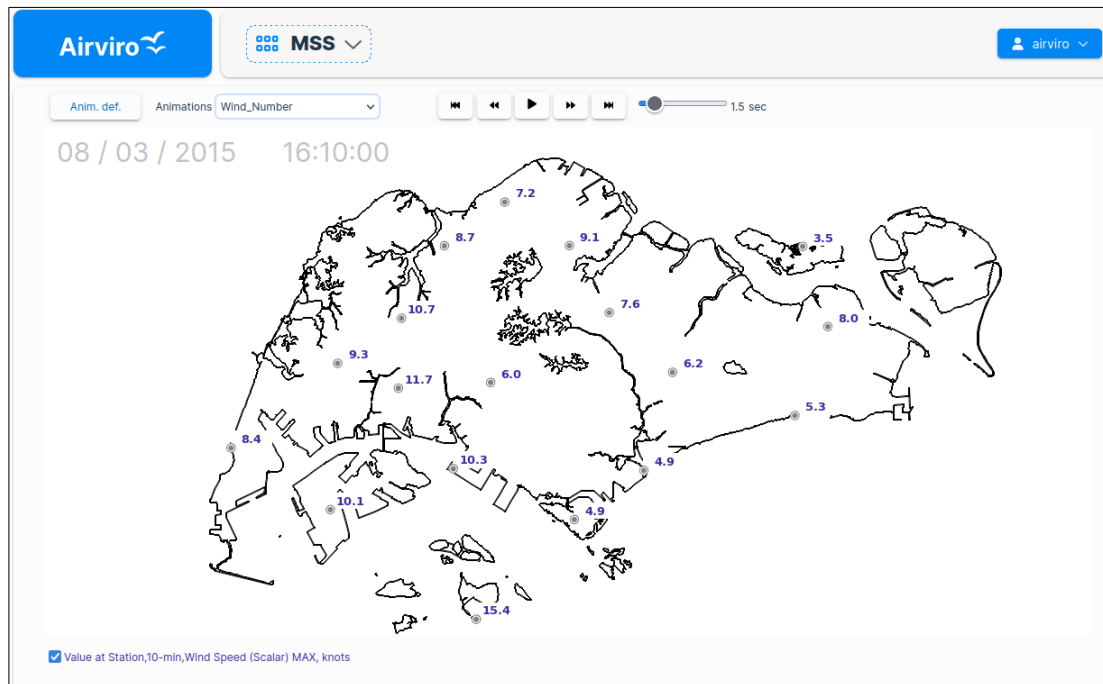




Airviro User's Reference



Working with Indico Map

Animations on the map

Presentation of Animations

Amendments

Version	Date changed	Cause of change	Signature
4.00	May 2015	New Module	GS
6.00	May 2024	Upgrade	GS
6.00	July 2024	Review	DC
6.00	Oct 2025	Review	GS
6.00	Dec 2025	Review	DC

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12.1 Introduction

Indico Map Module is used to display maps with time series data. Time series are displayed as animations on a map over a period of time, making this module a powerful tool for environmental decision making.

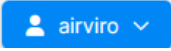
12.2 Getting started

This Airviro module runs on any PC or any other device running Internet Explorer 6 or later, Firefox or any other mozilla based browsers.

Once Airviro has been properly installed on the *server*, you can start using it by typing the correct URL in your web browser over the Intranet/Internet.

After logging into Airviro typing your user-ID and password, a domain must first be selected, from the icon showing the map or enabling the List Mode, and pressing on the the Domain name that is displayed. In this case **Indico Map** should be chosen from the available modules.

