



Australian Government

Bureau of Meteorology

TURBOWIN 5.0

USER GUIDE

*For Weather Observers of the
Australian Voluntary Observing Fleet*

**Prepared by
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Composite Operations Section
Observations & Engineering Branch
Australian Bureau of Meteorology**

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Contents

Section	Topic	Page
1	Introduction	4
2	Benefits	4
3	Notes	4
4	The value of meteorological observations	5
5	Starting and closing TurboWin	5
6	Description of the TurboWin window	5
7	Identification and description of the toolbar buttons	7
8	Menu bar options	8
9	Data Entry Options	9
10	Entering an observation	10
11	The Output menu	31
12	The Options menu	33
13	The Maintenance menu	33
14	The Additional menu	34
15	The Add-ons menu	35
16	The Help menu	35
17	The Info menu	35
18	TurboWin Extras	35
19	Quick guide to using TurboWin 5.0	37

User Guide Version History

Version	Date of Issue
2.12.1	October 2001
3.6.1	September 2005
4.0.1	September 2007
4.5.1	November 2009
5.0.1	August 2011

1. Introduction

- 1.1. This manual describes the use of **TurboWin 5.0** (hereafter referred to as **TW50**) by an Observing Officer on a ship in the Australian Voluntary Observing Fleet (AVOF).
- 1.2. TurboWin (refers to all versions of TurboWin when used by itself in the text), and its DOS-based predecessor Turbo1, is developed by the Royal Netherlands Meteorological Institute (KNMI) and endorsed by the World Meteorological Organization (WMO) for use on voluntary observing ships. TurboWin is developed with contributions from WMO, the Bureau of Meteorology (Australia), Deutscher Wetterdienst (Germany), Met Office (United Kingdom) Environment Canada and Météo France.
- 1.3. TurboWin is a computer-based meteorological logbook. After the Observing Officer makes a meteorological observation, the details of the observation are manually entered into TurboWin using text-boxes, drop-down menus, radio buttons and check boxes. TurboWin continually performs quality control checks during the data entry, and again at the end of the data entry to ensure consistency between the elements. TurboWin automatically saves the observation on the computer's hard disk then creates a properly formatted BBXX message for transmission from the ship to shore.
- 1.4. In most cases, **TW50** will be installed and configured by a Port Meteorological Agent (PMA) for immediate use by the Observing Officer.

2. Benefits

- 2.1. TurboWin offers significant benefits to the Observing Officer, including:
 - 2.1.1. Ease of use with extensive help, including cloud and sea-state photographs;
 - 2.1.2. Assumes no knowledge of meteorological coding;
 - 2.1.3. Less training time needed by the Observing Officer;
 - 2.1.4. Removes the need for a hand-written meteorological logbook;
 - 2.1.5. Extensive inbuilt quality control checks;
 - 2.1.6. Automatic generation of the BBXX (coded weather report).

3. Notes

- 3.1. The screen images used in this manual are indicative only and may vary slightly depending on the version of Windows in use.

4. The value of meteorological observations

- 4.1. Meteorological observations made by voluntary observing ships and fixed sea stations, form a significant component of the WMO's World Weather Watch. Observations from marine platforms are distributed around the world to national meteorological services, as well as global and regional modelling centres using the WMO's Global Telecommunications System (GTS).
- 4.2. The observations are subsequently used to analyse weather systems and to predict their movement and or development, leading to the issue of marine weather forecasts and warnings. The timely submission of quality-controlled observations, particularly from data-sparse areas, is therefore vital to improve the accuracy of forecasts and the timely issue of accurate warnings.

5. Starting and closing TurboWin

- 5.1. To start **TW50**, double click on the **TurboWin 5.0** desktop icon, see **Figure 1**, or select **TurboWin 5.0** from **Meteo** on the **Start menu**.



Figure 1. TurboWin 5.0 desktop icon.

- 5.2. To close **TW50**, from the menu bar, select **File >> Exit**. Alternatively click the X on the red background in the top right corner.

6. Description of the TurboWin window

- 6.1. The default **TW50** desktop is shown in **Figure 2** and comprises a work area, toolbar (**Figure 4**) and menu bar (**Figure 5**).
- 6.2. If **TurboWin Extras** is installed, an alternative desktop graphic may be selected, see **Figure 3**. From the menu bar, select **Options >> Desktop new**. Select a new graphics file (BMP, JPG, GIF or PNG) in **C:\Meteo\Extras\backgrounds**.
- 6.3. The toolbar contains shortcuts to the input screens for entering the observed data.
- 6.4. The menu bar provides access to the **TW50** configuration parameters, data presentation and access options, self-training programs, and information about complementary observing programs.

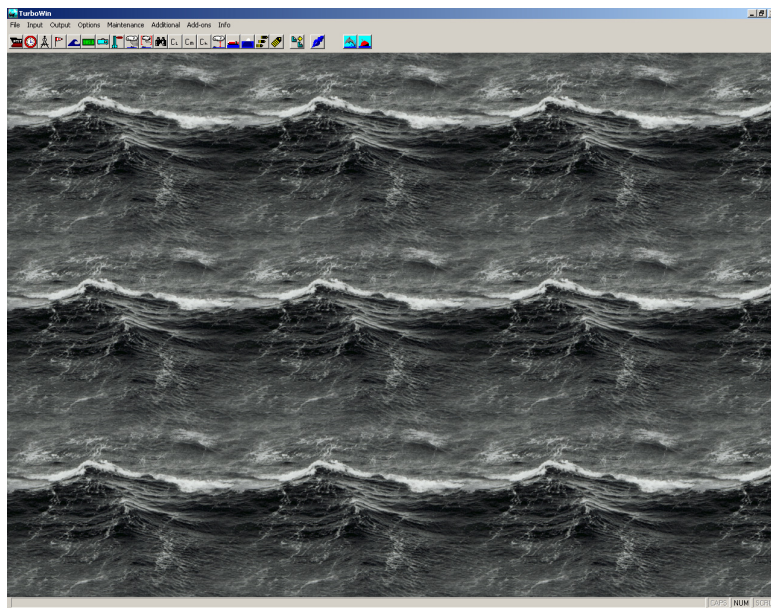


Figure 2. The default TW50 desktop

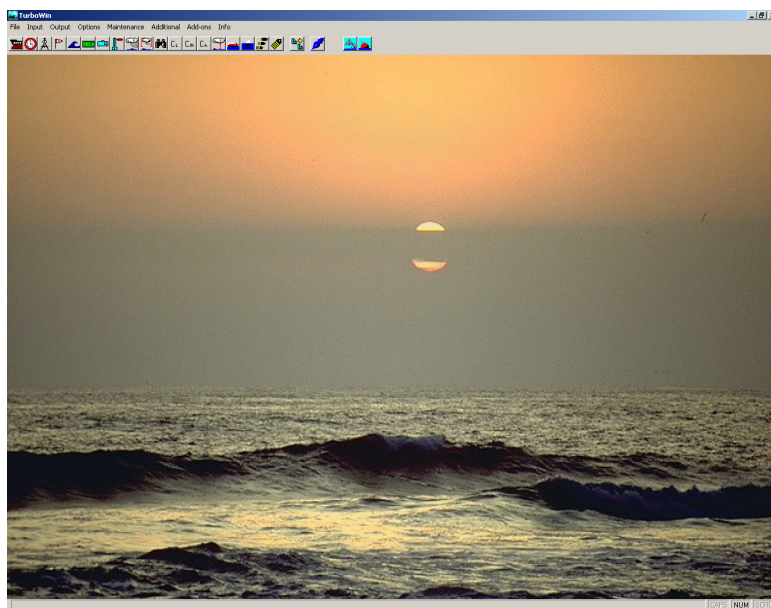


Figure 3. TW50 with an alternative desktop graphic



Figure 4. TW50 toolbar

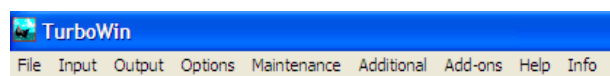


Figure 5. TW50 menu bar

7. Identification and description of the toolbar buttons

	Call sign.
	Date and time of the observation.
	Ship's position, course and speed.
	Wind speed and direction.
	Wind waves and swell.
	Barometer reading.
	Barograph reading.
	Air temperature, wet-bulb/humidity and seawater temperature.
	Present weather.
	Past weather.
	Visibility.
	Low cloud type.
	Middle cloud type.
	High cloud type.
	Cloud amount and height of the lowest cloud.
	Ice accretion.
	Ice.
	Observer.
	Captain.
	Automatic form advance.
	Classic form (disabled if a VOSClim vessel).
	Record of phenomena.
	Record of a buoy or float deployment.

