Test Case TC115 Short time range average wind

Belongs to Plan(s): TP6 dashboard_tactics...

Belongs to Suite(s): TS42 Racing w/ polar

Case Type: Functionality

Label(s): windows linux

Test Quality: GOOD Test Case Passing

Assign To: *click to add Assign To*

Case Priority: Medium

Estimate: 1800

Is Automated

Precondition

This test is part of those which are better run with a known VDR (Voyage Data Recorder plug-in) recording of wind - what we need is a real wind shifts and turbulent wind, the repeatability obtained with NMEA simulator is not an asset in this test. For this test, we use the following test recording, originating from Tactics v1.0.11 tests:

test2_tc115.zip

Run it at full speed obtained by VDR to reduce the test time.

You need following instruments to observe:

1. TWD
2. WInd Average Direction
3. TWA to waypoint mark

The two last ones are those under the test. TWD instrument is good to see if it is available, in general.

Steps

Click **"Tab"** or **"Shift + Tab"** to navigate grid

1

The default ini-value test is to simply by making sure that one does not have any of the ini/conf file values illustrated below when starting OpenCPN with the *DashT* version under test. You would simply see the all the above instruments, then close the OpenCPN application.

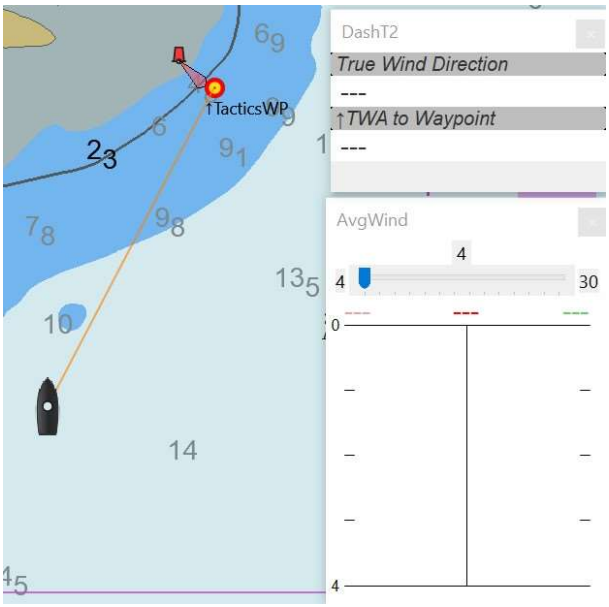
Open the ini/conf file and observe the following, default values have been initialized:

```
[PlugIns/DashT/Tactics/Performance]
...
TwaMarkUseShortAvgWind=1
...
[PlugIns/DashT/Tactics/AverageWind]
AvgTime=240
ShortAvgTimePercentage=25
```

PASS: the default values observed after the application successful closure.

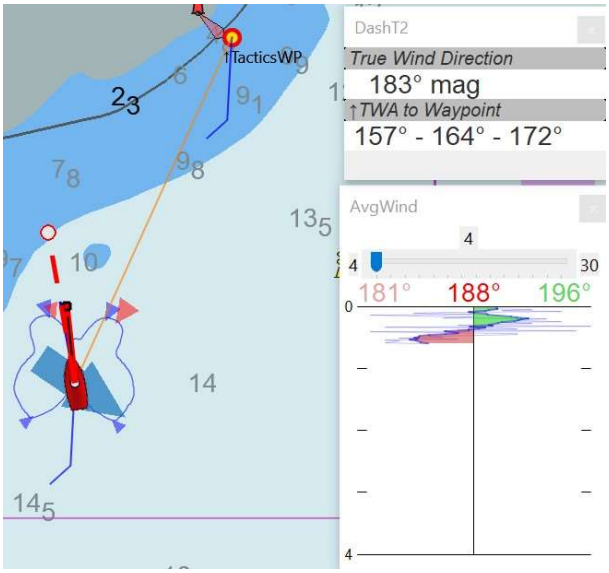
2

Prepare the start of the test with a waypoint for Tactics set like this, note that no data should come in as for now:



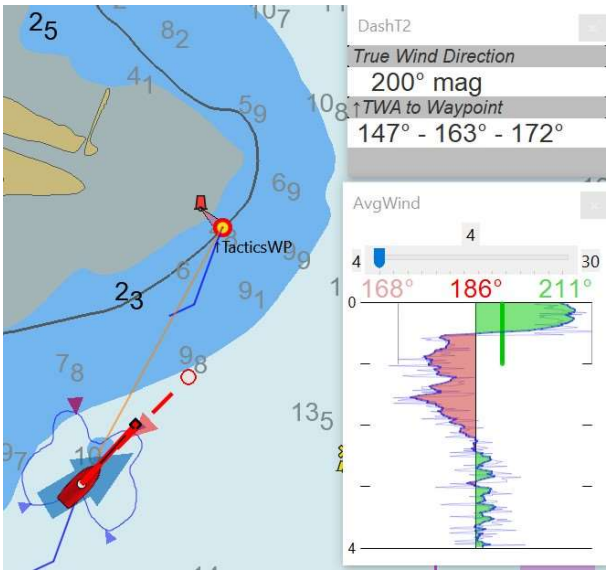
PASS: mark has been dropped and no data is shown by any instrument.

3 Start the application and start playing with VDR recorder the test file. Observe from the the two instruments under test the following, within the one minute of test time maximum:



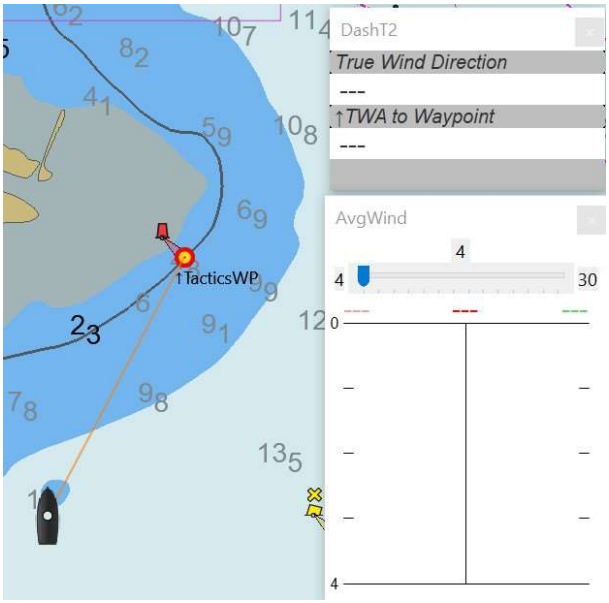
PASS: the graph does not show the vertical bars of the "short" range wind direction integration.

4 Let the recording run at full speed for four (4) minutes. You should observe the wind shifts being marked now with the red, vertical bar and the maximum wind of that short integration period being shifted along but remaining on the display area. Note that the integration time and the alpha parameter being different in the short integration, it is more lively than the normal integration and averaging, which has more samples. That is quite normal: but the shift should match the indicated graphical integration. This can be judged by an eye quite easily, left when graph is underneath is red (red bar), and vice versa:



PASS: The data is shown as illustrated, the movement of the vertical, "short" integration time slider movement is logical with the underlaying long term smoothed curve.

5 Timeout test: verifying that not only the numerical values on the display but also the graphs are going away in case of a timeout event, making sure that the calculation will not start where it was left if and when the data is coming back. Stop the VDR recorder and observe, after individual delay of each instrument that all data is cleared from the screen:



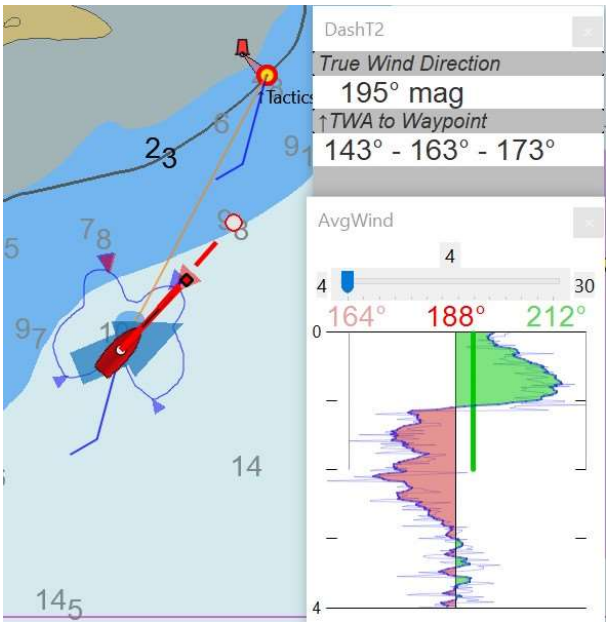
PASS: all data, including all the average wind graphs is cleared out.