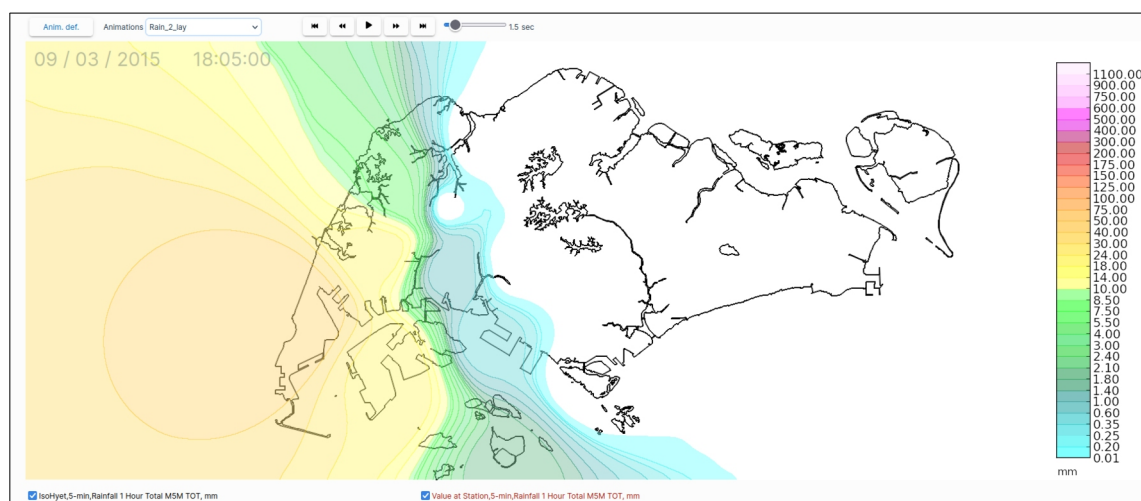
Any user with the required privileges, can access the Map module. Privileges must be previously defined to avoid unauthorized access.

By clicking on the button ^ [down arrow], besides the user button text,  the **Logout** button, is shown. Click on it to close the current module and display the Airviro login page instead.

12.3 Main window

The following options available in the Main window:

- Animation definition: for editing or defining new animations. See *Figure 12.1*.
- Animations: it allows you to visualise animations, previously defined by the users. For example, Rain_2_lay in *Figure 12.1*.
- Play/pause, backward, forward buttons: it allows you to refresh the animation display, within the time interval previously specified for the animation. See *Figure 12.2*.



Figure

12.1 Indico Map Windows.



Figure 12.2. Buttons.

12.4 Animations definition

Click on **[Anim.def.] button** to open a windows where animations can be added, edited or deleted. Click on **[Back]** button, to return to the main window.

Each animation can contain up to 3 layers of data for displaying, which are linked to time series for a specific parameter.

11.1.2. 12.4.1 Layers

it is possible to define up to 3 layers of data for displaying. Each one represent a different data field on the map. For instance, one layer could contain rain data with time resolution 5 minutes and another layer could contain rain data with time resolution 1 minute.

To define a layer you must specify the following settings:

- **Display Type:** it allows you to select the available type of display, for example: IsoHyet.
- **Param Group:** it allows you to select the parameters group, for example: rain.
- **Time Resolution:** it allows you to select the time resolution, for example, five minutes.

- **Parameter1-2:** it allows you to select a parameter, for instance, rainfall 1 hour total. Up to 2 parameters can be defined (one for each layer). For each parameter a unit can be selected.
- **Stations:** monitoring stations are listed in the “Stations”. The stations listed will depend on the parameter measured.
- **Selected stations:** the monitoring stations are listed in the “Selected Stations” list box. Alternatively, you can use the arrows between the list boxes to move selected stations between the boxes. Or use the [double arrow] button to move all stations.

12.4.2 Other Settings

Accumulation is like creating a new time resolution. The Accumulation Period setting affects the data that will be accumulated from the database. For example, if you select accumulation for daily values then each value will be integrated over one full day.

Hours is a number of hours considered for each accumulation.

Required is a percentage of data that must exist for the accumulation.

A layer then, is fully defined with a name, an accumulated type and %.

A name describing what is displayed by the layer can be included. And also a percentage of data that must exist for the accumulation.

Use the **Accu. Type** box to select different options for calculating the accumulation. These are mean (sum of all the observation values ÷ number of observations), min (the minimum value between the hours n), max (the maximum value between the n hours), sum (sum

accumulated from the n hours backward), n° values (number considered for each value) and perc n.(percentile). This functionality is the same as indicated in Indico Presentation.

Check **Real Time** to get data in real time. In the **Nr Values** box you can type the number of images to be displayed in real time.