8. Menu bar options

Input

Call sign / VOS ID ...
Data + Time ...
Position ...
Wind ...
Waves ...
Barometer reading ...
Barograph reading ...
Temperature ...
Present weather ...
Past weather ...
Visibility ...
Clouds low ...
Clouids middle ...
Clouds high ...
Cloud cover + height ...
Icing ...
Ice ...
National ...
Observer ...
Classic Form ...

Refer para. 9.1.2

Output

Obs to A:\OBS.TXT
Obs to Screen
Obs to Custom file ...
Obs to Printer ...
Obs to Clipboard
Obs to Text Editor ...
Obs by E-mail (Turbo) ...
Obs by E-mail (OLE) ...
Printer setup ...
Printer as plain text ...

Refer para. 11

Options

Show progress
Statistics observers
Statistics monthly
Picture Open ...
Desktop new ...
Desktop refresh
Next form automation

Refer para. 12

Maintenance

Station data
E-mail settings ...
Observers ...
Captains ...
Download log files to floppy disk (A:)
Download files to USB disk
Download log files by E-mail
Download ship coded log (internal use)
Import LES data
Import new PMO contacts file
Import new MetPub47 metadata file

Refer para. 13

Additional

Notes and feedback ...
Phenomena ...
Buoy/Float deployment ...

Refer para. 14

Add-ons

MeteoClassify
MetPub47
Ocean Wave Atlas
Global Climate Atlas
Pilot Charts (pdf)

Refer para. 15

Help

Call sign / VOS ID ...
Data + Time ...
Position ...
Wind ...
Waves ...
Barometer reading ...
Barograph reading ...
Temperature ...
Present weather ...
Past weather ...
Visibility ...
Clouds low ...
Clouids middle ...
Clouds high ...
Cloud cover + height ...
Icing ...
Ice ...
Phenomena ...

Refer para. 16

Info

Inmarsat-C LES for obs
E-mail connection
Return logs
Tips
ASAP brochure (pdf)
DBCP brochure (pdf)
Guide to Meteorological Instruments and methods of observation (pdf)
Guide to wave analysis and forecasting (pdf)
Iceberg factsheet
MetPub47 metadata (pdf)
PMO contacts
Ship's code card (pdf)
SOOP (pdf)
TurboWin User Guide (pdf)
VOS brochure (pdf)
VOSClim brochure (pdf)
VOSClim project document (pdf)
WMO brochure Weather Climate Water (pdf)
WMO brochure Water and disaster (pdf)
About ...

Refer para. 17

9. Data Entry Options

9.1. TW50 offers four options to enter an observation:

9.1.1. Toolbar

- 9.1.1.1. Select each button in turn to enter the observation.
- 9.1.1.2. Once an element has been entered, the corresponding toolbar button will appear recessed.

9.1.2. Input menu

- 9.1.2.1. Select each element in turn from the drop-down menu to enter the observation. The Input menu can be invoked by right clicking the mouse on the TurboWin desktop.
- 9.1.2.2. Once an element has been entered, a tick will appear adjacent to the corresponding element in the drop-down menu.

9.1.3. Automatic form advance

- 9.1.3.1. Upon completion of an element, the data entry form for the next element will automatically appear.
- 9.1.3.2. This option is invoked from the toolbar (fourth button from the right), or from the menu bar, select **Options >> Next form automation**.

9.1.4. Classic form

- 9.1.4.1. Observing Officers familiar with the traditional method of recording the observation in coded BBXX form may use this option to directly enter the observation in coded groups.
- 9.1.4.2. This option is invoked from the toolbar (third button from the right).
- 9.1.4.3. This option is not available to VOSclim ships because of the additional information that must be reported with each observation. The button will appear disabled.

9.2. Extensive help is available from each dialogue box by clicking the **Help** button. Only limited help is available from the **classic form** dialogue box.

9.3. Once all parts of the element have been completed, press the **OK** button.

9.4. The elements that constitute an observations, see section **10**, are described as **mandatory**, **optional** or **required** (under certain conditions), with a secondary classification depending on whether the element is required for the **BBXX** (coded

weather report) or used exclusively by **TW50**.

10. Entering an observation

10.1. Call sign

- 10.1.1.** If the **call sign** and **VOS ID** (if applicable) were entered during the setup by the PMA, these values will automatically populate the dialogue box shown in **Figure 6**. The element will appear completed; i.e. recessed on the toolbar and ticked on the Input menu.

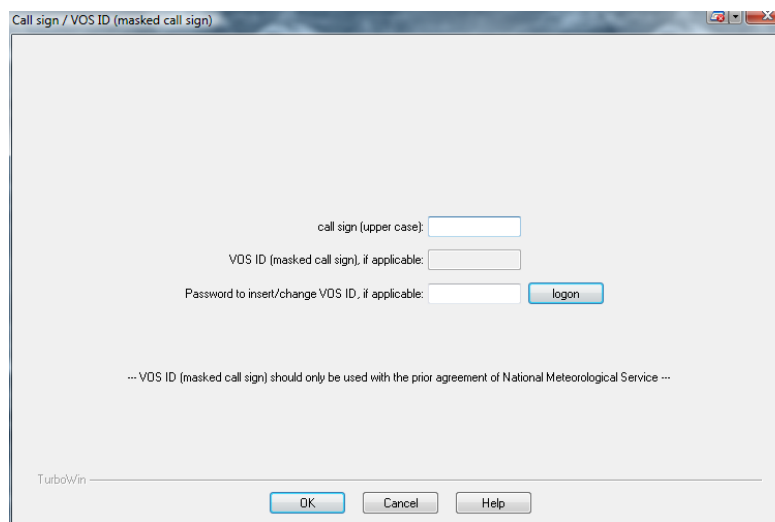


Figure 6. Call sign dialogue box

f the call sign was not entered during the installation and setup, enter the **call sign** in UPPER CASE characters. The **call sign** will be recalled whenever an observation is made.

- 10.1.3.** If a masked call sign has been assigned by the Bureau of Meteorology, this will appear as the **VOS ID** in UPPER CASE characters. The **VOS ID** will be used instead of the real **call sign** in all transmitted observations. This field is password protected and restricted to PMA use only.
- 10.1.4.** Click **OK** to save the **call sign** and **VOS ID**.
- 10.1.5.** If the ship's **call sign** should subsequently change, the Observing Officer can enter the new **call sign** in this dialogue box. Click **OK** to save the new **call sign** and to display the dialogue box at **Figure 7**.

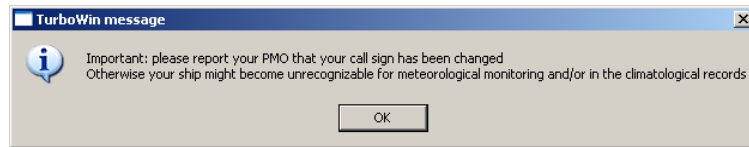


Figure 7. Change of Call sign warning dialogue box

10.1.6. Call sign is a mandatory BBXX element.

10.2. Date and time

10.2.1. The correct date and time of the observation are vital to ensure the observation is correctly used by the receiving meteorological service.

10.2.2. If the date and time on the computer running **TW50** are set to UTC, the Observing Officer must confirm the observation date and time as shown in **Figure 8** when starting **TW50**. If this dialogue box does not appear, or if the date and time are incorrect, the Observing Officer must enter the correct date and time in the dialogue box shown in **Figure 9**. The values may be typed or selected from the drop-down lists.

