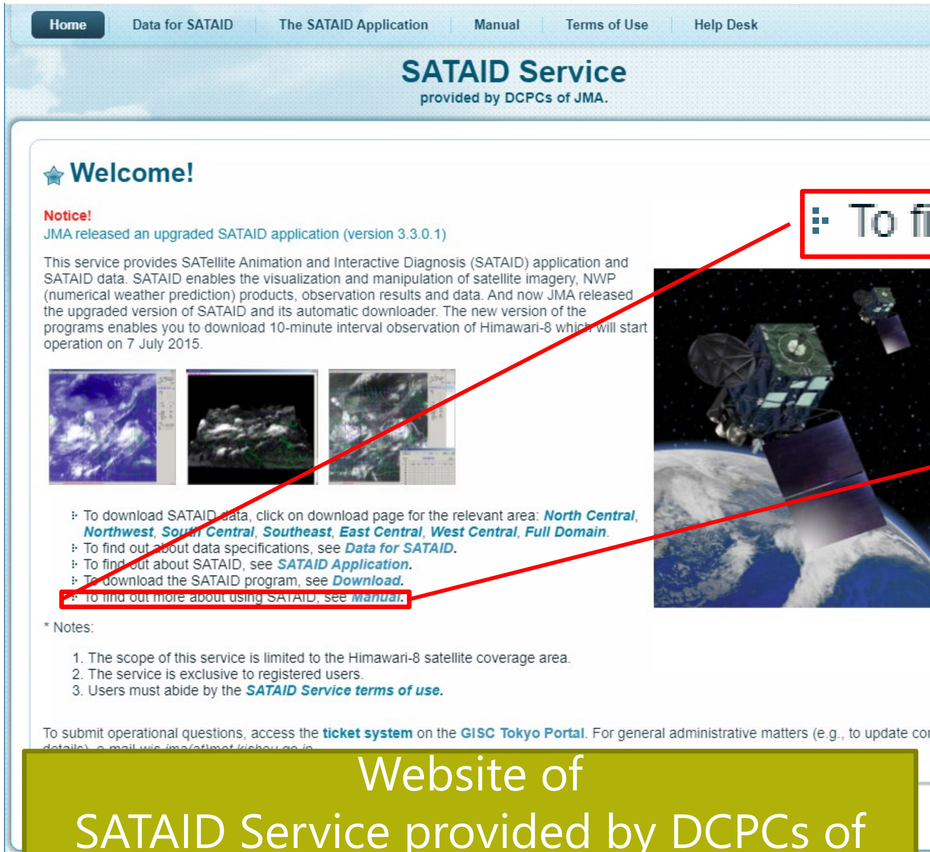
Quick-Guide

to SATAID Ver.3.4

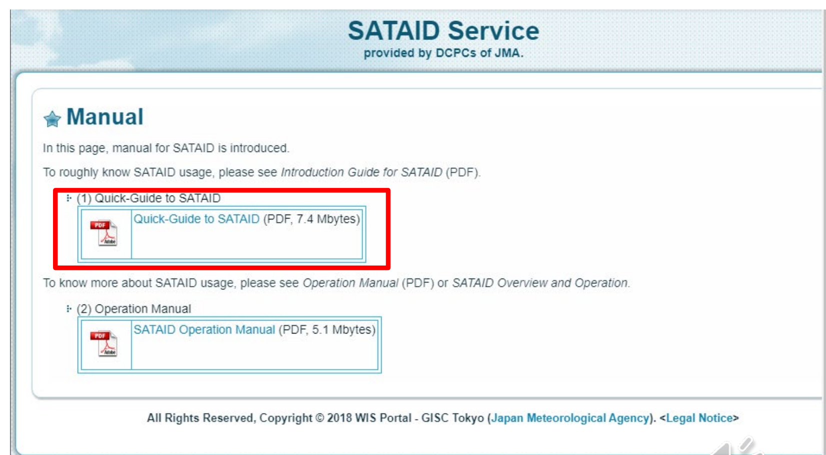
Japan Meteorological Agency

Mar. 2023

Quick-Guide to SATAID



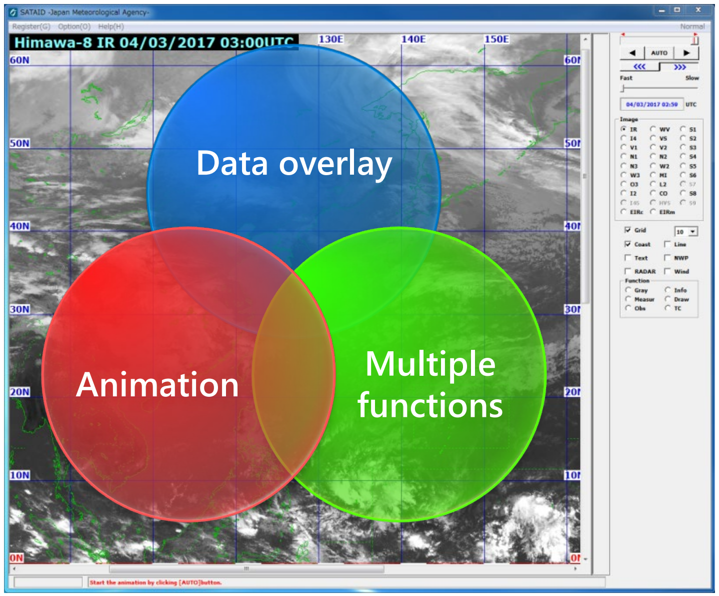
Website of
SATAID Service provided by DCPCs of JMA.

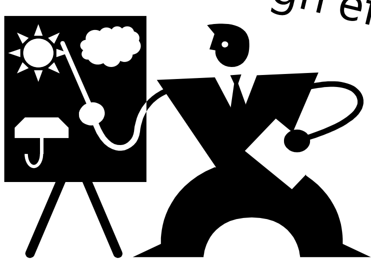


https://www.wis-jma.go.jp/cms/sataid/

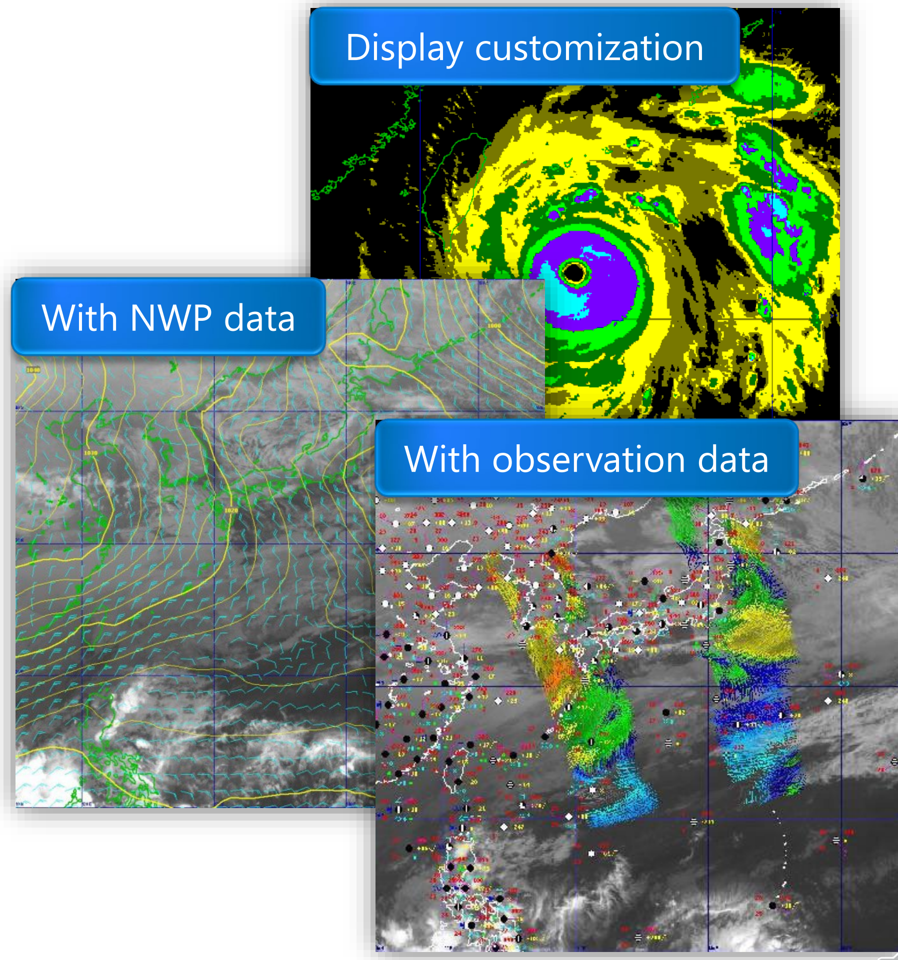
What is SATAID?

SATAID (**SAT**ellite **A**nimation and **I**nteractive **D**iagnosis) is a sophisticated display program that enables visualization of meteorological information in multiple spatial and temporal dimensions.
This helps forecasters to continually analyze and monitor weather parameters and phenomena for improved meteorological services.





High efficiency and accuracy!

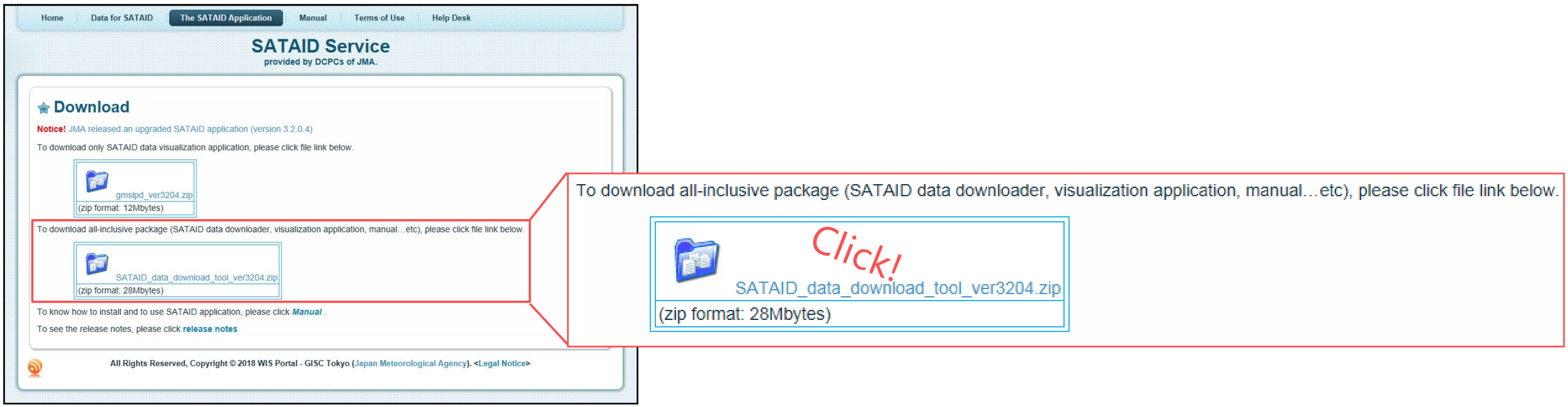


Contents

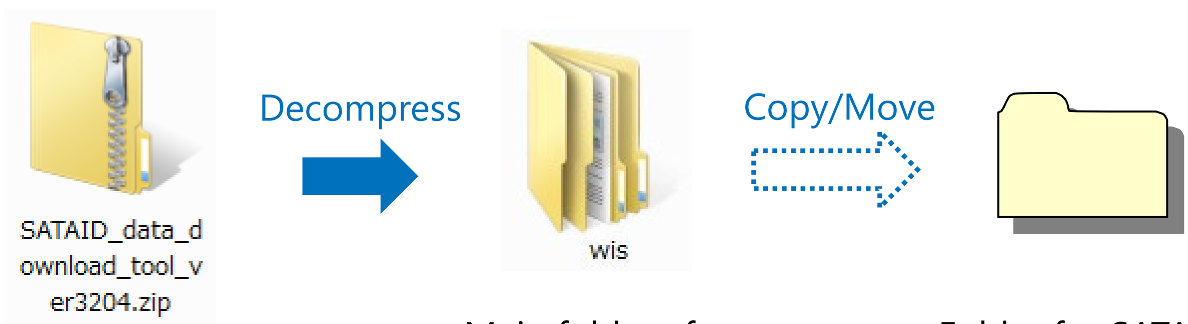
1. Installing SATAID and Downloading Data

Installing SATAID

1. Download **SATAID_data_download_tool_ver3301.zip** from the SATAID Service website
   https://www.wis-jma.go.jp/cms/sataid/download.html



2. Decompress the zip file and copy/move the folder to the desired location.



Zip file

Main folder after decompression

Folder for SATAID

Downloading Data Using WIS Downloader

Download and install SATAID

If you already have the “WIS.ini” file, it can be made readable by putting it in the wis folder before STEP 1 below.

*The file should be backed up, as it will be overwritten when a new initial file is made using “MakaIniFile.hta”.

STEP 1: Make the “WIS.ini” file using “MakeIniFile.hta”.

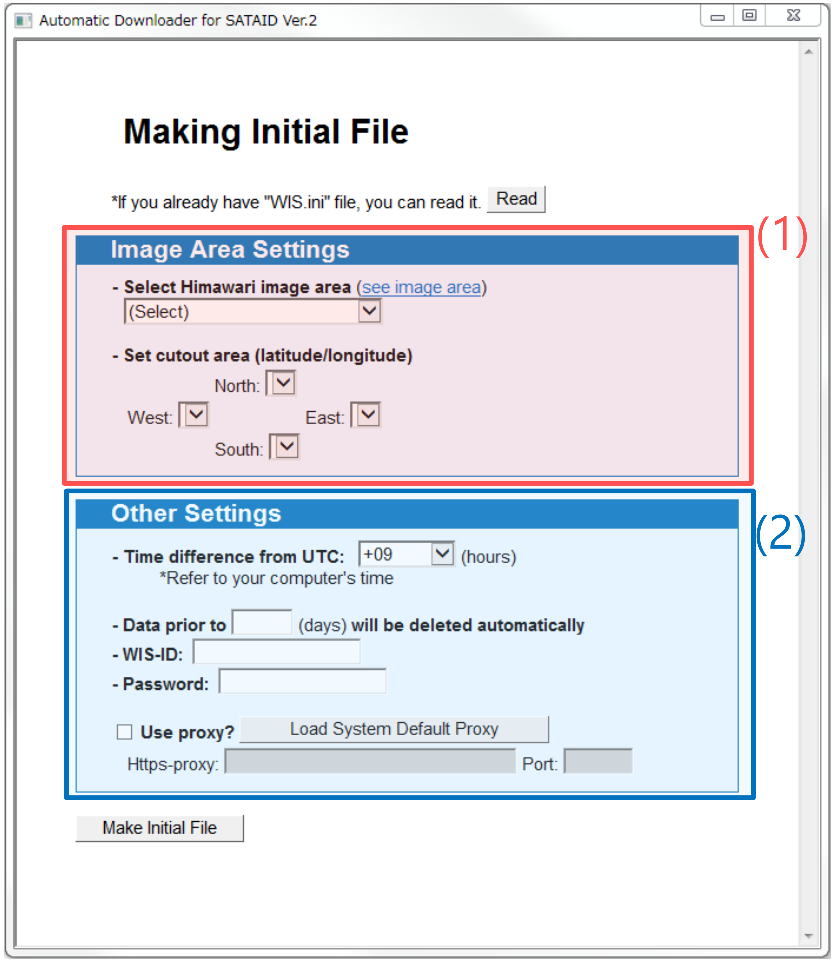
STEP 2: Download the data and activate the SATAID application using “Sataid_Loop_V2.hta”.

Start SATAID.
(Automatic activation)

1. Make an initial file for WIS Downloader.

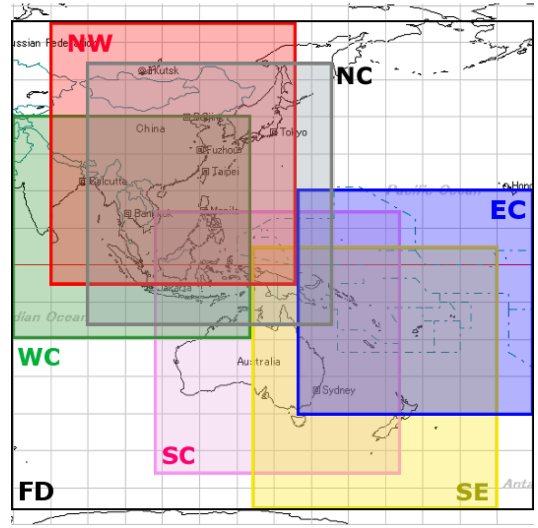
* If you already have the "WIS.ini" file, it can be made readable by clicking Read button.