6

In this test, we increase the "short" integration time to be the half of the "normal" integration time. This is done by modifying the ini/conf-file before start of the test.

```
[PlugIns/DashT/Tactics/AverageWind]
AvgTime=240
ShortAvgTimePercentage=50
```

Observe now at least for two minutes and confirm the below graphical behavior:



Before leaving this test, increase the overall integration time to 10 minutes with the slider. Then close the application.

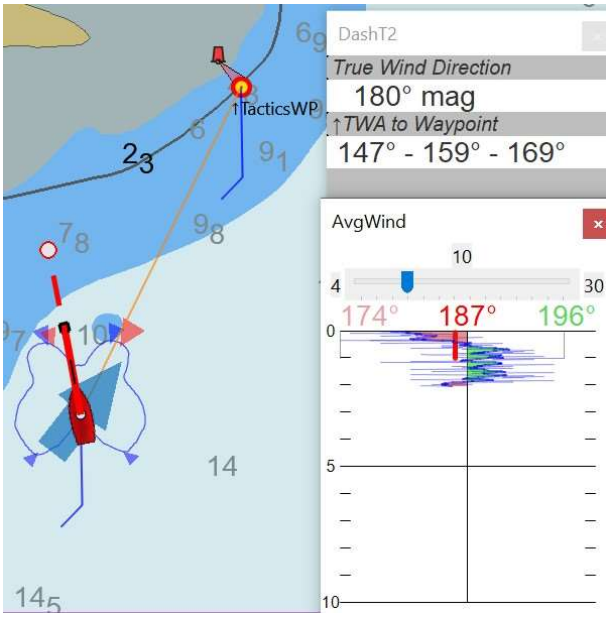
PASS: 50/50 integration time is respected, this can be seen that the oscillation of the vertical bar remains much closer to the "normal" *i.e.* longer term integration.

7

In this test, we increase the overall integration time to ten minutes, while reducing the "short" integration time to 10 percent, which keeps it at the same, one minute interval as above. In the ini/conf-file .

```
[PlugIns/DashT/Tactics/AverageWind]
AvgTime=600
ShortAvgTimePercentage=10
```

This would give the following result after some operation which should exceed one minute, of course:



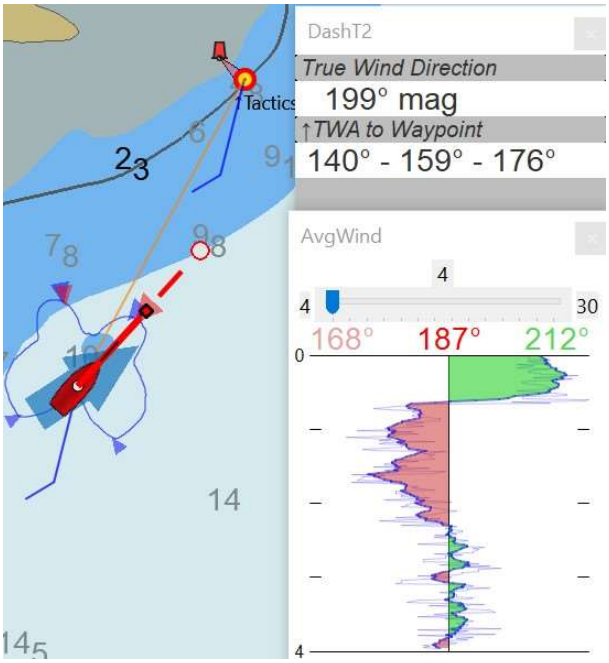
PASS: time scale has been increased but the time for the "short" integration remains the same, *i.e.* one minute.

