

# Lightning Information Service User Guide

This user guide provides information on how to use the Lightning Information Service, such as the setting up of customised alerts and the overlaying of weather and geographic information layers onto the map display.

## Features

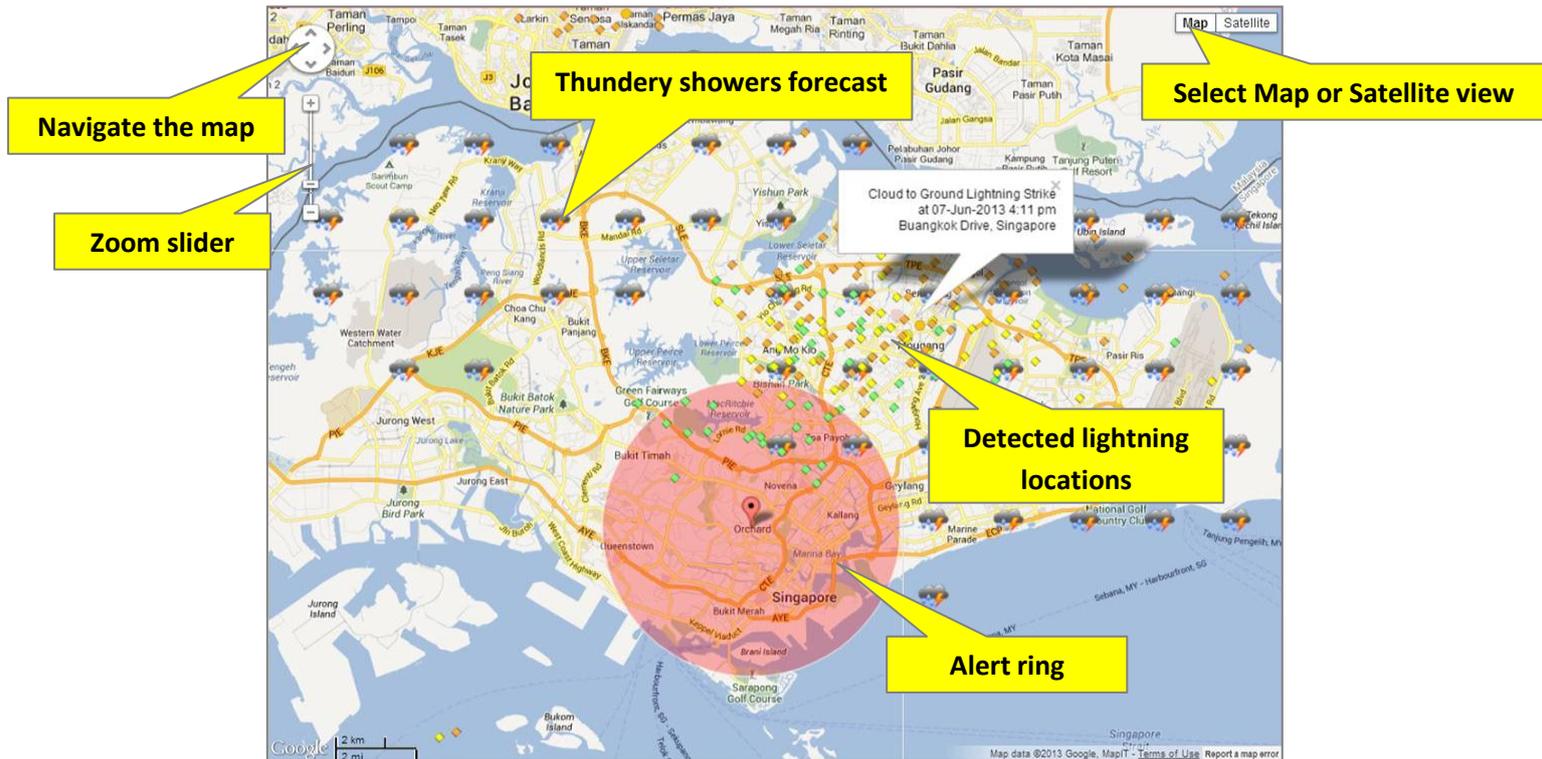
- Real-time lightning information displayed on an interactive map.
- Alerts users when lightning is detected or when there is a forecast of thundery showers within six or eight kilometres from a specified location of interest.
- User may customise up to three locations of interest for receiving alerts.
- The type of detected lightning: cloud-to-cloud and/or cloud-to-ground can be selected.
- Animated weather radar images of rain areas and areas with forecasts for thundery showers over the next hour can be shown on the map display.
- Users can zoom into areas of interest such as landmarks, public swimming pools and national parks.