"MakeIniFile.hta" file



(1) Image Area Settings

- ✓ Select Himawari image area
- ✓ Select cutout area using Lat/Lon



(2) Other Settings

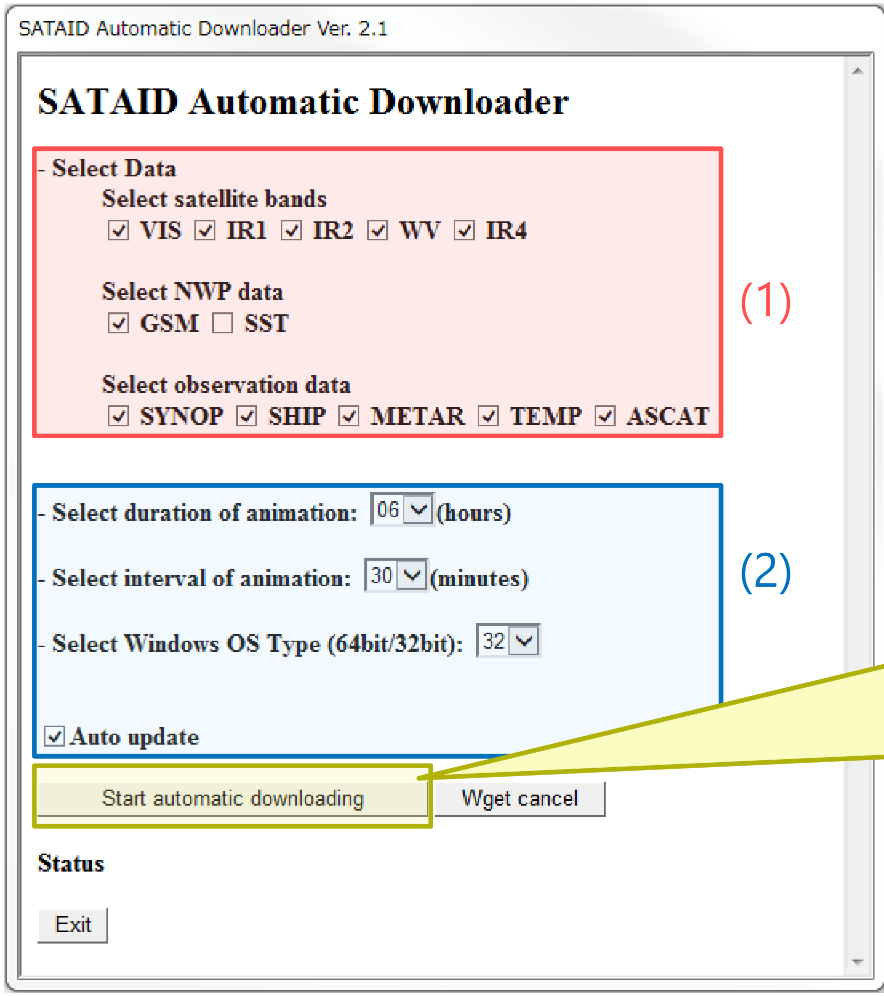
- ✓ Time difference from UTC
- ✓ Time of file deletion
- ✓ WIS ID, Password
- ✓ Proxy

Downloading Data Using WIS Downloader

2. Download data from the WIS server.

* Close SATAID (GMSLPD) before using the SATAID Automatic Downloader.

"Sataid_Loop_V2.hta" file



(1) Select Data.

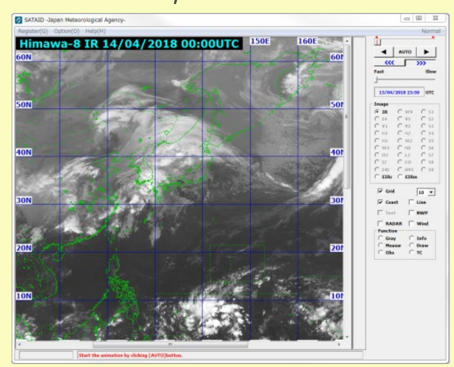
- ✓ Himawari-8 bands
- ✓ NWP data
- ✓ Other observation data

(2) Set up details.

- ✓ Animation duration
- ✓ Interval between animation frames*
- ✓ OS type (32/64bit)
- ✓ Auto-update function

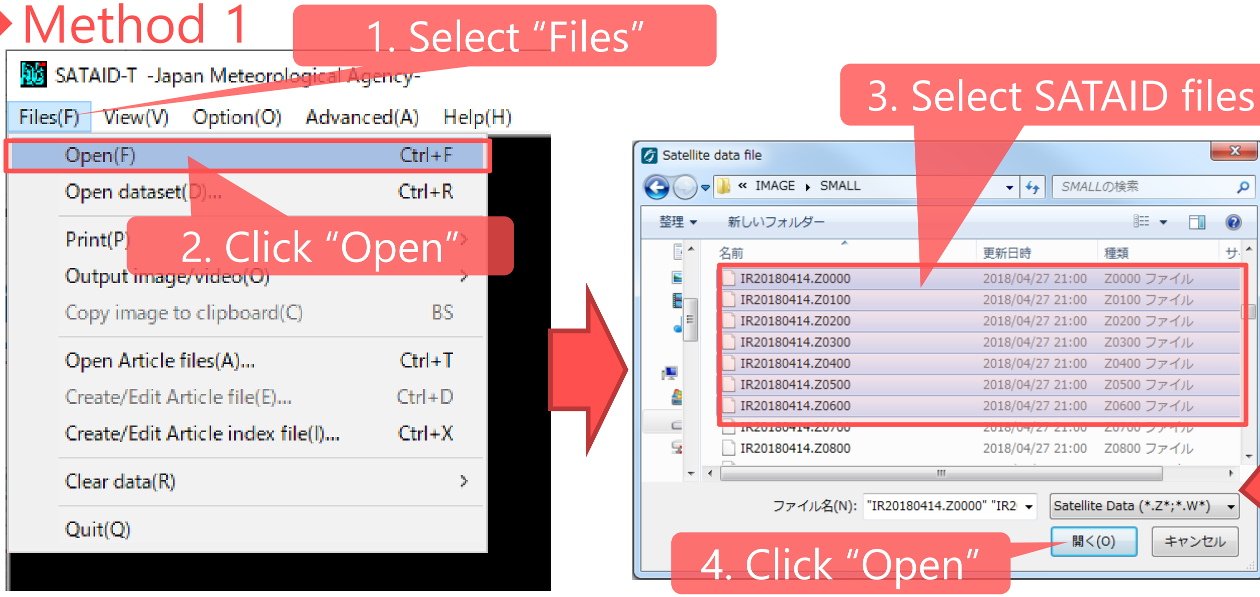
* Depending on PC memory capacity, a short animation may need to be specified if 10-min intervals are selected.

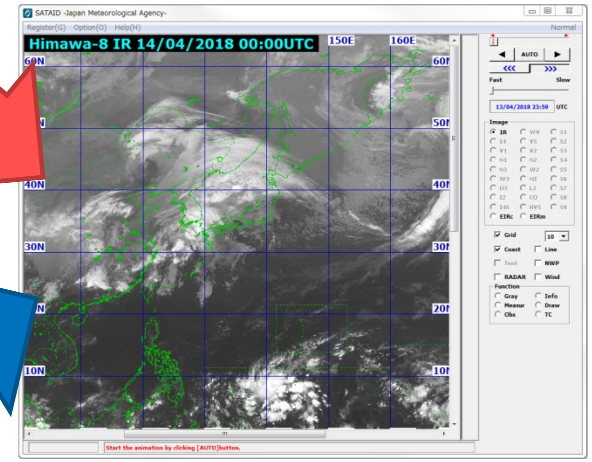
After the data download, SATAID will start automatically.



