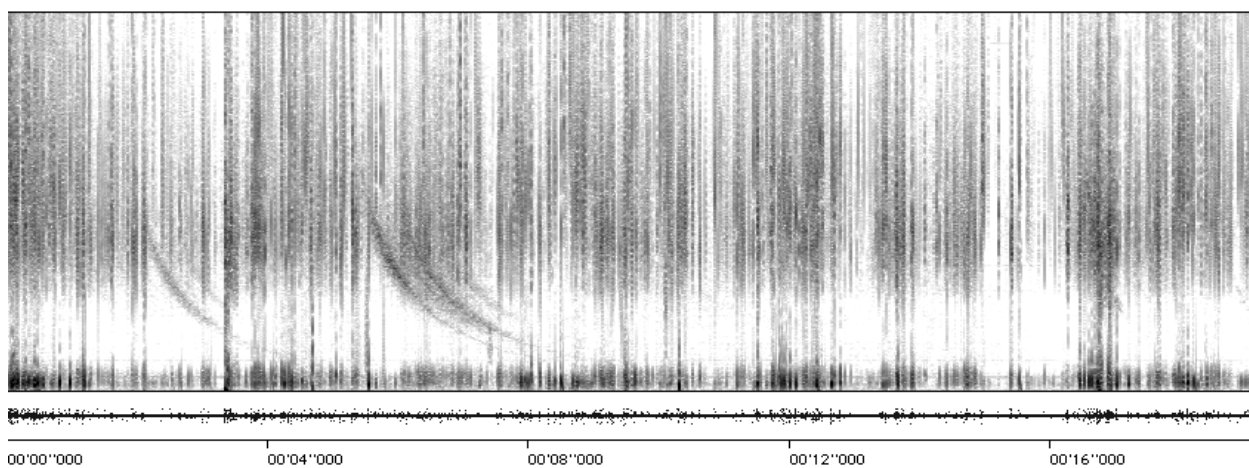
Code: M - Mark (WWV or Voice) S - sferics T - tweek W - whistler A - Alpha C - chorus
Sferic Density: D: 2 Scale of 1-5 (1 - Very Low, 3 - Medium, 5 - Very High)

Time (UT)	Entry	Observer
13: 11 02	M-WWV M-V STC W	D: 2
05	M-WWV M-V STC W	D: 3
16	M-WWV M-V STC W	D: 2
35	M-WWV M-V STC W	D: 2
12 01	M-WWV M-V STC W	D: 2
38	M-WWV M-V STC W	D: 2
46	M-WWV M-V STC W	D: 2
52	M-WWV M-V STC W	D: 2
56	M-WWV M-V STC W	D: 2
13 03	M-WWV M-V STC W	D: 2



Sferics are lower intensity and density. Whistlers logged at 1311:02, :05, :16, :35, 1312:01, :38, :46, :52 and :56.

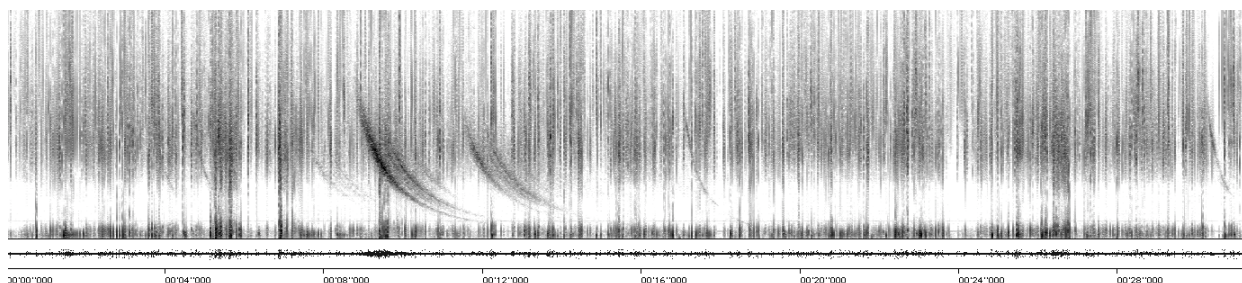
(Audio file (2 minutes): sk10071311u2.wav)



