Cabo de Hornos Vaisala weather station

1. Daily data file content (1-minute samples), manually copied from desktop machine #2 in control room, in C:\Observations\History\WXT\2015\04 (fields in bold would be interesting to have for inter-comparison with Stratus buoy):

**Date** **Time** Dewpoint(C) **Heading** **SOG(kn)** unknown **Pressure at**

**1 2 4 5 7**

**station(hPa)** **Pressure at mean sea level(hPa)** PressureQNH(hPa) **RH(%)**

**8 10**

**ATMP(C)** Pressure tendency Pressure trend **WDIR(2-mn avg)**

**11 14**

Wdir(2-mn max) Wdir(2-mn min) **WSPD(2-mn avg)** Wspd(2-mn max)

**17**

Wspd(2-mn min) Wdir(10-mn avg) Wdir(10-mn max) Wdir(10-mn min)

Wspd(10-mn avg) Wspd(10-mn max) Wspd(10-mn min) status **BPR(hPa)**

**27**

/// /// /// 0 0 0 0 0 /// lat lon

Rwdir(2-mn avg) Rwdir(2-mn max) Rwdir(2-mn min) Rwspd(2-mn avg)

Rwspd(2-mn max) Rwspd(2-mn min) Rwdir(10-mn avg) Rwdir(10-mn max)

Rwdir(10-mn min) Rwspd(10-mn avg) Rwspd(10-mn max) Rwspd(10-mn min)

These data fields will occur in the data text files in lines similar to this one (watch out because these line almost repeat, although the line that look similar is slightly shorter):

2015-04-18 00:00:00 10.0 316 12.0 316 1017.9 1019.1 1019 60 17.6 7 -0.3 184 189 177 21.2 24.0 18.5 178 190 162 20.1 24.0 15.5 0 40.3 13.8 0 1017.4 900 /// /// 7 0 0 0 0 /// 2834.2830 7647.2040 263 273 254 15.8 18.7 12.6 258 274 236 13.7 18.7 8.2 BKN CLR CLR CLR CLR 0 BKN CLR CLR CLR CLR

2. Edit WXT files to remove special symbols (:, -, /) and change file names to vYYYYMMDD.asc (YYYY is year, MM is month, DD is day) using following commands (unix, linux) in shell terminal window:

f='WXT\_\_SMSAWS\_\_20180404.txt';

cat $f |awk '(NF == 64){print}'| cut -f 1-28 | sed 's/:/ /g' | sed 's/-/ /' | sed 's/-/ /' | sed 's:///:-999.99:g' > `echo $f | sed 's/WXT\_\_SMSAWS\_\_/v/' | sed 's/txt/asc/'`

This creates file v20180404.asc with data in columns (easy to ingest into Matlab). Repeat for each daily file (or create do loop looking for all .txt files).

3. Run Matlab codes to ingest daily files, save and plot data:

go\_ship 🡪 loads .asc daily files and concatenate into one file (ship.mat)

plot\_ship\_me 🡪 plot ship data time-series