10.2.3. Date and time are mandatory BBXX elements.

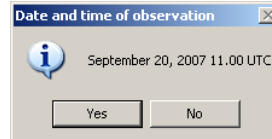


Figure 8. Automatic Date and time dialogue box

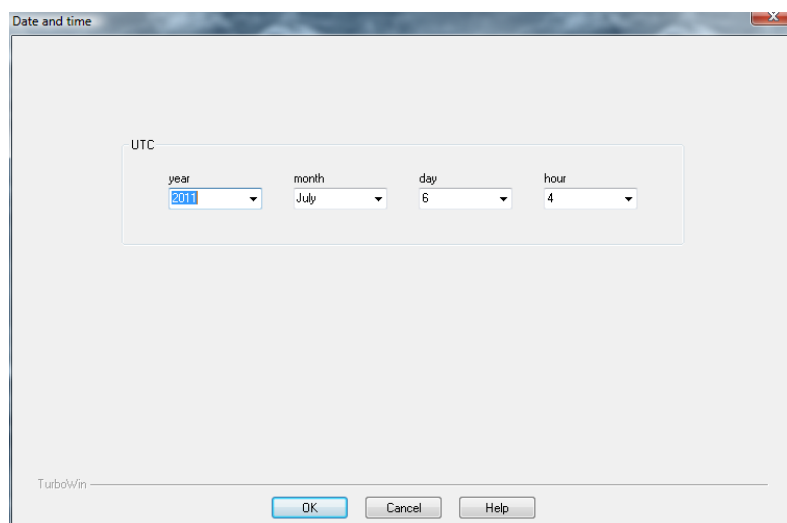


Figure 9. Date and time dialogue box

10.3. Position, course and speed

- 10.3.1.** The true position of the ship at the time of the observation is vital to ensure the observation is used correctly by the receiving meteorological service.
- 10.3.2.** The latitude at the time of observation including whether North or South, and the longitude including whether East or West, are entered in the dialogue box shown in **Figure 10**.

Figure 10. Position, course and speed dialogue box

- 10.3.3.** The latitude and longitude are entered in whole degrees and minutes. Values equal to zero must be entered as 0 degrees or 00 minutes.
- 10.3.4.** The following error message will appear if the latitude and or longitude are omitted.

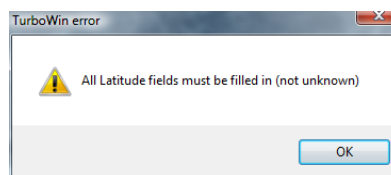


Figure 11. Missing latitude error message

- 10.3.5.** The course made good over the last three hours, plus the speed made good over the last three hours, are entered as range values.
- 10.3.6.** A map showing the locations of recent observations as well as the current position is displayed after clicking OK in **Figure 10**. See **Figure 12**.

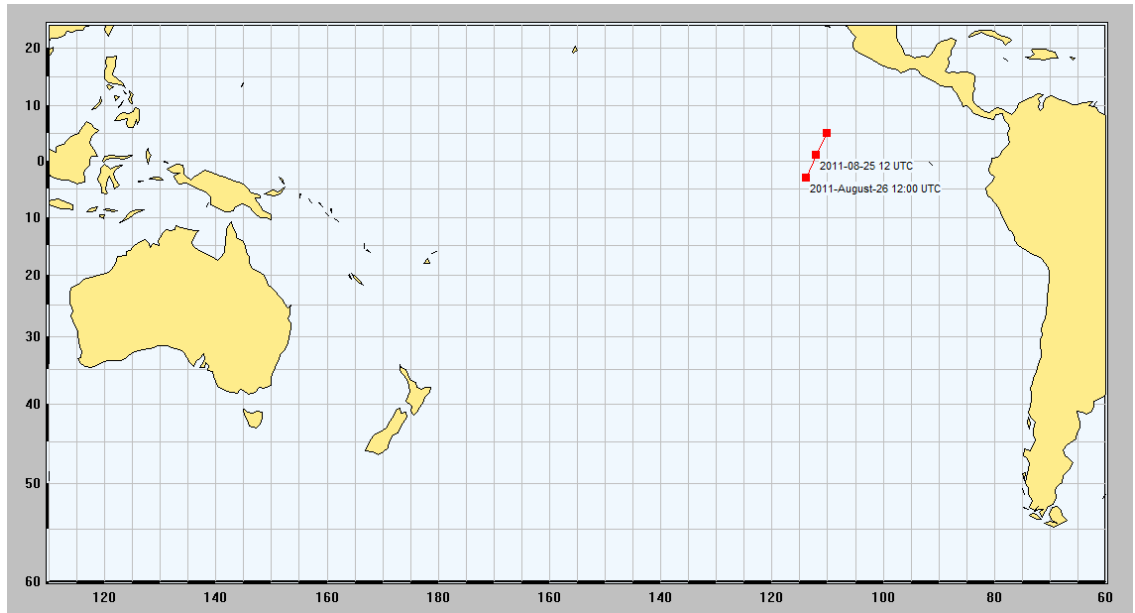


Figure 12 Recent positions chart

- 10.3.7. Ship's position is a mandatory BBXX element.
- 10.3.8. Ship's course and speed are required BBXX elements only from ships nominated by the PMA.

10.4. Wind speed and wind direction

- 10.4.1.** Wind direction and wind speed are reported in whole degrees and knots respectively. Calm is reported as 000 degrees and 00 knots. North is reported as 360 degrees.
- 10.4.2.** The wind speed may be estimated from the state of the sea using the Beaufort Scale. Sea-state photographs to assist the Observing Officer to estimate the force of the wind are available by pressing the **Help** button. The wind direction, measured by a compass to the nearest ten degrees, is the direction from which the wind-driven waves originate.
- 10.4.3.** Observing Officers aboard ships equipped with a properly maintained and regularly calibrated anemometer, may prefer to report the ten minute averaged wind speed and ten minute averaged wind direction. If a major wind change occurs during the 10 minutes, only the wind after the change shall be reported.
- 10.4.4.** The Observing Officer must also indicate whether the reported wind speed and wind direction are: (1) measured or estimated; and (2) whether ‘apparent wind’ or the ‘true wind’. This is referred to as the source in the dialogue boxes shown in **Figure 13** and **Figure 14** overleaf.
- Note 1:** The PMA may have set the default **source** appropriate for the ship during the setup of **TW50**.
- Note 2:** True wind is referenced to North and compensates for the movement of the ship. Apparent wind is referenced to the Observing Officer with no compensation for the movement of the ship.
- 10.4.5.** The wind speed and wind direction are entered in the dialogue at either **Figure 13** for **non-VOSClm** ships, or at **Figure 14** for **VOSClm** ships. VOSClm ships are also required to enter (1) the maximum cargo height above the Summer load line, and (2) the difference between the Summer load line and the actual sea level with each observation.
- 10.4.6.** If the **source** is ‘apparent wind’ then **TW50** will compute the ‘true wind’ based on (1) the ship’s ground course, (2) ship’s ground speed, and (3) the ship’s heading at the time of the observations. The dialogue box shown at **Figure 15** will automatically appear.
- Note:** **VOSClm** ships are required to always report (1) the ship’s ground course, (2) ship’s ground speed, and (3) the ship’s heading at the time of the observation.
- 10.4.7.** Wind speed and wind direction are mandatory BBXX elements.

Wind speed and direction [ship]

source

☐ estimated; true speed and true direction
☐ measured; apparent speed and apparent direction (with respect to TRUE NORTH)*
☐ measured; apparent speed and apparent direction (OFF THE BOW; clockwise)*
☐ measured; true speed and true direction**
☒ not determined

* at anemometer height ** allowance made for course and speed + at anemometer height

direction (degrees)


speed ☐ knots ☐ metres per second ☒ not determined

Bf	knots
0	< 1
1	1-3
2	4-6
3	7-10
4	11-16
5	17-21
6	22-27
7	28-33
8	34-40
9	41-47
10	48-55
11	56-63
12	> 63

TurboWin

Figure 13. Wind speed and direction dialogue box

Wind speed and direction [VOSClm ship]

 click logo for info...

source

☐ estimated; true speed and true direction
☐ measured; apparent speed and apparent direction (with respect to TRUE NORTH)*
☐ measured; apparent speed and apparent direction (OFF THE BOW; clockwise)*
☐ measured; true speed and true direction**
☒ not determined

* at anemometer height

direction (degrees)

speed ☐ knots ☐ metres per second ☒ not determined

additional VOSClm data

max. height deck cargo above summer load line (metres):

difference between summer load line and water line (met.):

* negative if summer load line is below water line

Bf	knots
0	< 1
1	1-3
2	4-6
3	7-10
4	11-16
5	17-21
6	22-27
7	28-33
8	34-40
9	41-47
10	48-55
11	56-63
12	> 63

TurboWin

Figure 14. Wind speed and direction (VOSClm) dialogue box

Wind measured; apparent speed and apparent direction

ship's ground course* degrees

ship's ground speed* knots tenths

ship's heading* degrees

insert only if heading differs from ground course

*For the actual time of the wind observation

TurboWin

Figure 15. Apparent wind speed and wind direction dialogue box

10.5. Waves

- 10.5.1.** Wave observations shall be reported only by those ships nominated by the PMA. Ships not required to make wave observations will have this element disabled.
- 10.5.2.** Ships requested to make wave observations will enter the element using the dialogue box shown in **Figure 16**.