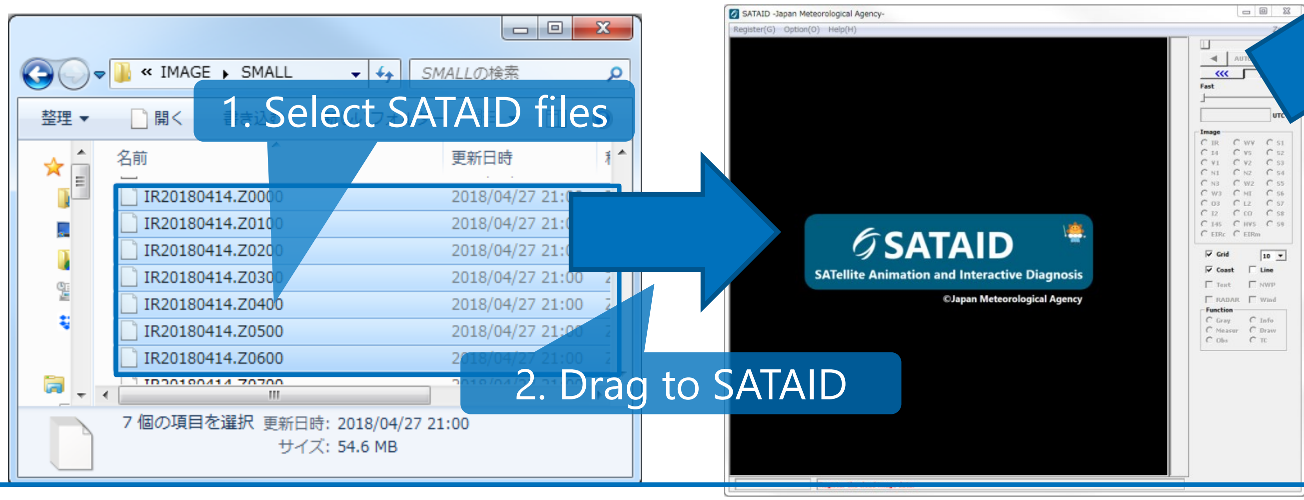
Opening SATAID Files

◆ Method 1

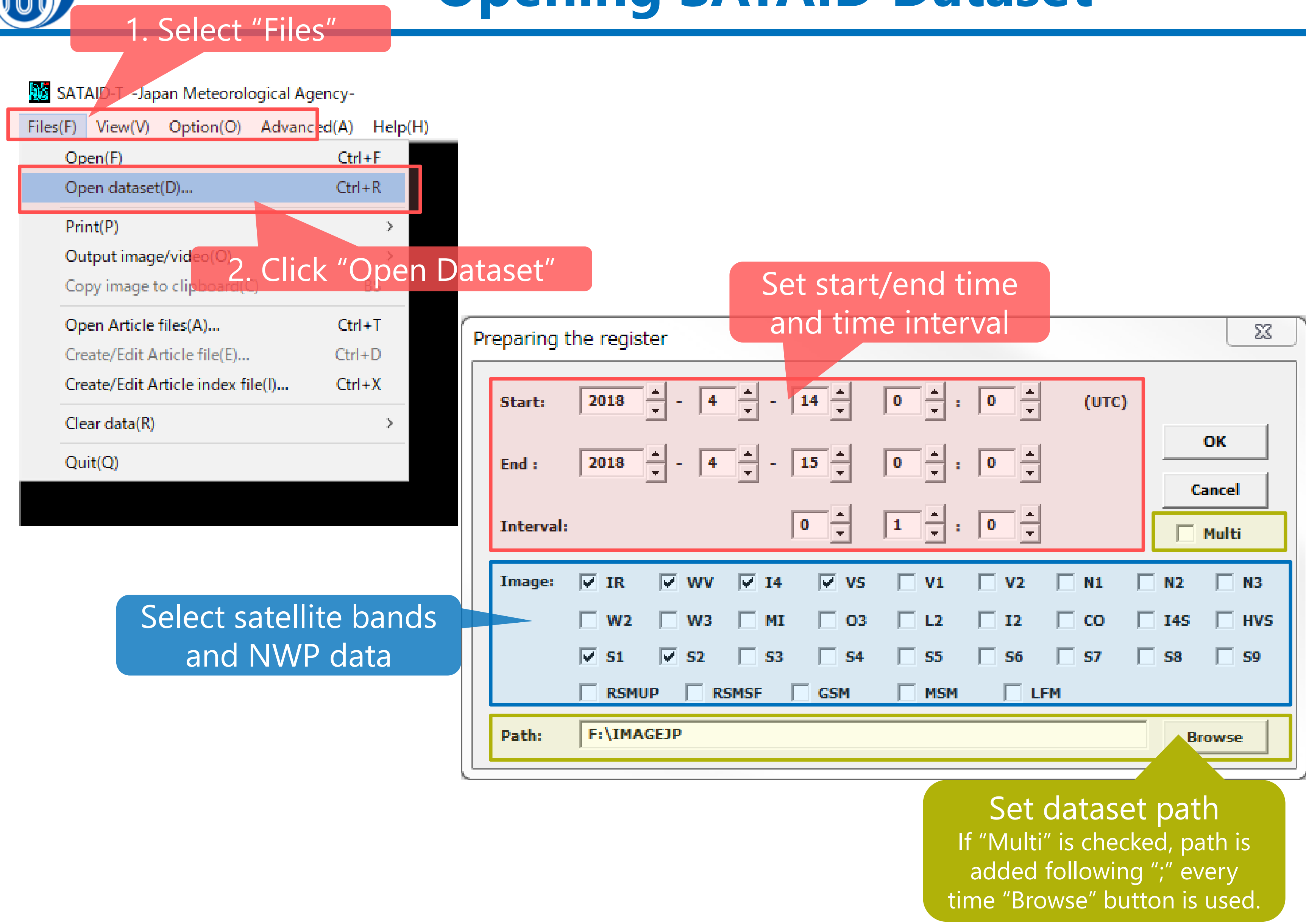




◆ Method 2

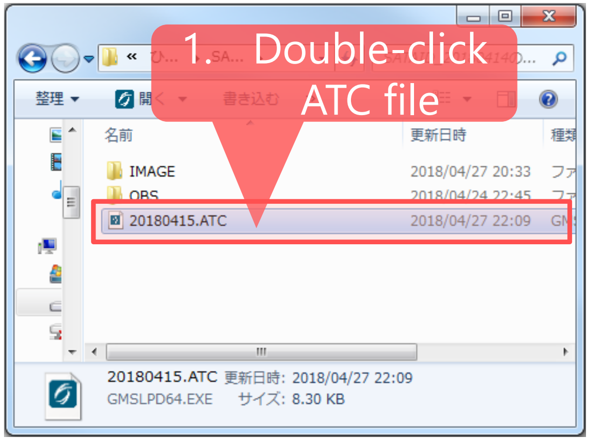


Opening SATAID Dataset

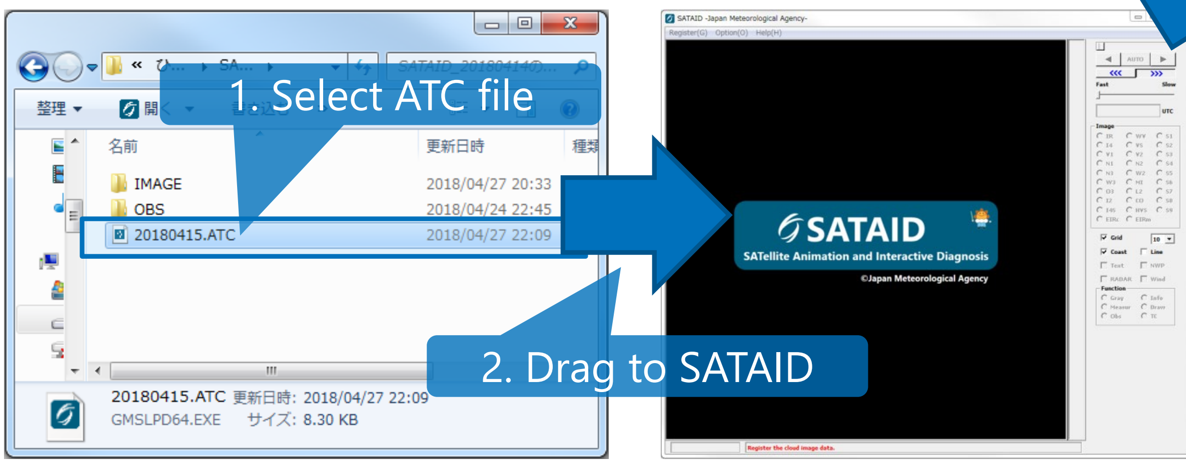


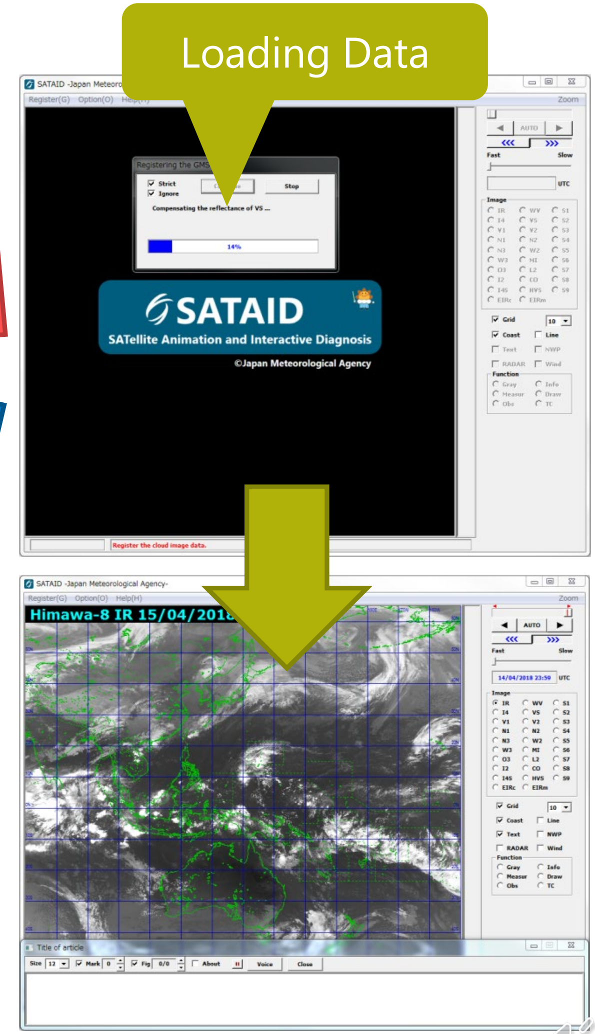
Opening SATAID Article (ATC) File

◆Method 1



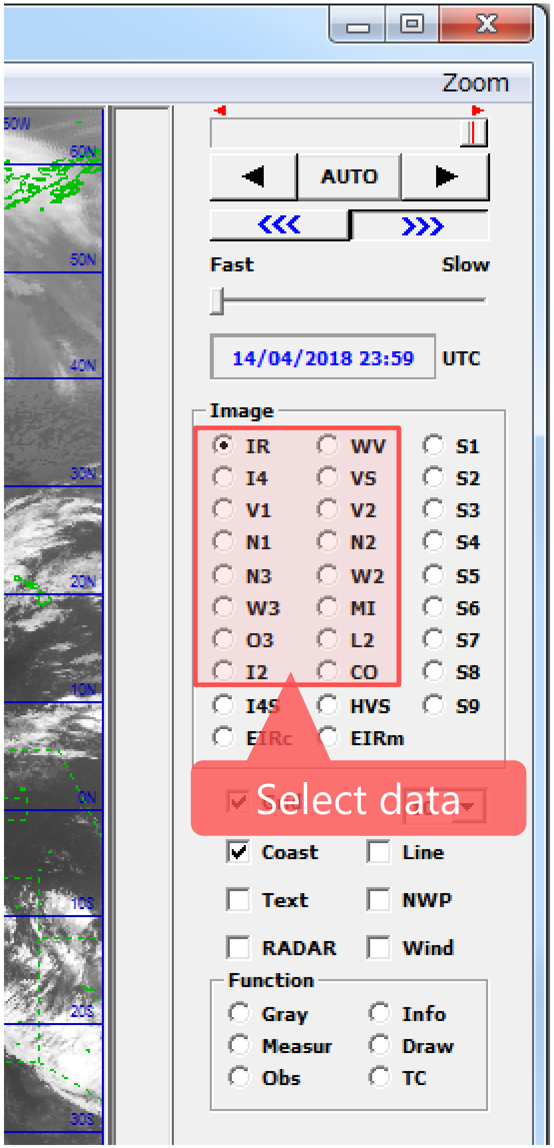
◆Method 2





2. Controlling and Displaying Satellite Images

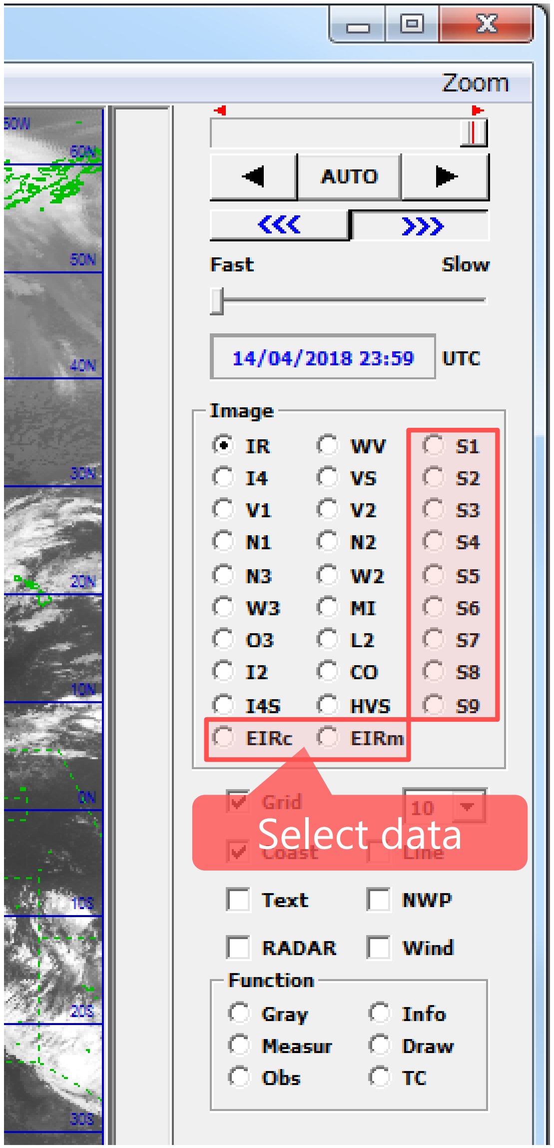
Selecting Satellite Images



Band		Wavelength [μm]	Himawari Cloud*	Himawari Cast*	WIS*
V1	Visible	0.46	○ (1 km)		
V2		0.51	○ (1 km)		
VS		0.64	○ (0.5 km)	○ (1 km)	○ (4 km)
N1	Near Infrared	0.86	○ (1 km)	○ (4 km)	
N2		1.6	○ (2 km)	○ (4 km)	
N3		2.3	○ (2 km)	○ (4 km)	
I4	Infrared	3.9	○ (2 km)	○ (2 or 4 km)	○ (4 km)
WV		6.2	○ (2 km)	○ (4 km)	○ (4 km)
W2		7.0	○ (2 km)	○ (4 km)	
W3		7.3	○ (2 km)	○ (4 km)	
MI		8.6	○ (2 km)	○ (4 km)	
O3		9.6	○ (2 km)	○ (4 km)	
IR		10.4	○ (2 km)	○ (4 km)	○ (4 km)
L2		11.2	○ (2 km)	○ (4 km)	
I2		12.3	○ (2 km)	○ (4 km)	○ (4 km)
CO		13.3	○ (2 km)	○ (4 km)	

*(): spatial resolution

Selecting Satellite Images



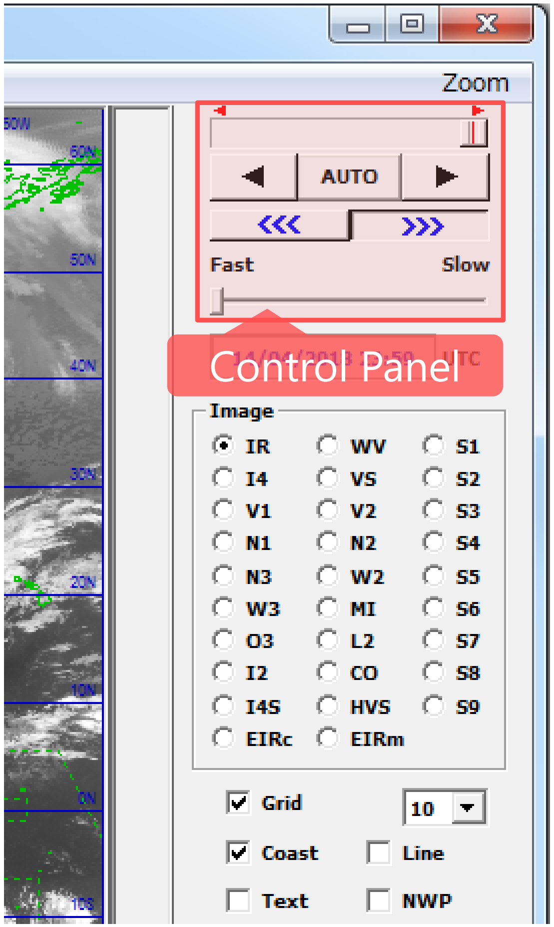
◆Differential Images

- S1: Differential images 1 (IR – I2)
- S2: Differential images 2 (I4 – IR)
- S3: Differential images 3 (IR-WV)
- etc…

◆Enhanced Images

- EIRc: Colored enhanced infrared images
- EIRm: Monochrome enhanced infrared images

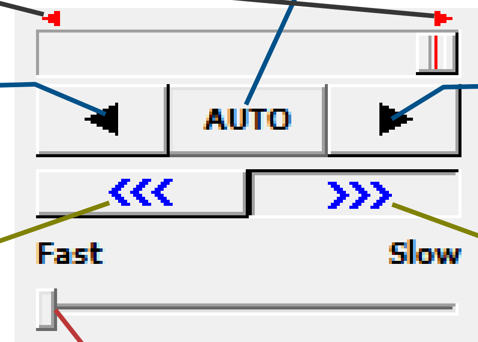
Controlling animation



Drag to change animation duration (first/last image).

Start/Stop Animation.

or Space



Display previous image.

or ←

Display next image.

or →

Play in reverse sequence.

or ←

Play in normal sequence.

or →

Adjust animation speed.

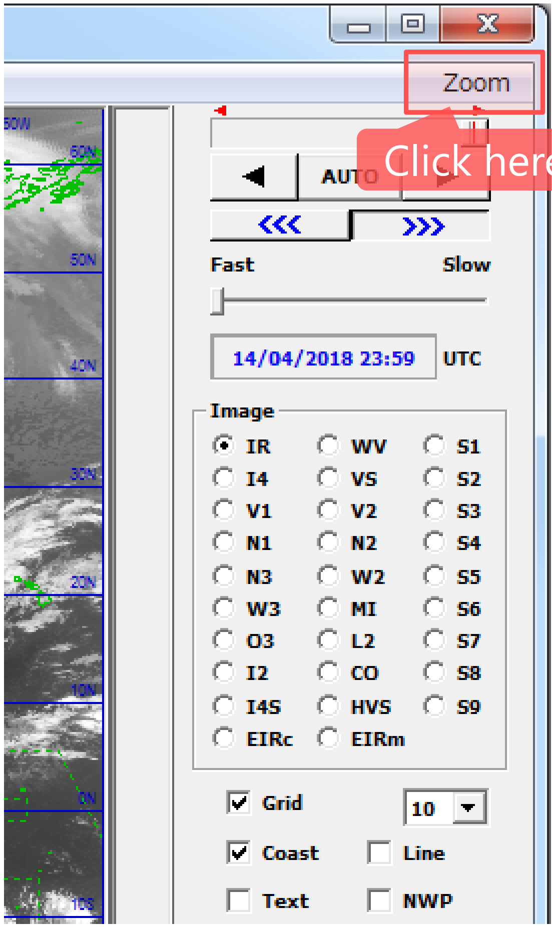
or ↑ ↓

Tips

"Ctrl" + ◀ or ▶

: Specify current image as the first/last image of animation.

Zooming In/Out



◆ Method 1

- **Display enlarged area.**
  Click [Zoom] button and drag area.
- **Return to whole image.**
  Click [Normal] button.

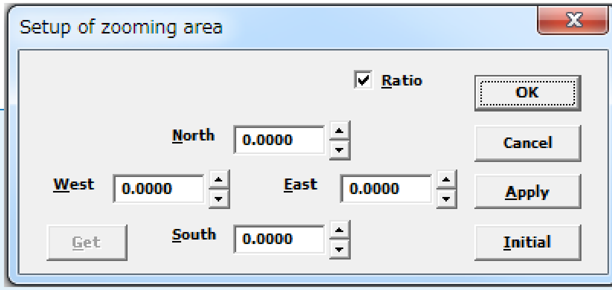
◆ Method 2

- **Zoom in:** Ctrl + Shift + **Left-Click**
- **Zoom out:** Ctrl + Shift + **Right-Click**

Tips

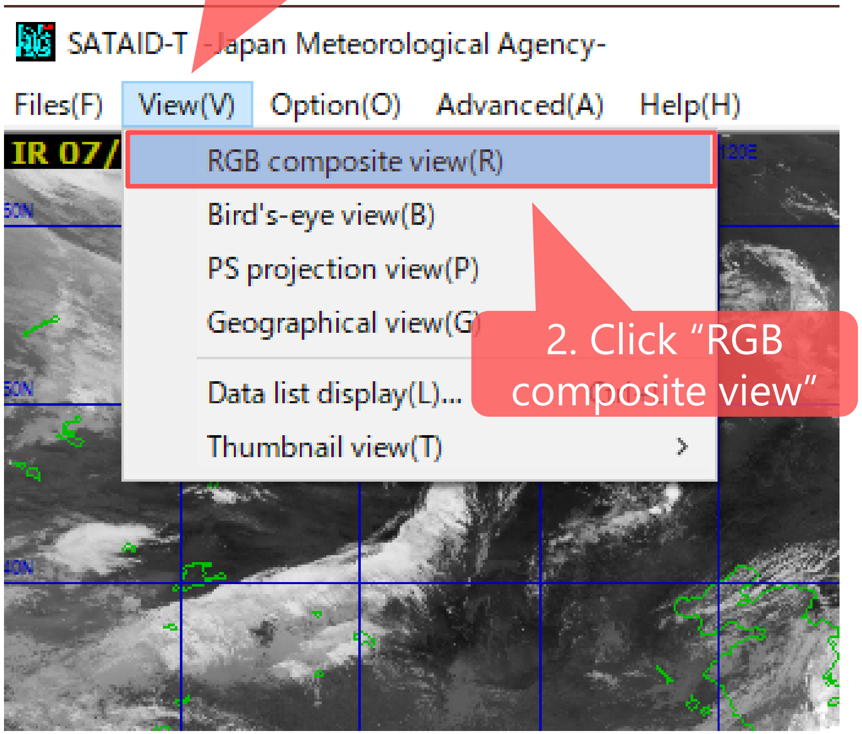
Areas can be digitally designated with longitude/latitude information.

Ctrl + Shift + [Zoom]

