

TurboWin+ Ver. 4.2 for Windows
User's Manual

Japan Meteorological Agency
April 2022

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About the manual

This manual outlines installation and operation of the free TurboWin+ Ver. 4.2 for Windows program developed by the Royal Netherlands Meteorological Institute (KNMI).

The information provided is valid for the latest version (4.2, released in June 2021) as of April 2022. Contact JMA (see the back cover of the manual) for the information on software updates.

1. Introduction

Marine meteorological observation is indispensable in the provision of weather warnings/information and in monitoring/research relating to global warming and other aspects of climate change. In this context, the Japan Meteorological Agency (JMA) appreciates the efforts made by ships' crews to submit marine meteorological observation data.

TurboWin+ Ver. 4.2 for Windows (referred to here as TurboWin+) is a free program developed by the Royal Netherlands Meteorological Institute (KNMI) in conjunction with the European Meteorological Services Network (EUMETNET) to help observers encode Ships' Weather Reports and Marine Meteorological Logbooks easily and accurately. It is endorsed by the World Meteorological Organization (WMO) and used on voluntary observing ships in many countries.

Observation data are automatically saved in a designated file with Ships' Weather Reports/Marine Meteorological Logbooks format for easy dispatch to JMA.

- **Ships' Weather Reports** should be submitted via Inmarsat C using Special Access Code 41 or Email ("ship@climar.kishou.go.jp").
- **Marine Meteorological Logbooks** should be submitted to "obsjma@climar.kishou.go.jp" on a voyage basis upon arrival at a port in Japan or elsewhere.

System Requirements:

TurboWin+ Ver. 4.2 Windows 64 bit (145 Mb; no Java required)

OS: Microsoft® Windows® XP/Vista/7/8.1/10

Disk space: At least 217.6 MB of free disk space is required for installation

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2. Installation and Settings

2.1 Installation

TurboWin+ is available for the following website.

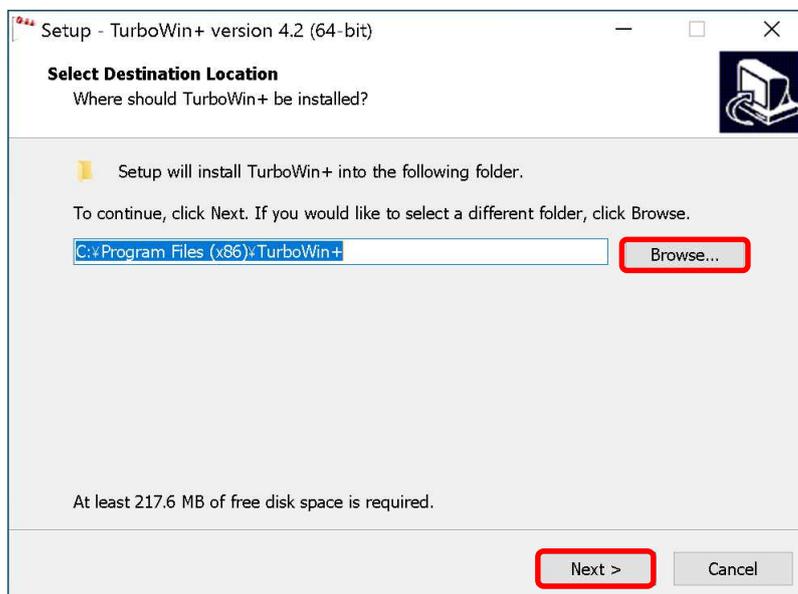
- JMA website (https://marine.kishou.go.jp/en/turbowin_plus-en.html)
- KNMI website (<https://gitlab.com/KNMI-OSS/turbowin/turbowin>)
(TurboWin+ V4.2 Windows 64 bit (145 Mb; no Java required))

Note

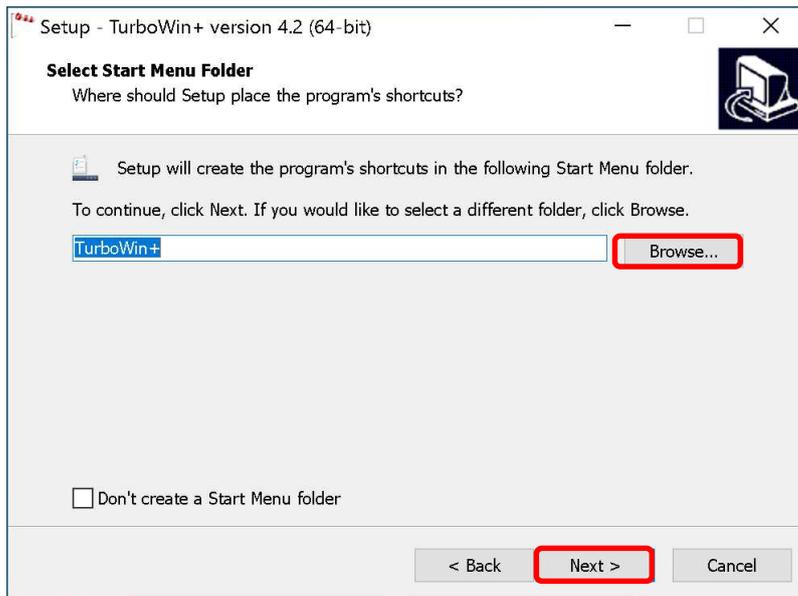
- Administrator authorization is needed to install TurboWin+.
- Previous versions of TurboWin+ should be uninstalled before installation of a newer version (see 2.4 Uninstallation).

(1) After download, right-click **setup_turbowin+_jpms_hl.exe** and select **Run as administrator** from the menu.

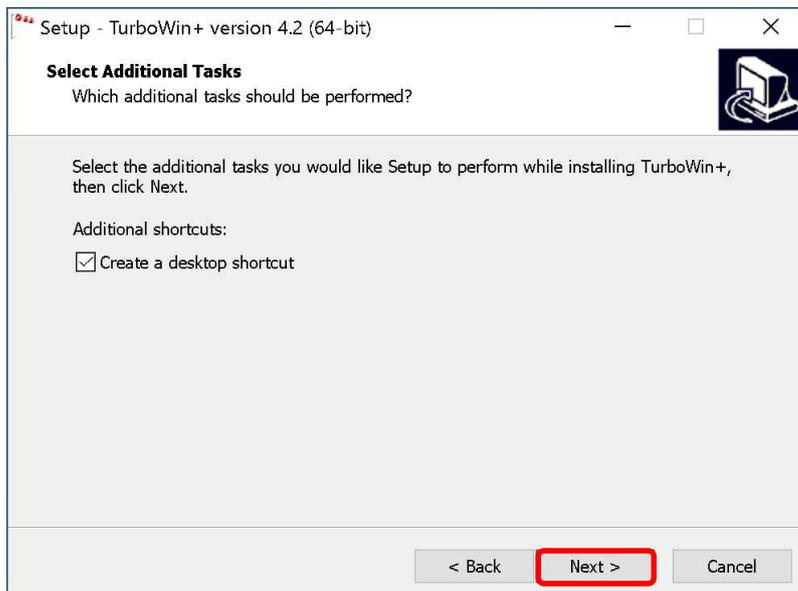
(2) The TurboWin+ setup wizard will open and provide on-screen instructions. **Click Next>** to continue. Accept the defaults for standard installation.



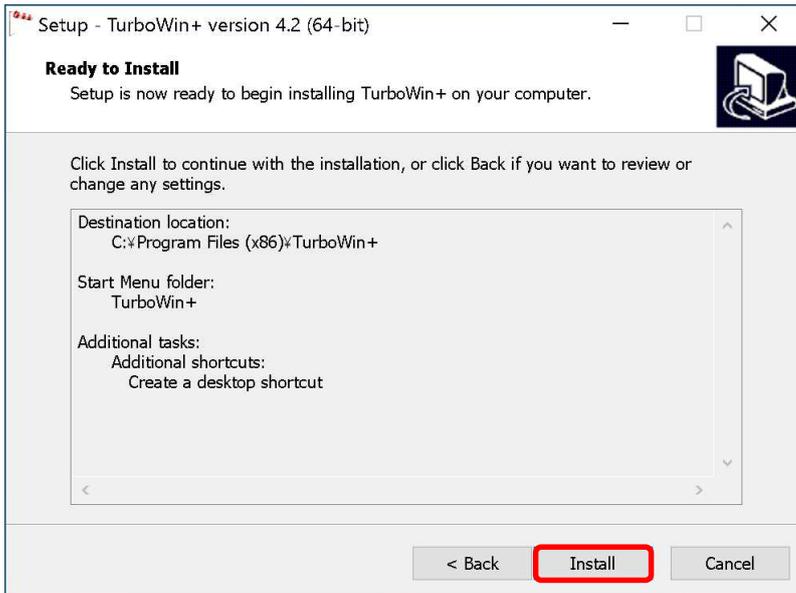
(3) Select **Start Menu folder** and Click **Next>**.



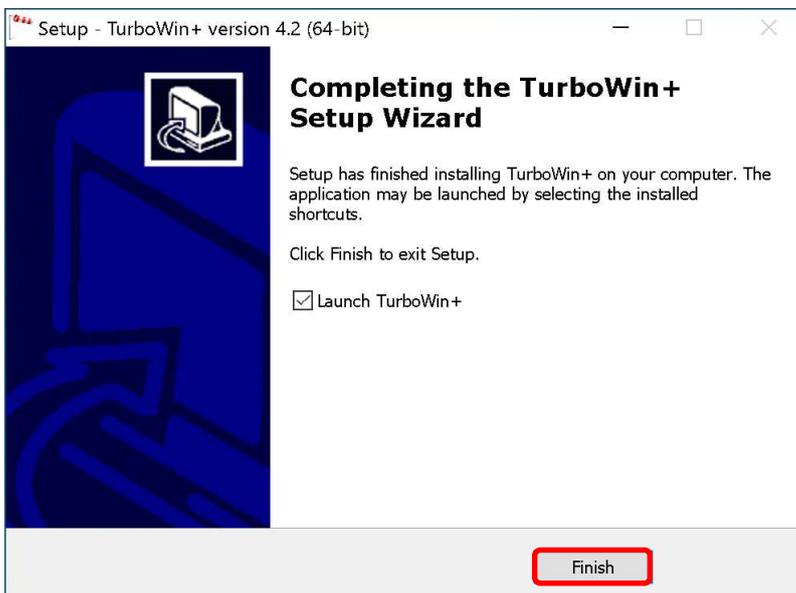
(4) Click **Next>**.



(5) Click **Install**.



(6) After installation, the Setup Complete box will appear. Click the **Launch TurboWin+** checkbox and then **Finish**.



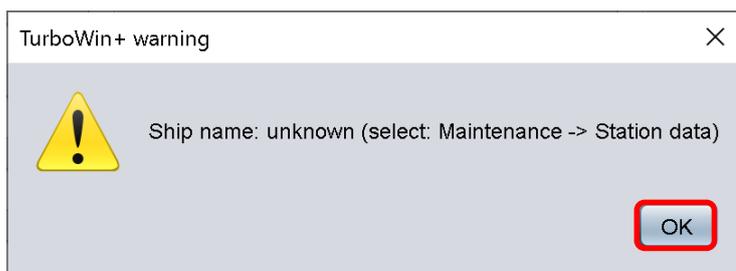
2.2 Initial Settings

The **Station data** and **Obs format setting** must be defined for data input.

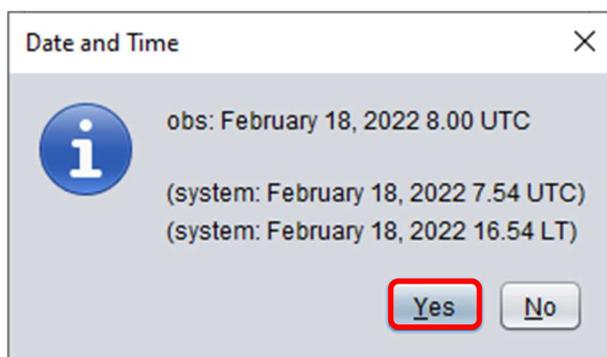
- (1) A shortcut icon will appear on the desktop after installation. Double-click on the **TurboWin+** desktop icon shown in the figure below. Alternatively, select **TurboWin+** from the program group on the Start menu.



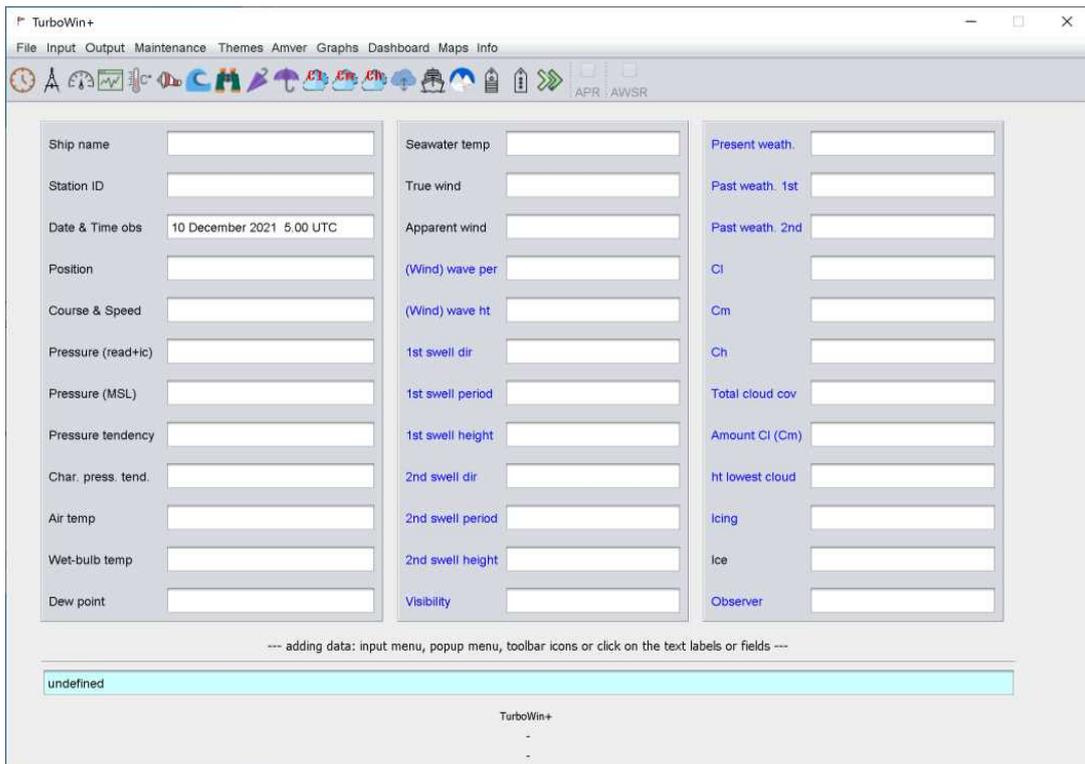
- (2) The message box shown below will be displayed when TurboWin+ is started until the **Station data** and **Obs format setting** are set. Click **OK**.