Bl	sea (metres)*
0	0.0
1	0.1
2	0.2
3	0.6
4	1.0
5	2.0
6	3.0
7	4.0
8	5.5
9	7.0
10	9.0
11	11.5
12	14.0

* probable mean sea height in the open sea, remote from land

wind waves (sea)

period (sec)

height (metres)

swell system(s)

☒ Swell not determined

☐ No swell

☐ Confused swell or indeterminable direction

☐ One swell discernable

☐ Two swells discernable

TurboWin

OK Cancel Help

Figure 16. Waves dialogue box

- 10.5.3.** Wind waves are the result of the local wind as opposed to swell waves which are produced either by a distant source or a previously existing source. Swell waves generally have a longer period and are more consistent in their appearance.
- 10.5.4.** The wave height, measured in metres, is the average vertical distance between the wave crest and wave trough. The wave period, measured in seconds, is the average elapsed time between successive crests moving past a fixed point. The wave direction is the direction from which the waves originate.
- 10.5.5.** The height of the wind waves may be estimated from the state of the sea using the Beaufort Scale. The resultant wave height must be consistent with the wind observation made in **10.4**.
- 10.5.6.** The swell system(s) observation is entered by selecting the field that best describes it as shown in Figure 14. The default option is set to **swell not determined**.
- 10.5.7.** If swell options 1 or 2 are selected then no further information is needed. Click **OK**.

10.5.8. If swell options 3, 4 or 5 are selected, a secondary swell dialogue box will appear:

10.5.8.1. The dialogue box in **Figure 17** will appear if the **swell is confused or of indeterminate direction** (swell option 3, **Figure 16**).

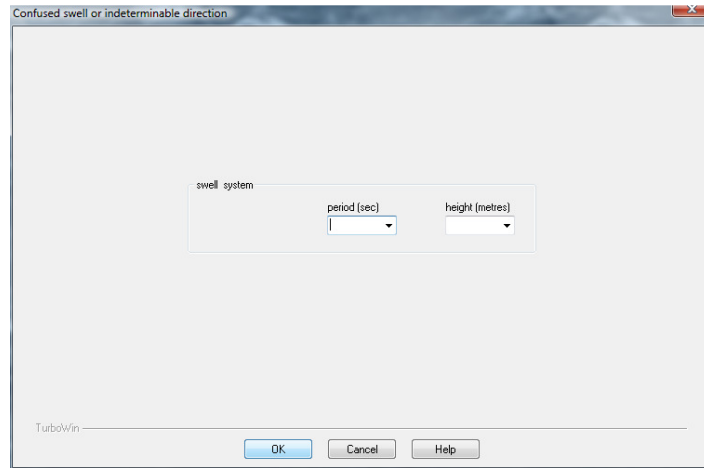


Figure 17. Confused swell or indeterminable direction

10.5.8.2. The dialogue box in **Figure 18** will appear if only **one swell is discernable** (swell option 4, **Figure 16**).

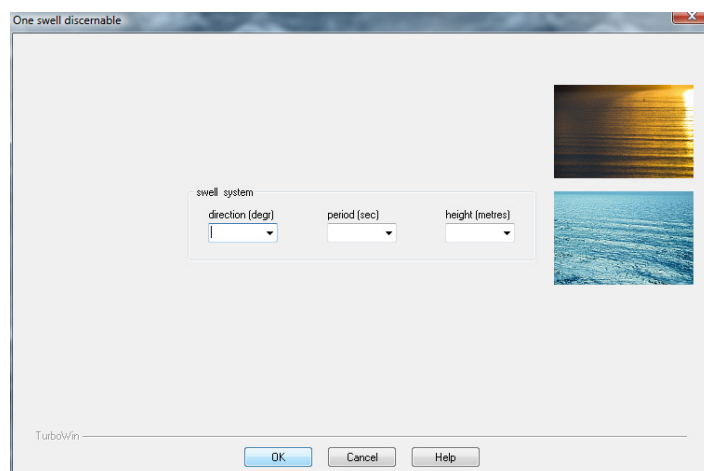


Figure 18. One swell discernable

10.5.8.3. The dialogue box in **Figure 19** will appear if there are **two swells discernable** (swell option 5, **Figure 16**).

Figure 19. Two swells discernable

10.5.9. Enter the direction, period and height as appropriate for the secondary swell screen presented.

10.5.9.1. In the case of **two swells discernable**, the most prevalent wave system shall be reported as the primary swell.

10.5.10. An error message, similar to that at **Figure 20**, will appear if the height is omitted.

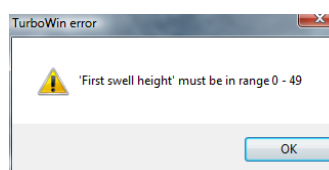


Figure 20. Error message

10.5.11. Wave height, wave period and wave direction are required BBXX elements only from ships nominated by the PMA.

10.6. Barometer Reading

10.6.1. With the VOS country of recruitment set to Australia (or New Zealand), **TW50** recognises the pressure value input by the Observing Officer as Station Level Pressure (SLP). **TW50** will automatically apply the height correction to derive the Mean Sea Level Pressure (MSLP).

10.6.2. Enter the **barometer reading** (Station Level Pressure), adjusted only for any applicable drift correction, in the dialogue box shown at **Figure 21**.

Note: Do not apply a height correction from Table E on the **Barometer Correction Tables (EC137)** provided by the Bureau of Meteorology, as this will cause a double height correction, resulting in a significant pressure error

in the MSLP computed by **TW50**.

- 10.6.3.** Air pressure must be read on the hour and is reported in whole hectopascals and tenths. The pressure may be typed directly or selected from the drop-down lists. A tenths value equal to zero must be reported as 0.

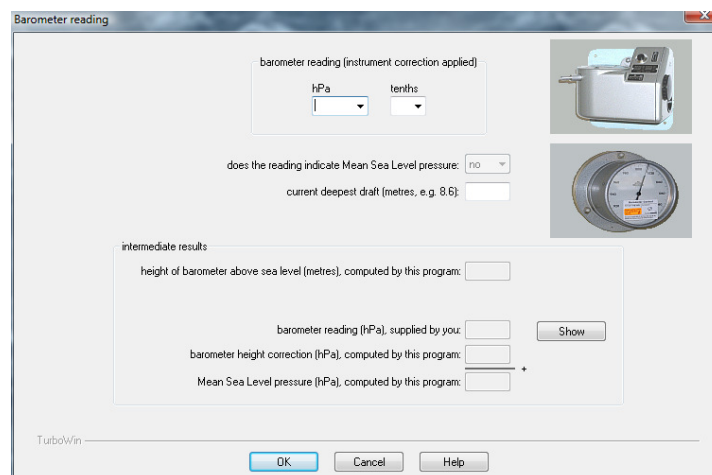
The 'Barometer reading' dialog box contains several input fields and buttons. At the top, there are two dropdown menus for 'hPa' and 'tenths' under the heading 'barometer reading (instrument correction applied)'. Below these is a dropdown for 'does the reading indicate Mean Sea Level pressure:' with 'no' selected, and a text field for 'current deepest draft (metres, e.g. 8.6)'. On the right side, there are two small images: a digital barometer and an analog barometer. In the center, a box labeled 'intermediate results' contains three text fields: 'height of barometer above sea level (metres), computed by this program:', 'barometer reading (hPa), supplied by you:', and 'barometer height correction (hPa), computed by this program:'. Below these is a text field for 'Mean Sea Level pressure (hPa), computed by this program:' followed by a '+' sign. A 'Show' button is located to the right of the 'barometer height correction' field. At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons. The 'TurboWin' logo is in the bottom left corner.