Check **Time Period** to get data for the time period, define by start -stop time, type the date and time using the format *YY/MM/DD HH:MM* in the text box or use a calendar to enter the date by pressing the [...] button

Animations

- DC_TEST
- DC_TEST_2
- DC_TEST_3
- DC_TEST_4
- Rain_1m
- Rain_2_lay**
- Rain_5m_IsoHyet
- Rain_5m_IsoHyet_RT
- Rain_Wind
- Temp_IsoTherm
- Wind_1m
- Wind_Barb
- Wind_Conv
- Wind_IsoTach
- Wind_Number
- Wind_Stream
- Wind_Vort
- dc_test
- dc_test2
- dc_test_2
- dc_test_3

Name

Animation Name: Rain_2_lay

Layers

- Layer1
- Layer2

Layer1

Display Type: IsoHyet

Param Group: Rain

Time Resolution: 5-min

Parameter1: Rainfall 1 Hour Total

Parameter2: mm

Stations

Selected Stations

- S11 Choa Chu Kang Road
- S24 Upper Changi Road North
- S43 Kim Chuan Road
- S44 Nanyang Avenue
- S50 Clementi Road
- S60 Sentosa
- S86 Chia Ping Road
- S100 Woodlands Road

Other Settings

Accumulation: none

Hours: 8

Required: 75 %

Layers

Name	Accu. Type	%	Colors & Labels
Layers1: IsoHyet,5-min,Rainfall 1 Hour Tot	Mean		Colors & Labels
Layers2: Value at Station,5-min,Rainfall 1 Hour Tot	Mean		Colors & Labels
Layers3:	Mean		Colors & Labels

☐ Real Time

☒ Time Period

Nr Values:

Start Time: 09/03/2015 18:00

Stop Time: 09/03/2015 18:25

Buttons: Add, Delete, Back, Apply

Figure 12.3 Animations Definition.

Then, click on **[Apply]** to save your choices.

12.5 Display Animations

When a new animation is selected the map displaying the different layers is automatically refreshed. Check/uncheck the check boxes below the map to enable/disable the layers to be displayed on the map.

A colored scale is displayed in each animation.

The date and time (DD/MM/AA HH:MM:SS) corresponding to the data currently displayed, appears on the top left corner of the map.

Its use is best explained with some examples on how to display animations.

12.5.1 Rain_2_lay

An example of a time series with 2 layers is shown in *Figure 12.4* These layer are isohyet and rain values. The date and time for the values displayed is shown on the top left corner of the map.

This example shows the rainfall distribution map. This is a spatial pattern of rain.