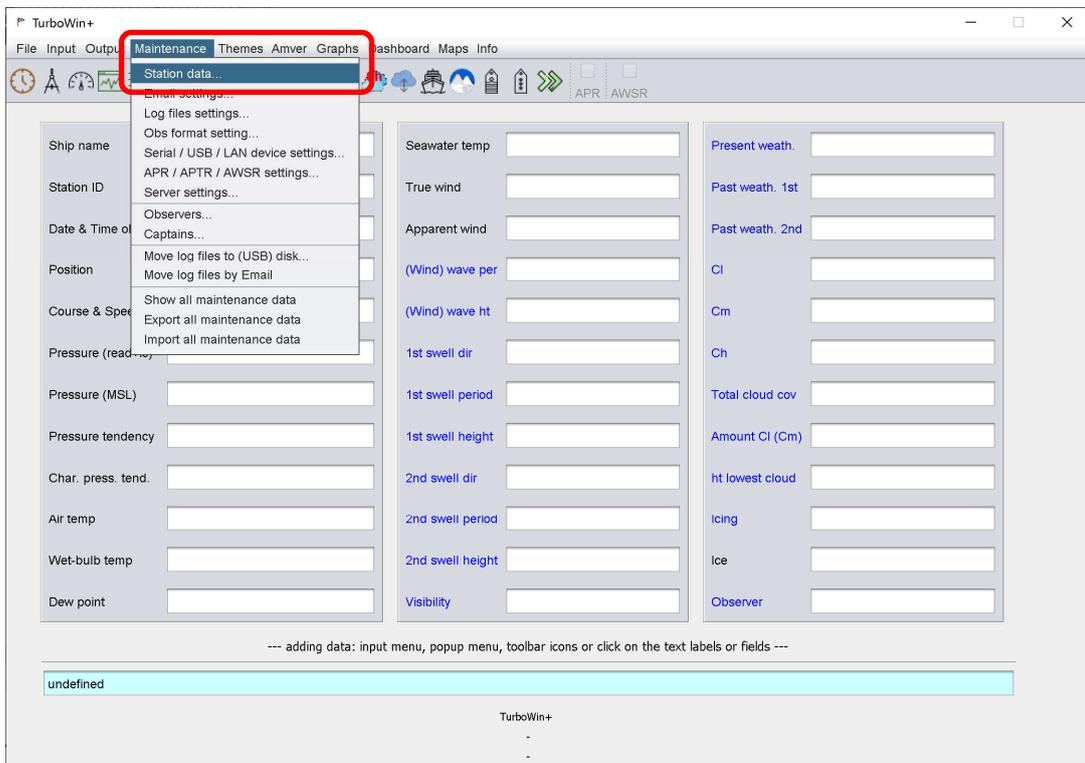
- (3) Check the date and time. The PC can be either **Local Time (LT)** or **Coordinated Universal Time (UTC)**. Click **Yes**.



(4) The TurboWin+ default window will appear.



(5) From the menu bar, select **Maintenance >> Station data**.



(6) Input the administrator password (**JWS01**) to login and then click **OK**.

(7) Select and input the data in **A–E** below and then click **OK**.

A Input **ship** data (ship name, IMO number and callsign).

Note: Input your callsign as the **station ID**.

B Select **JAPAN JP** to indicate that the ship is registered as a VOS by JMA.

C Select **temperatures** meta data.

D Select and input **wind** meta data.

Note

Estimated true wind speed and direction will normally be based on the visual appearance of the sea surface as per the Beaufort scale.

Measured true or apparent wind speed and direction data can be sourced from the ship's anemometer. For instruments that do not allow wind monitoring with compensation for ship motion (i.e., true wind), data recorded onboard during navigation are taken as apparent wind values.

Max. height deck cargo above Summer Load Line (SLL) (unit: meters):

This pertains to container vessels. For all other vessels, input **0**.

Difference between SLL and Water Line (WL) (unit: meters):

If the distance between the Summer Load Line (SLL) and the Water Line (WL) at the time of observation is different, input the correct height. This primarily occurs on vessels with large draft changes.

Positive (+) if the SLL is above the WL,

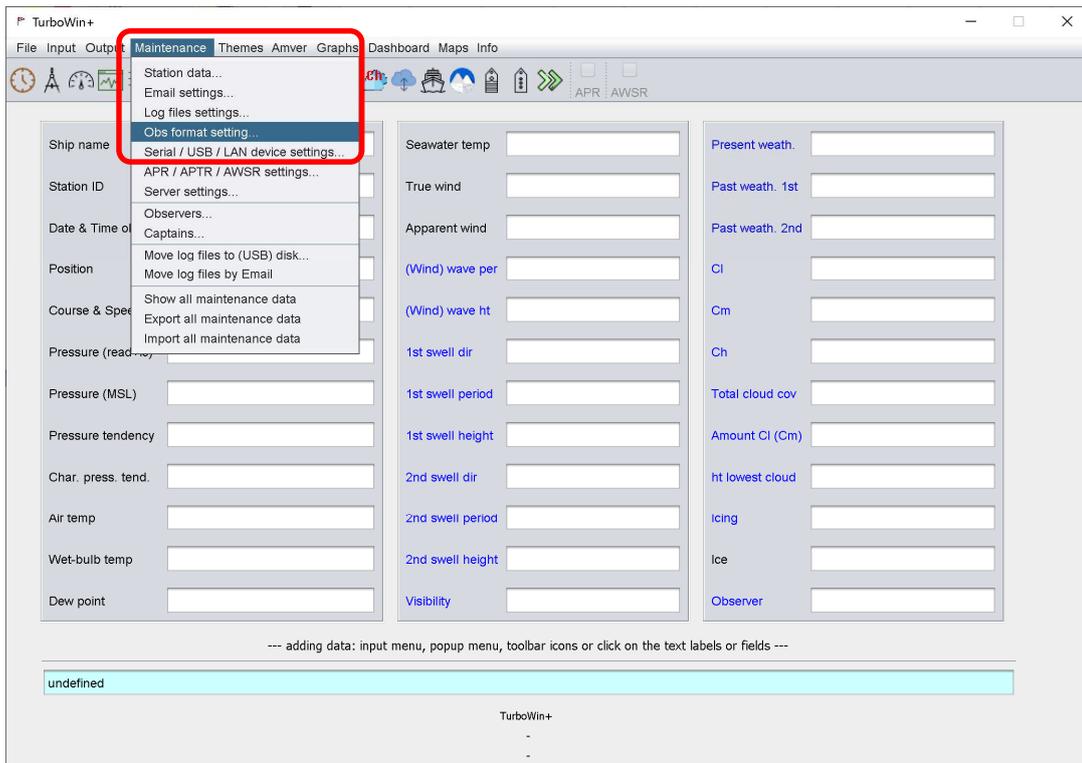
Negative (-) if the SLL is below the WL.

E Select and input **air pressure** meta data.

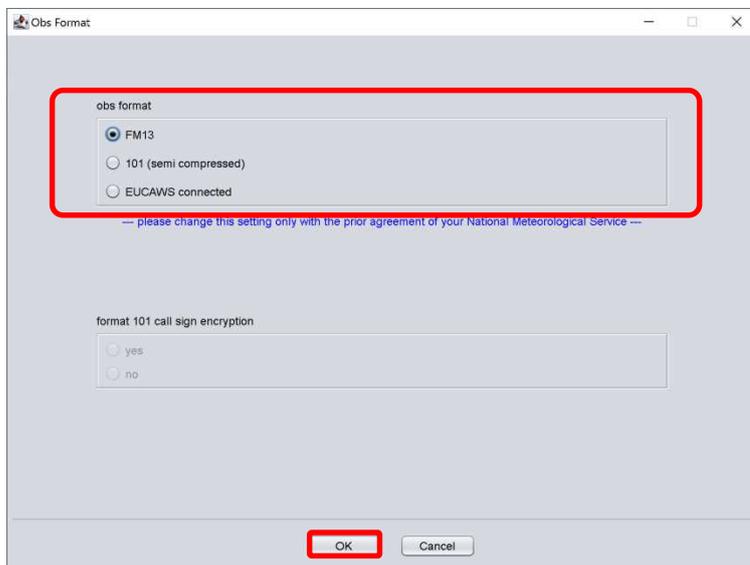
Note

Select **yes** as **does the reading indicate MSL pressure** if you have the **Total Correction** value from JMA's barometer check.

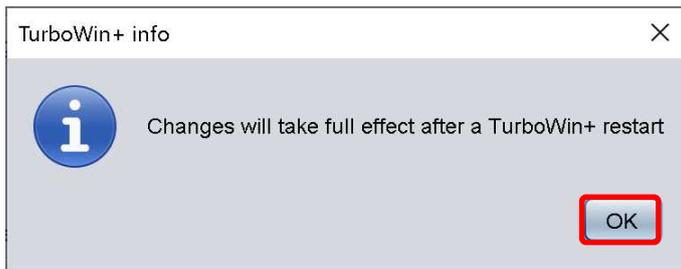
(8) From the menu bar, select **Maintenance >> Obs format setting**. Enter the administrator password (**JWS01**) to login and then click **OK**.



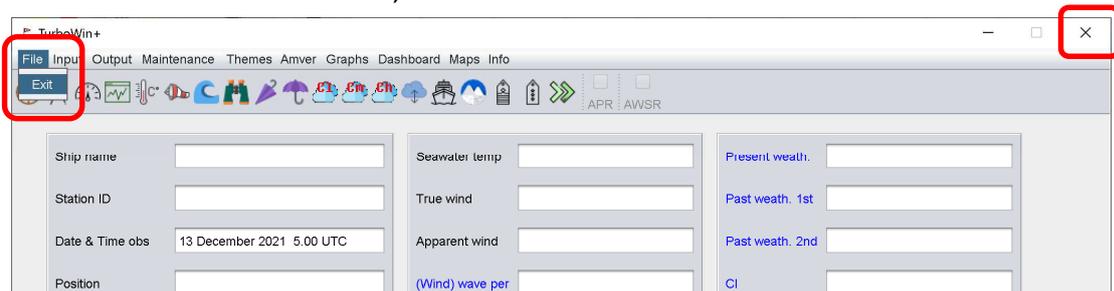
(9) Select **FM13** as obs Format and then click **OK**.



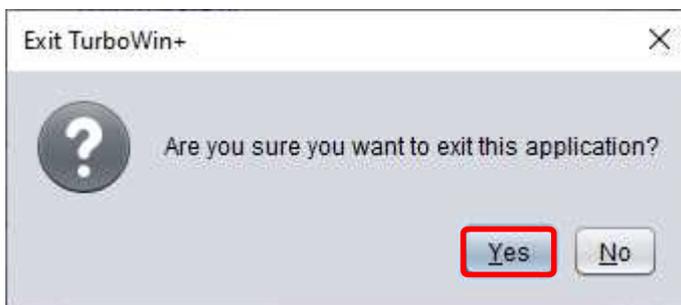
(10) The dialog box shown below will appear. Click **OK**.



(11) To exit TurboWin+, click the **X** button in the upper-right corner of the default window, or click **File** on the menu bar, and select **Exit**.



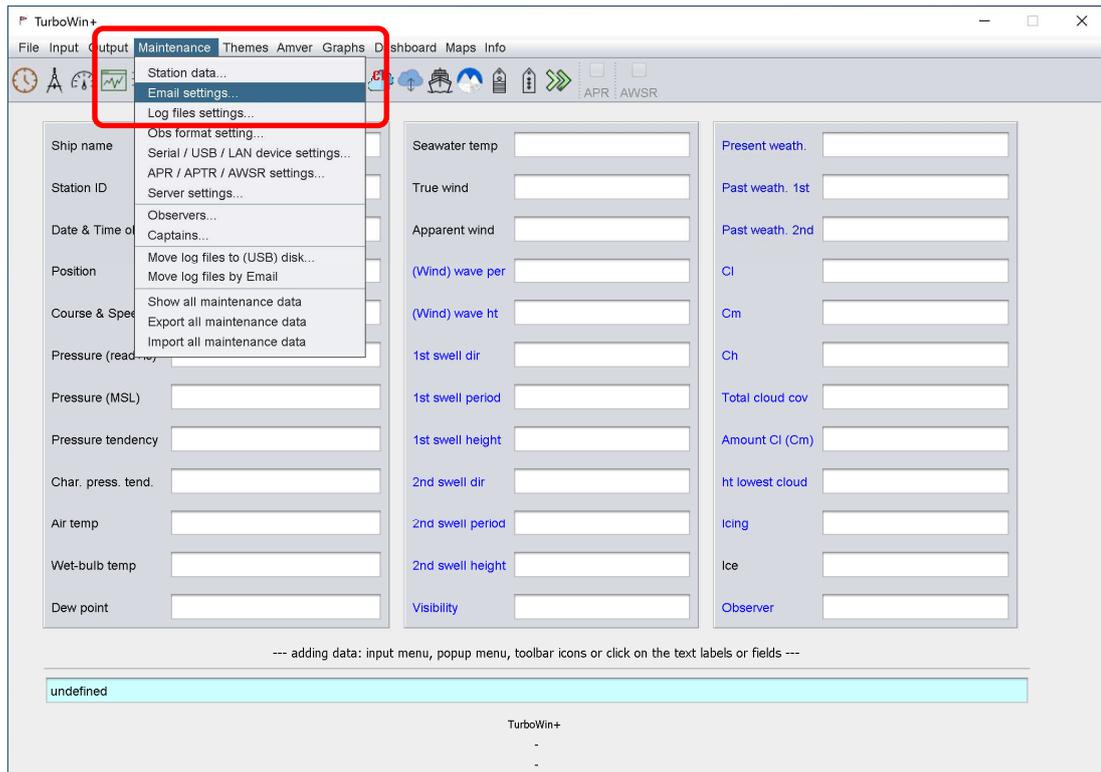
(12) The dialog box shown below will appear. Click **OK**, then restart **TurboWin+** to implement the changes.



2.3 Optional Settings

To email Ships' Weather Reports, the **Email settings** must be defined for data input.

- (1) From the menu bar, select **Maintenance >> Email settings**. Enter the administrator password (**JWS01**) to login.



(2) Input the **address recipient** as “**ship@climar.kishou.go.jp**” and the **Email subject** as SHIP_REP, then click **OK**.

E-mail settings

for 'Output > Obs by Email and AP[&T]R / AWSR

[ALL] address recipient cc* Email subject

[FORMAT 101]** obs in body obs in attachment

[CUSTOM] your email address server

password port TLS SSL STARTTLS

* optional ** consult your PMO

for 'Maintenance > Move log files by Email'

logs email recipient These log files include important data which is of particular value for climate studies
Downloading of the log files should be done at routine intervals (ideally not exceeding 6 months)

(3) The dialog box shown below will appear. Click **OK**.

TurboWin+ info

 Changes will take full effect after a TurboWin+ restart

(4) Exit **TurboWin+**, and restart it again.