Figure 21. barometer reading dialogue box

- 10.6.4.** Enter **the current deepest draught** (in metres) in the dialogue box as shown in **Figure 21**. Click **OK**. The dialogue box shown in **Figure 22** will appear if the current deepest draft is omitted.

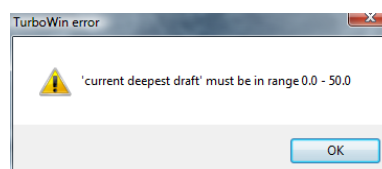


Figure 22. Current deepest draught warning message

- 10.6.5.** Click the **Show** button to display the computed MSLP.
- 10.6.6.** Air pressure is a mandatory BBXX element.

10.7. Barograph Reading

- 10.7.1.** Pressure tendency reflects the pressure change during the preceding three hours and is only reported by certain ships of the AVOF. This element will be disabled if the element is not to be reported.
- 10.7.2.** Pressure tendency is usually determined from the barograph trace and comprises two components: (1) an amount; and (2) a characteristic that describes the nature of the change. If a barograph trace is not available, this element may be omitted by leaving the amount blank and selecting “not determined” as the characteristic.
- 10.7.3.** If pressure tendency can be determined, the amount is entered in whole hectopascals and tenths in the dialogue box shown in **Figure 23**. The amount may be typed directly or selected from the drop-down lists. A value equal to zero must be reported as 0. The characteristic is selected by choosing the radio button beneath the trace that most closely depicts the nature of the change.

Barograph reading

amount of pressure tendency during last 3 hrs

hPa tenths

characteristic of pressure tendency during last 3 hrs

pressure higher than 3 hrs ago

pressure lower than 3 hrs ago

pressure the same as 3 hrs ago

(a = 0) (a = 1) (a = 5) (a = 6) (a = 0) (a = 4)

(a = 2) (a = 3) (a = 7) (a = 8) (a = 5)

☒ not determined

TurboWin

OK Cancel Help

Figure 23. Barograph reading dialogue box

- 10.7.4.** Pressure tendency is a required BBXX element only from ships nominated by the PMA.

10.8. Temperatures

- 10.8.1.** Ships of the AVOF will normally be supplied with one or two marine screens to house the dry-bulb and wet-bulb thermometers. If two screens are fitted, the temperatures must be read from the windward screen. If only one screen is fitted, it should be moved to the windward side of the ship at least 10 minutes prior to the time of the observation.
- 10.8.2.** Wet-bulb and seawater temperatures shall only be reported by ships nominated by the PMA. These elements will be disabled if they are not to be reported.
- 10.8.3.** All temperatures are reported in whole degrees and tenths. Values equal to zero must be entered as 0. The exposure of the thermometers and the state of the wet-bulb thermometer are also required. See **Figure 24**.

Note: The PMA may have set the default exposure values appropriate for the ship during the setup of **TW50**.

Figure 24. Temperatures dialogue box

- 10.8.4.** Ships not equipped with a wet-bulb thermometer may report relative humidity instead of the wet-bulb temperature if suitable instrumentation is available.
- 10.8.5.** Dry-bulb temperature is a mandatory BBXX element.
- 10.8.6.** Wet-bulb temperature and seawater temperature are required BBXX elements only from ships nominated by the PMA.

10.9. Present weather

- 10.9.1. Present weather is initially selected depending on whether precipitation is occurring at the time of the observation or not. The Observing Officer then selects a **general weather condition** followed by a **specific weather condition** to most accurately describe the current condition. See **Figure 25**.

Present weather

Present weather shall describe the weather at time of observation or (where specifically mentioned) during the period of one hour immediately preceding it. For present weather one does not take into account meteorological phenomena which has been experienced more than one hour before the observation

general weather condition

no precipitation (DRY) at station at time of obs

- not determined
- thunder audible during the last 10 minutes
- fog (or ice-fog) at time of obs
- duststorm, sandstorm, drifting or blowing snow
- precipitation, fog or thunderstorm within last hour; not at time of obs
- squalls or funnel cloud(s) within last hour or at time of obs
- lightning or precipitation within sight but not at station
- shallow fog or mist
- haze, dust, sand, smoke or blowing spray
- phenomena without significance

precipitation (WET) at station at time of obs

- not determined
- thunderstorm* at time of obs
- thunderstorm* during preceding hour but not at time of obs
- showery precipitation; no thunder at time of obs or during preceding hr
- solid precipitation; not in showers
- rain
- drizzle

* thunder heard; lightning may or may not be seen

specific weather condition

NOTE for all general and specific weather conditions: the topmost applicable weather condition shall be selected

TurboWin

OK Cancel Help

Figure 25. Present weather dialogue box

- 10.9.2. Given the choice of more than one type of **general weather condition**, the Observing Officer must select the type appearing uppermost in the list.
- 10.9.3. Present weather is a mandatory BBXX element.

10.10. Past Weather

- 10.10.1. Past weather covers the preceding six hours if the observation is made at 0000, 0600, 1200 or 1800 UTC. At the intermediate times (0300, 0900, 1500 and 2100 UTC) the period covers the preceding three hours.
- 10.10.2. Past weather is entered in the dialogue box shown in **Figure 26**.
- 10.10.3. The Observing Officer should select all weather types that occurred during the period specified in **10.10.1**. **TW50** will report the two past weather types with the highest priority.

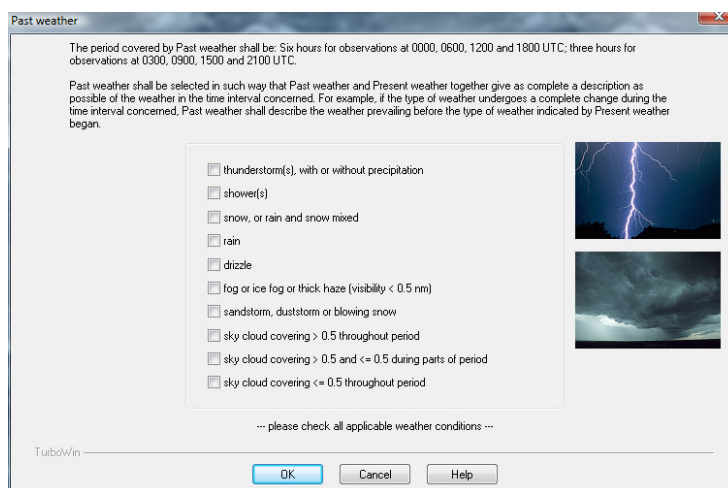


Figure 26. Past weather dialogue box.

10.10.4. Past weather is a mandatory BBXX element.

10.11. Visibility

10.11.1. Horizontal visibility is reported in nautical miles and is a measure of the obscurity of the atmosphere.

10.11.2. Horizontal visibility is entered in the dialogue box shown in **Figure 27**.

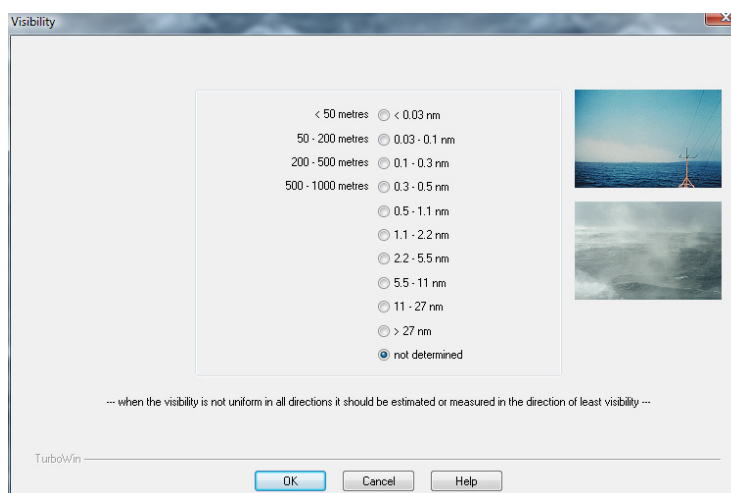


Figure 27. Visibility dialogue box

10.11.3. If the horizontal visibility is not uniform in all directions, the shortest distance shall be reported.

10.11.4. Visibility is a mandatory BBXX element.

10.12. Cloud types – low, middle and high

10.12.1. Cloud is reported in discrete layers: low; middle; high. The dialogue boxes for low cloud, middle cloud and high cloud are shown respectively in **Figure 28**, **Figure 29** and **Figure 30**.