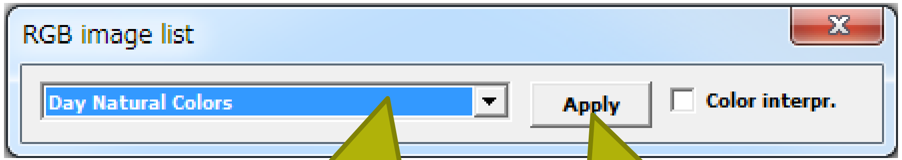


Displaying RGB Images

1. Select "View"

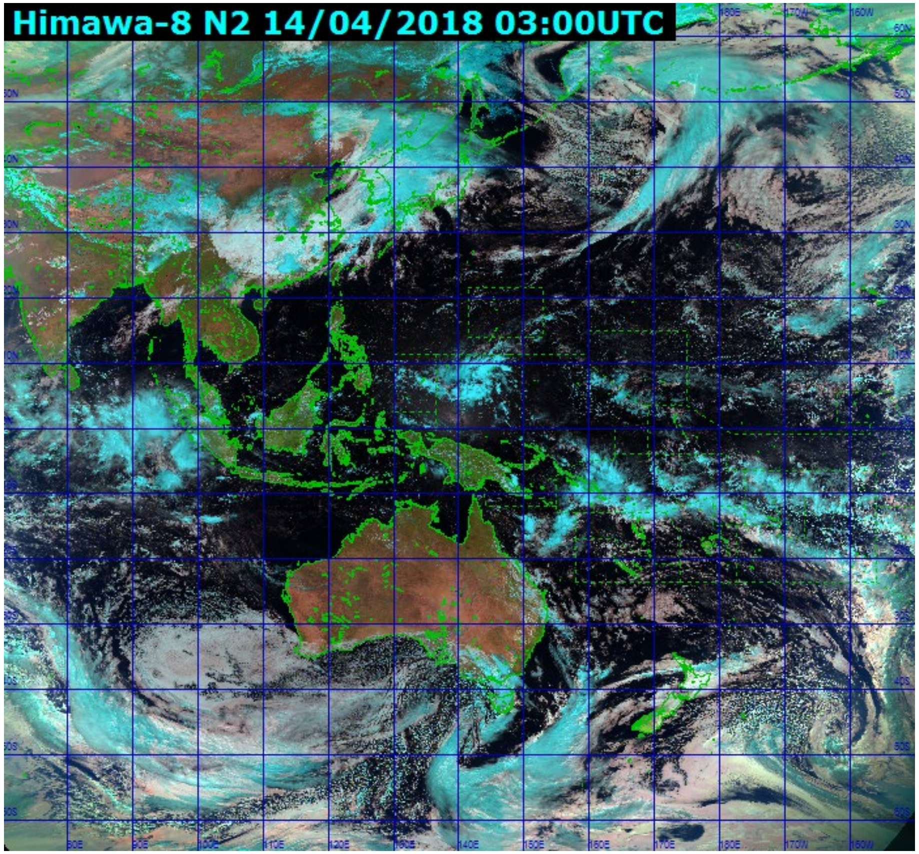


2. Click "RGB composite view"

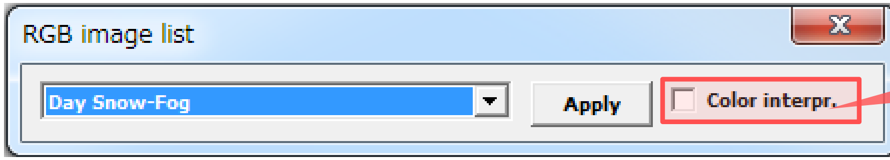


3. Select RGB image

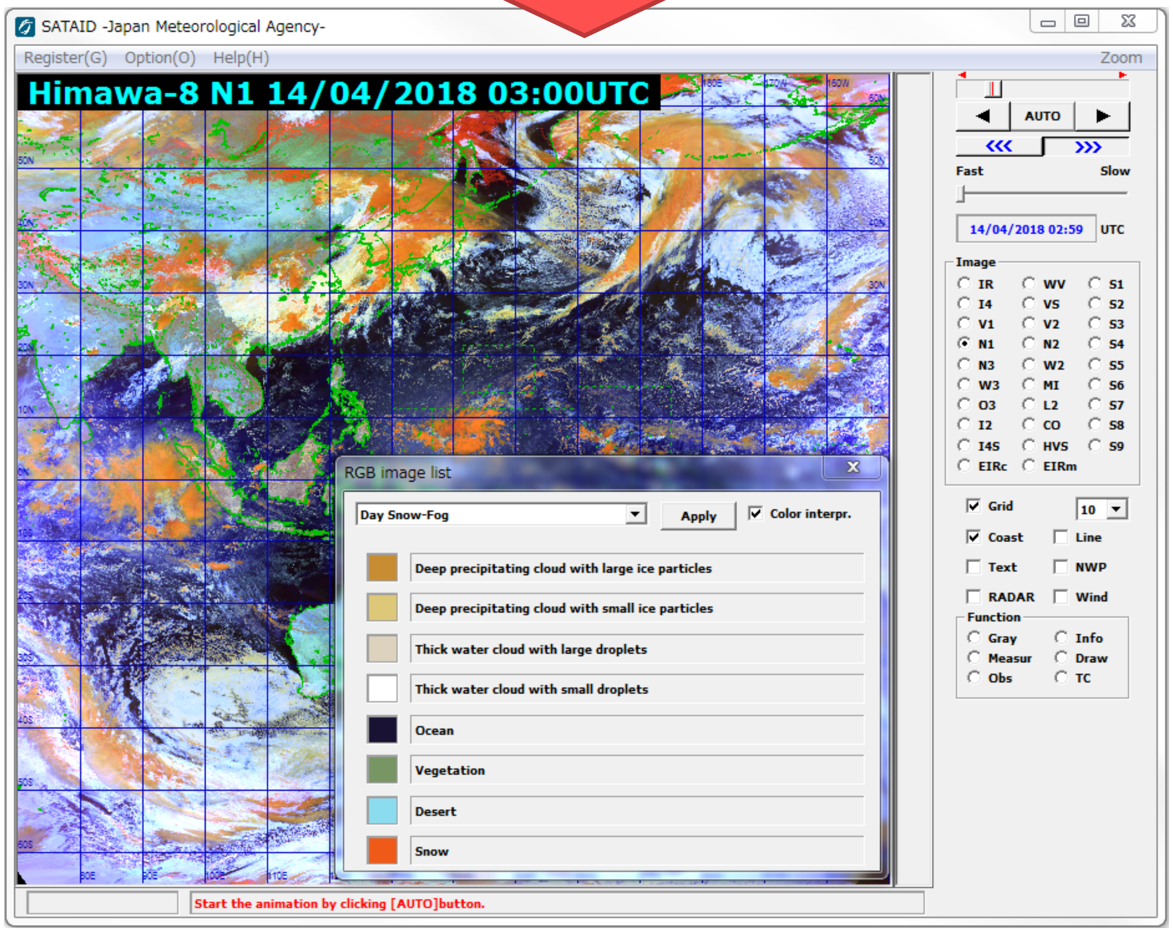
4. Click "Apply" to display



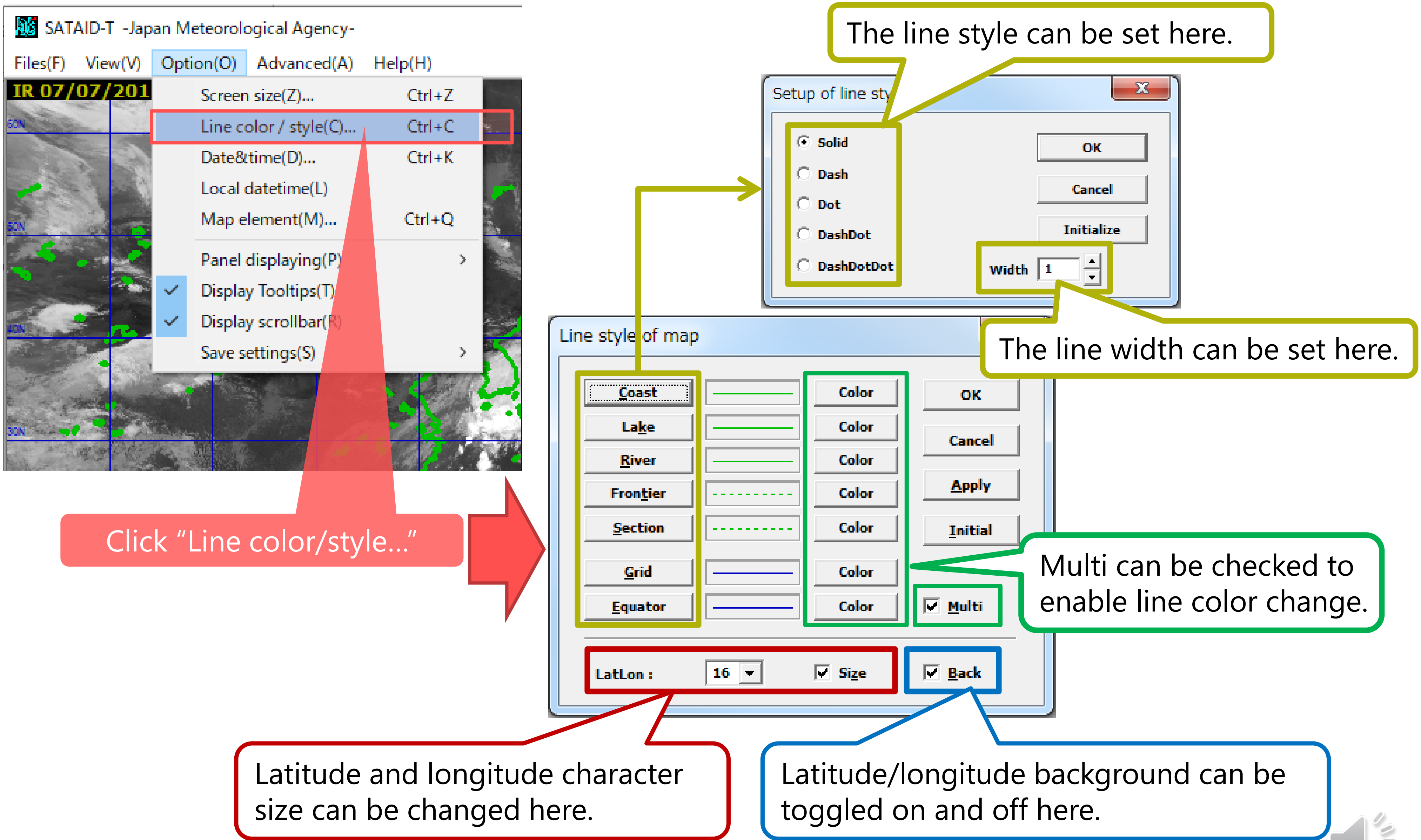
Displaying color legends



Activate this checkbox.

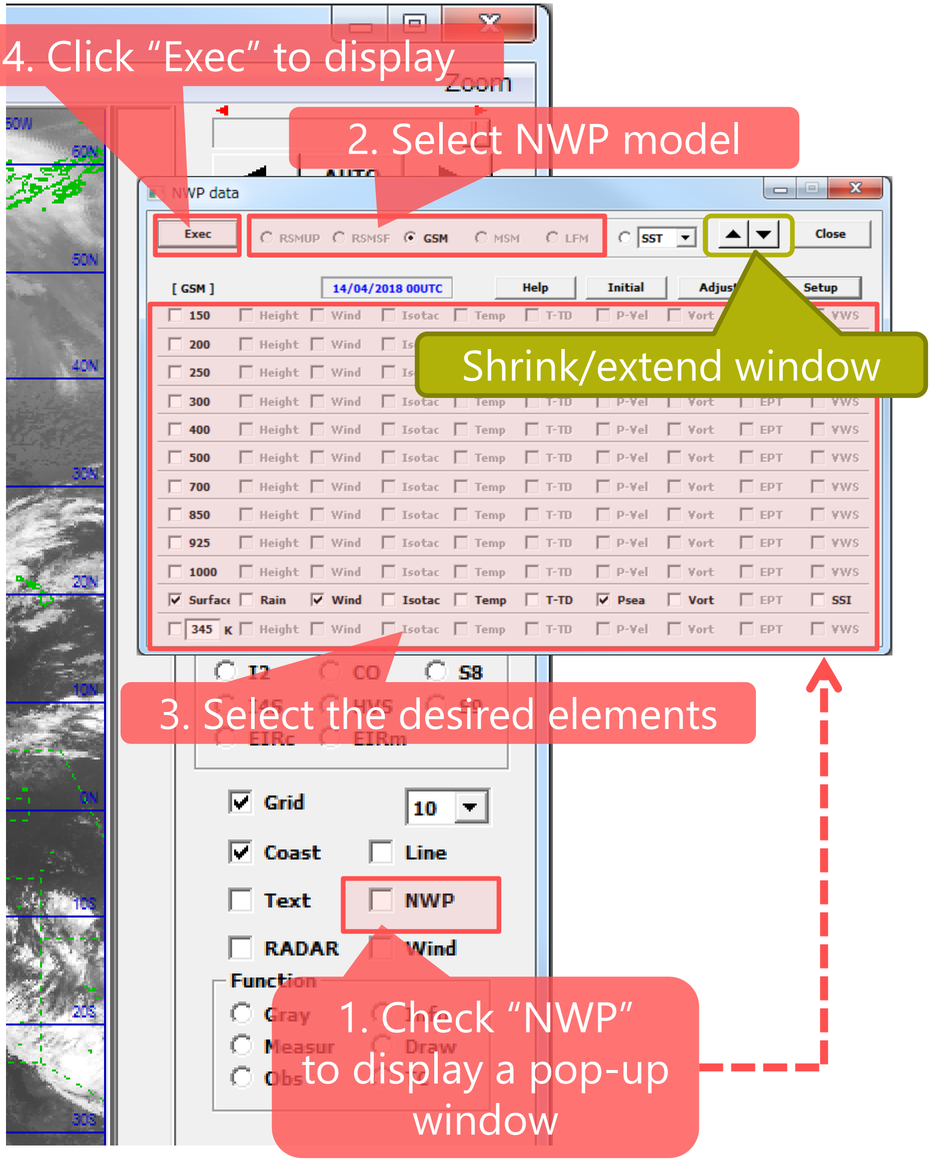


Changing Line Style



3.Displaying NWP Data

Displaying NWP data



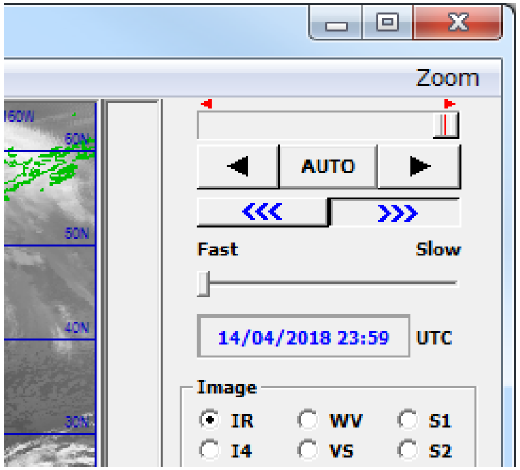
Available NWP data

Symbol	Content	Unit
Height	Altitude	gpm
Wind	Wind barb	kt
Isotac	Isotach	kt
Temp	Air temperature	℃
T-TD	Dew-point depression	℃
P-Vel	Vertical p-velocity	hPa/h
Vort	Relative vorticity	10^{-6}/s
EPT	Equivalent potential temperature	K
VWS	Vertical wind shear	kt/1000ft
Rain	Precipitation (3 hours)	mm/3h
Psea	Sea level pressure	hPa
SSI	Showalter stability index	℃
RH	Relative humidity	%
Div	Horizontal divergency	10^{-6}/s
POT	Potential temperature	K
RiN	Richardson number	–
CAPE	Convective available potential energy	J/kg
PV	Potential vorticity	0.1PVU
Avor	Absolute vorticity	10^{-6}/s
Advc	Temperature advection	10^{-6}/s/h
Vadv	Relative vorticity advection	0.1℃/h
SH	Specific humidity	0/1g/kg
EXT	Extra element (diff. between levels)	undefined

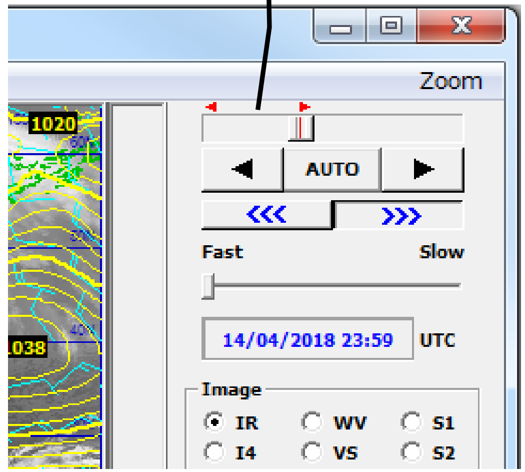
Displaying Forecast Values

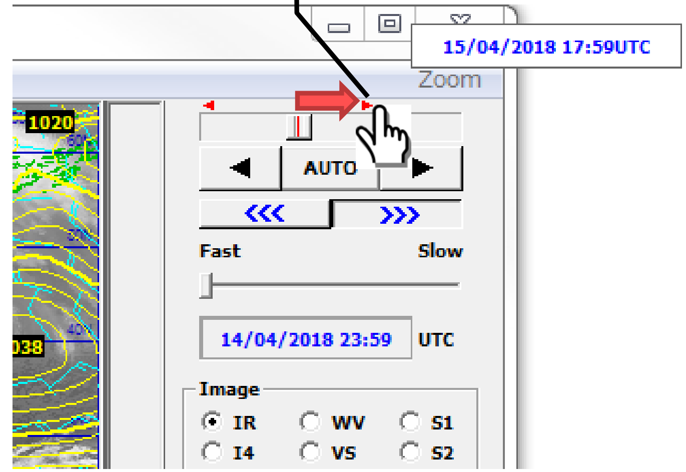
The space between the red arrows becomes shorter.

Drag the red arrow to the right to select the forecast time.



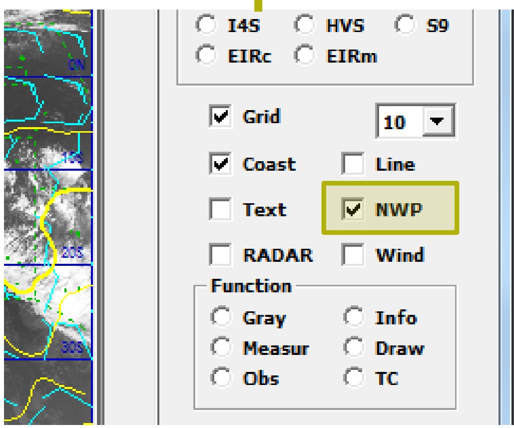
Open NWP menu.

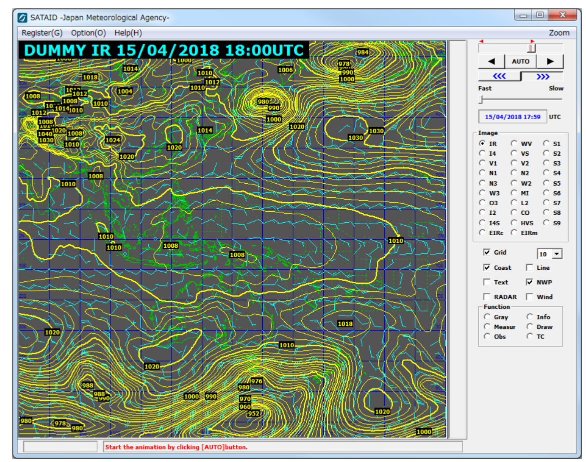




Before

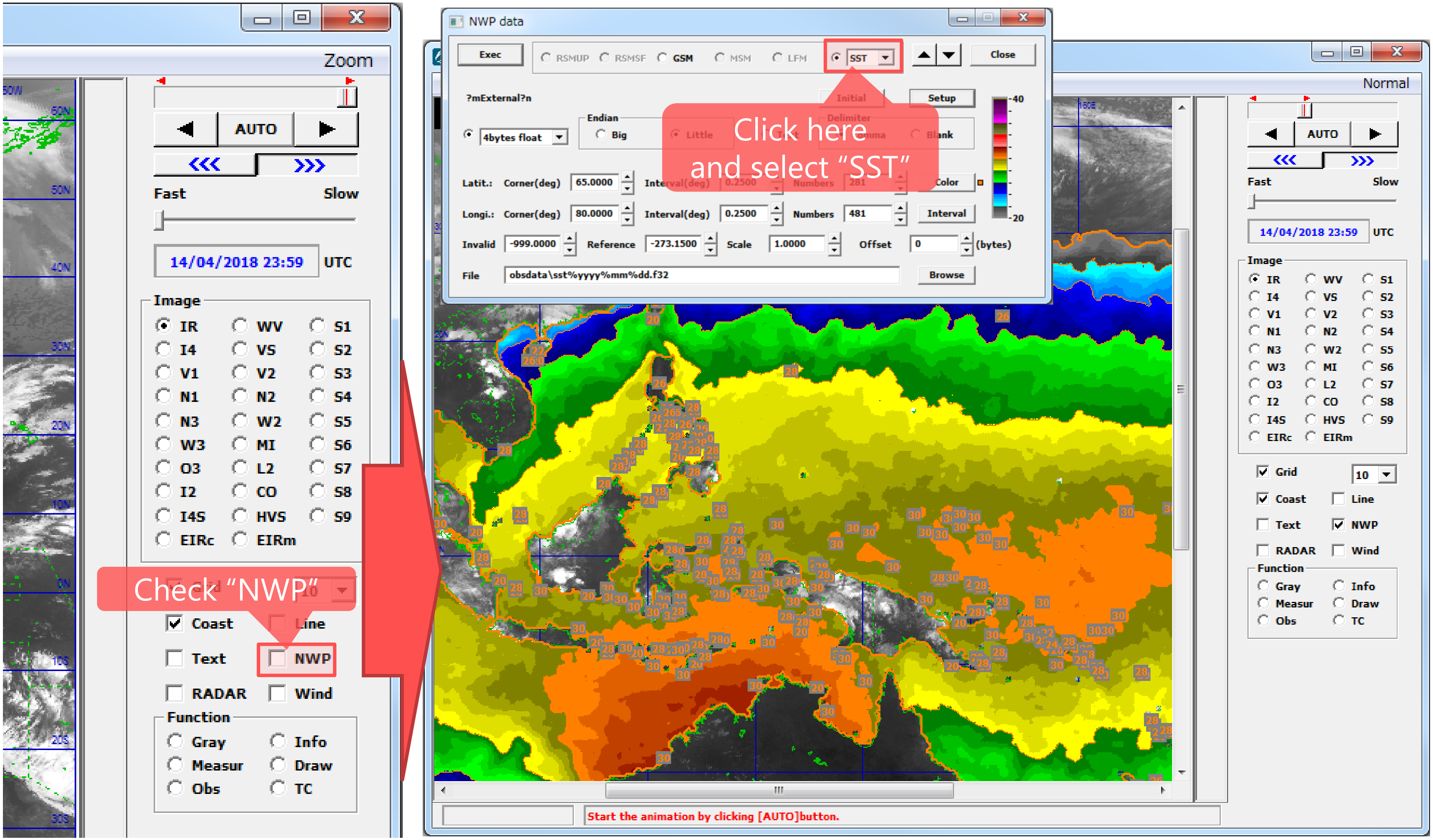
After





Satellite images are not shown while forecast time data are being displayed.