2.4 Uninstallation

Note

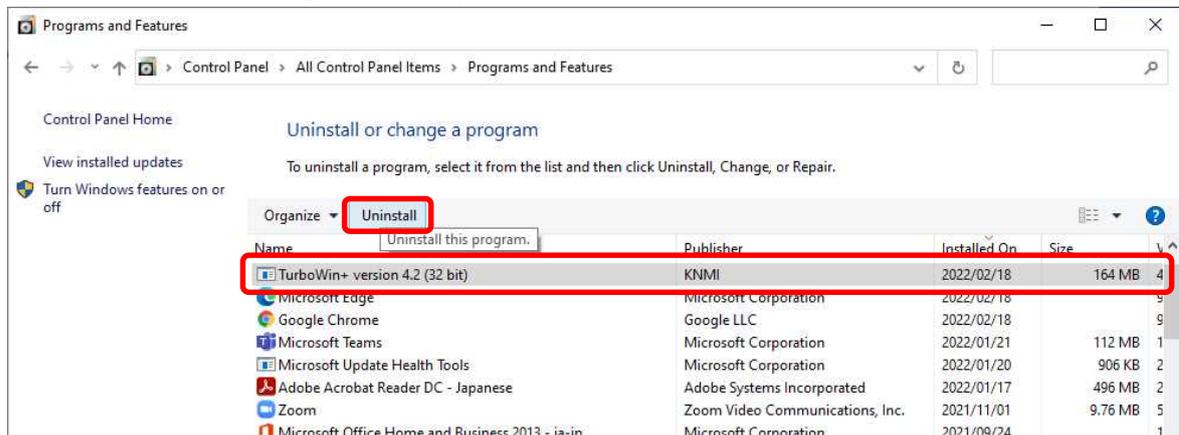
- Administrator authorization is needed to uninstall **TurboWin+**.

(1) Click the Start button in Windows to show the Start menu and select **Control Panel**.

Click **Uninstall a program**. If the Control Panel is shown in icon view, click **Programs and Features**.



(2) A list of installed programs will appear. Select **TurboWin+** and click **Uninstall**.



3. Input of Observation Data

Observation information can be entered using the **Input icons** or the **input menu**, or by clicking directly on the appropriate field in the **TurboWin+ default window**.

Alternatively, the full suite of observations can be entered sequentially using the **Next form automation** function.

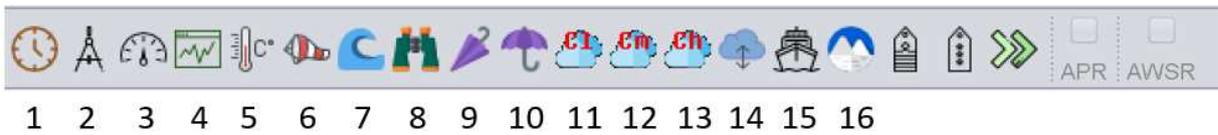
Note

- To use the **Next form automation** function, select Input >> **Next form automation**. Once data entry on each screen is complete, TurboWin+ will automatically navigate to the next input screen.
- **Icing** and **Ice** observations are not included in the **Next form automation** function, as they will not be present in the majority of observation conditions. These input screens can be accessed via the icons or the input list, or by clicking directly on the relevant field.
- **Not all observations data are required for generation of a validity message**. Provide observation data on as many parameters as possible as time and conditions allow. Certain fields can be left blank if necessary.

TurboWin+ default window

--- adding data: input menu, popup menu, toolbar icons or click on the text labels or fields ---

Input icons



Input menu



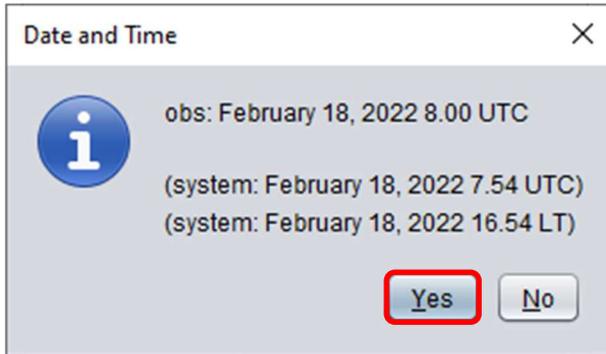
Elements:

1. Date & Time
2. Position, Course & Speed
3. Barometer reading
4. Barograph reading
5. Temperatures
6. Wind
7. Waves
8. Visibility
9. Present weather
10. Past weather
11. Clouds low
12. Clouds middle
13. Clouds high
14. Cloud cover & height
15. Icing
16. Ice

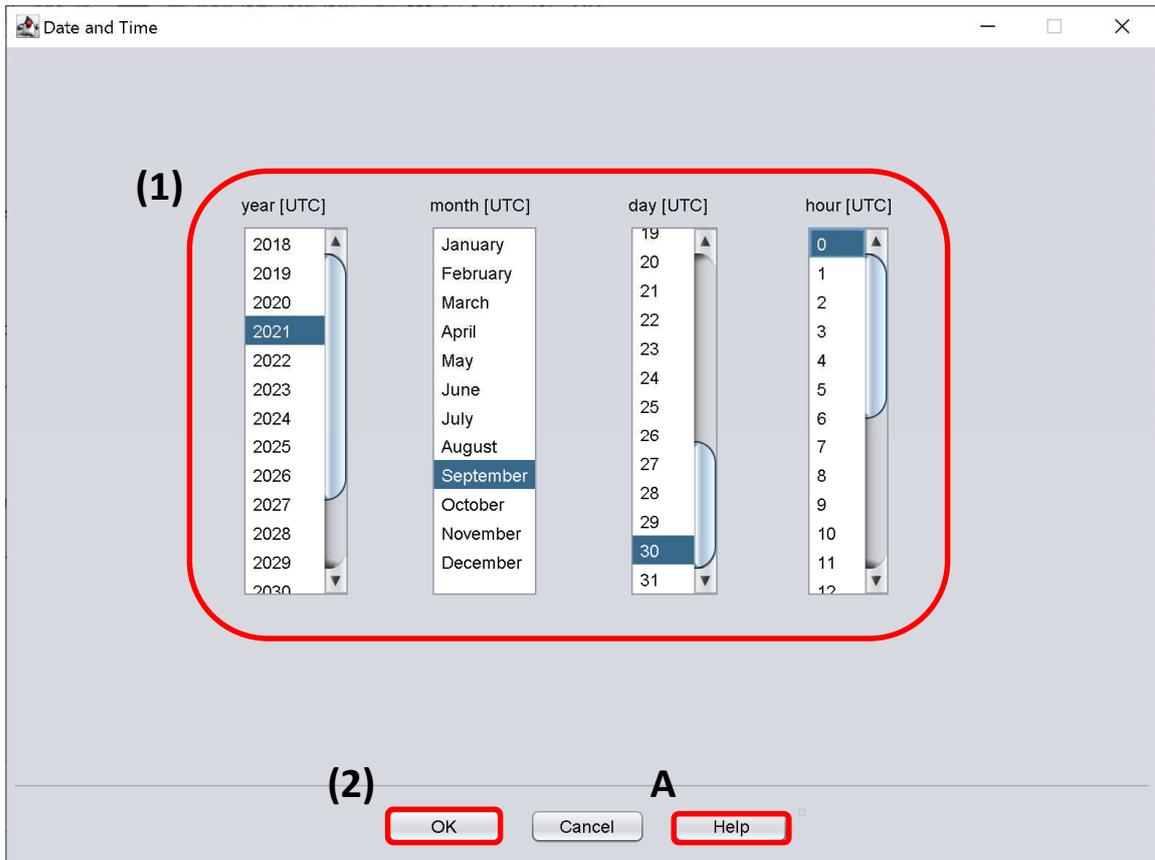
3.1 Date & Time

Note

- You clicked **Yes** on the **Date and Time** check screen when launching TurboWin+. Proceed to the **next step**, or follow the instructions below to change it.



Click  on the toolbar, select **Date & Time** from **Input** on the menu bar, or click **Date & Time obs** in the default window.



(1) Select the Date and Time of the observation in **UTC** from the drop-down menus.

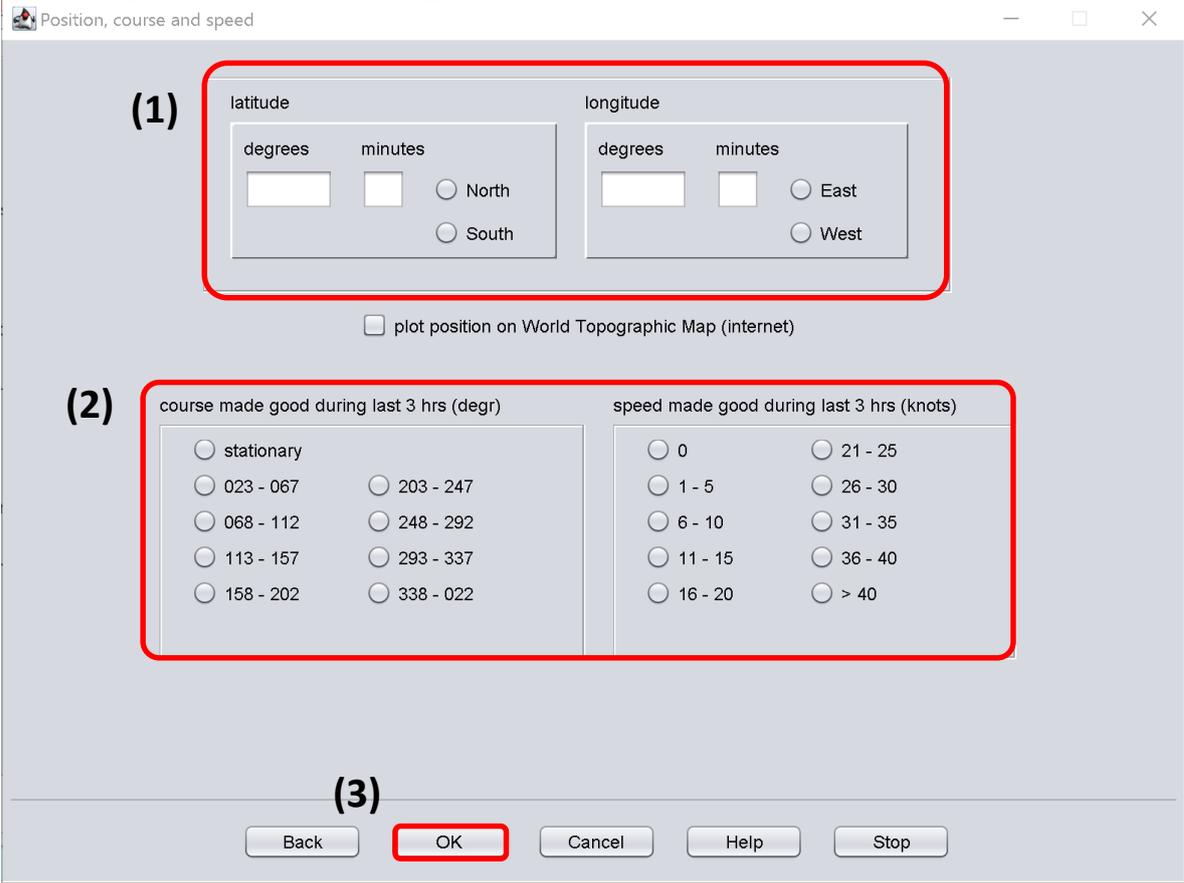
(2) Click **OK**.

Help

The Help button (A above) at the bottom of each input screen provides additional information as needed for each observation element. Clicking this will open a web browser to enable viewing of help files.

3.2 Ship's Position, Course & Speed

Click  on the toolbar, select **Position, Course & Speed** from **Input** on the menu bar, or click **Position** in the default window.



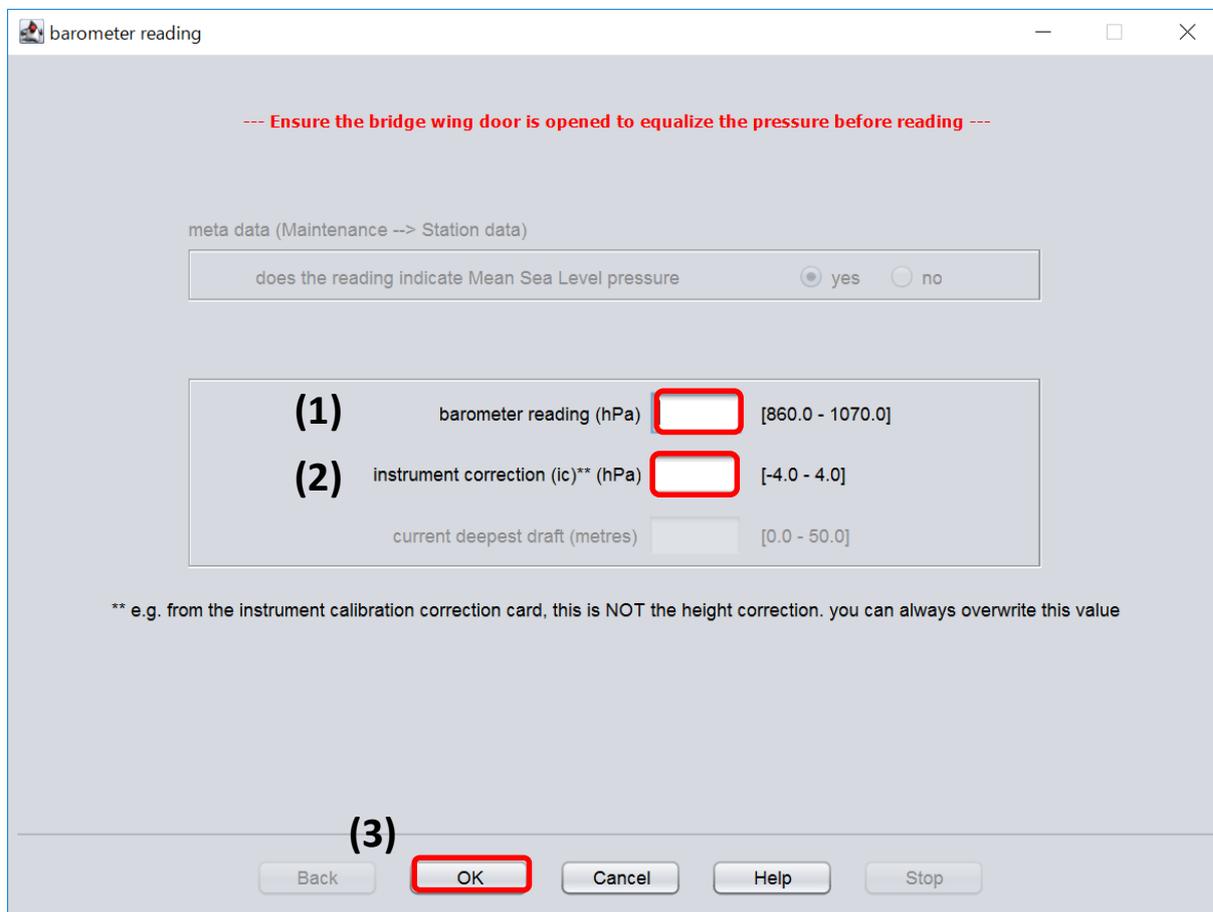
The dialog box is titled "Position, course and speed". It contains the following elements:

- (1)** Latitude and Longitude input fields. Each field has "degrees" and "minutes" sub-fields, and radio buttons for "North/South" and "East/West".
- plot position on World Topographic Map (internet)
- (2)** Course and Speed selection options. The "course made good during last 3 hrs (degr)" section has radio buttons for "stationary", "023 - 067", "068 - 112", "113 - 157", "158 - 202", "203 - 247", "248 - 292", "293 - 337", and "338 - 022". The "speed made good during last 3 hrs (knots)" section has radio buttons for "0", "1 - 5", "6 - 10", "11 - 15", "16 - 20", "21 - 25", "26 - 30", "31 - 35", "36 - 40", and "> 40".
- (3)** Buttons: "Back", "OK", "Cancel", "Help", and "Stop". The "OK" button is highlighted with a red box.