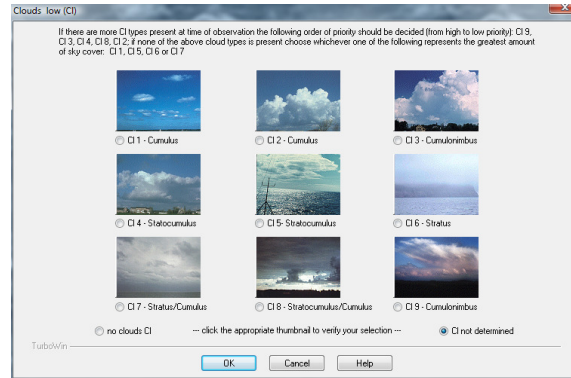


Figure 28. Low cloud dialogue box

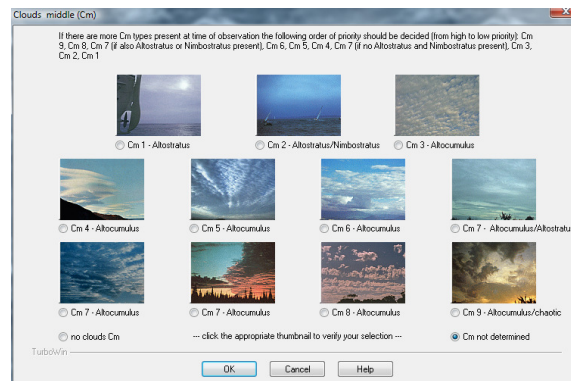


Figure 29. Middle cloud dialogue box

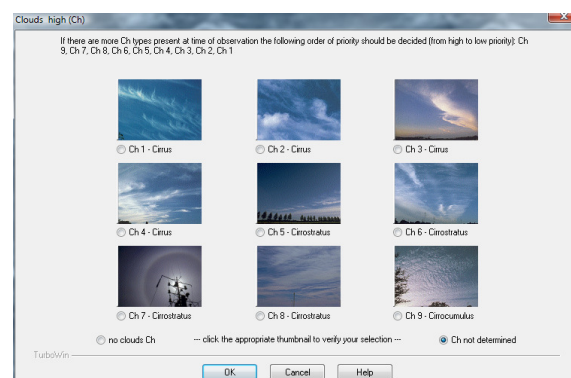


Figure 30. High cloud dialogue box

10.12.2. Within each layer, the Observing Officer may choose a cloud type by selecting the radio button beneath the photograph that most closely resembles the visible cloud type. The Observing Officer may view other examples of a particular cloud type by clicking the mouse on a cloud photograph.

10.12.3. Cloud types are mandatory BBXX elements.

10.13. Cloud cover and height of the lowest cloud

10.13.1. The amount of cloud cover is described in eighths. A clear sky is 0/8, a half covered sky is 4/8 and a fully covered sky (overcast) is 8/8. The height of the base of the lowest cloud is measured in metres or feet.

10.13.2. Two estimates of cloud amount are required: the total coverage of all visible clouds; and the coverage of just the lowest layer of cloud. See **Figure 31**. The amount of cloud may be estimated by visually moving the cloud elements to form one solid patch.

Cloud cover and height of lowest cloud

total cloud cover	amount of CI (or Cm if CI is not present)	height of base of lowest cloud in the sky
<input type="radio"/> cloudless	<input type="radio"/> 0/8	cloudless <input type="radio"/> cloudless
<input type="radio"/> 1/8	<input type="radio"/> 1/8	0 - 50 m <input type="radio"/> 0 - 150 ft
<input type="radio"/> 2/8	<input type="radio"/> 2/8	50 - 100 m <input type="radio"/> 150 - 300 ft
<input type="radio"/> 3/8	<input type="radio"/> 3/8	100 - 200 m <input type="radio"/> 300 - 600 ft
<input type="radio"/> 4/8	<input type="radio"/> 4/8	200 - 300 m <input type="radio"/> 600 - 1000 ft
<input type="radio"/> 5/8	<input type="radio"/> 5/8	300 - 600 m <input type="radio"/> 1000 - 2000 ft
<input type="radio"/> 6/8	<input type="radio"/> 6/8	600 - 1000 m <input type="radio"/> 2000 - 3000 ft
<input type="radio"/> 7/8	<input type="radio"/> 7/8	1000 - 1500 m <input type="radio"/> 3000 - 5000 ft
<input type="radio"/> compl. overcast	<input type="radio"/> 8/8	1500 - 2000 m <input type="radio"/> 5000 - 6500 ft
<input type="radio"/> obscured	<input type="radio"/> obscured	2000 - 2500 m <input type="radio"/> 6500 - 8000 ft
<input checked="" type="radio"/> not determined	<input checked="" type="radio"/> not determined	>= 2500 m <input type="radio"/> >= 8000 ft
		not determined <input checked="" type="radio"/> not determined

This program computes a 'height of base of lowest cloud in the sky' advice if cloud classification, latitude, air temp, wet-bulb temp / dew-point and present weather are available (sometimes not all parameters required). This advice can always be over ruled by checking another button.

TurboWin

OK Cancel Help

Figure 31. Cloud cover and height of lowest cloud dialog box

10.13.3. **TW50** will compute the height of the lowest cloud based on the cloud type selected by the Observing Officer in **10.12.1** plus the latitude, air temperature, wet-bulb temperature and present weather.

10.13.4. The Observing Officer can over-rule the computed height by selecting the radio button corresponding to another height range. The typical heights for each cloud type are available by pressing the **Help** button.

10.13.5. Cloud cover and the height of the base of the lowest cloud are mandatory BBXX elements.

10.14. Ice accretion (icing)

- 10.14.1.** Ice accretion refers to ice forming on the ship and is reported as a thickness measured in centimetres. The rate of accretion and the cause of accretion are also reported. See **Figure 32**.

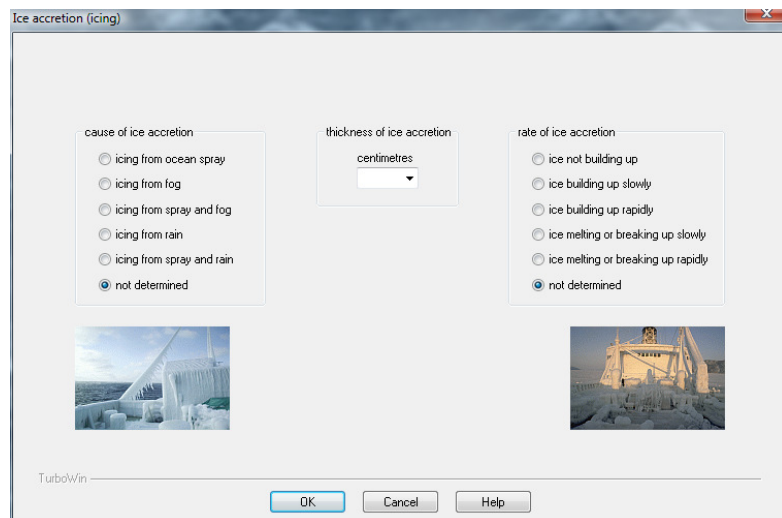


Figure 32. Ice accretion dialogue box

- 10.14.2.** Ice accretion is a required BBXX element during appropriate conditions.