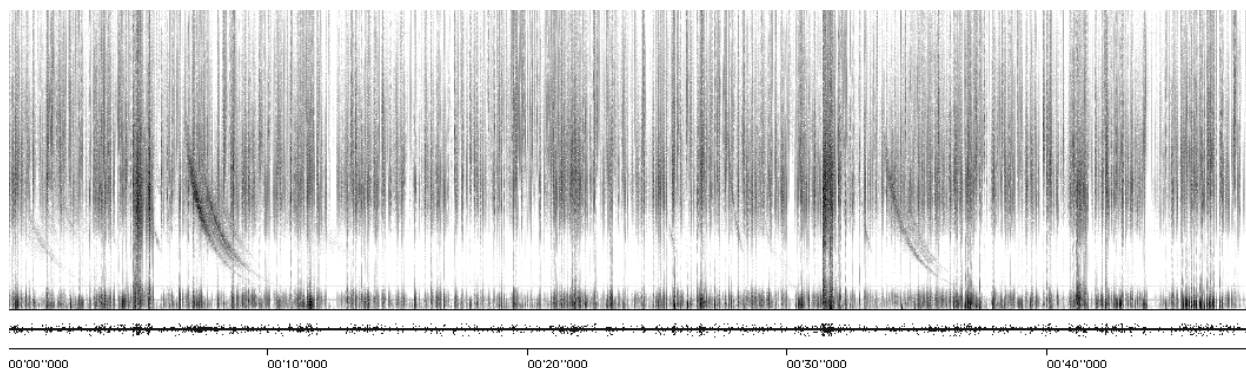
Close-up of first 20 seconds of spectrogram showing first 3 whistlers.

Log entries starting at 1313 UT:

13	03	M-WWV M-V	STC(W)	D: 2
	08	M-WWV M-V	STC(W)	D: 3
	11	M-WWV M-V	STC(W)	D: 3
	16	M-WWV M-V	STC(W)	D: 2
	29	M-WWV M-V	STC(W)	D: 2
	46	M-WWV M-V	STC(W)	D: 2
14	13	M-WWV M-V	STC(W)	D: 2
	22	M-WWV M-V	STC(W)	D: 2
	33	M-WWV M-V	STC(W)	D: 2



Spectrogram of 30 seconds starting at 1313 UT. Several strong whistlers are visible.
(Audio file: sk10071313uw1.wav)



Another whistler sampler.
(Audio file (45 second): sk10071530uw2.wav)

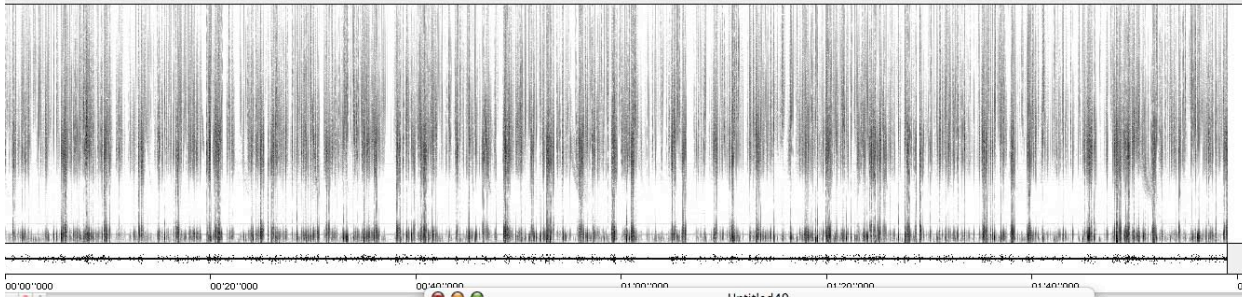
October 7, 2007 1400UT

Local weather: Slight breeze, 50°, partially overcast

Code: M - Mark (WWV or Voice) S - sferics T - tweek W - whistler A - Alpha C - chorus
Sferic Density: D: 2 Scale of 1-5 (1 - Very Low, 3 - Medium, 5 - Very High)