- (1) Input the latitude and longitude in degrees and minutes for the time of observation. Numbers of minutes less than 10 should start with a zero (e.g., **04** for four minutes). **North** or **South** and **East** or **West** must be selected according to the position.
- (2) Select the **course made good** and **speed made good** (unit: **knots**) during the last three hours. If **stationary** is selected as the course, the speed must be **0**, and vice versa.
- (3) Click **OK**.

3.3 Barometer reading

Click  on the toolbar, select **Barometer reading** from **Input** on the menu bar, or click **Pressure (MSL)** in the default window.



(1) Input the sum of the **barometer reading** and the **Total Correction** value (unit: 0.1 hPa). See the next page for the **Total Correction**.

Note

If the **Total Correction** value is unavailable, select **no** for **does the reading indicate Mean Sea Level Pressure** (from the menu bar, select Maintenance >> Station data; see 2.2 Initial Settings) and input the **barometer reading**, **instrument correction (ic)** (unit: 0.1 hPa) and **current deepest draft** (unit: 0.1 meters). For **Instrument correction unknown**, input **0**.

(2) As **Total Correction** includes **instrument correction**, input **0** here.

(3) Click **OK**.

Total Correction for barometer

JMA provides barometer checking services by Email. If the barometer on board has been checked by JMA, add the “**Total Correction**” value shown in the results (the frames in the figures below) to the barometer reading to determine mean sea level pressure. For example, if the barometer reading and total correction are 1003.4 hPa and +1.3 hPa, respectively, input 1004.7 (= 1003.4 + 1.3) as the mean sea level pressure.

Barometers should be checked every six months to maintain accuracy.

Barometer check result by Email:

気圧計の点検結果：The result of barometer check

海面気圧の観測や通報の際は、気圧計の読みとり値に下記「総合補正值」を必ず加えてください。
Please add the following “Total Correction” value to barometer reading value.

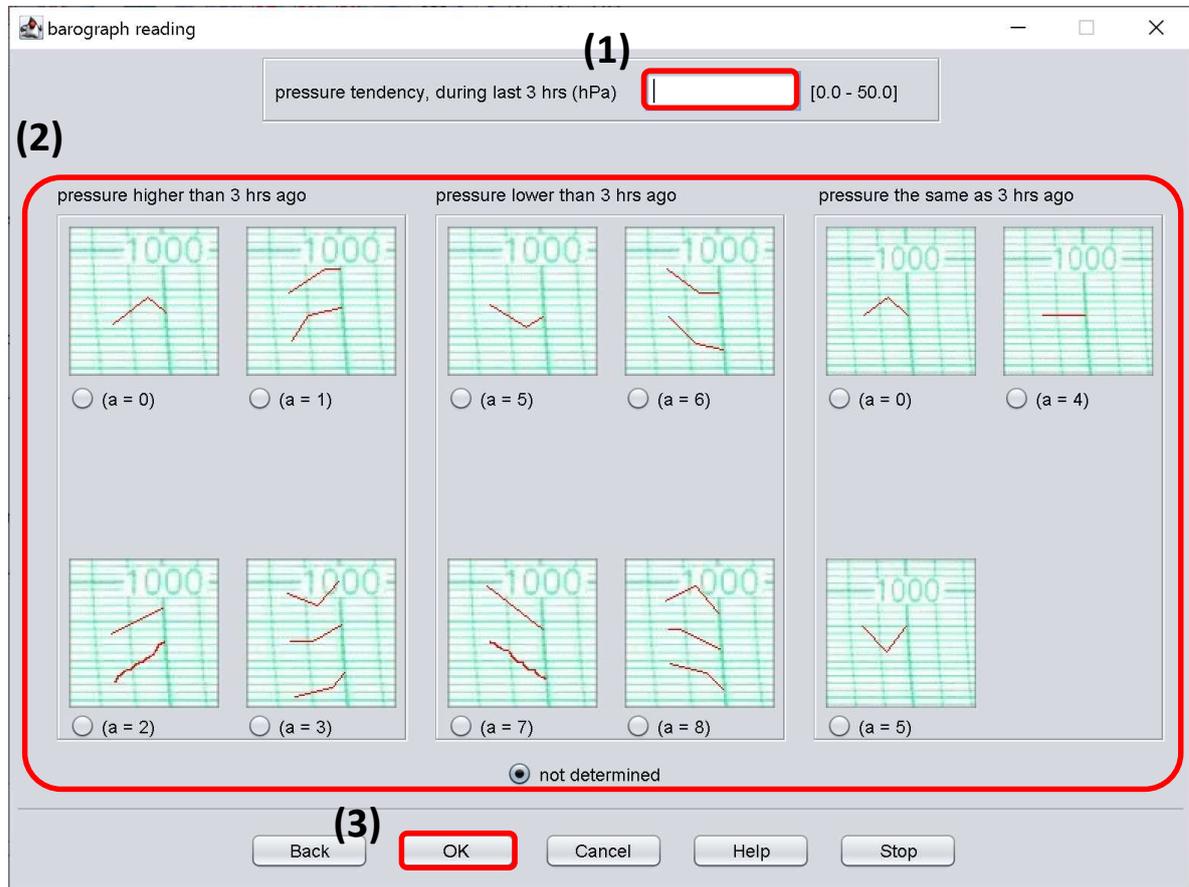
	気圧計の高さ Height of barometer	海面更正值 (a) Correction to sea level	器差補正值 (b) Correction for instrumental error	総合補正值 (a)+(b) Total Correction
満載時 at Full load	m	hPa	hPa	hPa
空船時 in Ballast	m	hPa		hPa

総合補正值は、海面気圧1013.3hPa、気温15.0℃場合の値です。

The total correction values are calculated by the sea level pressure at 1013.3hPa and the outboard temperature at 15.0℃.

3.4 Barograph reading

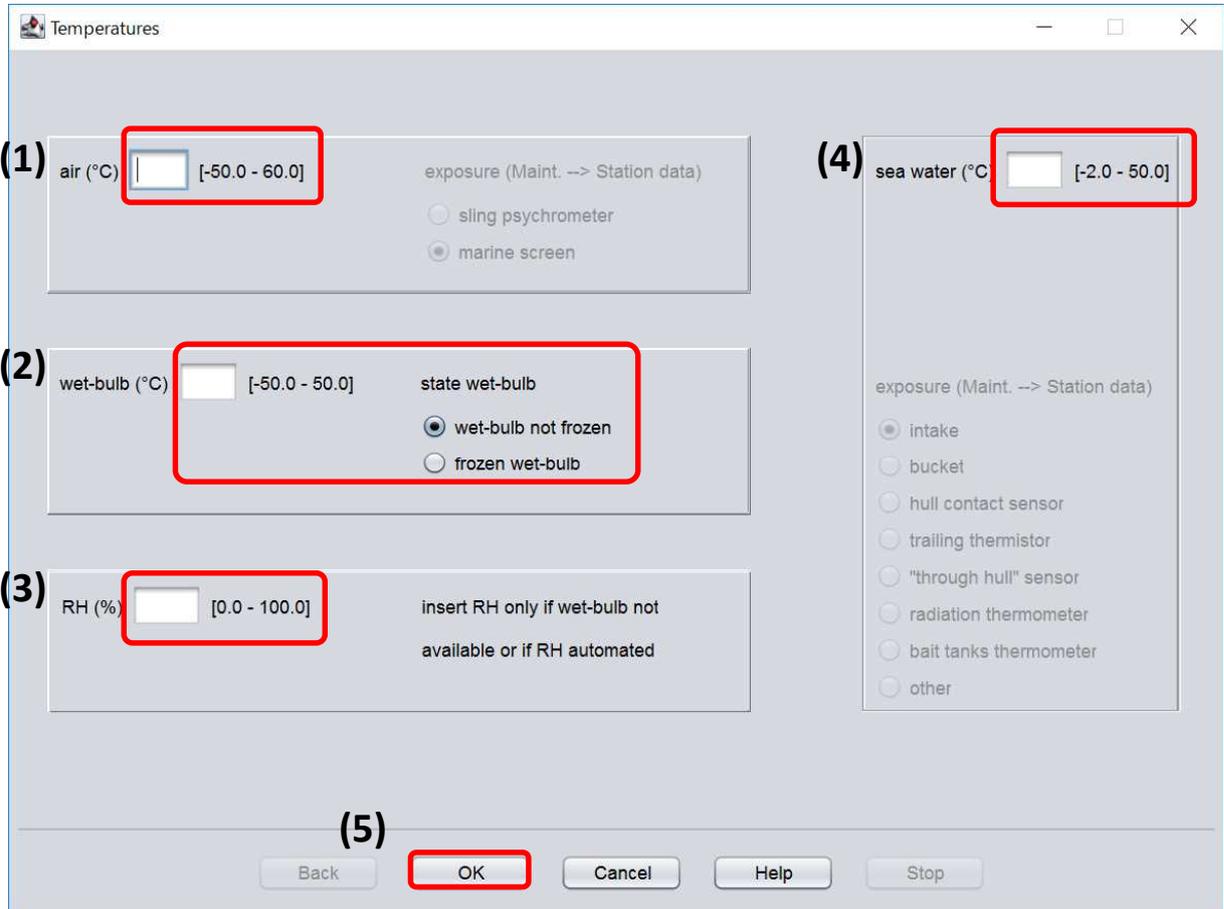
Click  on the toolbar, select **Barograph reading** from **Input** on the menu bar, or click **Pressure tendency** in the default window.



- (1) Input the absolute value of pressure tendency during the last three hours (unit: 0.1 hPa). For example, if the change is -3.4 hPa, input **3.4**. If the value is **unknown**, leave the input field **blank**.
- (2) Select the characteristic of pressure change during the last three hours with reference to the form of each graph. If pressure at the time of observation is higher (lower) than that observed three hours ago, select from the left (middle) panel. If both values are the same (i.e., **0.0** is entered in (1)), select from the right panel. If this is **unknown** or **not determined**, select **not determined**.
- (3) Click **OK**.

3.5 Temperatures

Click  on the toolbar, select **Temperatures** from **Input** on the menu bar, or click **Air temp** in the default window.



The screenshot shows the 'Temperatures' dialog box with the following elements:

- (1)** 'air (°C)' input field with a range of [-50.0 - 60.0].
- (2)** 'wet-bulb (°C)' input field with a range of [-50.0 - 50.0] and 'state wet-bulb' options: 'wet-bulb not frozen' (selected) and 'frozen wet-bulb'.
- (3)** 'RH (%)' input field with a range of [0.0 - 100.0].
- (4)** 'sea water (°C)' input field with a range of [-2.0 - 50.0].
- (5)** 'OK' button.

(1) Input the **air temperature** (unit: 0.1°C).

If the value is **unknown**, leave the input field **blank**.

(2) Input the **wet-bulb temperature** (unit: 0.1°C) and select the **state wet-bulb**.

If the value is unknown, leave the input field blank.

Note: If the wet bulb is frozen, its temperature cannot be positive.

Note: The wet-bulb temperature cannot be higher than the air temperature.

(3) Input the **Relative Humidity (RH)** (unit: %) only if the wet-bulb temperature is unknown.

If the value is **unknown**, leave the input field blank.

(4) Input the **sea water temperature** (unit: 0.1°C).
If the value is **unknown**, leave the input field **blank**.

(5) Click **OK**.

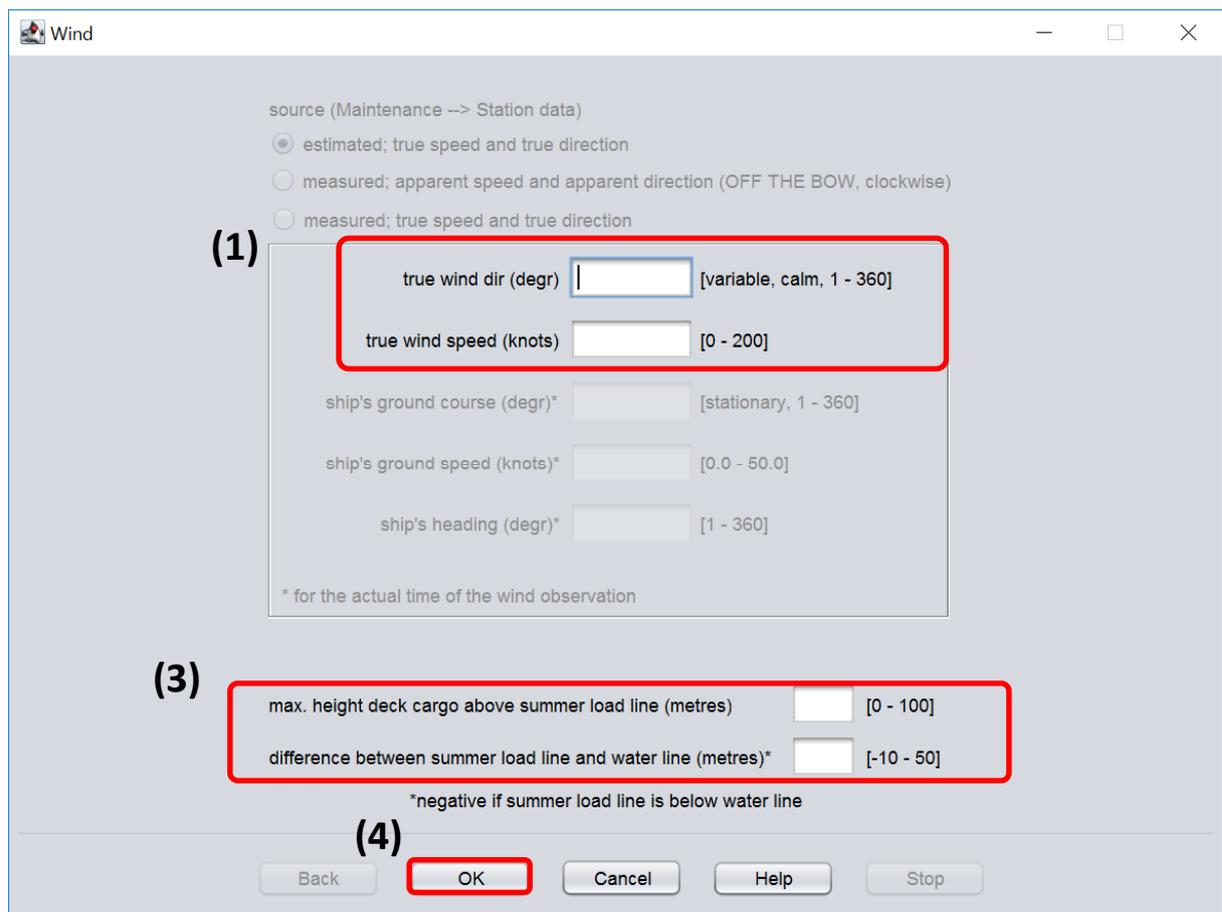
3.6 Wind

Click  on the toolbar, select **Wind** from **Input** on the menu bar, or click **True Wind** in the default window.