10.15. Ice (Sea Ice)

- 10.15.1.** Sea ice is a hazard to navigation at sea. Reports of sea ice are particularly important in alerting other ships in the vicinity about the presence of sea ice.
- 10.15.2.** A report of sea ice includes: the amount and concentration of sea ice; its origin; its state of development; and the proximity of the ship to the sea ice. See **Figure 33**.

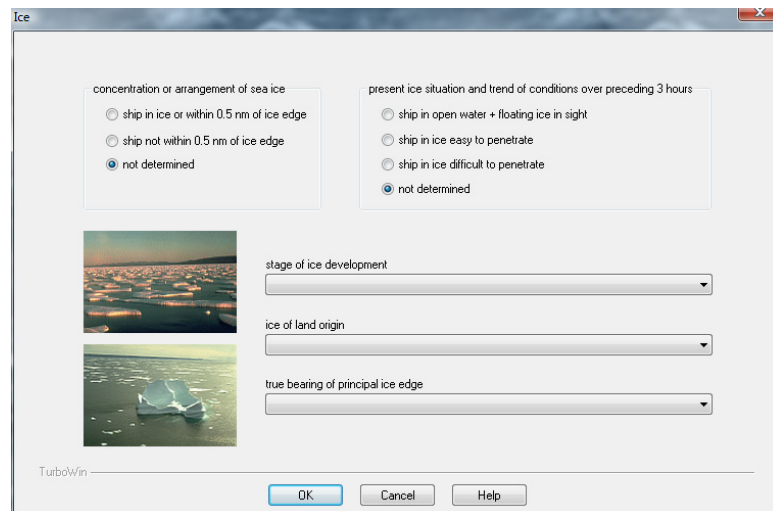


Figure 33. Ice (Sea Ice) dialogue box

10.15.3. Sea ice is a required BBXX element during appropriate conditions.

10.16. Observer

- 10.16.1. Assigning each observation to an individual Observing Officers is vital for providing feedback and producing statistics.
- 10.16.2. Select the Observing Officer responsible for making the observation from the list of names appearing in the dialogue box shown in **Figure 34**.

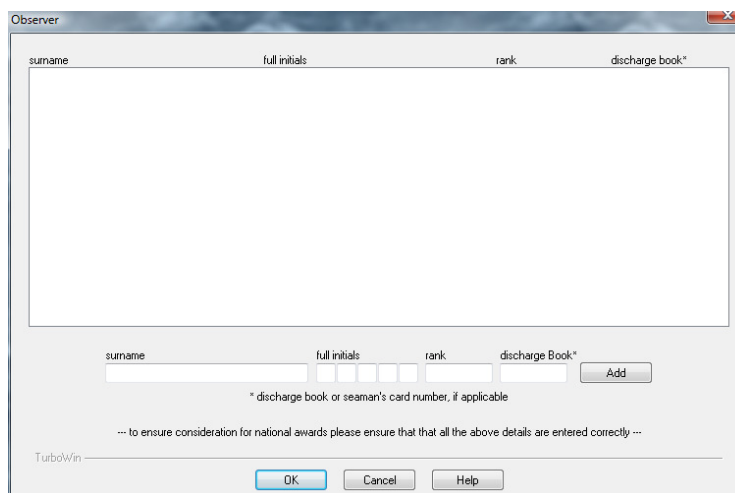


Figure 34. Observer dialogue box

- 10.16.3. To add a new name to the list, click the **Add** button and enter the required details.
- 10.16.4. Periodically the PMA will perform maintenance on **TW50** and retrieve the data log files. This will reset the Observer log file to empty. Under these circumstances it will be necessary for the Observing Officer to re-enter their details at the start of the next voyage.
- 10.16.5. The name of the Observing Officer is a mandatory **TW50** element.

10.17. Captain

- 10.17.1. Select the ship's Master from the list of Captain's names appearing in the dialogue box in **Figure 35**.
- 10.17.2. To add a new name to the list, click the **Add button** and provide the required details
- 10.17.3. Periodically the PMA will perform maintenance on **TW50** and retrieve the data log files. This will reset the Captains log file to empty. Under these circumstances it will be necessary for the Master to re-enter their details at the start of the next voyage.

Figure 35. Captain dialogue box

10.17.4. The name of the Captain is an optional **TW50** element.

10.18. Phenomena

- 10.18.1. The sighting of unusual phenomena, such as wildlife, astronomical effects and unusual meteorological events, are generally of interest to other mariners and the recording of such phenomena is strongly encouraged.
- 10.18.2. This type of observation is not transmitted in real-time, but is instead stored on the computer and retrieved by the PMA during the regular maintenance of **TW50**.
- 10.18.3. A Wiki website < http://esurfmar.meteo.fr/wikilog/index.php/Main_Page > enables the general public to view reports of phenomena made by ships. Reports of phenomena will only be displayed if the Observing Officer has assigned their rights on the report, including photographs or drawings, to the Bureau of Meteorology by checking the box in **Figure 36**.

Figure 36. Assigning copyright to the Bureau of Meteorology

10.18.4. If the Observing Officer prefers to retain their copyright on the report and

associated material the message box shown in **Figure 37** will be displayed.

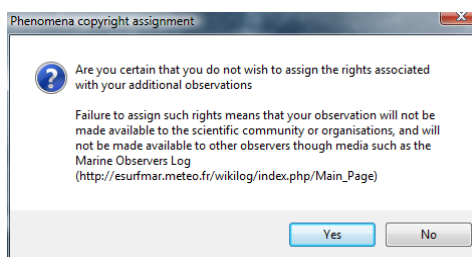


Figure 37. Message box if copyright is not assigned to the Bureau of Meteorology

- 10.18.5.** The dialogue box for entering an observation of phenomenon is shown in **Figure 38**. Some fields are automatically populated, i.e. name and call sign. Other details that specify the nature of the phenomenon and when and where it occurred must be provided, including the voyage details and the Observing Officer that witnessed the phenomenon. The observation is saved when the Observing Officer presses the **Log** button.

Figure 38. Phenomena dialogue box

- 10.18.6.** Recording phenomenon is an optional (but highly recommended) **TW50** element.

10.19. Buoy/Float deployment

- 10.19.1.** Details about a buoy or float deployment should be recorded, especially if the deployment was requested by an agency other than the Bureau of Meteorology. This information may be used by the PMA to assist in nominating a ship for an Excellence Award.

Note: Deployments made for the Bureau of Meteorology must be advised in real-time on the form provided with the deployment instructions.

10.19.2. Deployment details are entered in the dialogue box shown in **Figure 39**.

Figure 39. Buoy/Float deployment dialogue box

10.19.3. Minimum details should be provided: buoy/float ID number; date and time; deployment latitude and longitude; the weather conditions at deployment.

10.19.4. Recording the details of a buoy or float deployment is an optional (but highly recommended) **TW50** element.

11. The Output Menu

11.1. This menu contains options for sending the meteorological observation from ship to shore. Many of the non-preferred options will however result in the ship bearing the cost of the transmission.

11.2. The preferred method of sending an observation is to use a designated Special Access Code with Inmarsat C. The National Meteorological Service in the country hosting the Land Earth Station (LES) that received the report will pay the cost of transmitting the message from the ship to shore.

11.3. Not all LES will however accept messages free-of-charge that are sent with the Special Access Code designated for meteorological messages. In such cases the ship will be billed for the transmission of the observation. The Observing Officer is therefore advised to check which of the LES visible to their Inmarsat Terminal will freely accept meteorological messages. A list of LES that will accept meteorological messages free-of-charge was installed with TurboWin and can be accessed by double clicking the desktop icon labelled **LES accepting BBXX**, or alternatively by selecting **LES accepting BBXX** from the **TurboWin Extras 5.0** program group on the **Start menu**.

11.4. The Special Access Code normally designated for meteorological messages is 41 (SAC 41). Ships using IOR 312 or POR 212 (Station 12, Netherlands) should instead

use Special Access Code 1241 (SAC1241) to ensure that messages are relayed directly to the Bureau of Meteorology.