Displaying SST data

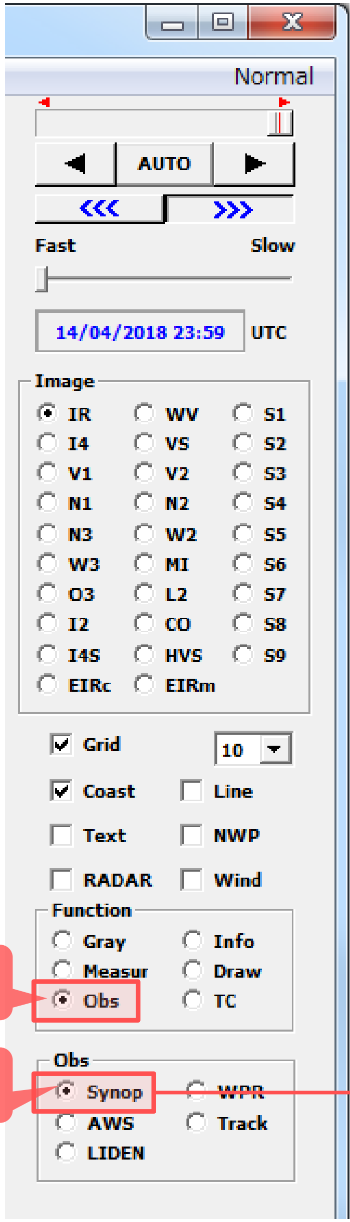


4. Displaying Observation Data

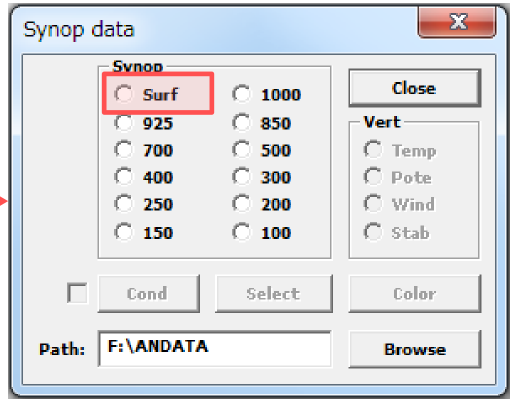
Displaying SYNOP/SHIP/TEMP Data

1

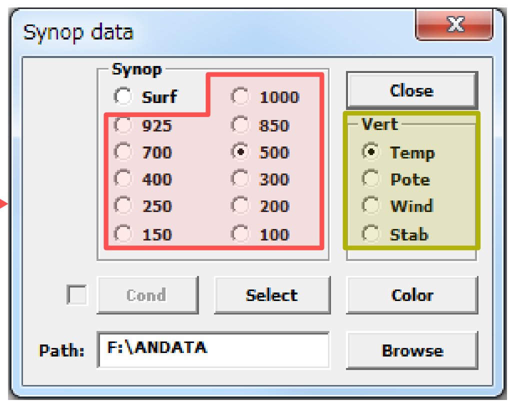
2



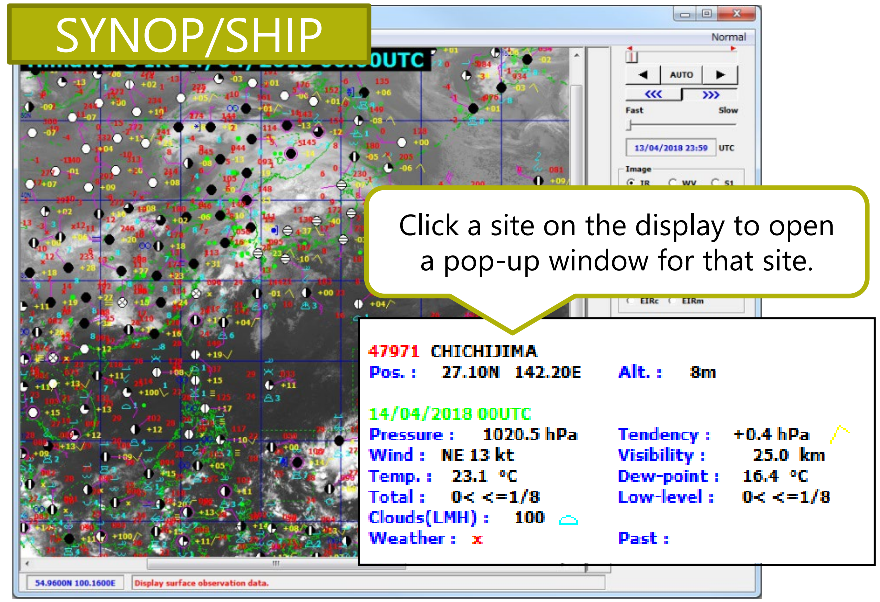
Select Surf.



Select a figure
between 1,000 and 100.

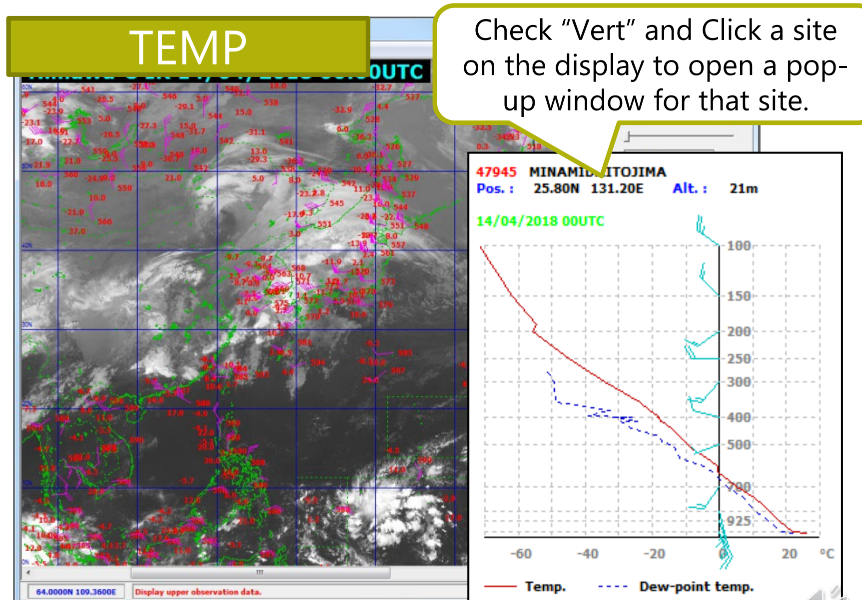


SYNOP/SHIP



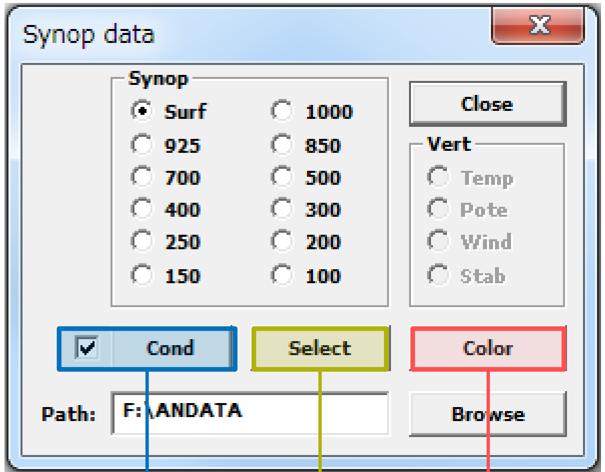
Click a site on the display to open a pop-up window for that site.

TEMP



Check “Vert” and Click a site on the display to open a pop-up window for that site.

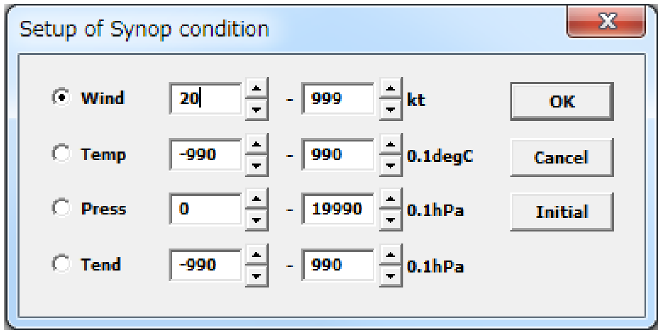
Displaying SYNOP/SHIP/TEMP Data

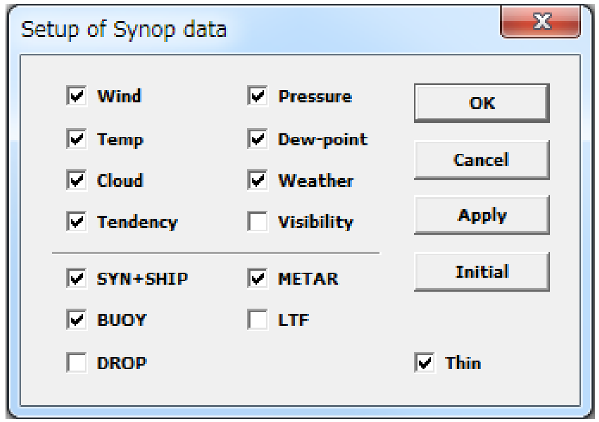


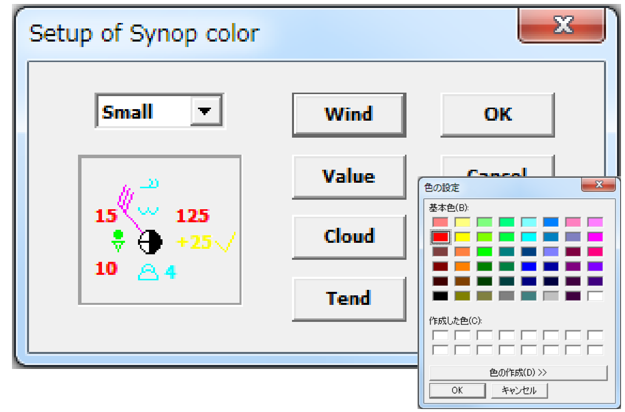
Set data display thresholds.

Select elements to be displayed

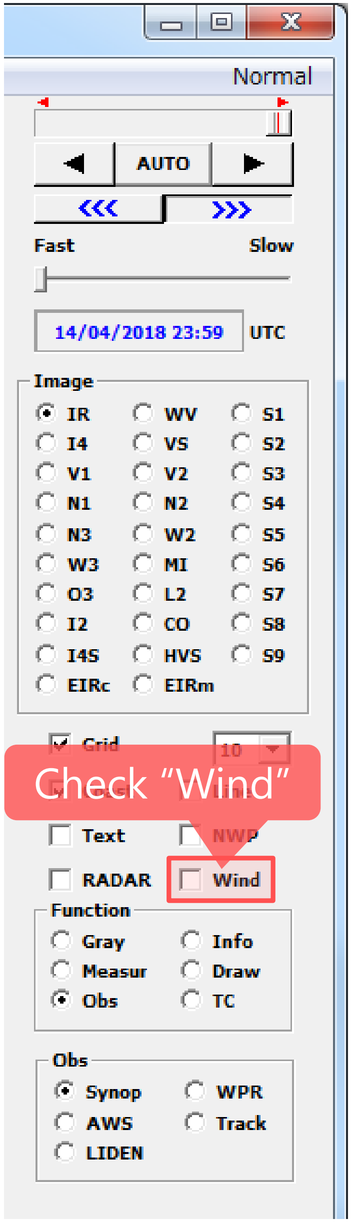
Set symbol size/color.



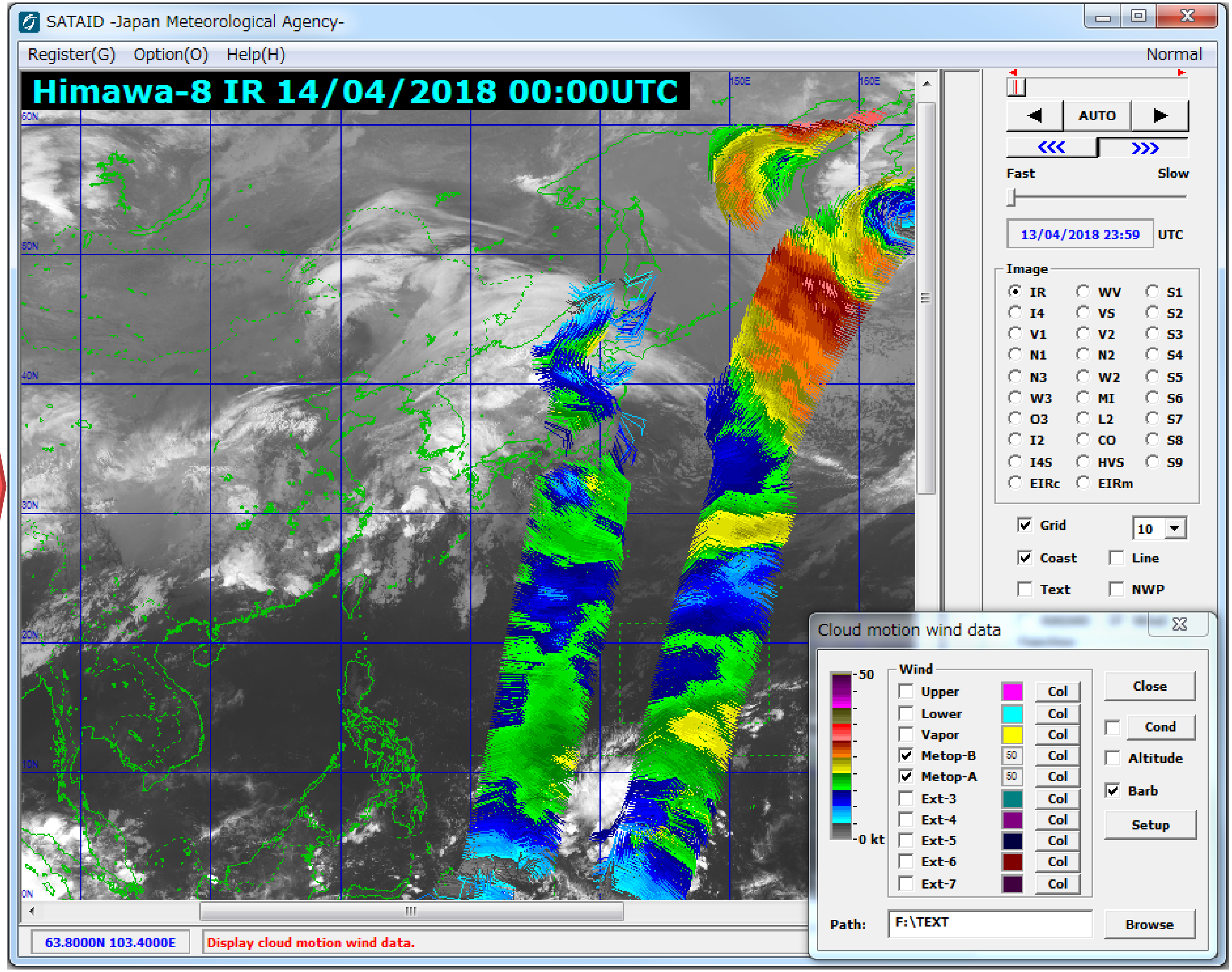




Displaying ASCAT Data

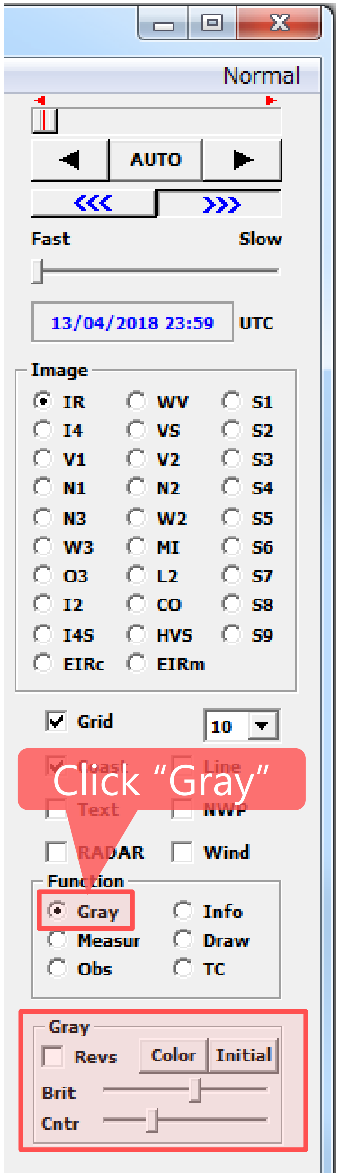


Check "Wind"