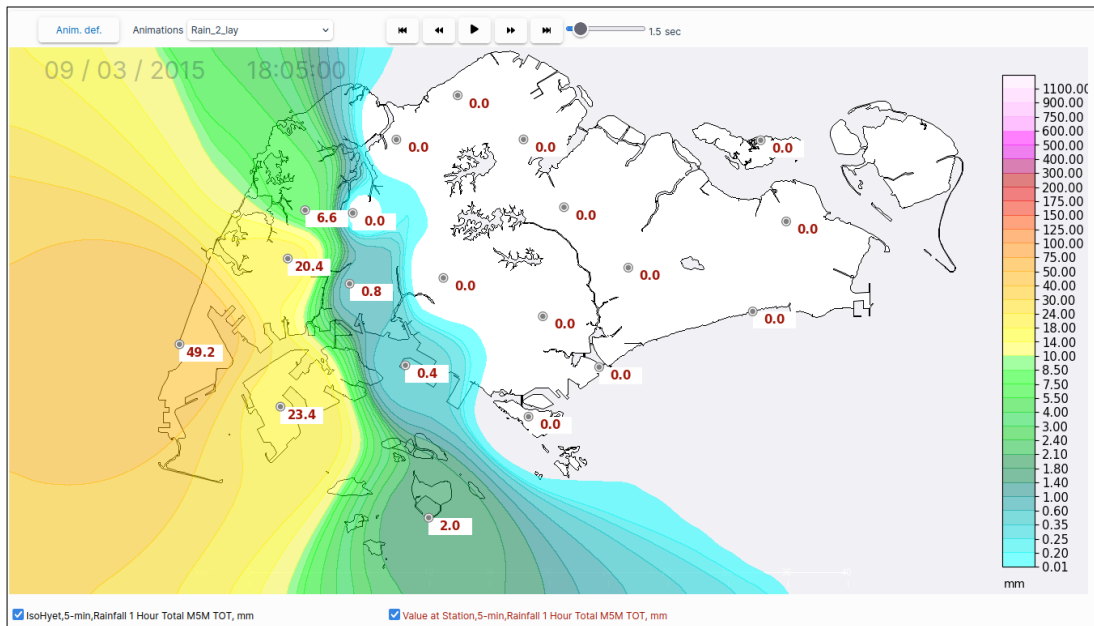


Figure 12.4 Example

12.5.2 Temp_IsoTherm

Isotherms are lines that connect points on a map that have the same temperature. Therefore, all points through which an isotherm passes have the same or equal temperatures at the time indicated

An example of a temperature time series with 2 layers is shown in *Figure 12.5*. In this Animation, colored isotherms and temperature values are displayed on the map.

Isotherms are used to divide the color-filled temperatures. The line between the light green and dark green is the isotherm (*Figure 12.5*

For each station a point is displayed on map, showing the station number and the measured temperature value for the date and time that is shown in the top left corner of the map.

Pressing on **[Play/pause]**, **[forward]**, **[fast forward]** buttons will refresh the data on the map and update the date/time label.

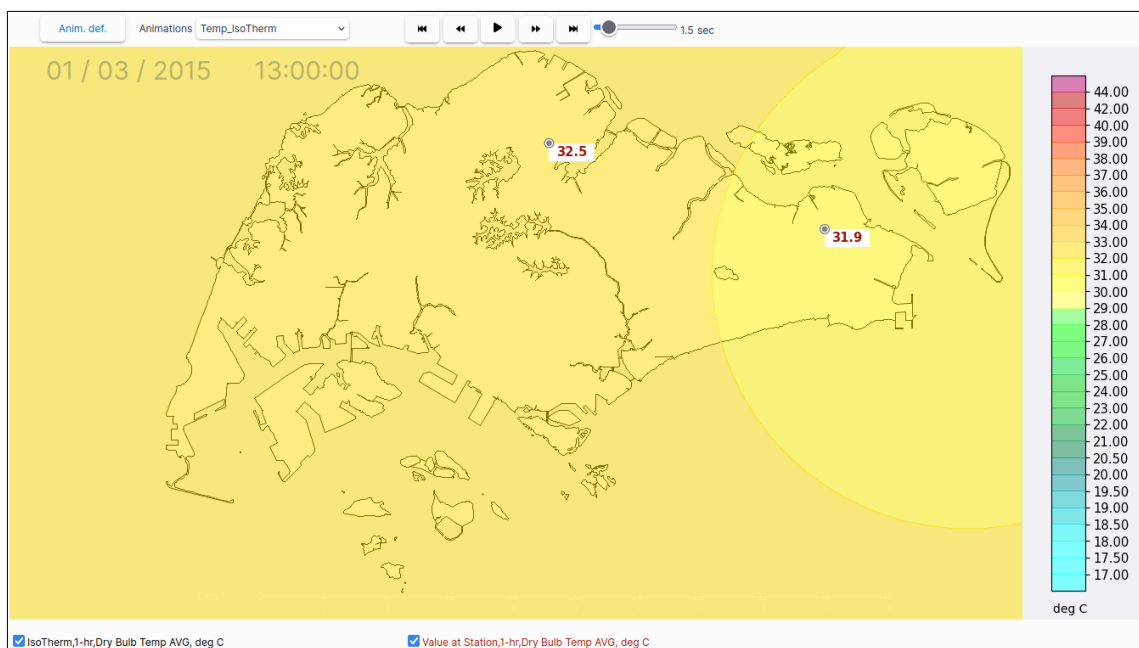


Figure 12.5 Example

12.5.3 Wind_1m

An example of wind vectors on the map is shown in Figure 12.6 . These vectors indicate the direction and intensity of the wind.