## Lightning Information Service

The features of the main page of the Lightning Information Service are outlined below.

The screenshot displays the Lightning Information Service interface. At the top left is the Meteorological Service Singapore logo. The main header reads 'LIGHTNING INFORMATION SERVICE' with a 'Rain Intensity' legend (Heavy, Moderate, Light) and a 'Navigate to:' dropdown menu. The central map shows Singapore and Johor Bahru with various overlays. A 'Lightning Legend' panel on the right lists lightning types and detection domains. Below it are 'Map layers' (Schools, Parks, Swimming Complex, MRT) and 'Show / Hide Layers' (Thunderstorm Forecast, Rain Radar Images, Total Lightning, Cloud-to-Ground). At the bottom, there is an 'Alert Sound' toggle and a 'Rain Radar Animation' control (Play, Pause, Stop). Callout boxes point to: 'Rain intensities legend', 'Radar image date and time', 'Map display', 'Page navigation', 'Lightning legend', 'Map layers', 'Weather information layers', 'Information and Terms of Use', and 'Rain animation toggle'.

## Map Display

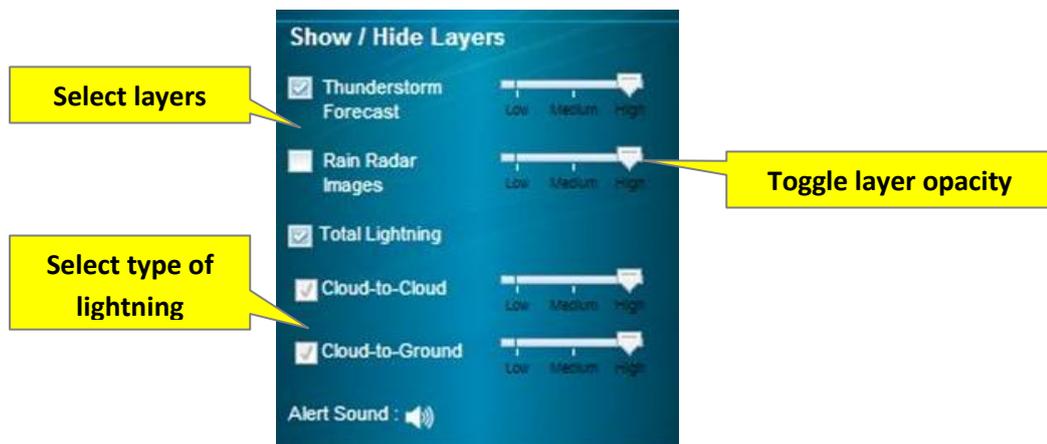


The map area shows the map of Singapore. To navigate the map, click and drag the map to pan or use the arrows in the top left corner. Drag the zoom slider in the top left corner up or down, or use the mouse scroll wheel to zoom in or out of the map incrementally. Either map or satellite view can be selected by clicking the buttons on the top right.