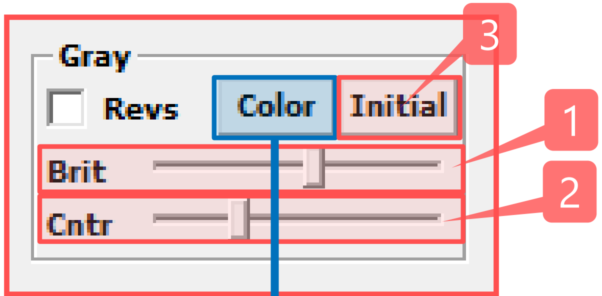


5. Customizing Display

Adjusting Gradation and Enhancing Color



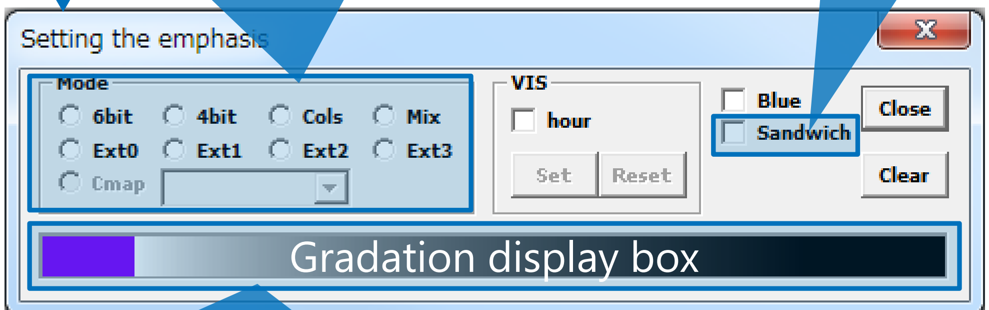
Click “Gray”

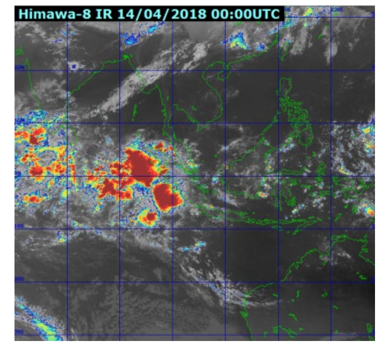


1. Adjust brightness.
2. Change contrast.
3. Reset grayscale.

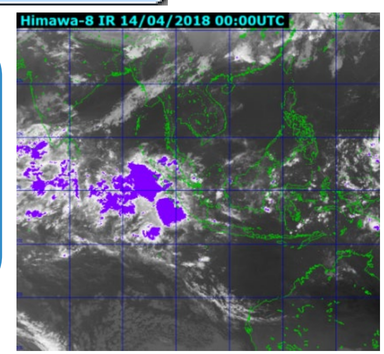
Check “Sandwich” to display sandwich image.

Select a radio button to change the grayscale setting.

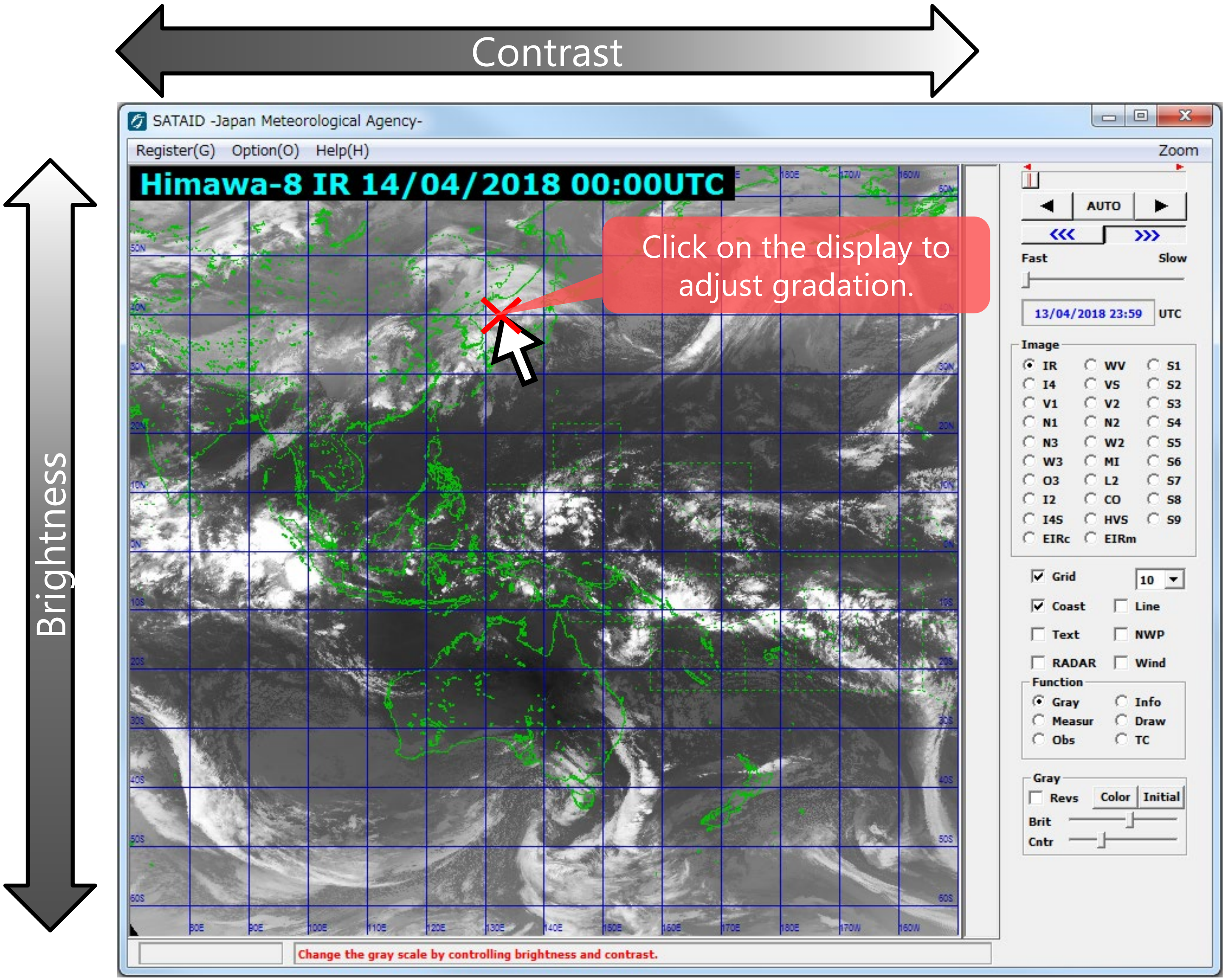




- To select a range to be emphasized:
  Click on two arbitrary points
- To clear the range to be emphasized:
  Right-click on the first point and left-click on the second.