11.5. To send the observation via Inmarsat C (as described in **11.2**):

- 11.5.1.** Insert a clean, low density (720 kb) disk in the floppy disk drive of the computer running **TW50**. The TurboWin Setup Guide contains instructions for formatting a High Density (1.44 Mb) disk as Low Density (720 kb);
- 11.5.2.** From the menu bar, select **Output >> Obs to A:\OBS.TXT**;
- 11.5.3.** Transfer the disk to the ship's Inmarsat C terminal and insert it in the terminal's floppy disk drive;
- 11.5.4.** Create a new message and include the content of **A:\OBS.TXT**; and
- 11.5.5.** Ensure the message is sent using SAC 1241 (to IOR 312 or POR 212) or SAC 41 to other LES that accepts meteorological messages free-of-charge.

Note 1: The method of including the content of OBS.TXT in the message may vary between different makes of Inmarsat C terminals and is beyond the scope of these instructions.

Note 2: One floppy disk, and at least one backup disk, should be reserved for the exclusive use of TurboWin. This will help to ensure that only the **OBS.TXT** file is transmitted by Inmarsat. The disks reserved for TurboWin should be labelled accordingly and safely stored between observations.

11.6. To send an observation by Email

- 11.6.1.** The use of email to send the observation from ships is increasing. The cost associated with the email transmission shall be borne by the ship.
- 11.6.2.** Prior to sending the first observation by email, **TW50** must be configured by the PMA to use one of two options. The PMA will advise the correct email output option to use for sending the observations.

Note : The Bureau must be advised of the ship's email address in advance to ensure that incoming messages are correctly recognised and processed.

- 11.6.3.** To send the observations via the ship's email client (e.g. Outlook, Outlook Express or Thunderbird) installed on the same computer as **TW50**, select **Output >> Obs by E-mail (OLE)**. The email client will open with all fields automatically populated.
- 11.6.4.** If the ship **does not** have an installed email client on the same computer as **TW50** but is connected to the internet, then select **Output >> Obs by E-**

mail (Turbo). This will allow you to send the email using **TW50's** in-built email client.

11.7. The Observing Officer may optionally print the observation, view it on screen or insert it in another document.

12. The Options Menu

12.1. To view the progress of the data entry at any time during the current session, select **Options >> Show progress**.

12.2. To view and compare the number of observations made by individual Observing Officers, select **Options >> Statistics observer**.

12.3. To view the number of observations made each month, select **Options >> Statistics monthly**.

12.4. To automatically advance to the next dialogue box on completion of each element, select **Options >> Next form automation**. This replicates the functionality of the **automatic form advance** button on the toolbar

12.5. To view a prospective desktop image, select **Options >> Picture Open**. To return to the existing desktop, select **Options >> Desktop refresh**.

12.6. To change the **TW50** desktop image, select **Options >> Desktop new** then select an image stored on the computer in BMP, PNG, JPG or GIF format. Refer to **6.2**.

13. The Maintenance Menu

13.1. This menu contains a number of options that are specifically for use by the PMA. Observing Officers should refrain from accessing the following menu options, except as described in **13.2**:

13.1.1. Station data;

13.1.2. Move log files to floppy disk (A:);

13.1.3. Move log files to USB disk;

13.1.4. Move log files by email;

13.1.5. Download ship coded log (internal use). This option is meant for use by the Port Met Officer

13.1.6. Import LES data. This option is meant for use by the Port Met Agent. Refer

to the **TurboWin 5.0 Setup and Maintenance Manual**.

13.1.7. Import new PMO contacts file. This option is meant for use by the PMA. Refer to the **TurboWin 5.0 Setup and Maintenance Manual**.

13.1.8. Import new WMO Pub47 document file. This option is meant for use by the PMA. Refer to the **TurboWin 5.0 Setup and Maintenance Manual**

13.2. If the ship undergoes a change of name, select **Maintenance >> station data**. Proceed directly to the second dialogue box by clicking the **OK** button. Type the amended ship name in the appropriate text box and click **OK**.

13.3. If the ship's email address changes and observations are normally sent using the **Output >> Obs by Email (Turbo)** option it will be necessary to update the **TW50** settings.

13.3.1. Select **Maintenance >> E-mail settings**.

13.3.2. Click in the **your (station) E-mail address** field and replace the current entry with the new email address.

13.3.3. Click on **Save**.

Note : Prior to sending your observations with a new email address, please advise the PMA of the change. Failure to do so might prevent your observations from being recognised and processed by the Bureau of Meteorology.

13.4. To view the names of the Observing Officers or Captains, or to add additional names to the respective lists, select **Maintenance >> Observers** or **Maintenance >> Captains** as appropriate. These options replicate the functionality of the **Observer** and **Captain** buttons on the toolbar.

14. The Additional Menu

14.1. From time to time, the ship may experience difficulty when sending an observation or receiving a facsimile product. For a variety of reasons, these incidents are often overlooked when the PMA performs a ship inspection, and cannot therefore be investigated. To record these incidents, select **Additional >> Notes and feedback**.

14.2. To report unusual phenomena, select **Additional >> Phenomena**. This option replicates the functionality of the **phenomena** button on the toolbar.

14.3. To record the details pertaining to a buoy or float deployment, select **Additional >> Buoy/Float deployment**. This option replicates the functionality of the Buoy/Float deployment button on the toolbar. Refer to **10.19** for further details.

15. The Add-ons Menu

- 15.1. This menu provides access to a variety of educational and navigational tools. The Observing Officer may use MeteoClassify to improve his/her ability to identify sea-state, clouds and waves.
- 15.2. The MetPub47 feature is not used by the Bureau of Meteorology. The PMA will collect all required metadata on the official Bureau of Meteorology form (F379).

16. The Help Menu

- 16.1. This menu provides descriptions about each of the weather elements and guidance about entering them in TurboWin.

17. The Info Menu

- 17.1. This menu provides access to a range of additional information and brochures, including this **User Guide**.

18. TurboWin Extras

- 18.1. TurboWin Extras is an 'add-on' provided by the Bureau of Meteorology. It comprises alternative desktop graphics, manuals and other informative documents prepared by the Bureau.
- 18.2. Refer to **6.2** for instructions about replacing the default **TW50** desktop with an alternative image.
- 18.3. The documentation provided as part of TurboWin Extras can be accessed from the **TurboWin Extras 5.0** program group on the **Start menu** and comprises.
 - 18.3.1. TurboWin User Guide (this document).
 - 18.3.2. TurboWin Setup and Maintenance Manual.
 - 18.3.3. Australian and New Zealand Radio Facsimile (Radiofax) Schedules.
 - 18.3.4. Australian Radiofax Service pamphlet.
 - 18.3.5. List of LES accepting SAC41 messages from ships.
 - 18.3.6. Contact details of Australian and New Zealand VOS Program personnel.
- 18.4. Desktop icons, created during the installation of TurboWin Extras, provide access to:
 - 18.4.1. TurboWin User Guide;

- 18.4.2.** Australian and New Zealand Radiofax Schedules;
- 18.4.3.** List of LES accepting BBXX free-of-charge from ships; and
- 18.4.4.** Contact details of Australian and New Zealand VOS Program personnel.

19. Quick guide to using TurboWin 5.0

1. Turn on the computer if necessary.
2. Start **TW50** from the desktop icon or from the **Meteo Program Group** on the **start menu**.
3. On startup, if a dialogue box appears with the observation date and time, accept or reject as appropriate.
4. Select automatic form advance (fourth button from the right) or select each toolbar button in turn from the left.
5. Click **OK** when you are satisfied that the correct details have been entered in a dialogue box.
6. For assistance at any stage when a dialogue box is visible press the **Help** button.
7. To view the progress of the data entry, from the menu bar select, **Options >> Show progress**.
8. To view the completed BBXX on screen, select **Output >> Obs to screen**.
9. To send the observation via Inmarsat C; insert a clean floppy disk in the floppy disk drive on the **TW50** computer. From the menu bar, select **Output >> Obs to A:\OBS.TXT**.
10. Compose a message on the Inmarsat C terminal and include the text contained in the file A:\OBS.TXT. Transmit the message using SAC41 to a LES that accepts SAC41 messages.
11. To send the observation via Email; From the menu bar, select **Output >> Obs by E-mail (OLE)** or **Output >> Obs by E-mail (Turbo)** as advised by the PMA.
12. Exit **TW50** by selecting **File >> Exit** from the menu bar.
13. Close down the computer if desired.

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