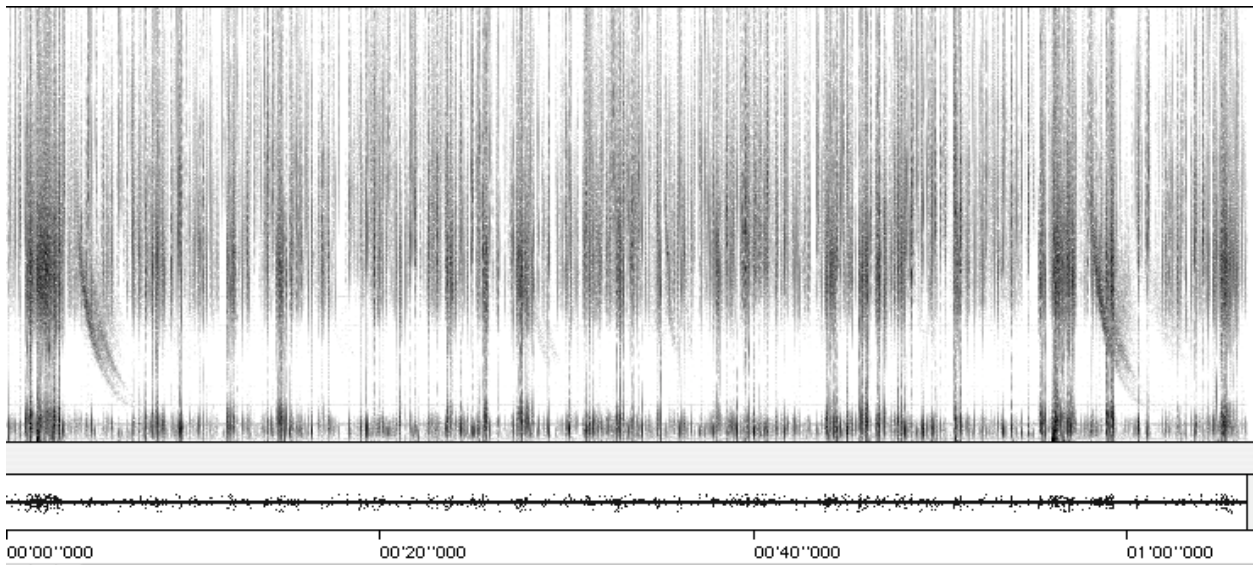
Track #4

Time (UT)	Entry	Observer
14:00 30	M-WWV M-V STC <u>W</u>	D: <u>2</u>
33	M-WWV M-V STC <u>W</u>	D: <u>2</u>
45	M-WWV M-V STC <u>W</u>	D: <u>2</u>
47	M-WWV M-V STC <u>W</u>	D: <u>2</u>
56	M-WWV M-V STC <u>W</u>	D: <u>2</u>
01 51	M-WWV M-V STC <u>W</u>	D: <u>2</u>
02 08	M-WWV M-V STC <u>W</u>	D: <u>2</u>
37	M-WWV M-V STC <u>W</u>	D: <u>2</u>
50	M-WWV M-V STC <u>W</u>	D: <u>2</u>
03 17	M-WWV M-V STC <u>W</u>	D: <u>3</u>



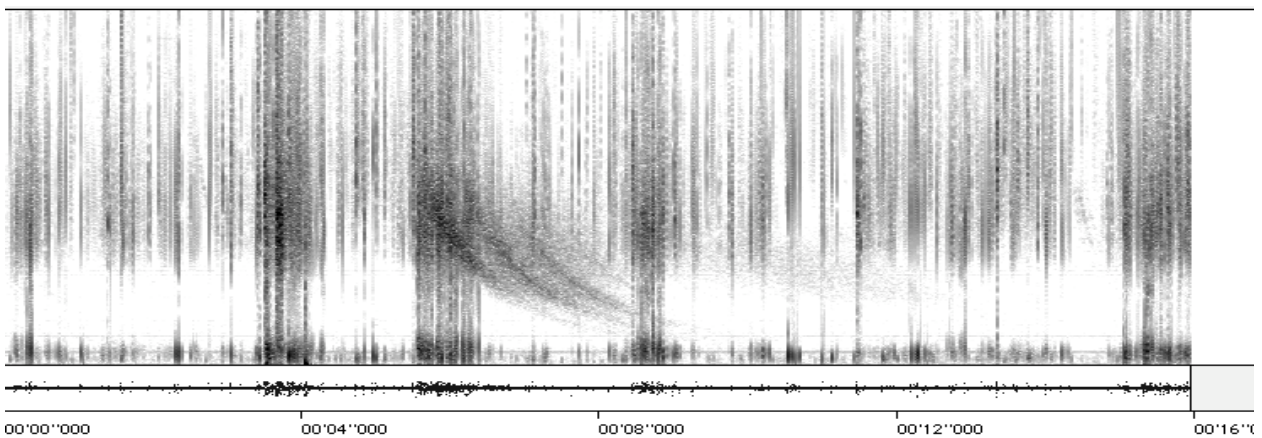
Sferics now low density.

(Audio file (2 minutes): sk100714u2.wav)



Whistlers at 1406 UT.

(Audio file (1 minute): sk10071406u2.wav)



We finish this report with a strong 2-hop whistler followed by a faint, breathy echo logged at 140931 UT.

(Audio file (16 seconds): sk1007140925uw3.wav)