Note

- **Estimated true wind speed and direction** will normally be based on the visual appearance of the sea surface as per the **Beaufort scale**. Click on the help button for more examples of the Beaufort scale.
- **Measured true or apparent wind speed and direction** data can be sourced from the ship's anemometer. For instruments that do not allow wind monitoring with compensation for ship motion (i.e., true wind), data recorded onboard during navigation are taken as apparent wind values.

Estimated true wind speed and direction



source (Maintenance --> Station data)

estimated; true speed and true direction

measured; apparent speed and apparent direction (OFF THE BOW, clockwise)

measured; true speed and true direction

(1) true wind dir (degr) [variable, calm, 1 - 360]

true wind speed (knots) [0 - 200]

ship's ground course (degr)* [stationary, 1 - 360]

ship's ground speed (knots)* [0.0 - 50.0]

ship's heading (degr)* [1 - 360]

* for the actual time of the wind observation

(3) max. height deck cargo above summer load line (metres) [0 - 100]

difference between summer load line and water line (metres)* [-10 - 50]

*negative if summer load line is below water line

(4) Back OK Cancel Help Stop

Measured true or apparent wind speed and direction

source (Maintenance --> Station data)

estimated; true speed and true direction

measured; apparent speed and apparent direction (OFF THE BOW, clockwise)

measured; true speed and true direction

(1) true wind dir (degr) [variable, calm, 1 - 360]

true wind speed (knots) [0 - 200]

(2) ship's ground course (degr)* [stationary, 1 - 360]

ship's ground speed (knots)* [0.0 - 50.0]

ship's heading (degr)* [1 - 360]

* for the actual time of the wind observation

(3) max. height deck cargo above summer load line (metres) [0 - 100]

difference between summer load line and water line (metres)* [-10 - 50]

*negative if summer load line is below water line

(4) Back OK Cancel Help Stop

- (1) Input the **true (or apparent) wind direction** (unit: degrees) and **true (or apparent) wind speed** (unit: knots). If the value is unknown, leave the input field blank.
- (2) Input the **ship's ground course** (unit: degrees), **ship's ground speed** (unit: 0.1 knots) and **ship's heading** (unit: degrees) for the actual time of the wind observation.
- (3) This information is taken from the **Station Data (wind meta data)**. Input the correct values as necessary.

Note

Max. height deck cargo above summer load line (unit: meters):

If max cargo height is different at the time of the observation, input the correct height. This pertains to container vessels. For all other vessels, input **0**.

Difference between summer load line and water line (unit: meters):

If the distance between the Summer Load Line (SLL) and the Water Line (WL) at the time of observation is different, input the correct height. This primarily occurs on vessels with large draft changes.

Positive (+) if the SLL is above the WL,

Negative (-) if the SLL is below the WL.

- (4) Click **OK**.

3.7 Waves

Click  on the toolbar, select **Waves** from **Input** on the menu bar, or click **(Wind) wave per** in the default window.

Bf	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

meter	feet
1	3
2	7
3	10
4	13
5	16
6	20
7	23
8	26
9	30
10	33
11	36
12	40
13	43
14	46
15	50

- (1) Input the **period** (unit: seconds) and **height** (unit: 0.1 meters) of **wind waves (sea)**.
 - If there are no wind waves, input **0** for both input fields.
Note: If the wind speed (p.24) is **0**, both must be **0**.
 - If determination is unclear due to rough seas, input **confused** for both input fields.
 - If determination is unclear for other reasons, leave both input fields **blank**.
 - For **Estimated waves**, input **height** (unit: 0.1 meters) using the Conversion Table for the Beaufort scale (Bf) of wind force to sea (meters) on the left of the screen.

- (2) Select the state of the swell system.
One/Two swell(s) discernable applies if the direction, period and height can be observed.

- (3) Click **OK** and move to swell input. Select **Swell not determined** or **No swell** to complete wave input.

Swell input (Confused swell or indeterminable direction)

swell system

(1)

period (sec) [confused, 1 - 50]

height (metres) [confused, 0.5 - 49.0]

meter	feet
1	3
2	7
3	10
4	13
5	16
6	20
7	23
8	26
9	30
10	33
11	36
12	40
13	43
14	46
15	50

(2)

Back OK Cancel Help Stop

(1) Input the swell period (unit: seconds) and height (unit: m).
If the value(s) is unknown, leave the field(s) blank.

(2) Click **OK** to finish wave input.

Swell input (One/Two swell(s) discernable)

Dialog box for one swell

swell system

(1)

direction (degr) [1 - 360]

period (sec) [1 - 50]

height (metres) [0.5 - 49.0]

meter	feet
1	3
2	7
3	10
4	13
5	16
6	20
7	23
8	26
9	30
10	33
11	36
12	40
13	43
14	46
15	50

(2)

Back OK Cancel Help Stop

Dialog box for two swells

Two swells discernable

1st swell system

direction (degr) [1 - 360]

period (sec) [1 - 50]

height (metres) [0.5 - 49.0]

2nd swell system

direction (degr) [1 - 360]

period (sec) [1 - 50]

height (metres) [0.5 - 49.0]

meter	feet
1	3
2	7
3	10
4	13
5	16
6	20
7	23
8	26
9	30
10	33
11	36
12	40
13	43
14	46
15	50

Back OK Cancel Help Stop

(1) Input the **true direction** from which the swell comes, the **period** (unit: seconds) and the **swell height** (unit: 0.1 meters). If the **direction** is **0**, select **360**.

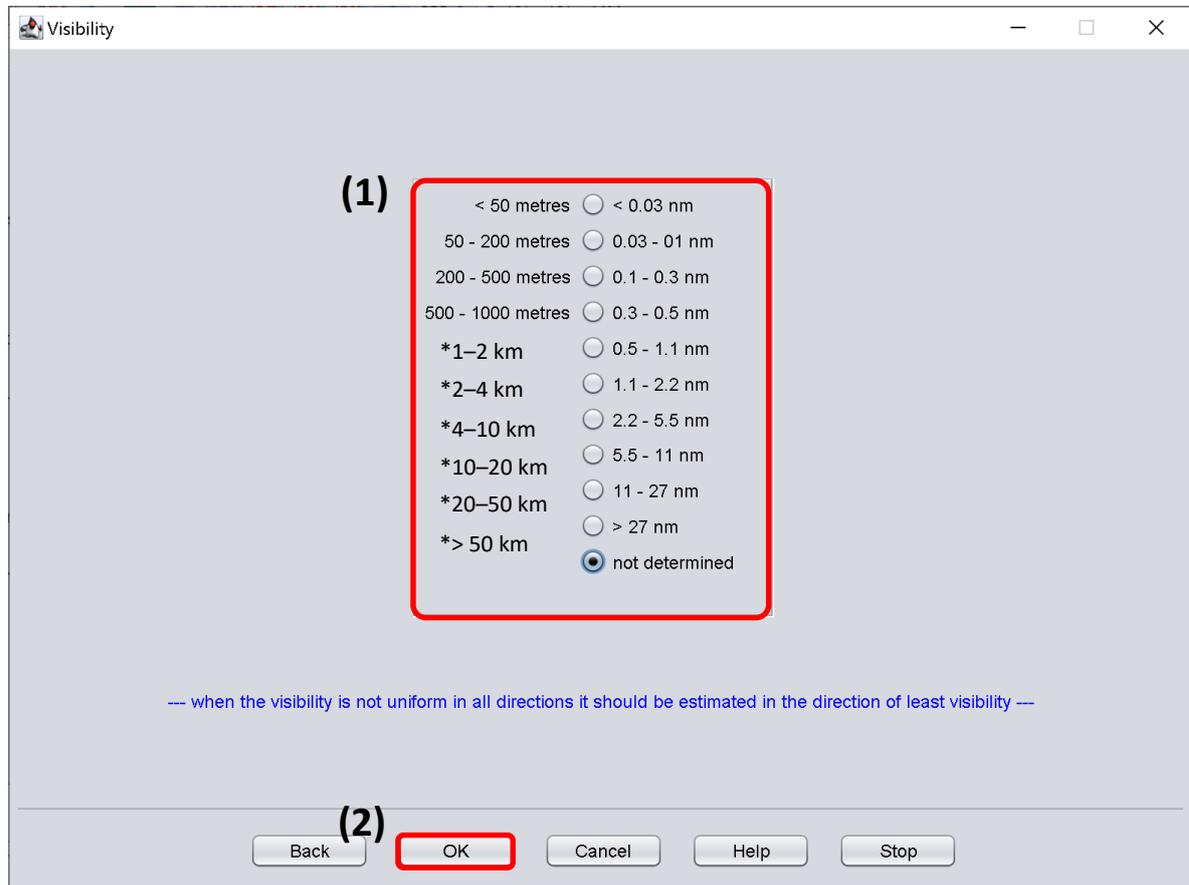
For **two swells**, enter the largest in “1st swell system” and the second-largest in “2nd swell system.”

Note: All fields are **mandatory**.

(2) Click **OK** to finish wave input.

3.8 Visibility

Click  on the toolbar, select **Visibility** from **Input** on the menu bar, or click **Visibility** in the default window.



(1) Select the **visibility**.

- If the visibility differs **by direction**, report the **shortest** value.
- If the value is unknown, select **not determined**.
- If the visibility is **0.3 nm** (500m), select **0.3 - 0.5 nm** (500 - 1000 meters) rather than **0.1 - 0.3 nm** (200 - 500 meters).

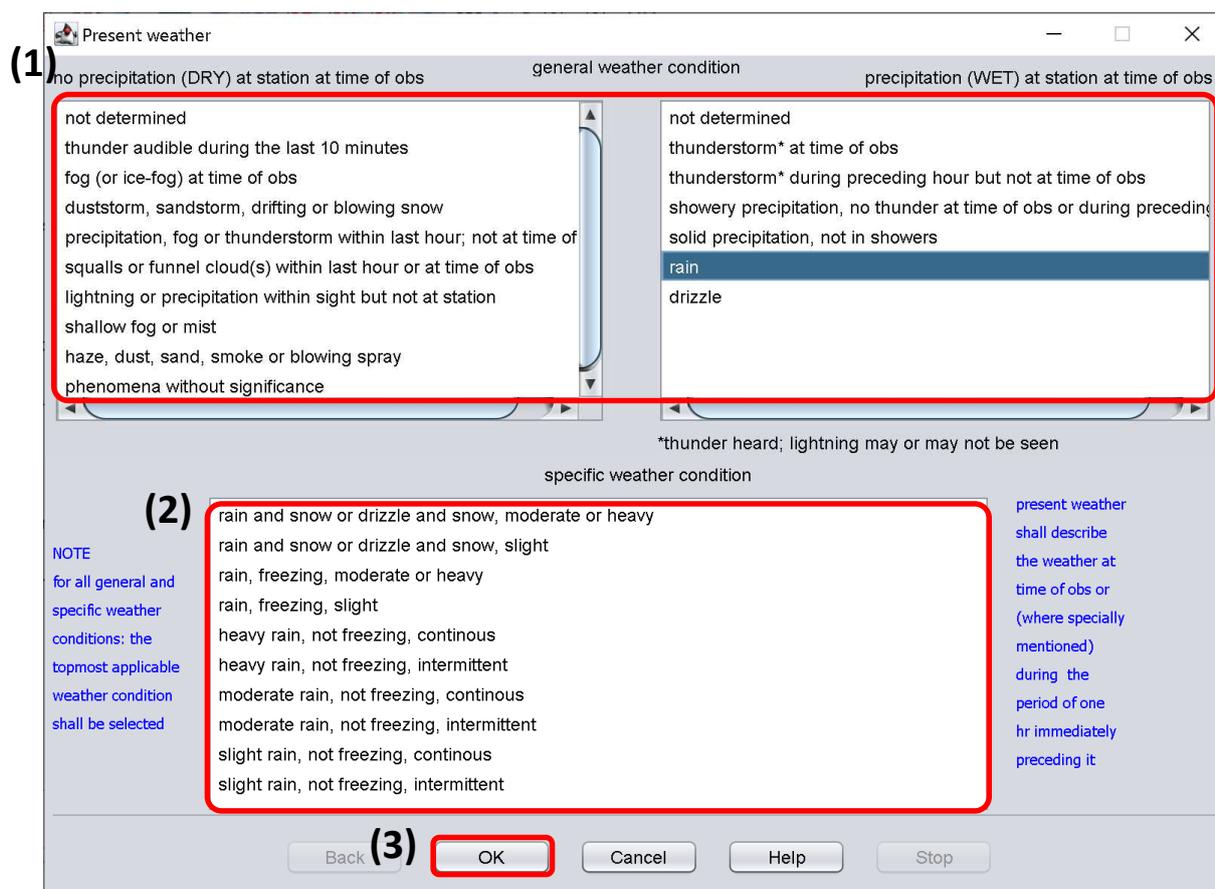
(2) Click **OK**.

3.9 Present weather

Click  on the toolbar, select **Present weather** from **Input** on the menu bar, or click **Present weath.** in the default window.

Note

- The weather conditions prevailing at the time of observation (or during the preceding hour) must be selected.



(1) From one of the top two boxes, select a **general weather condition** for the time of observation. Use the top left box for **DRY** or the top right box for **WET** (i.e., precipitation). If multiple conditions apply, select the uppermost one.

(2) Once a selection is made, a specific weather condition can be selected from the bottom box. The **topmost applicable weather condition** should be selected.