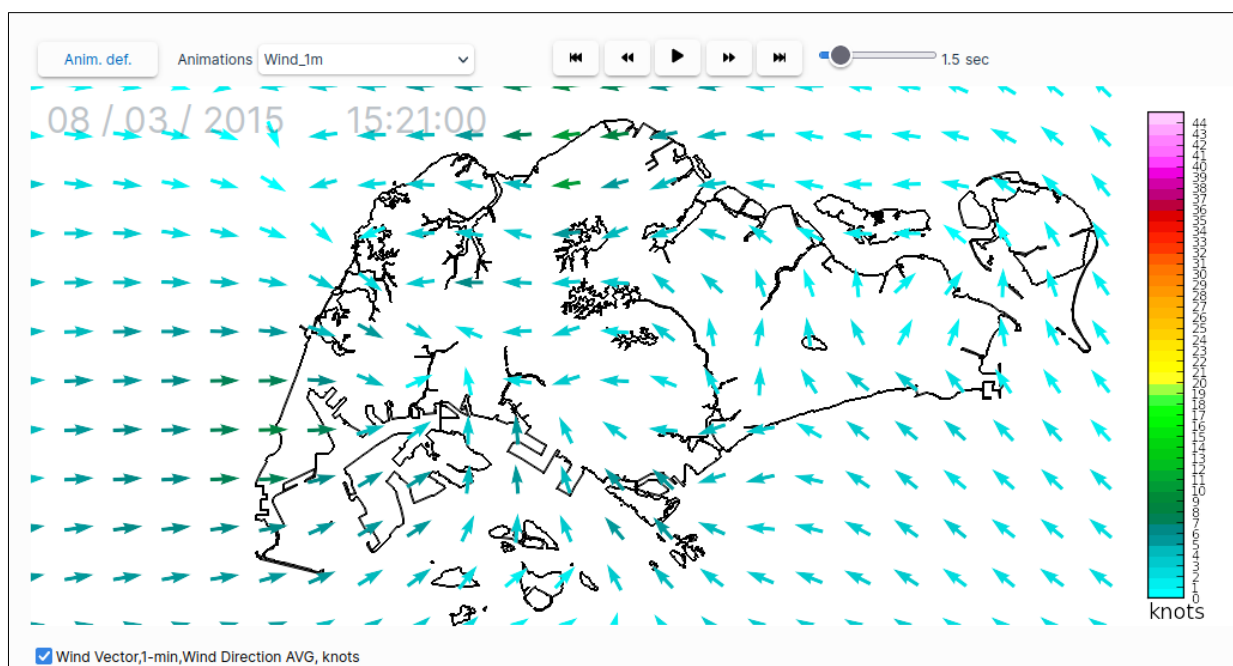


Figure 12.6 Example

12.5.4 Wind_Barb

Wind barbs are the symbols used to represent **wind** speed and direction on a weather diagram or chart

An example of a wind value and vector direction, is shown in *Figure 12.7*.

“Wind barbs” indicates the direction from which the windblows. For example, where the wind speed is equal to 11.3, the orientation of the wind barb indicates winds coming from the northeast. See *Figure 12.7*.