## Weather Information Layers

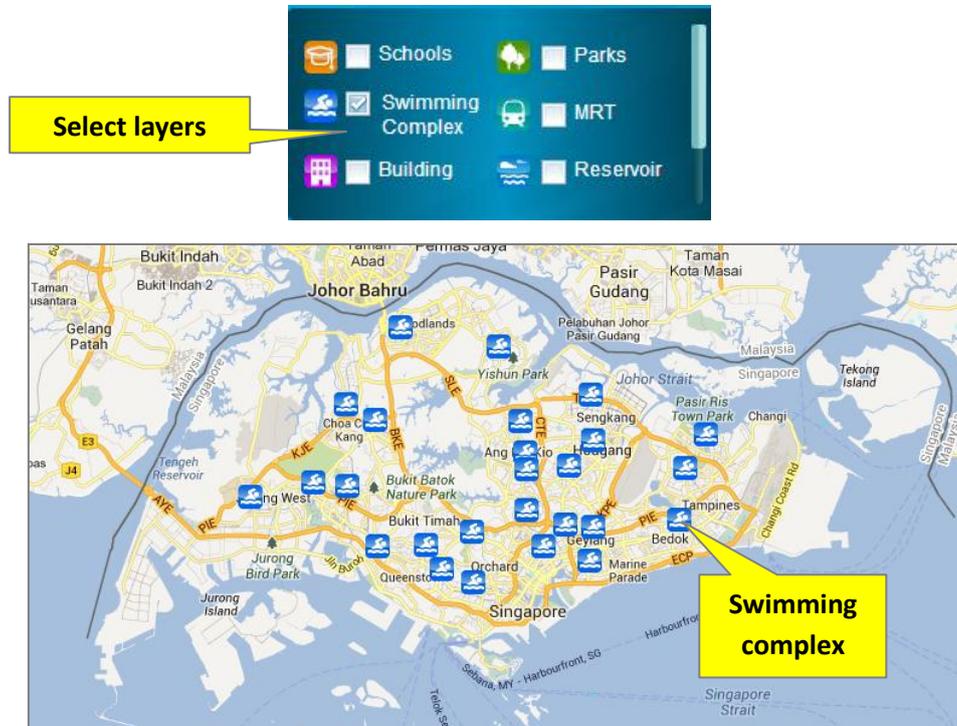
The detected lightning information, forecasts for thundery showers and weather radar images of rain areas are displayed on the map. These weather information layers and their opacity can be selected from the panel on the bottom right. In addition, the type of lightning – cloud-to-cloud or cloud-to-ground can be selected.

Total lightning comprises both cloud-to-cloud and cloud-to-ground lightning. Therefore, when this option is selected, both types of lightning will be displayed.



## Map Layers

Map layers which display geographic landmarks and places of interest such as schools, parks and swimming complexes can be shown on the map together with the weather information layers. For example, if the “Swimming Complex” layer is selected, the locations of public swimming complexes in Singapore are shown on the map.



Example of “Swimming Complex” layer selected

## Lightning Information

The lightning legend provides information on the icons and colours used to depict the detected lightning information on the map. Lightning icons are coloured based on 5 minute intervals of the time of detection, up to the past 30 minutes.

**Icons for different types of lightning**

- Location of Cloud-to-Cloud lightning
- Location of Cloud-to-Ground lightning

**Click to view lightning detection region**

**Colour coded lightning icons based on time**

**Lightning Detection Domain**

The colors on the icon indicates the time of the lightning

- 0 to 5 minutes ago
- 5 to 10 minutes ago
- 10 to 15 minutes ago
- 15 to 20 minutes ago
- 20 to 25 minutes ago
- 25 to 30 minutes ago

**Thundery showers forecast icon**

**This statement will be shown when no lightning detected and/or no thundery showers forecast.**

- No Lightning detected.
- No Thundery showers forecast.