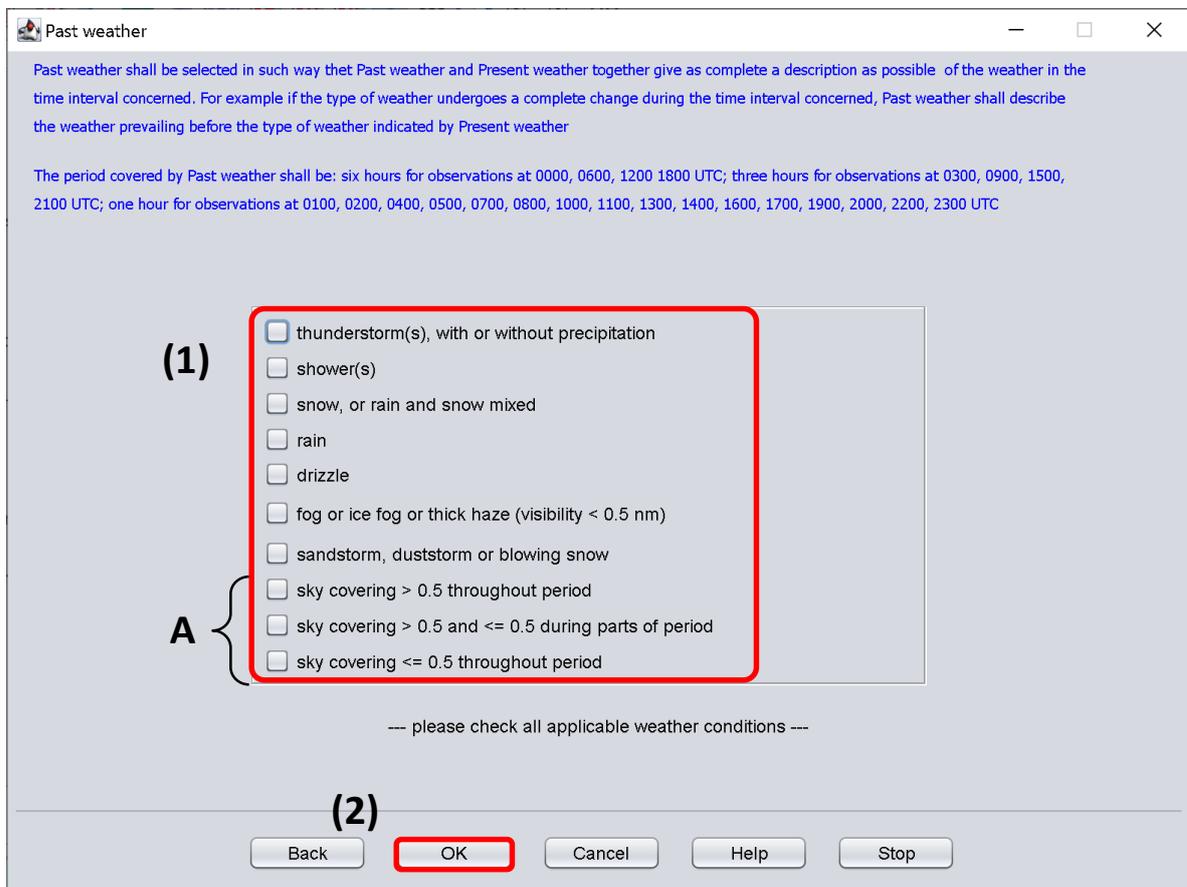
(3) Click **OK**.

3.10 Past weather

Click  on the toolbar, select **Past weather** from **Input** on the menu bar, or click **Past weath. 1st** in the default window.

Note

- The term *past weather* refers to weather conditions observed in the preceding six hours (at 00, 06, 12 and 18 UTC), three hours (at 03, 09, 15 and 21 UTC) and one hour (other).



Past weather shall be selected in such way that Past weather and Present weather together give as complete a description as possible of the weather in the time interval concerned. For example if the type of weather undergoes a complete change during the time interval concerned, Past weather shall describe the weather prevailing before the type of weather indicated by Present weather

The period covered by Past weather shall be: six hours for observations at 0000, 0600, 1200 1800 UTC; three hours for observations at 0300, 0900, 1500, 2100 UTC; one hour for observations at 0100, 0200, 0400, 0500, 0700, 0800, 1000, 1100, 1300, 1400, 1600, 1700, 1900, 2000, 2200, 2300 UTC

(1)

- thunderstorm(s), with or without precipitation
- shower(s)
- snow, or rain and snow mixed
- rain
- drizzle
- fog or ice fog or thick haze (visibility < 0.5 nm)
- sandstorm, duststorm or blowing snow
- sky covering > 0.5 throughout period
- sky covering > 0.5 and <= 0.5 during parts of period
- sky covering <= 0.5 throughout period

A {

--- please check all applicable weather conditions ---

(2)

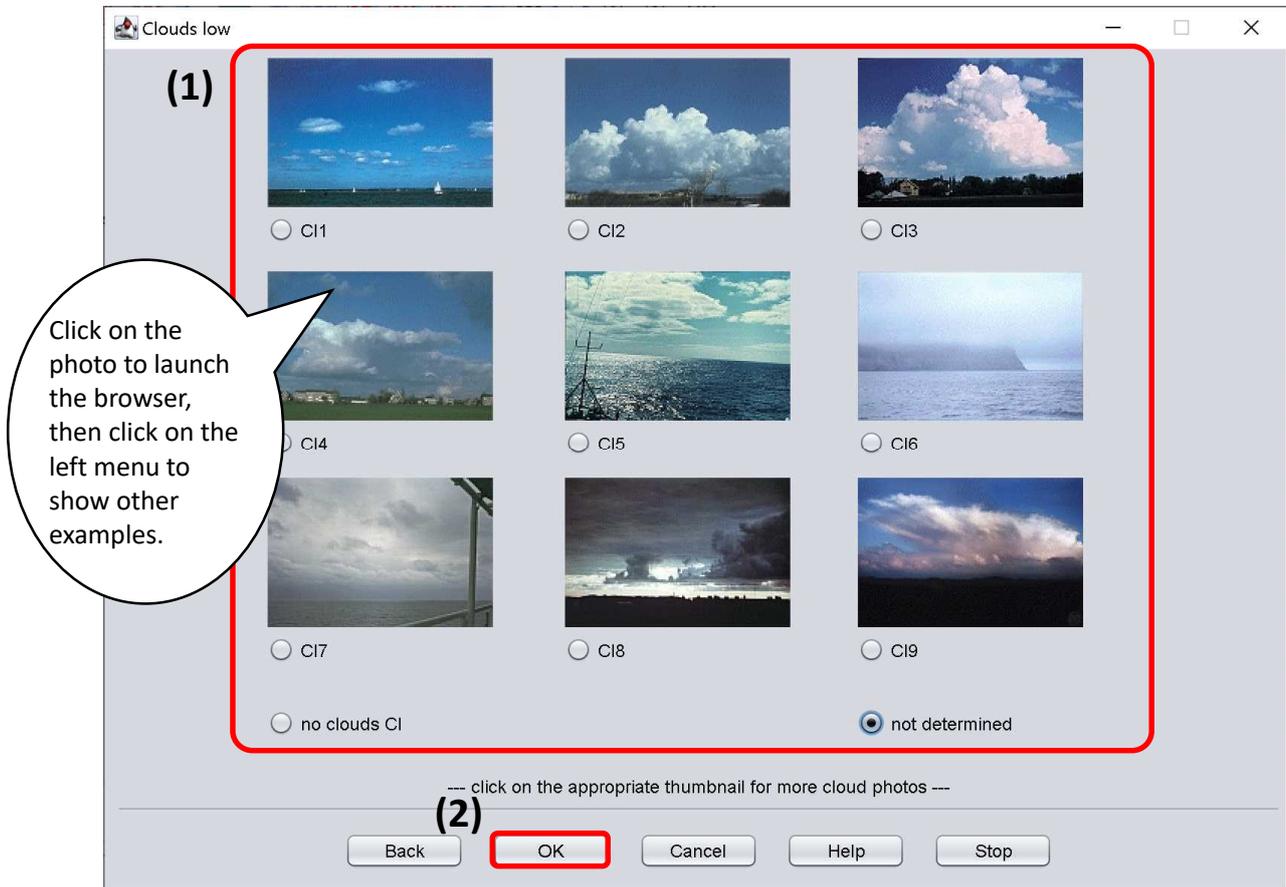
Back OK Cancel Help Stop

(1) All applicable past weather conditions should be selected. However, **only one** of the three options indicated by the **A-bracket** in the figure above can be selected.

(2) Click **OK**.

3.11 Clouds low

Click  on the toolbar, select **Clouds low** from **Input** on the menu bar, or click **CI** in the default window.



(1) Select the **low cloud** type. If there are no low clouds, select **no clouds CI**.

Note: Low clouds are in the height range of **0 – 2 km** (0 – 6,500 ft).

(2) Click **OK**.

Low cloud types

CI1 Cumulus with little vertical extent, and/or ragged **cumulus** other than those observed during periods of bad weather

CI2 Cumulus with moderate or strong vertical extent

CI3 Cumulonimbus without a clearly fibrous or striated top

CI4 Stratocumulus formed as a result of cumulus spread

CI5 Stratocumulus not formed as a result of cumulus spread

CI6 Stratus and/or ragged **stratus** other than those observed during periods of bad weather

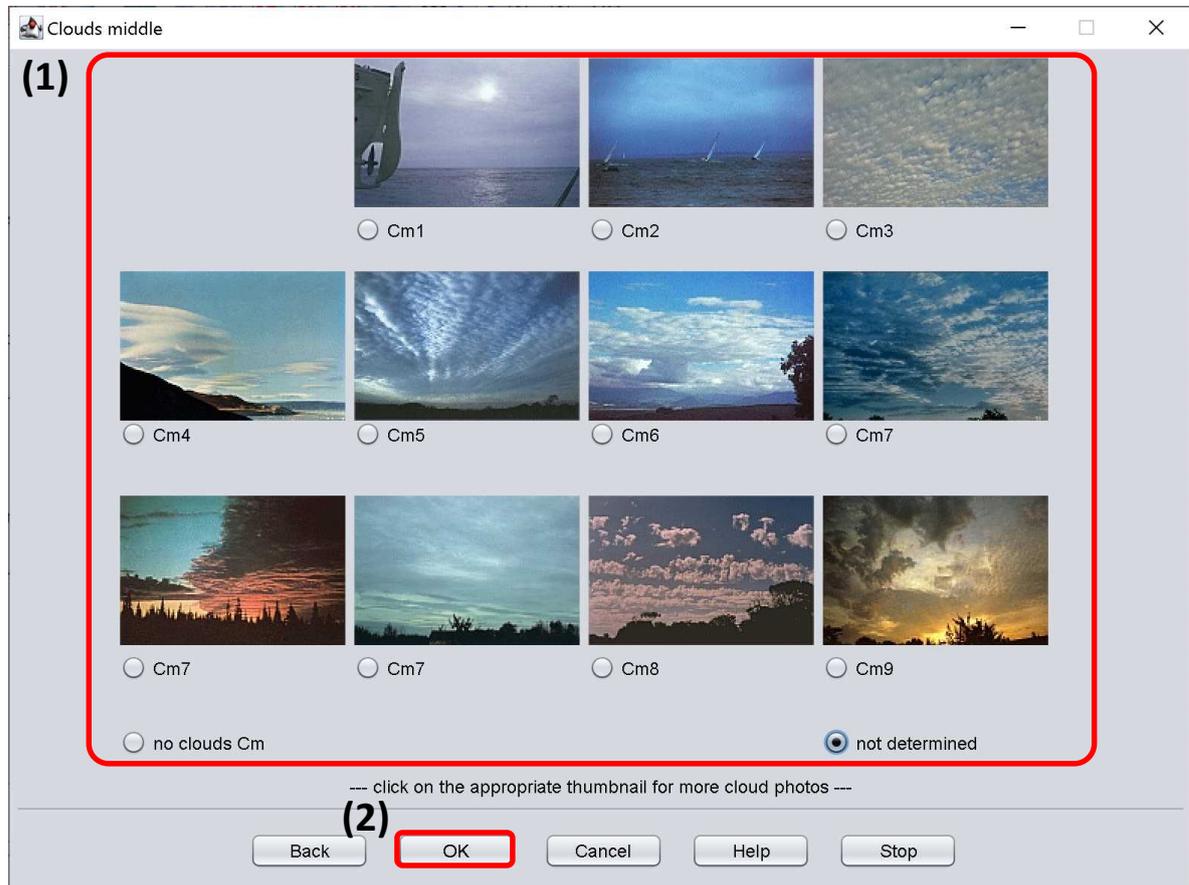
CI7 Ragged status and/or ragged **cumulus** observed during periods of bad weather

CI8 Cumulus and **stratocumulus** not formed as a result of cumulus spread

CI9 Cumulonimbus with a clearly fibrous or striated top

3.12 Clouds middle

Click  on the toolbar, select **Clouds middle** from **Input** on the menu bar, or click **Cm** in the default window.



(1) Select the **middle cloud** type. If there are no middle clouds, select **no clouds Cm**.

Note: Middle clouds are in the height range of **2 – 7 km** (6,500 – 23,000 ft).

(2) Click **OK**.

Middle cloud types

Cm1 Semi-transparent **altostratus**

Cm2 Opaque **altostratus** or **nimbostratus**

Cm3 Predominant semi-transparent **altocumulus**

Cm4 **Altocumulus**, patches, semi-transparent, changing

Cm5 **Altocumulus** spreading in the sky

Cm6 **Altocumulus** formed as a result of cumulus or cumulonimbus spread

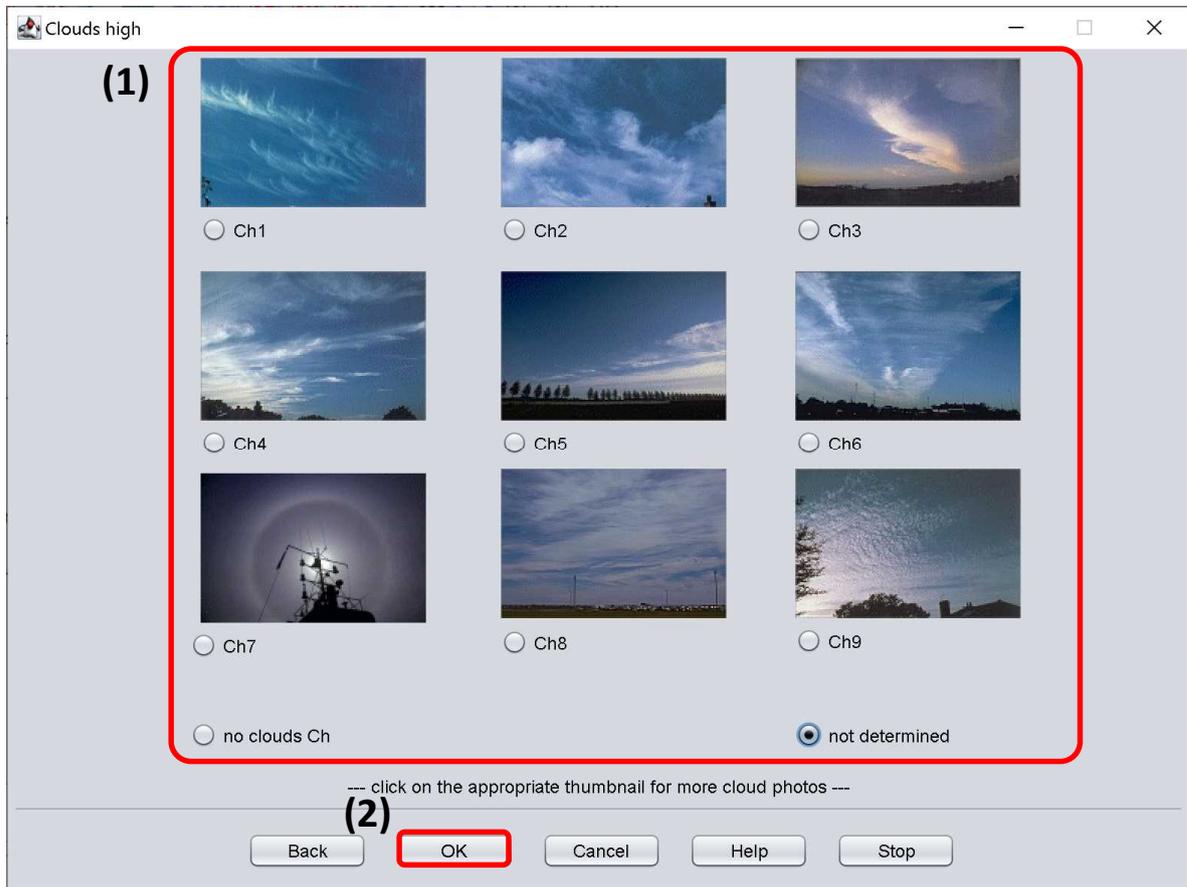
Cm7 **Altocumulus** with altostratus or nimbostratus; layered **altocumulus**;
non-developing opaque **altocumulus** (select one of the three check boxes)

Cm8 **Altocumulus** with sprouting or tufts

Cm9 **Altocumulus** in a chaotic sky

3.13 Clouds high

Click  on the toolbar, select **Clouds high** from **Input** on the menu bar, or click **Ch** in the default window.