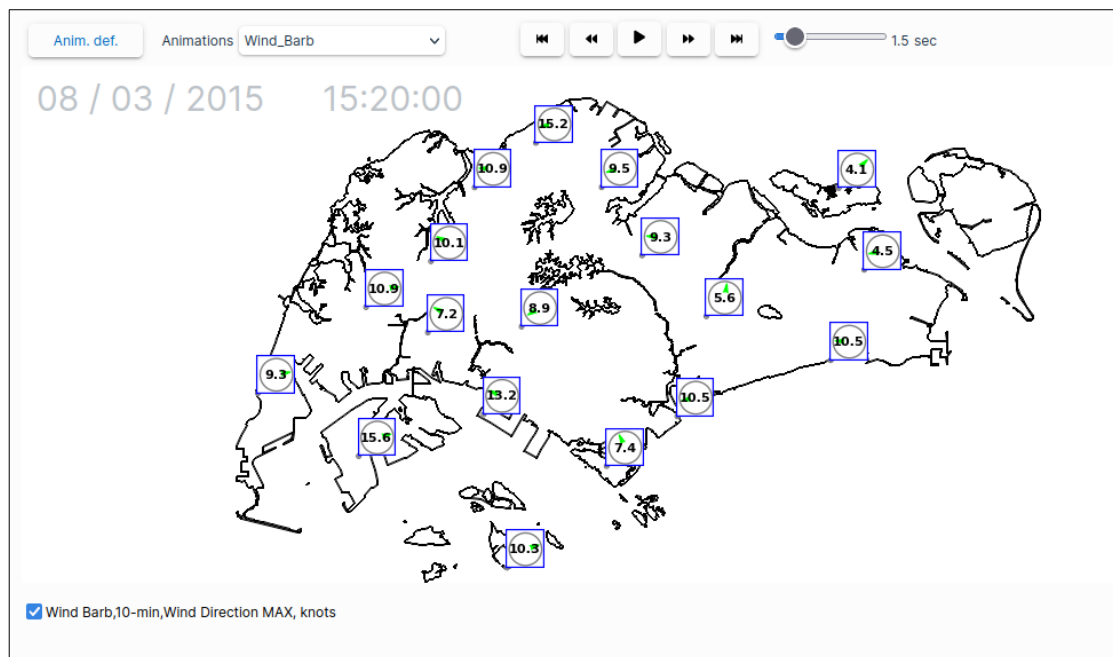


Figure 12.7 Example

12.5.4 Wind_Conv

This map shows the flow of the wind resulting in a horizontal inflow of air into a region. Convergence of winds near the surface is associated with upward motion known in meteorology as convection.

An example of a wind convergence over the map is shown in *Figure 12.8*.

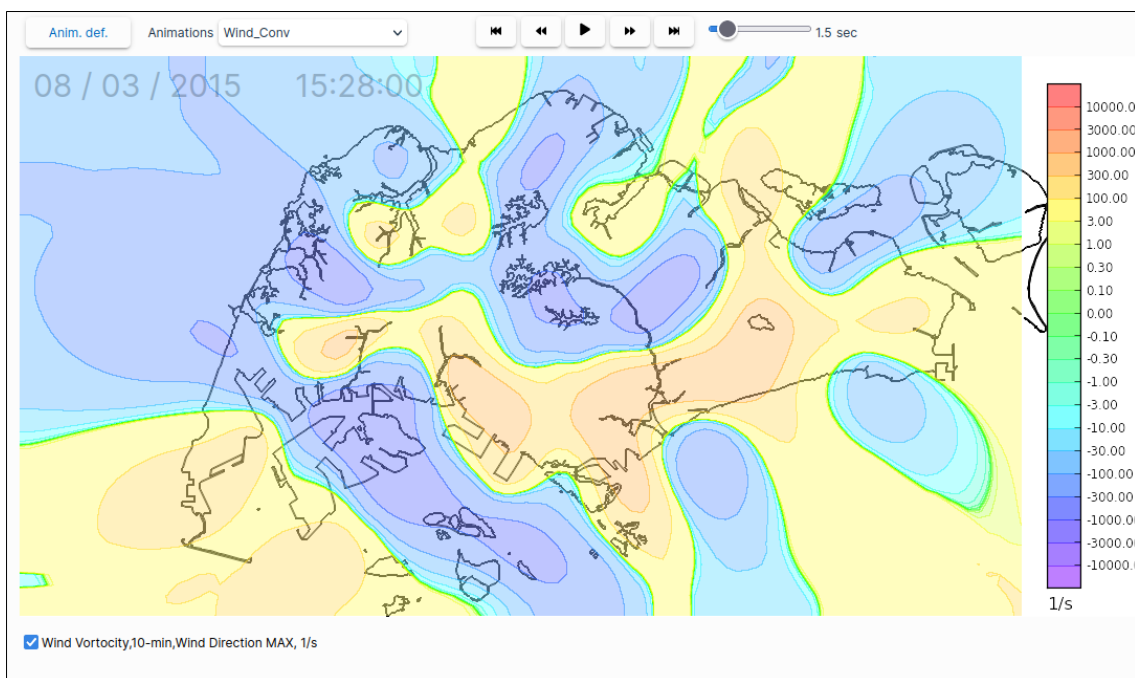


Figure 12.8 Example

12.5.5 Wind_IsoTach

Isotach are a line joining points with constant wind speed. An example of an isotach map is shown in *Figure 12.9*. Lines connecting points where equal speeds winds have been monitored.