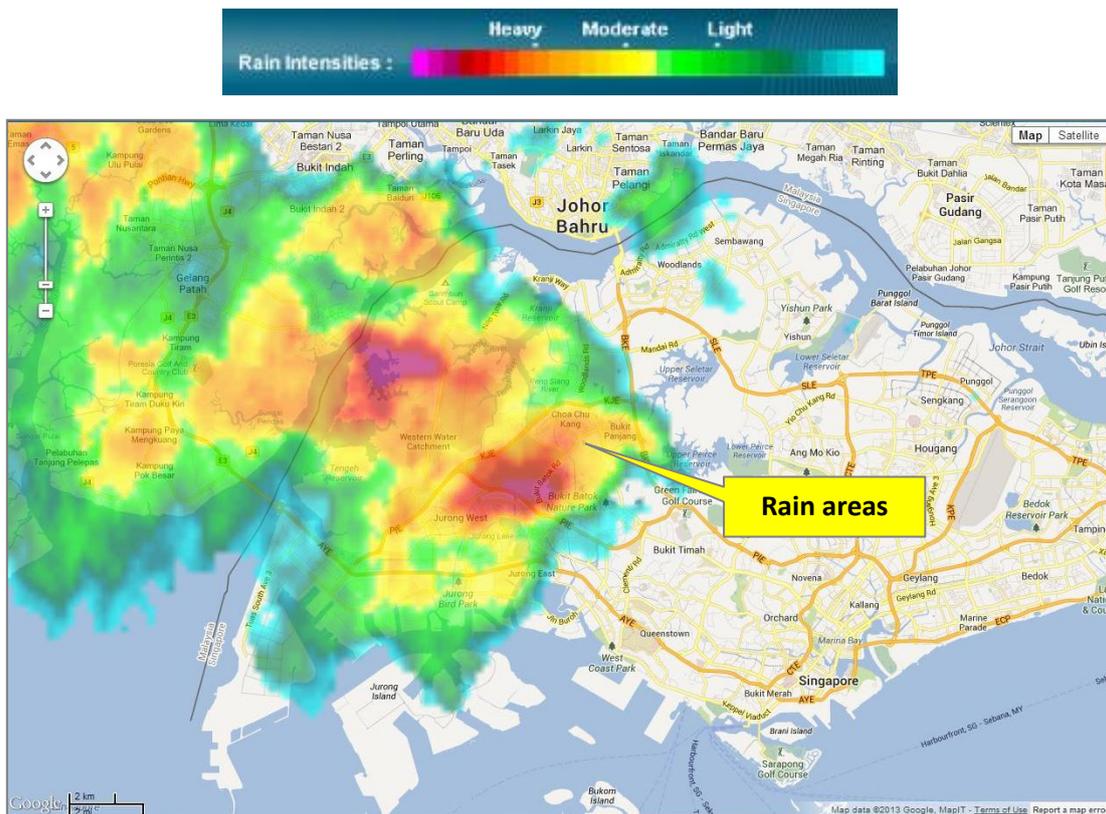
Details of the detected lightning strokes can be shown by clicking on the individual icons on the map display.



Click on the icons to view details for each detected lightning stroke

### Weather Radar Rain Images

The weather radar rain areas are coloured based on the intensity of the detected rainfall. In general, for the displayed rain areas – patches of red indicate heavy rainfall; patches of yellow indicate moderate rainfall and patches of green indicate light rainfall.



When the "Rain Radar Animation" layer is selected, the display of weather radar rain areas animation can be toggled at the bottom right corner.