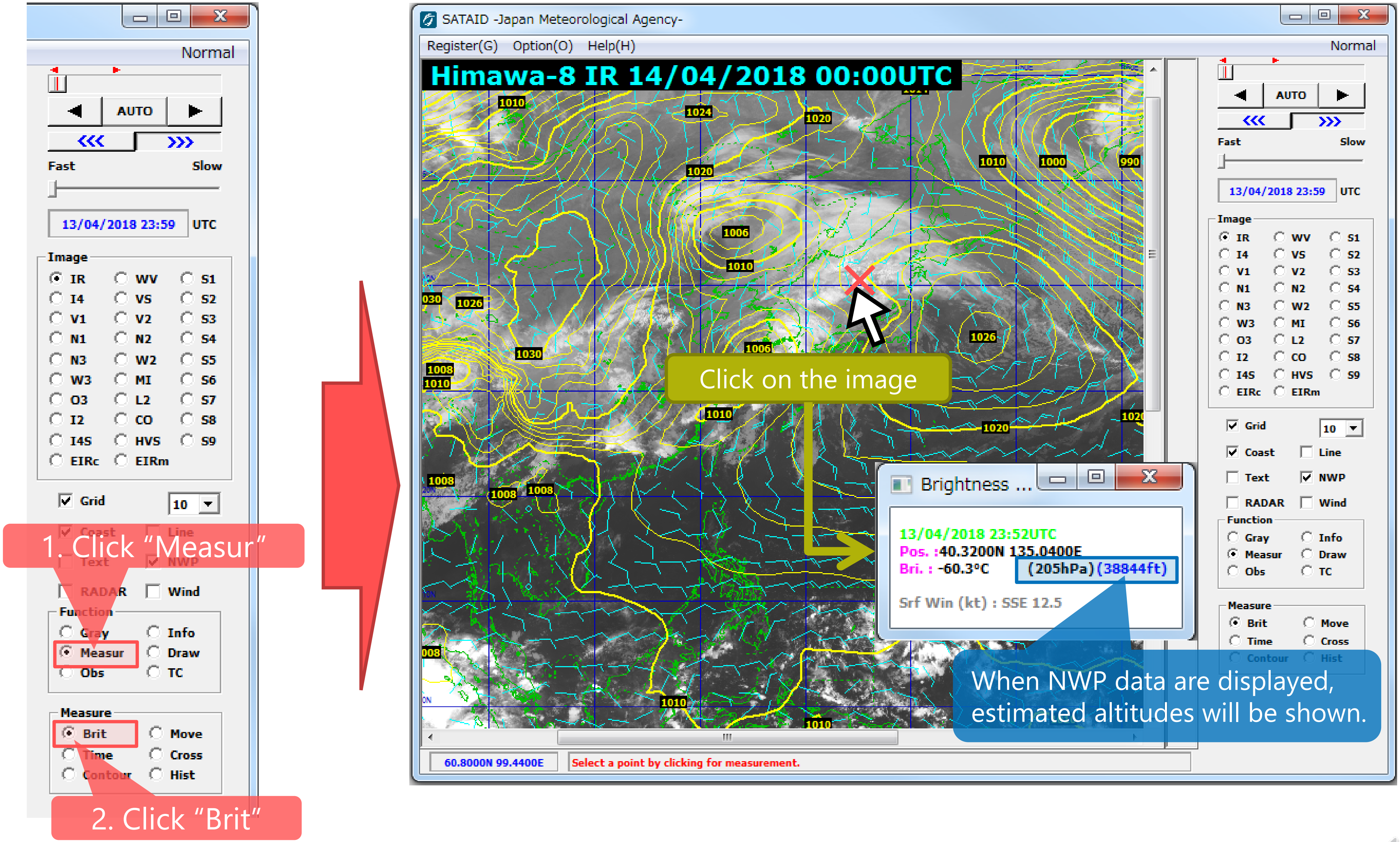


Adjusting Gradation

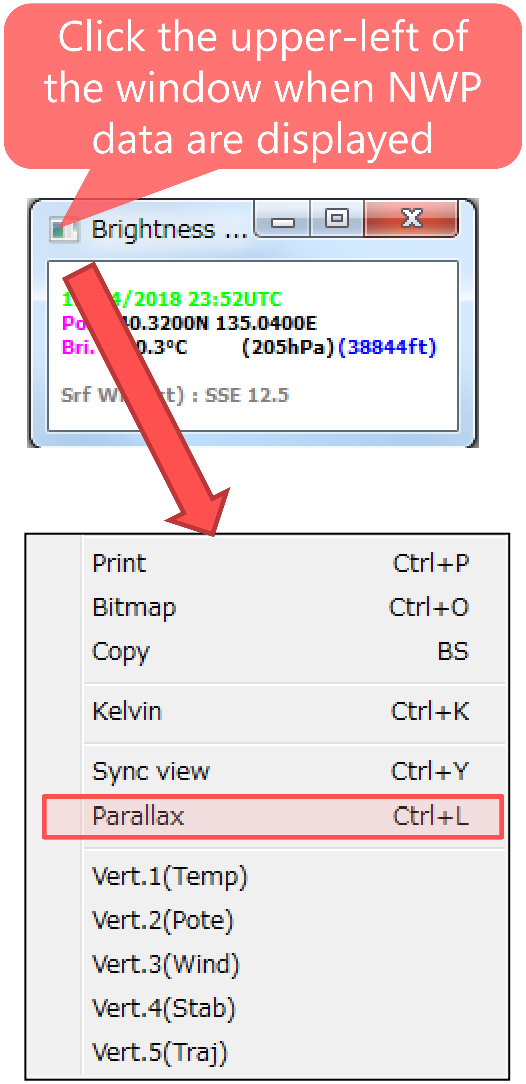


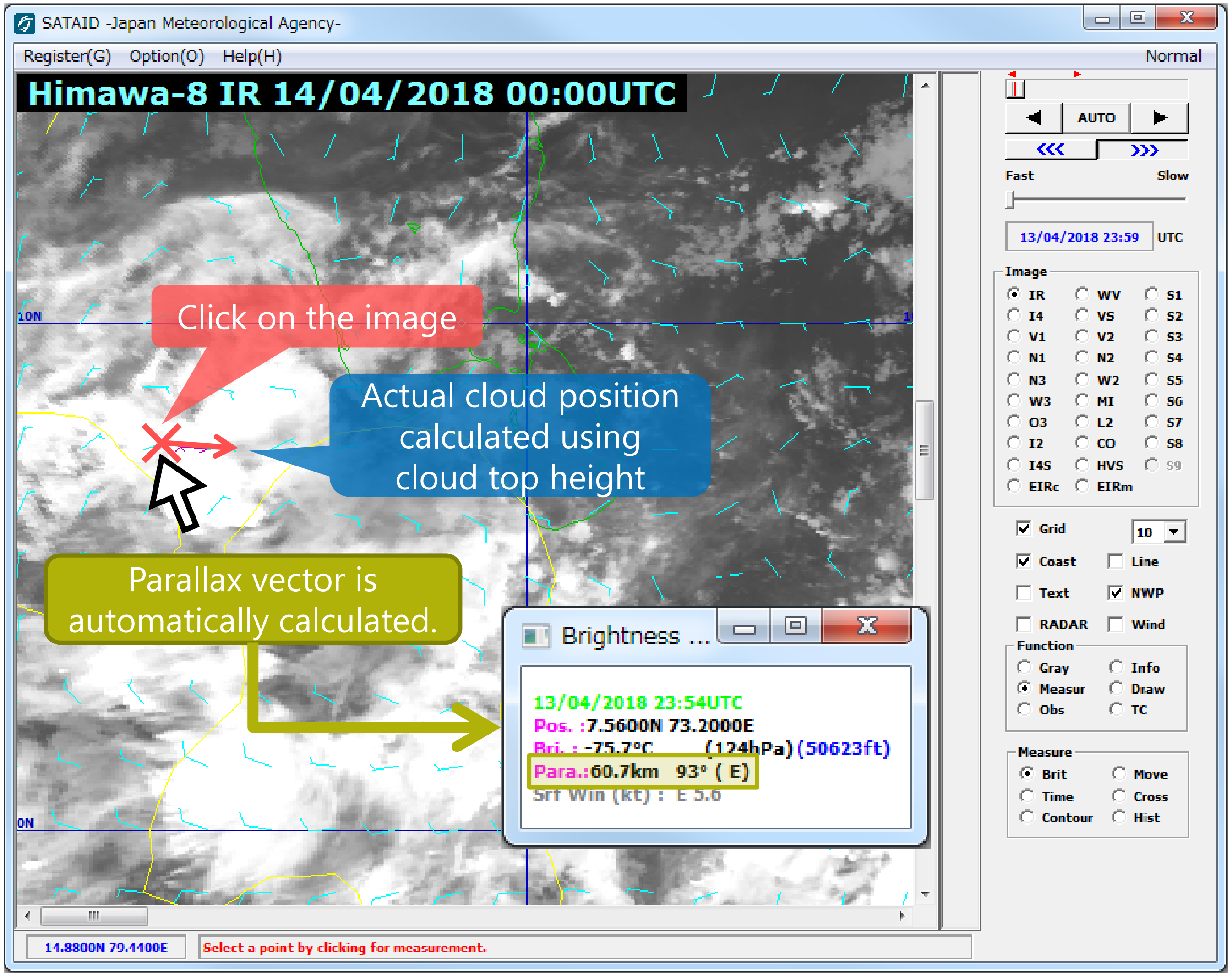
6. Data Evaluation

Evaluation of brightness temperature

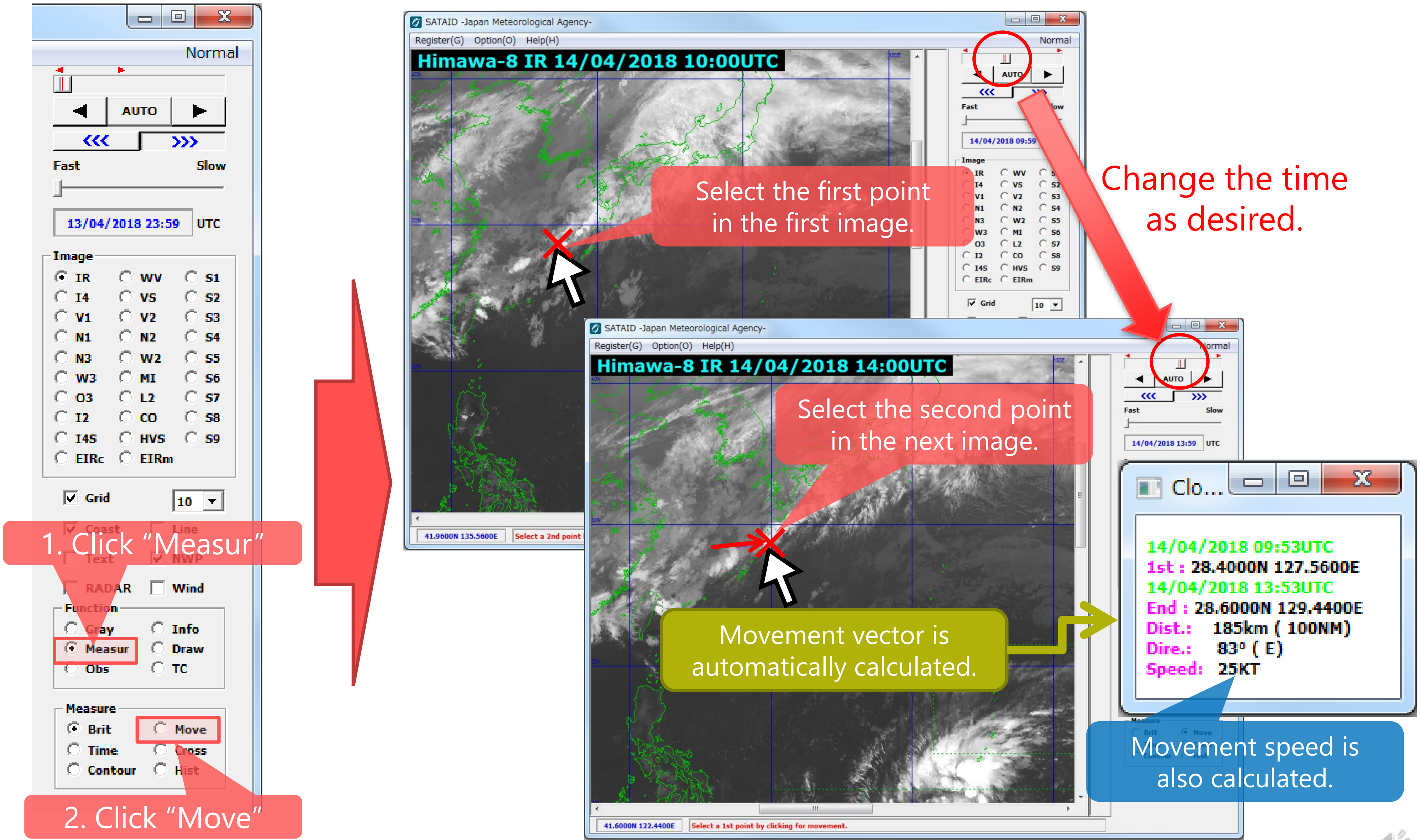


Parallax

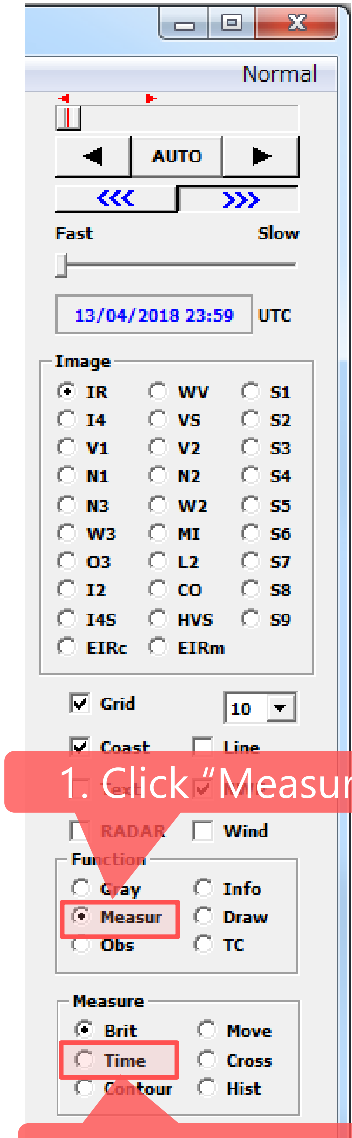

Click the upper-left of the window when NWP data are displayed
Brightness ...
Print Ctrl+P
Bitmap Ctrl+O
Copy BS
Kelvin Ctrl+K
Sync view Ctrl+Y
Parallax Ctrl+L
Vert.1(Temp)
Vert.2(Pote)
Vert.3(Wind)
Vert.4(Stab)
Vert.5(Traj)


SATAID -Japan Meteorological Agency-
Register(G) Option(O) Help(H)
Normal
Himawa-8 IR 14/04/2018 00:00UTC
Click on the image
Actual cloud position calculated using cloud top height
Parallax vector is automatically calculated.
Brightness ...
13/04/2018 23:54UTC
Pos. :7.5600N 73.2000E
Bri. : -75.7°C (124hPa) (50623ft)
Para.:60.7km 93° (E)
Srf Win (kt) : E 5.6
14.8800N 79.4400E
Select a point by clicking for measurement.

Evaluation of Movement (Vector)

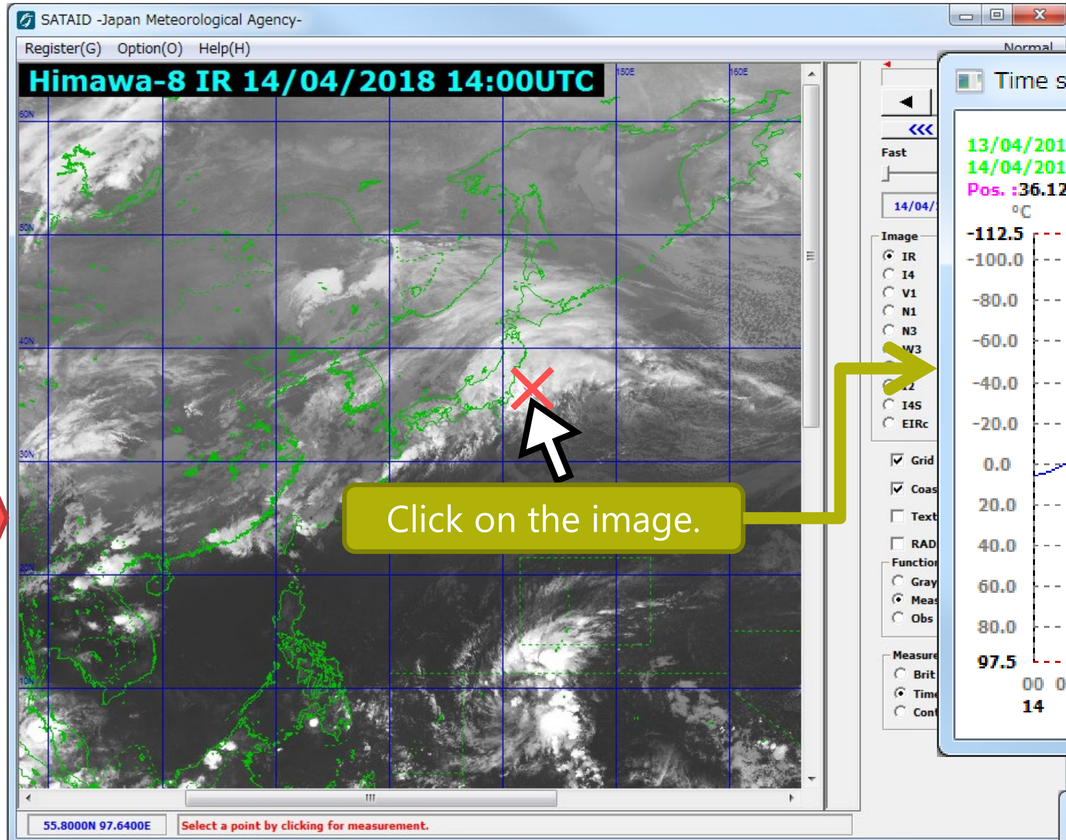


Time-series of brightness temperature with NWP

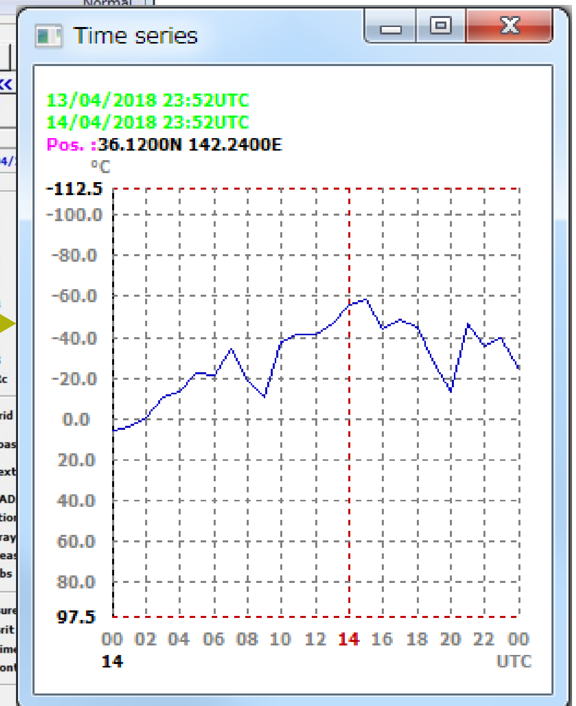


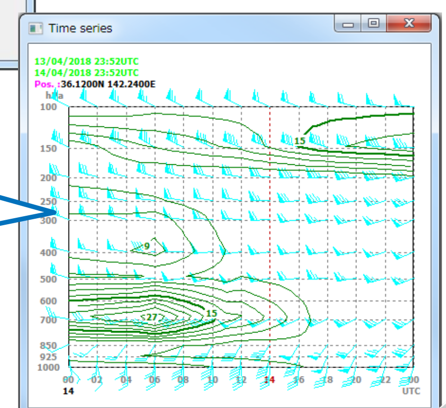
1. Click “Measur”

2. Click “Time”



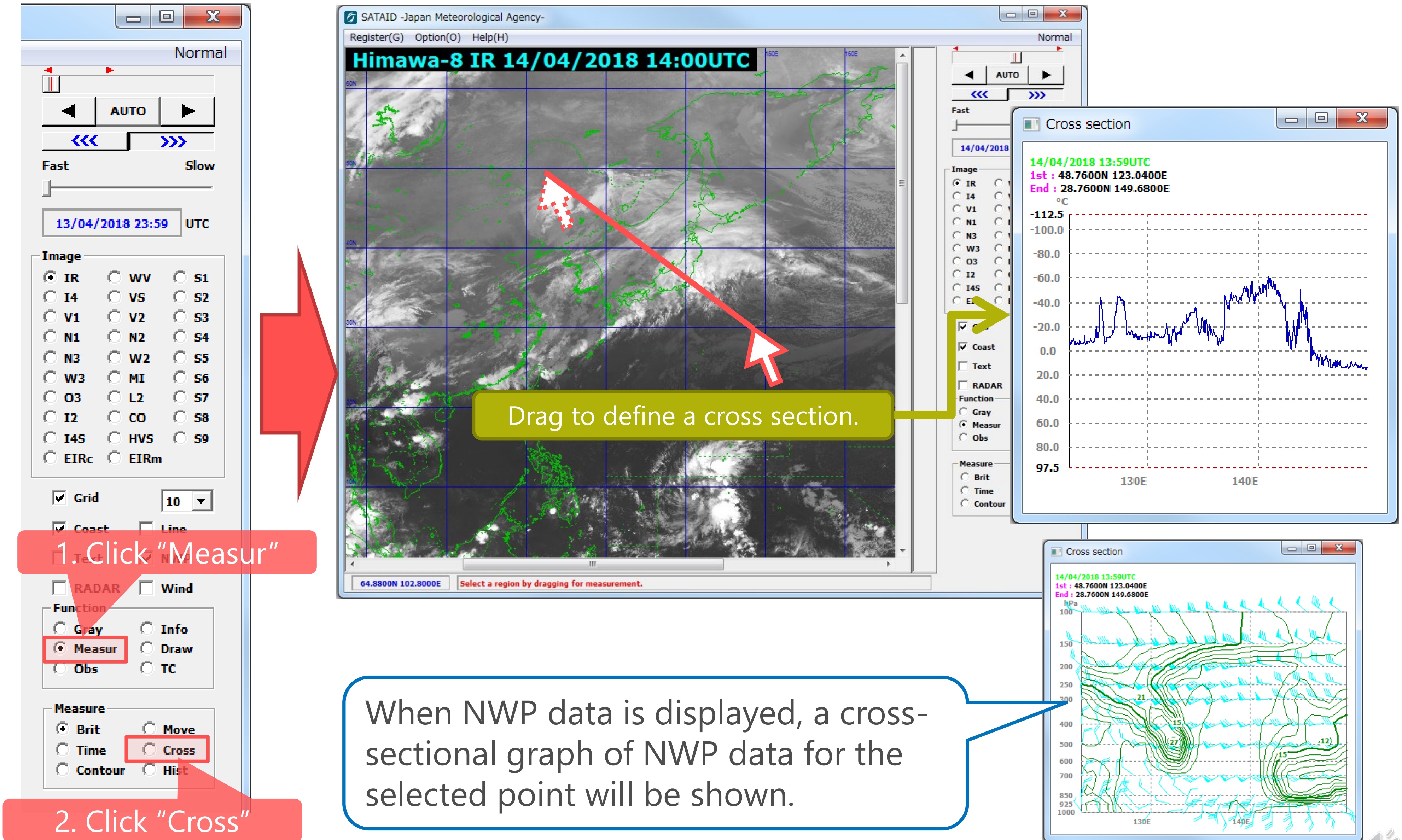
Click on the image.





When NWP data are displayed, a time-series graph of NWP data for the selected point will be shown.

Cross-sectional Evaluation



1. Click "Measur"

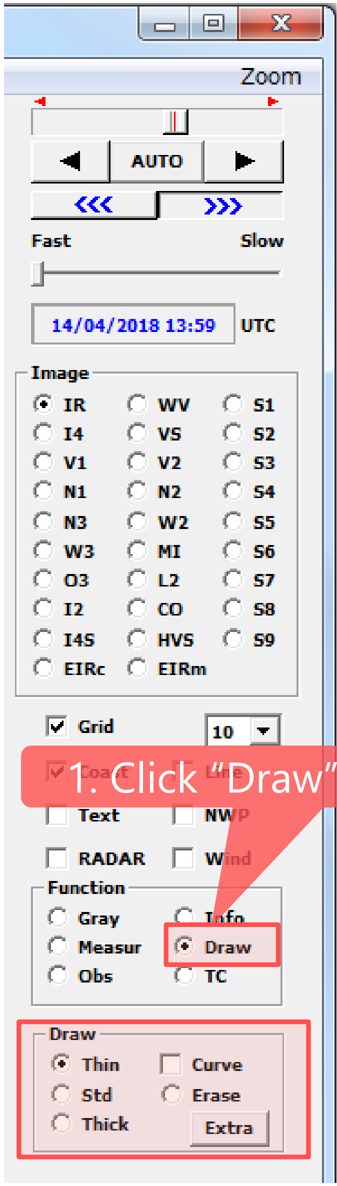
2. Click "Cross"

Drag to define a cross section.

When NWP data is displayed, a cross-sectional graph of NWP data for the selected point will be shown.

7. Other Functions

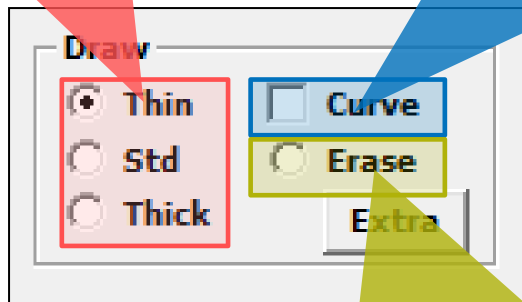
Creating Drawings



1. Click "Draw"

Select line width

- Select Thin, Standard or Thick.



Spline drawing

- Select the line width and check the [Curve] checkbox.
- Click on two or more points in the displayed image and double click on the end point.