Each map has a configurable coloured scale.

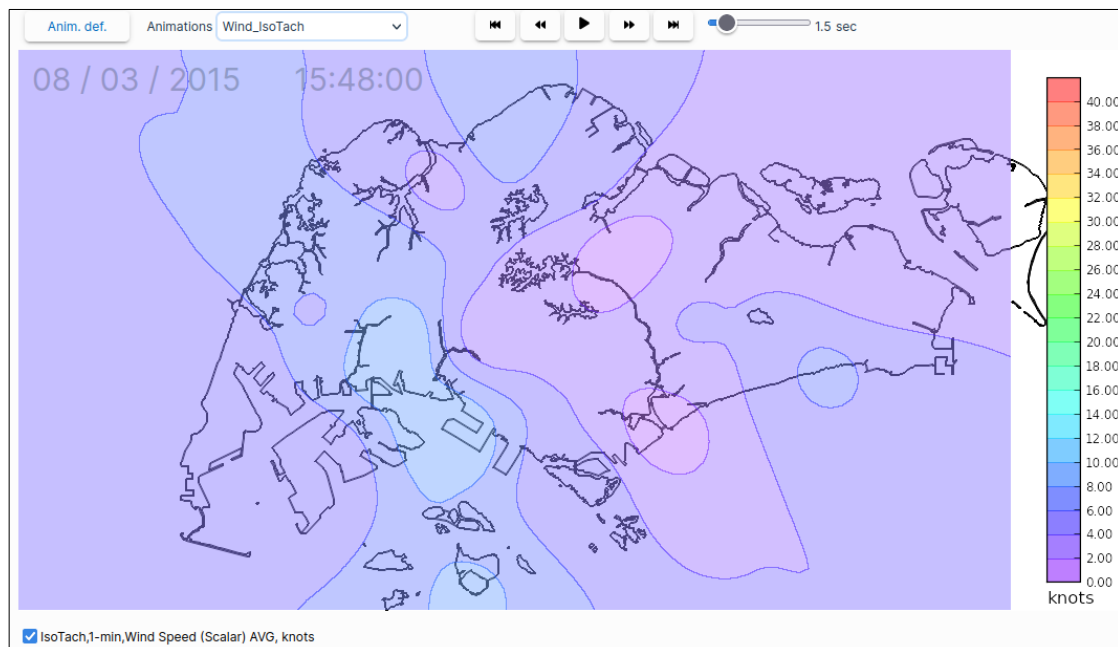


Figure 12.9 Example

12.5.6 Wind_Stream

An example of lines showing the wind flow direction on the map is shown in *Figure 12.10*.