(1) Select the **high cloud** type. If there are no high clouds, select **no clouds Ch**.

Note: high clouds are in the height range of **5 – 13 km** (16,000 – 43,000 ft).

(2) Click **OK**.

High cloud types

- Ch1** Cirrus in the form of filaments not spreading in the sky
- Ch2** Dense cirrus and/or cirrus with predominant sprouting or tufts
- Ch3** Dense cirrus originating from cumulonimbus
- Ch4** Cirrus in the form of filaments or hooks spreading in the sky
- Ch5** Cirrostratus veil less than 45 degrees above the horizon
- Ch6** Cirrostratus veil more than 45 degrees above the horizon
- Ch7** Cirrostratus covering the whole sky
- Ch8** Cirrostratus not spreading in the sky
- Ch9** Cirrocumulus alone or with cirrus and/or cirrostratus

3.14 Cloud cover & height

Click  on the toolbar, select **Cloud cover & height** from **Input** on the menu bar, or click **Total cloud cov** in the default window.

(1) total cloud cover

(2) amount of CI (or Cm if CI not present)

(3) height of base of lowest cloud

(4)

Back OK Cancel Help Stop

This program computes a 'height of base of lowest cloud' advice if cloud classification, latitude, air temp, wet bulb temp and present weather are available
This advice can always be over ruled by checking another button

(1) Select the total cloud cover in eighths.

- If the sky is **completely covered with cloud**, select **8/8 (compl. overcast)**.
- If the sky is obscured due to **fog or haze**, select **obscured**.

(2) Select the amount of **low cloud** in eighths. If **no low cloud is present**, select the amount of **middle cloud**.

- If the sky is obscured due to fog or haze, select **obscured**.

Note

The value cannot be greater than that of the total cloud cover in (1). For example, if the total cover is **6/8**, **7/8** and **8/8** cannot be selected.

(3) Select the height of the base of the **lowest cloud**.

If the value is **300m** (1,000 feet), select **300 – 600 m (1000 – 2000 ft)** rather than **200 – 300 m (600 – 1000 ft)**.

(4) Click **OK**.

Notes on cloud input

If cloud data (i.e., the type (pp. 32–34), cover and height (p. 35)) are not entered consistently, an error message will appear.

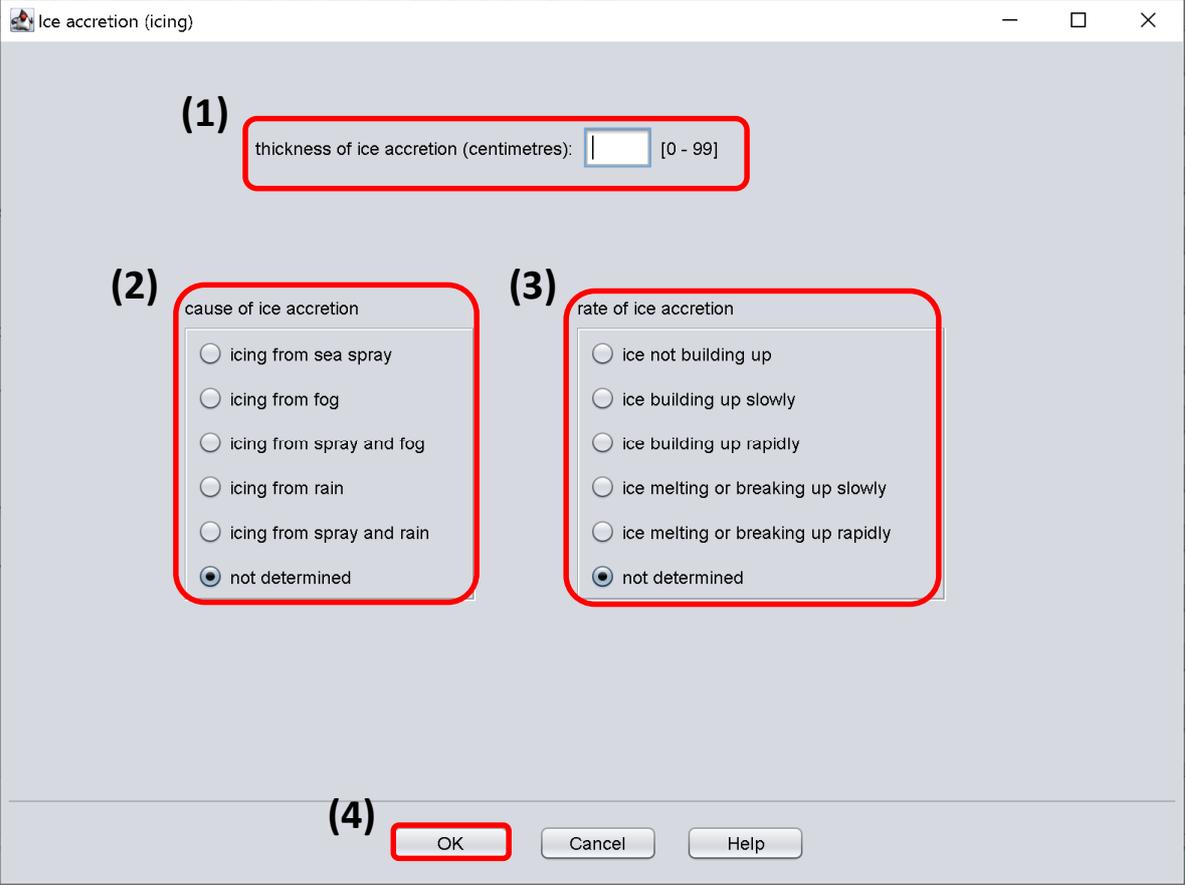
- If **cloudless** is selected for the total cloud cover, select **no clouds** for the low, middle and high cloud types, **0/8** for the amount of low cloud and **cloudless** for the height.
- If **not determined** is selected for the total cloud cover, select **not determined** for the low, middle and high cloud types, the amount of low cloud and the height.
- If **obscured** is selected for the total cloud cover, Select **obscured** for the amount of low cloud and **not determined** for the low, middle and high cloud types and the height.
- If **0/8** is selected for the amount of low cloud, select **no clouds** for the low and middle cloud types.
- If **8/8** is selected for the amount of low cloud, select **not determined** for the high cloud type. If **CI1–CI9** is selected as the low cloud type, the middle cloud type must also be **not determined**. In such situations, the height must be under 2,500 m (8,000 feet).
- If only high cloud is present, select **>= 2,500m (8,000 ft)** for the height.

3.15 Icing

Click  on the toolbar, select **Icing** from **Input** on the menu bar, or click **Icing** in the default window.

Note

- This element should be entered only if ice accretion is observed on board.



(1) thickness of ice accretion (centimetres): [0 - 99]

(2) cause of ice accretion

- icing from sea spray
- icing from fog
- icing from spray and fog
- icing from rain
- icing from spray and rain
- not determined

(3) rate of ice accretion

- ice not building up
- ice building up slowly
- ice building up rapidly
- ice melting or breaking up slowly
- ice melting or breaking up rapidly
- not determined

(4)

(1) Input the **thickness of ice accretion** (unit: cm).

If the thickness is not uniform on the ship, enter the **largest** value.

If the value is unknown, leave the input field blank.

(2) Select the **cause of ice accretion**.

(3) Select the **rate of ice accretion**.

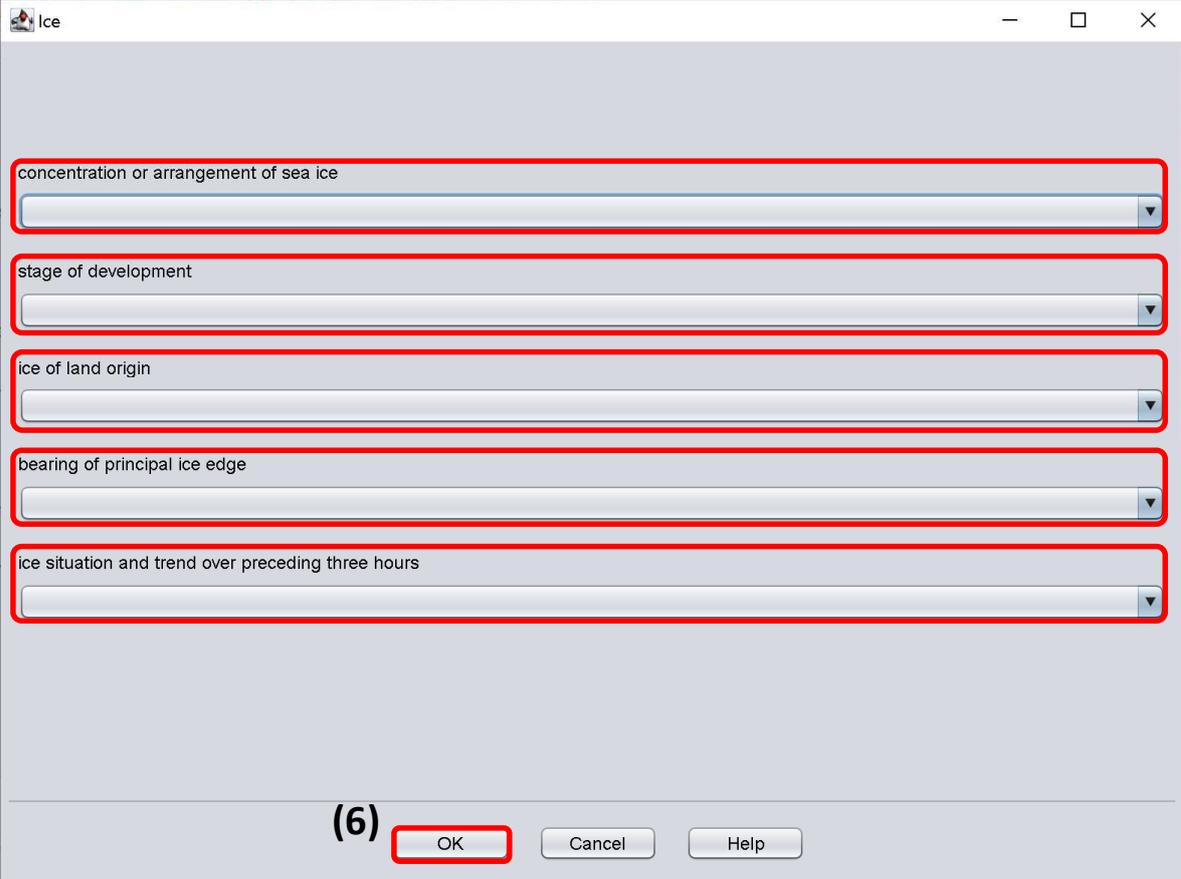
(4) Click **OK**.

3.16 Ice

Click  on the toolbar, select **Ice** from **Input** on the menu bar, or click **Ice** in the default window.

Note

- This element should be entered only if sea ice is observed.



The screenshot shows a dialog box titled "Ice" with a standard Windows window title bar (minimize, maximize, close buttons). The dialog contains five dropdown menus, each highlighted with a red box and a numbered callout:

- (1) concentration or arrangement of sea ice
- (2) stage of development
- (3) ice of land origin
- (4) bearing of principal ice edge
- (5) ice situation and trend over preceding three hours

At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help". The "OK" button is highlighted with a red box and a numbered callout (6).

- (1) Select the **concentration or arrangement of sea ice**.
- (2) Select the **stage of development**.
- (3) Select the **ice of land origin**.
- (4) Select the **bearing of principal ice edge**.
- (5) Select the **ice situation and trend over preceding three hours**.
- (6) Click **OK**.

Drop-down menus for (1)~(5)

concentration or arrangement of sea ice

concentration or arrangement of sea ice

- No ice
- Ship in ice or within 0.5 n mile of ice. Ship in open lead > 1 n mile wide or ship in fast ice with boundary beyond limit of visibility
- Ship in ice or within 0.5 n mile of ice. Ice concentration uniform. Open water or very open pack ice, <3/8 concentration
- Ship in ice or within 0.5 n mile of ice. Ice concentration uniform. Open pack ice 3/8 to <6/8 concentration
- Ship in ice or within 0.5 n mile of ice. Ice concentration uniform. Close pack ice 6/8 to <7/8 concentration
- Ship in ice or within 0.5 n mile of ice. Ice concentration uniform. Very close pack ice 7/8 to <8/8 concentration
- Ship in ice or within 0.5 n mile of ice. Ice concentration not uniform. Strips & patches of pack ice with open water between
- Ship in ice or within 0.5 n mile of ice. Ice conc. not unif. Strips & patches of close/very close pack ice with areas of lesser conc. between
- Ship in ice or within 0.5 n mile of ice. Ice conc. not unif. Fast ice with open water, very open/open pack ice to seaward of the ice boundary
- Ship in ice or within 0.5 n mile of ice. Ice conc. not unif. Fast ice with close/very close pack ice to seaward of the ice boundary
- Unable to report, because of darkness, poor visibility or because ship is more than 0.5 n mile away from ice edge
- ice situation and trend over preceding three hours

stage of development

stage of development

- New ice only (frazil ice, grease ice, slush, shuga)
- Nilas or ice rind, <10 cm thick
- Young ice (grey ice, grey-white ice) 10-30 cm thick
- Predominantly new and/or young ice with some first-year ice
- Predominantly thin first-year ice with some new and/or young ice
- All thin first-year ice (30-70 cm thick)
- Predominantly medium first-year ice (70-120 cm thick) & thick first-year ice (>120 cm thick) & some thinner (younger) first-year ice
- All medium and thick first-year ice
- Predominantly medium and thick first-year ice with some old ice (usually more than 2 metres thick)
- Predominantly old ice
- Unable to report, because of darkness, poor visibility or only ice of land origin visible or ship is > 0.5 n mile away from ice edge

ice of land origin

ice of land origin

- No ice of land origin
- 1-5 icebergs, no growlers or bergy bits
- 6-10 icebergs, no growlers or bergy bits
- 11-20 icebergs, no growlers or bergy bits
- Up to and including 10 growlers and bergy bits - no icebergs
- More than 10 growlers and bergy bits - no icebergs
- 1-5 icebergs with growlers and bergy bits
- 6-10 icebergs with growlers and bergy bits
- 11-20 icebergs with growlers and bergy bits
- More than 20 icebergs with growlers and bergy bits - a major hazard to navigation
- Unable to report, because of darkness, poor visibility or only sea ice is visible

bearing of principal ice edge

bearing of principal ice edge

- Ship in shore or flaw lead
- Ice edge towards NE
- Ice edge towards east
- Ice edge towards SE
- Ice edge towards south
- Ice edge towards SW
- Ice edge towards west
- Ice edge towards NW
- Ice edge towards north
- Not determined (ship in ice)
- Unable to report, because of darkness, poor visibility or only ice of land origin visible

ice situation and trend over preceding three hours

ice situation and trend over preceding three hours

- Ship in open water with floating ice in sight
- Ship in ice. Ship in easily penetrable ice: conditions improving
- Ship in ice. Ship in easily penetrable ice: conditions not changing
- Ship in ice. Ship in easily penetrable ice: conditions worsening.
- Ship in ice. Ship in ice difficult to penetrate: conditions improving.
- Ship in ice. Ship in ice difficult to penetrate: conditions not changing
- Ship in ice. Ice difficult to penetrate, conditions worsening. Ice forming and floes freezing together
- Ship in ice. Ice difficult to penetrate, conditions worsening. Ice under slight pressure
- Ship in ice. Ice difficult to penetrate, conditions worsening. Ice under moderate or severe pressure
- Ship in ice. Ice difficult to penetrate, conditions worsening. Ship beset
- Unable to report, because of darkness or poor visibility

Notes on observation data input

If there are inconsistencies among elements, an error message may appear when a weather report is created (see also p. 36 for notes on clouds).