8

In this test we disable the "short" term integration altogether. While we test that it works, we verify that the TWA to Waypoint instrument now takes its data from the "normal", *i.e.* long integration time averaging:

```
PlugIns/DashT/Tactics/AverageWind]
AvgTime=240
ShortAvgTimePercentage=0
```

Repeat the test step (4), now without "short" integration:



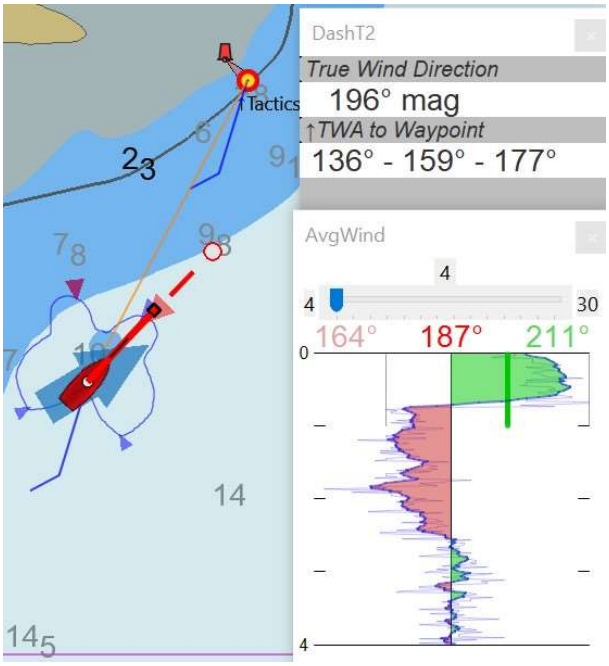
Observe the variations in the TWA to Waypoint instrument, which shall be now more smooth, where the average wind is now following the "normal" averaging time, in the absence of the shorter integration: where the step (4) showed a short 'notch' to the right in the TWA to Waypoint, corresponding the slider position, here it shows strictly the "long" integration time average wind direction based value.

PASS: the short term integration is not shown in both instruments.

9

In this test we allow the "short" term integration again in the Average Wind Direction instrument but we disable it in the TWA to Waypoint instrument. From the point of view of the latter instrument, the result should be the same as in the above test (8).

```
[PlugIns/DashT/Tactics/Performance]
...
TwaMarkUseShortAvgWind=0
[PlugIns/DashT/Tactics/AverageWind]
AvgTime=240
ShortAvgTimePercentage=25
```



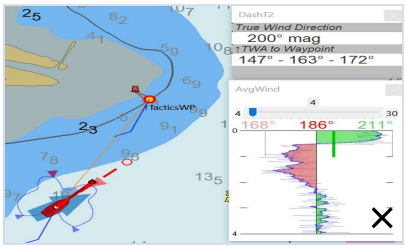
You can see the more rapidly shifting "short" integration slider moving on Average Wind Direction instrument but the TWA to Waypoint instrument takes its data from the "normal", *i.e.* long term integration what comes to average wind and maximum range.

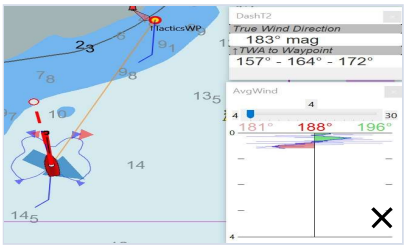
PASS: TWA to Waypoint instrument is taking its data from the "normal", *i.e.* long term integration.

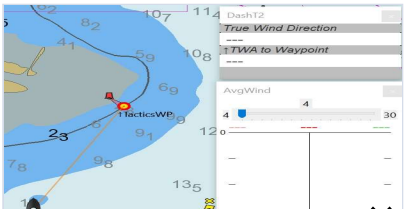
⊕ Add Step

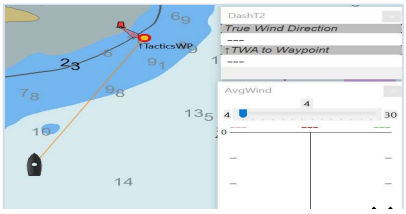
Attachments

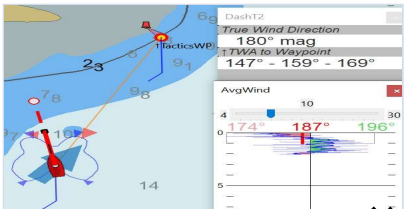
test2_tc115.zip











« ‹ 1 2 › »

Add Attachments

RESULTS | DEFECTS | REQUIREMENTS

Key	ID	Summary	Created↑	Assigned	Status	
RQ69	141	O-DT-TA-5-002 : Allow TWA to Way...	7 minutes ago	canne	open	
RQ68	140	O-DT-TA-5-001 : Provide short ter...	8 minutes ago	canne	open	
RQ67	139	O-DT-TA-5 : provide distributed av...	8 minutes ago	canne	open	

Add Requirement

ACTIVITY | HISTORY | COMMENTS