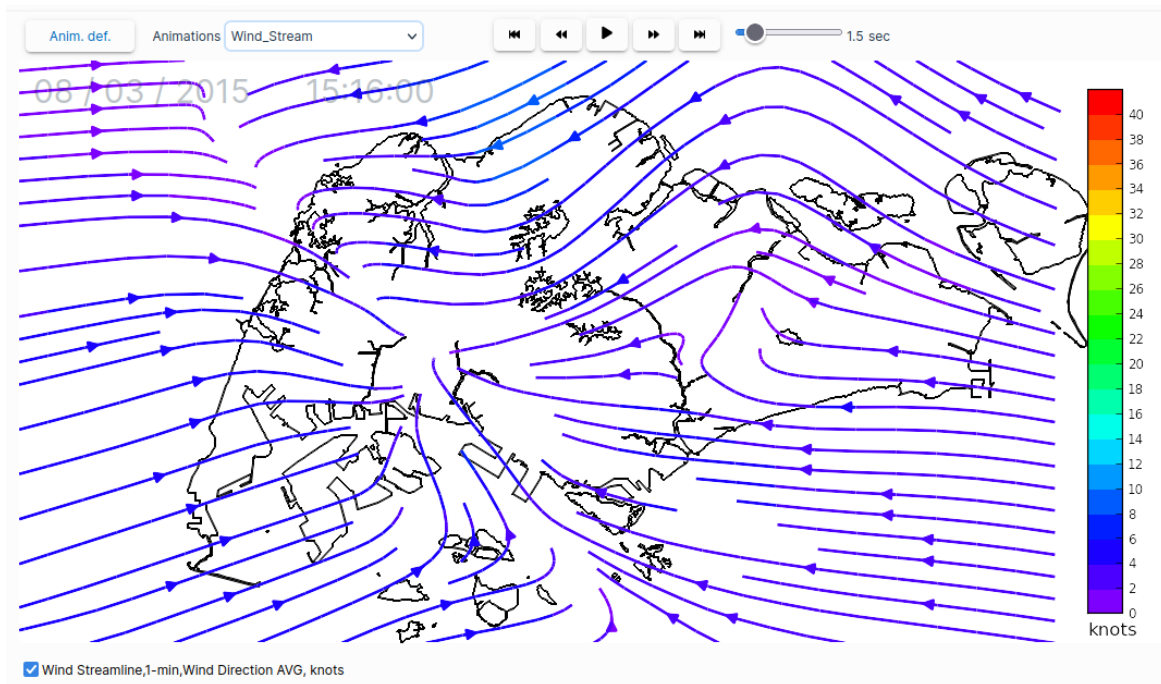


Figure 12.10 Example

12.5.7 Wind_Vort

An example of a vorticity map is shown in *Figure 12.11*.

A colored scale is displayed in the right corner of the map to facilitate interpretation.

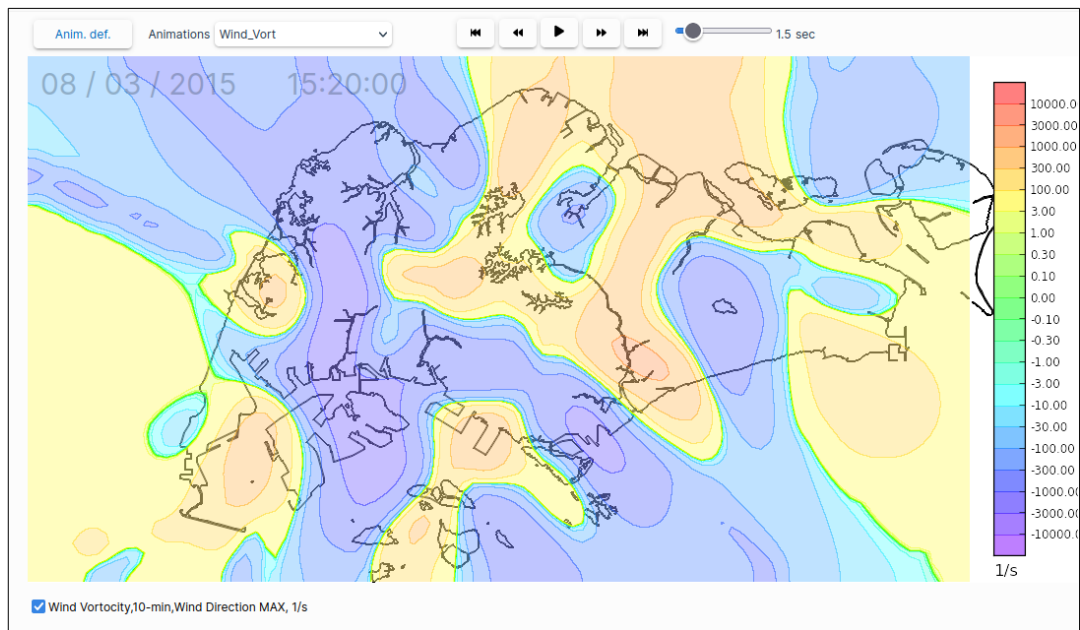


Figure 12.11 Example