Wind speed (p. 24) and wind wave height (p.26)

- If the true wind speed is 3 m/s or less, the wind wave height must be less than 10m.

Present weather (p. 30) and cloud (pp. 32–34)

If **fog, sky not discernable** is selected for the present weather, select **not determined** for the total cloud cover and the low, middle and high cloud types.

If **rain** or **drizzle** is selected for the present weather, **cloudless** cannot be selected for the total cloud cover.

Present weather (p.30) and visibility (p.29)

If **fog (vis. < 0.5 nm)** is selected for the present weather, visibility must be less than 0.5 nm (1 km).

If **fogbank at a distance** is selected for the present weather, visibility must be 0.5 nm (1 km) or more.

Present weather (p. 30) and air temperature (p. 22)

If snow, freezing rain (or drizzle), rime or ice prisms (or pellets) is selected for the present weather, the air temperature must be 20°C or less.

Ice accretion (p. 37), ice (p. 38) and air temperature (p. 22)

If ice accretion or ice is reported, the air temperature must be 20°C or less.

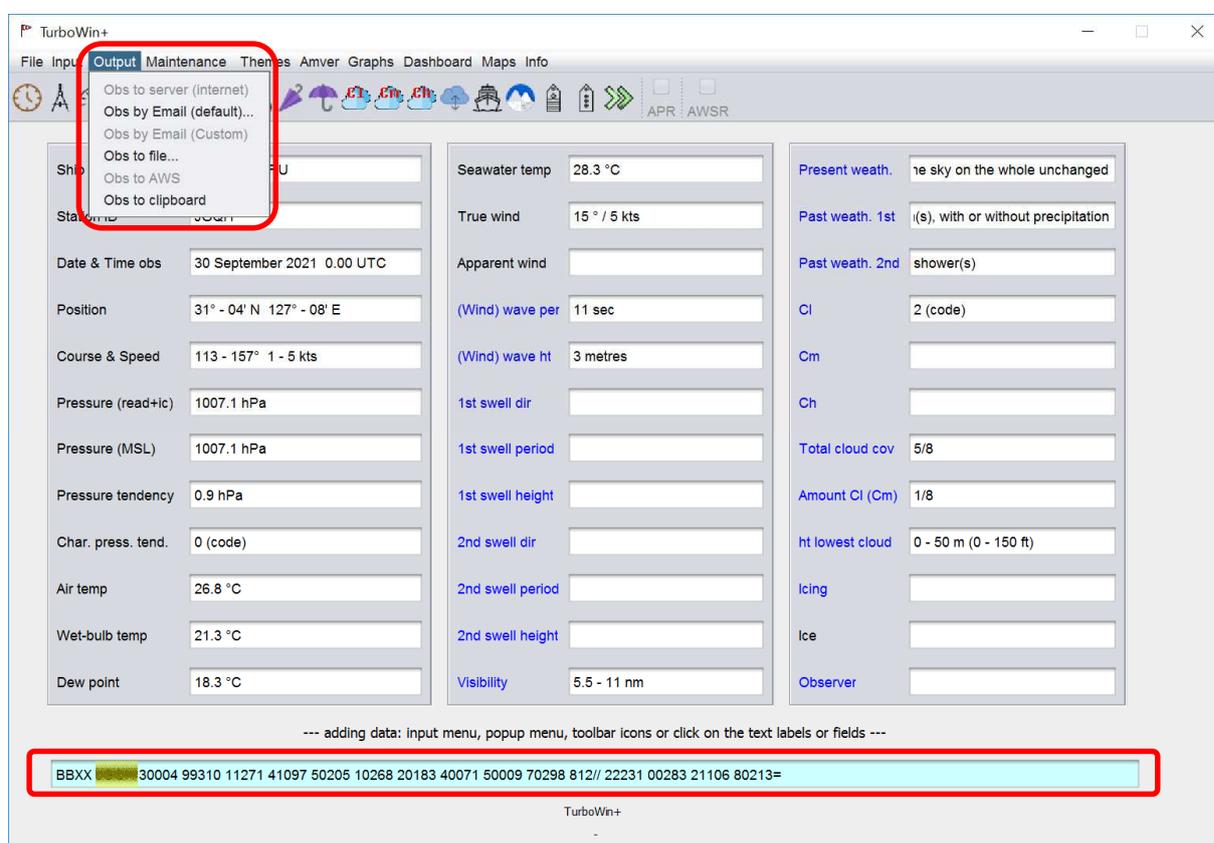
4. Submission of Ships' Weather Reports and Logbooks

4.1 Ships' Weather Reports

Once observation input is complete, operation will return to the main TurboWin+ default window. A coded BBXX message (FM13) will be sent to JMA via the **Inmarsat C** service using Special Access Code 41 or via **Email**.

Note

- The coded BBXX message (FM13) is shown at the bottom of the screen.
- Return to any input screen by clicking on the relevant field or icon, or by selecting from the Input menu.



via Inmarsat C

(1) Select **Obs to file** or **clipboard** from **Output** on the menu bar. The input observation data will disappear.

- **Obs to file**

The weather report will be saved in the specified folder with the specified file name.

- **Obs to clipboard**

The coded BBXX message (FM13) will be copied. Paste it into the editor and save it.

(2) Copy the file to the Inmarsat terminal and send it to JMA.

Note

- JMA collects Ships' Weather Reports through the Land Earth Station (LES) in Yamaguchi, Japan, using the Inmarsat C via the Asia/Pacific Ocean Region (APAC) satellite (LES ID: 203) and via the Europe/Middle East Ocean Region (Alphasat EMEA) satellite (LES ID: 303). Use the Special Access Code 41 to charge the transmission fee to JMA.
- Ships' Weather Reports also can be sent to other meteorological services through other LESs free of charge using the Special Access Code (normally 41).
- If possible, we would appreciate it if you could send Weather reports by E-mail (Senders are responsible for any costs involved in E-mailing Weather reports).

via Email

- (1) Select the **Obs by Email (default)** from **Output** on the menu bar. Immediately after choosing the option, the input observation data will disappear.
- (2) The PC email function will start automatically.
- (3) Check the content and send to JMA at "**ship@climar.kishou.go.jp**".

Note

- Email must be plain text (HTML format cannot be processed).
- The weather report must be in the body of the Email with no other text.
- Do not attach files to the Email.
- Send only one weather report per Email.

Here is one example.

The screenshot shows an email composition interface. The 'To' field contains 'ship@climar.kishou.go.jp', the 'Subject' field contains 'SHIP_REP', and the 'Body' field contains the following text: 'BBXX 30004 99310 11271 41097 50205 10268 20183 40071 50009 70298 812// 22231 00283 21106 80213='. Below the body text, there is a red instruction: 'Send the input observation data.'

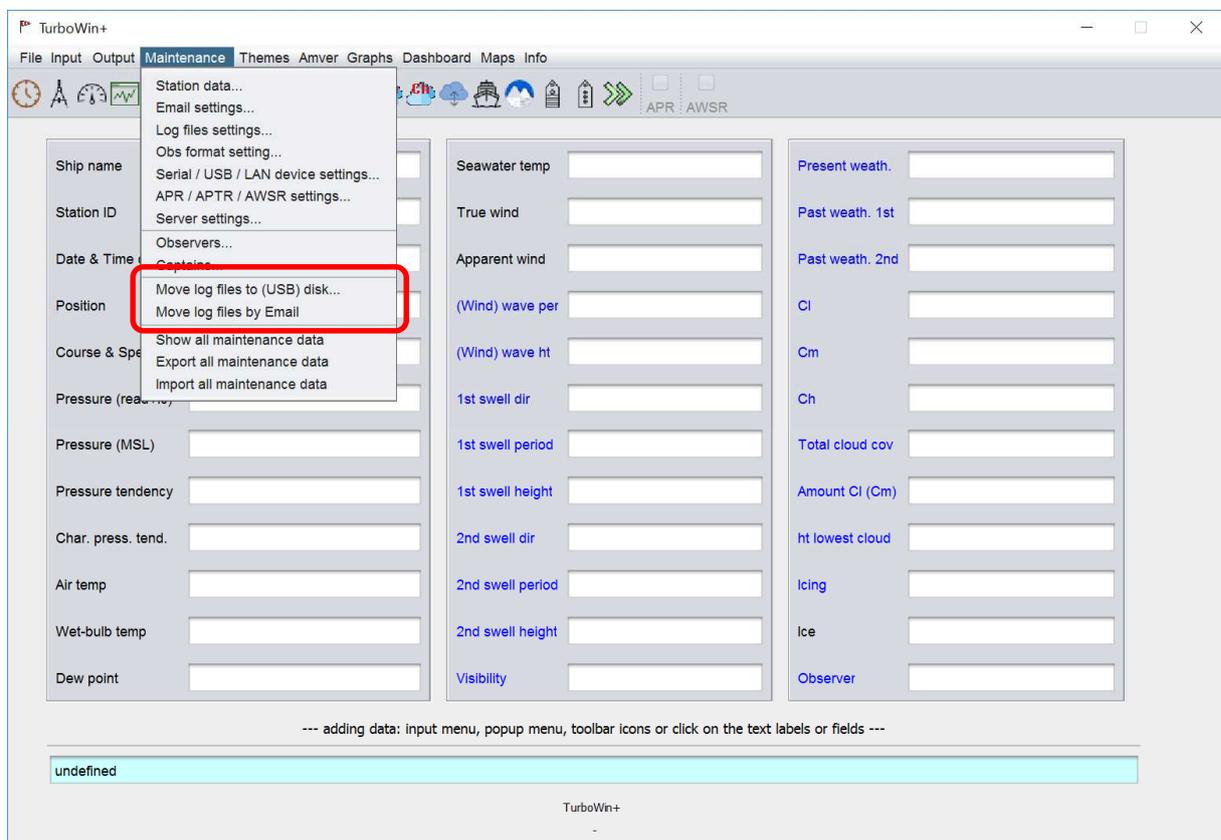
4.2 Marine Meteorological Logbooks

Observation data collected are saved in digital format as Marine Meteorological Logbooks. Marine Meteorological Logbooks should be submitted to “obsjma@climar.kishou.go.jp” by Email on a voyage basis upon arrival at a port in Japan or elsewhere. The data are used for monitoring global warming and conducting climate change research.

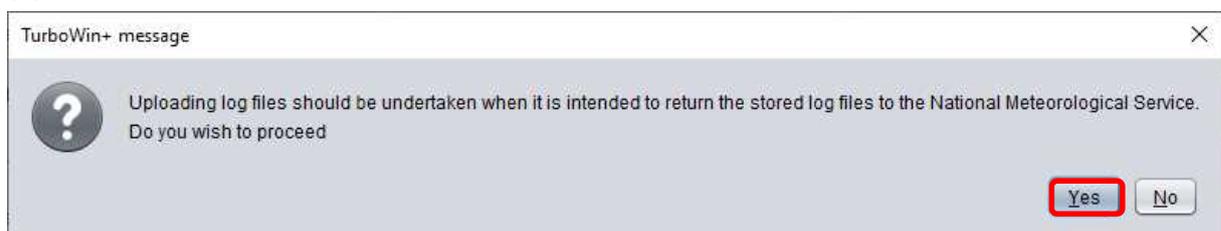
Note

- The instructions below need to be followed **only once only when a logbook file is sent to JMA**, as the collected data will be deleted after the procedure.

(1) Select one of the options below from **Maintenance** on the menu bar.



(2) Click **Yes**.



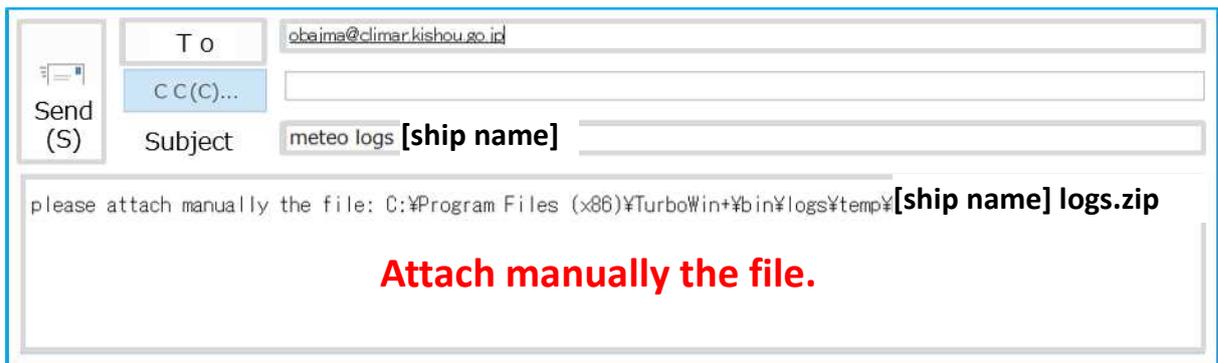
- **Move log files to (USB) disk**

The logbook file will be saved in the specified folder with the specified name. The default file name is **[callsign]_immt.log**.

- **Move log files by Email**

The email program will start automatically and the logbook file will be saved in the specified folder. The default file name is **[ship name] logs.zip**.

Here is one example.



(3) Attach the **[callsign]_immt.log** or **[ship name] logs.zip** file to the email manually and send it to JMA at “**obsjma@climar.kishou.go.jp**”.

Contact

Atmospheric Environment and Ocean Division,
Atmosphere and Ocean Department,
Japan Meteorological Agency

3-6-9 Toranomon, Minato City, Tokyo 105-8431

Telephone: +81-3-6758-3900 (Ext.4661)

Email: vos@climar.kishou.go.jp

URL: <https://marine.kishou.go.jp/en/index-en.html>