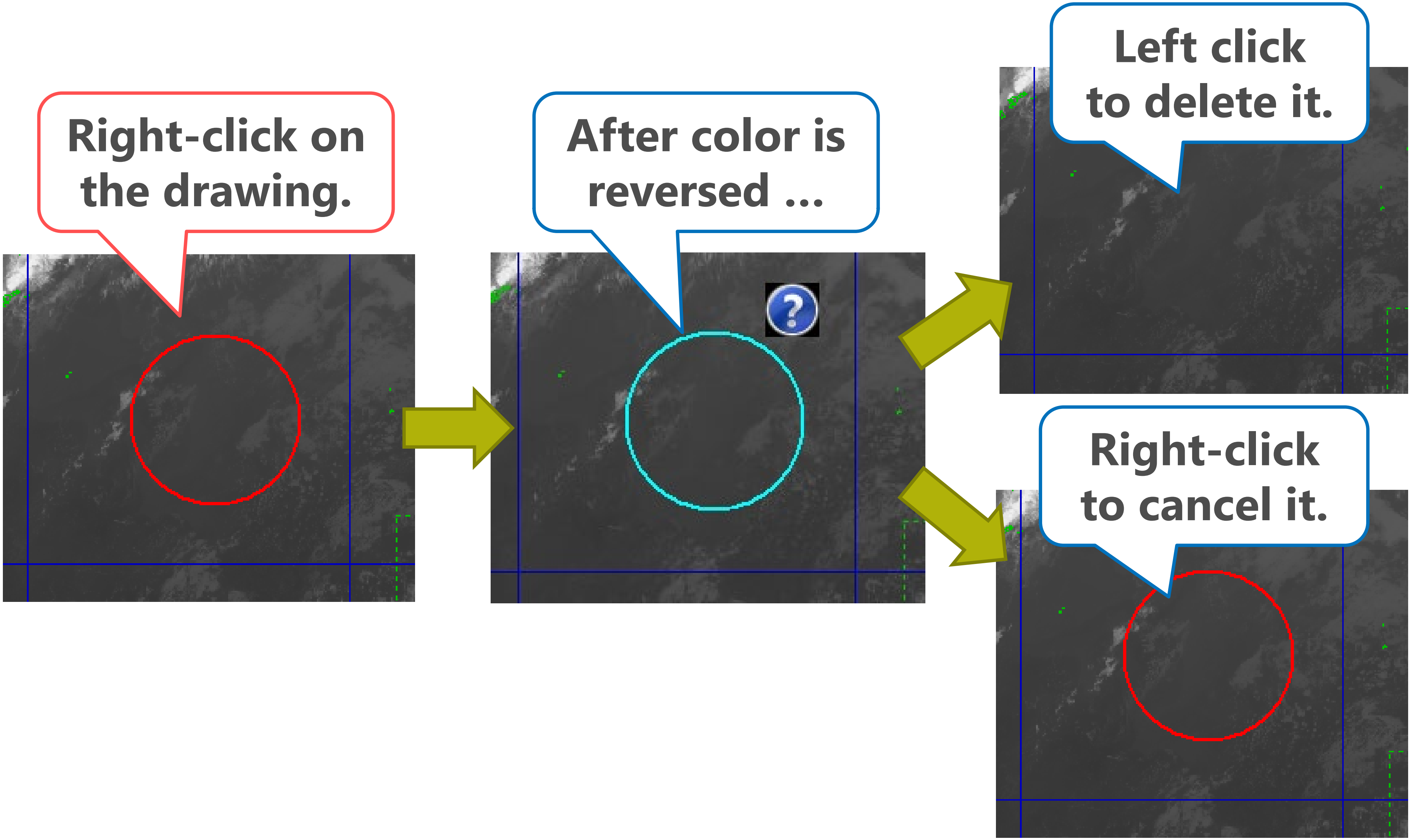
Partial erasure

- Select the [Erase] checkbox.
- Click a line or a character string, etc. in the current image to erase it. The item will be displayed in reverse color, and will be erased if clicked again.

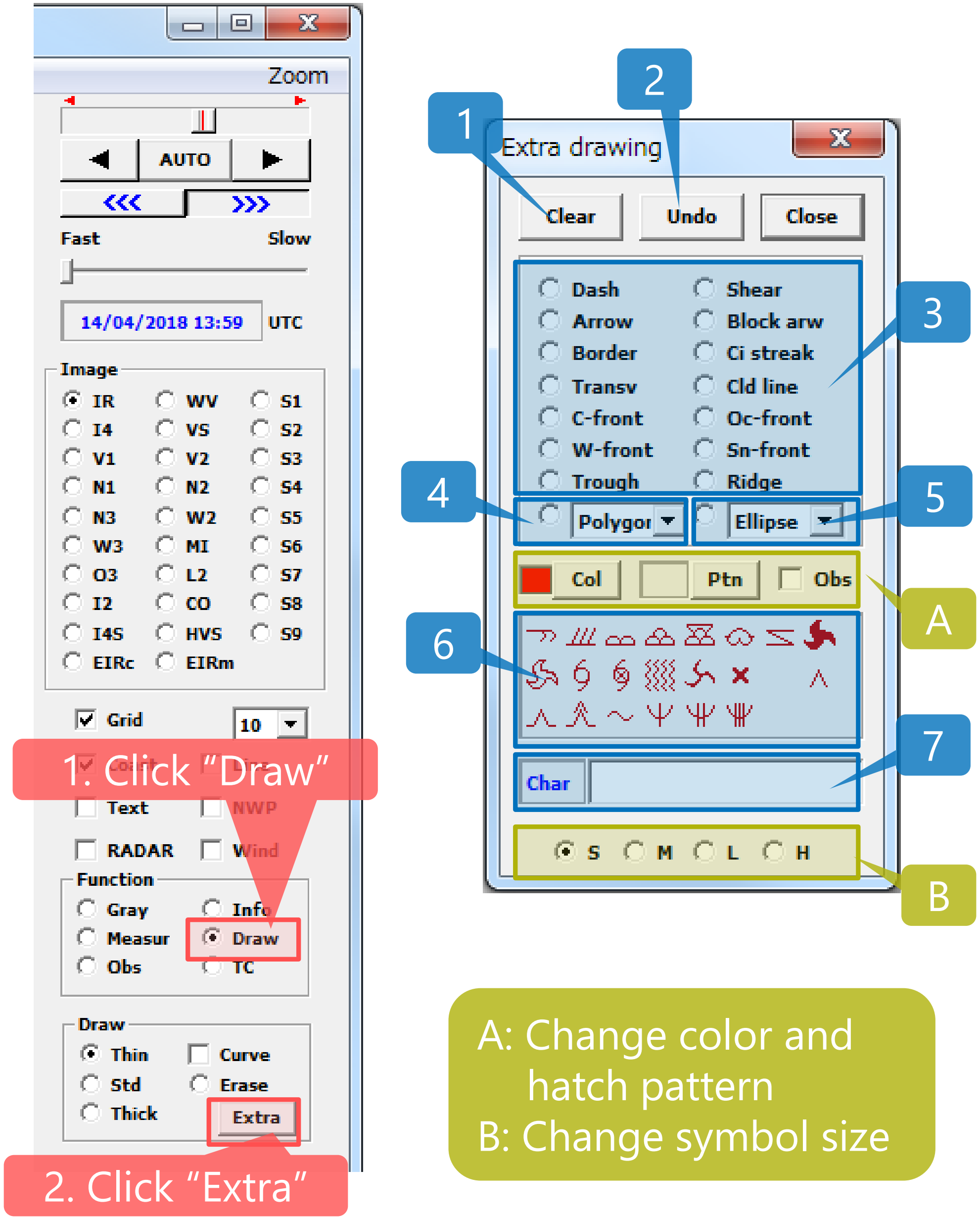
Tip

If neither [Curve] nor [Erase] is selected, freehand drawing is enabled.

Deleting Drawings

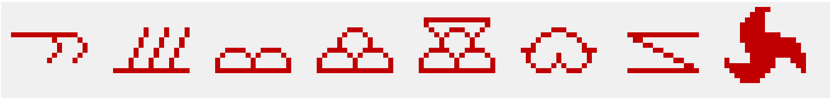


Creating Drawings

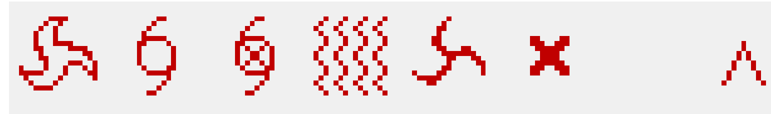


1. Delete all drawings. ([Clear] button)
2. Cancel the previous drawing operation. ([Undo] button)
3. Draw lines and arrows (fronts, troughs, or ridges), which can be created as with spline drawings.
   *Click the [Sn-front] button with [Ctrl] pressed to draw a stationary front in red and blue.
4. Draw polygons, closed curves, or cloud rims, which can be created as with spline drawings. In these figures, colors and hatched patterns can be changed.
5. Draw ellipses, circles, or flex oval. Colors can be changed and hatched patterns can be used for filling.
6. Paste cloud form symbols or vortex center symbols. (Drag a symbol to the desired point. The symbol size can be changed and the symbol can be reversed from left to right by dropping it with [Ctrl] pressed.)
7. Paste character strings. (Drag [Char] to the desired point. The character size can be changed.)
8. Paste wind barbs (Drag [Char] to the desired point after inputting WIND ddd (direction in 360 deg.) and fff (velocity). The wind barb size can be changed.)

Creating Drawings



1 2 3 4 5 6 7 8



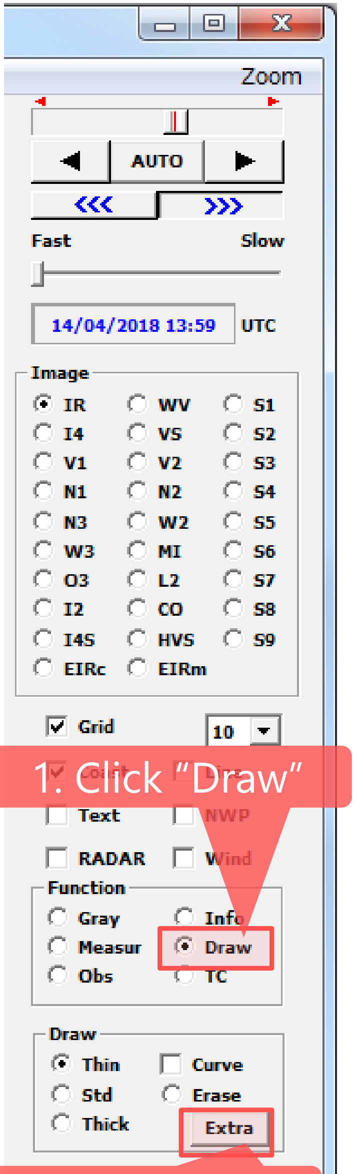
9 10 11 12 13 14 15

16 17 18 19 20 21

1	High-level cloud (Ci)
2	Middle-level cloud (Cm)
3	Cumulus (Cu)
4	Cumulus Congestus (Cg)
5	Cumulonimbus (Cb)
6	Stratus
7	Stratus or Fog
8	Low-level vortex
9	Upper-level vortex
10	Center of typhoon with eye
11	Center of typhoon without eye

12	Waved cloud (Mountain wave)
13	Low-level vortex (Meso β-scale)
14	(Cross mark)
15	Light turbulence
16	Moderate turbulence
17	Severe turbulence
18	(Tilde mark)
19	Light icing
20	Moderate icing
21	Severe icing

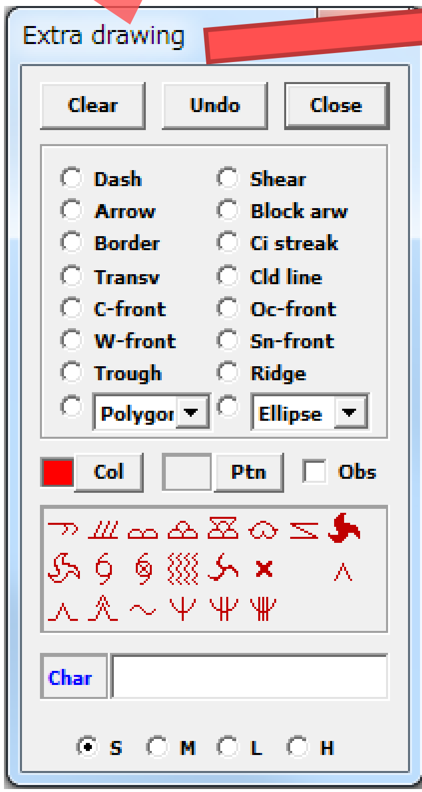
Saving/Loading Drawings

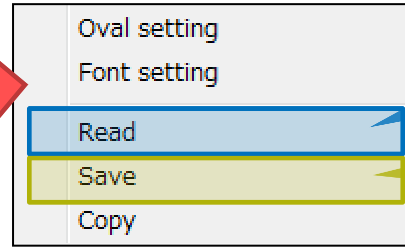


1. Click "Draw"

2. Click "Extra"

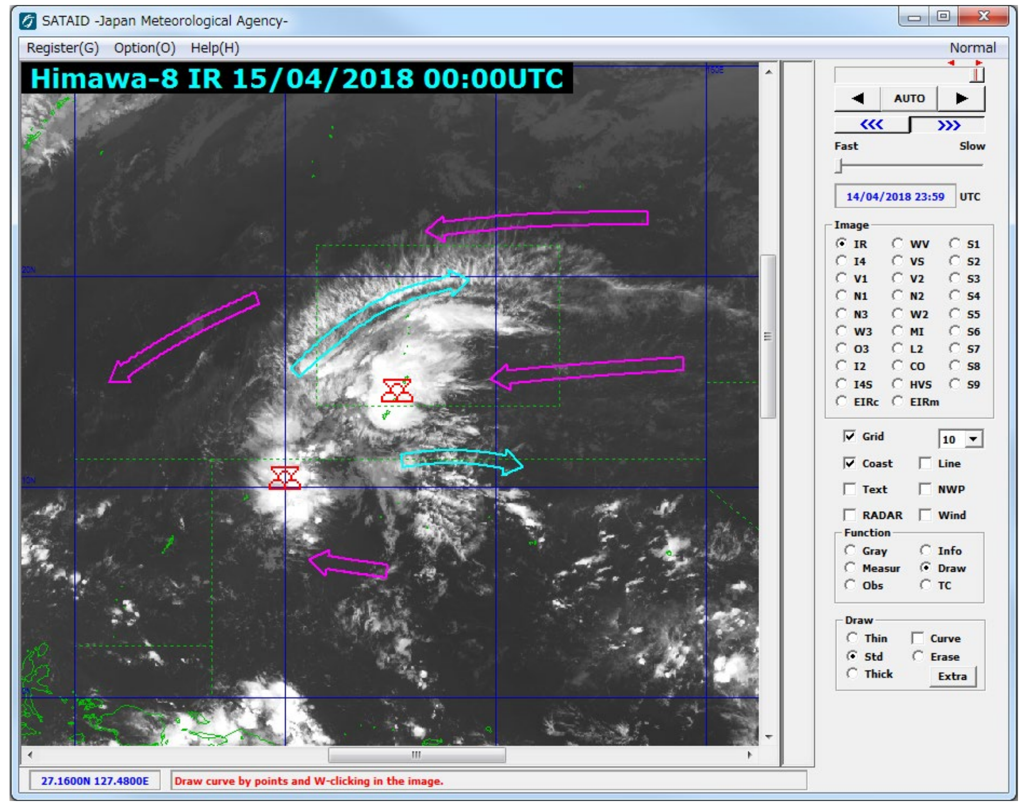
3. Click the upper frame of the window





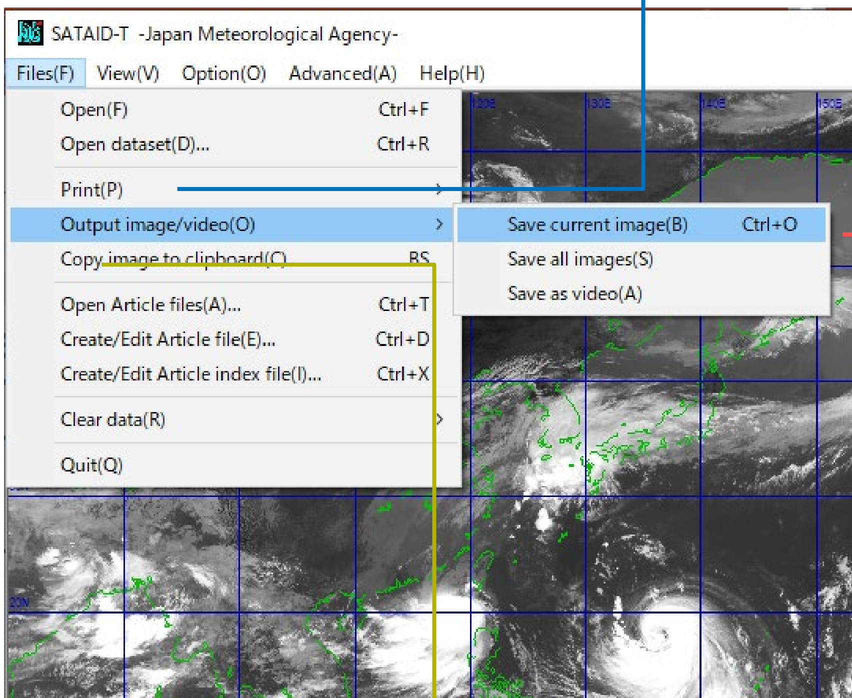
Load drawing information from a text file

Save drawing information to a text file



Outputting Images

1. Select "Option"



Print image(P)	Ctrl+P
Print window(S)	Ctrl+H
Page setup(U)...	Ctrl+U

Print image: Output the current image to a printer
Print window: Output the entire screen to a printer
Page setup: Set the margins of the printing paper

Save current image(B)	Ctrl+O
Save all images(S)	
Save as video(A)	

Save current image: Output the current image as a bitmap file etc.
Save all images: Output images as bitmap files
Save as video: Output images as a Gif or Avi animation

Copy the current image to the clipboard