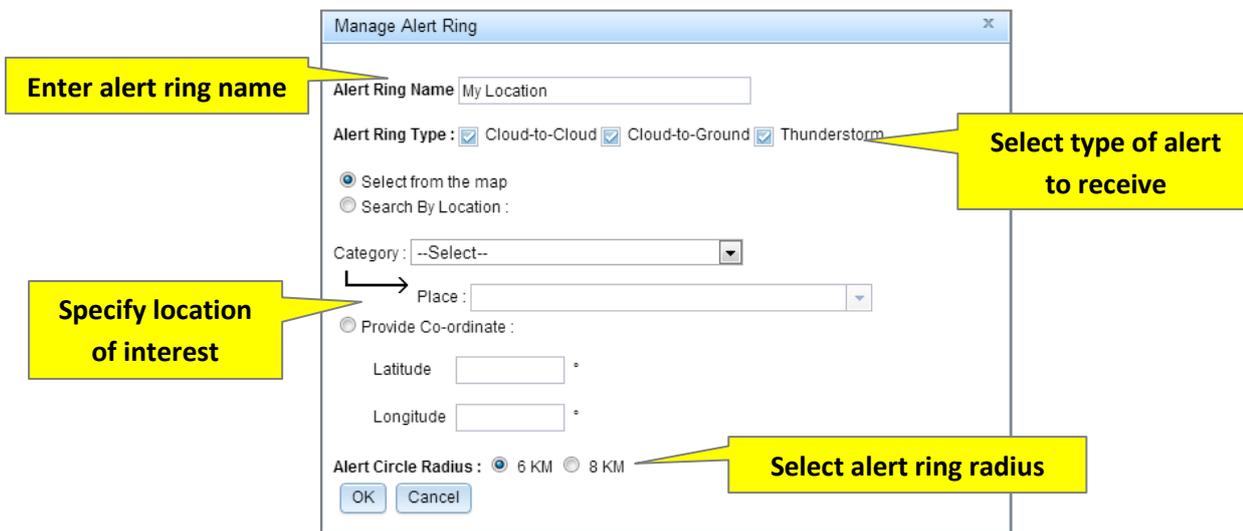
## Creating an Alert Ring

User may customise up to three locations of interest for receiving alerts. Alerts are received when lightning is detected and/or when there is a forecast of thundery showers within six or eight kilometres from the location of interest.

To create an alert ring, begin by clicking the “Manage Alert Ring” button on the right.



The “Manage Alert Ring” window will appear.



First, give the alert ring a name, then select the type of alert to receive. Select “Cloud-to-Cloud” and/or “Cloud-to-Ground” to receive alerts for detected lightning. Select “Thunderstorm” to receive alerts for forecasts of thundery showers.

There are three ways to specify the location of the centre of the alert ring. The selected or specified location must be within Singapore.

### 1) Select from the map

Check the “Select from the map” button and click “OK”. From the map display, click the desired location of interest on the map. An alert ring will be formed around the selected point.

### 2) Search by location

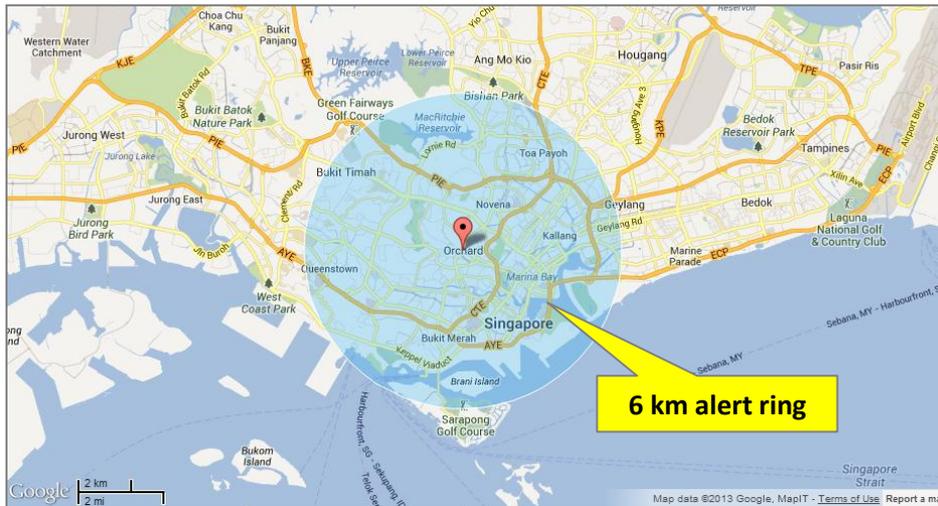
Check the “Search By Location” button. Choose a category for the location, for example, schools, parks, swimming complexes etc. A list of places will be made available for

selection based on the chosen category. Select the desired place and click “OK”. An alert ring will be formed based on the selected location.

### 3) Provide coordinates

Check the “Provide Co-ordinate” button. Enter the coordinates in degrees for the latitude and longitude of the desired location and click “OK”. An alert ring will be formed based on the specified location.

By default, the alert circle radius is set at 6 km. Users have the option of choosing an 8 km radius as well.



Example of a 6 km alert ring shown on the map display

Once an alert ring has been created, to modify its settings go to “Manage Alert Ring” again. The alert ring can also be hidden or removed.

## Types of Alerts

### 1) Alert sound

An audio alert will be played. This option can be toggled at the bottom right.



Alert sound on



Alert sound off

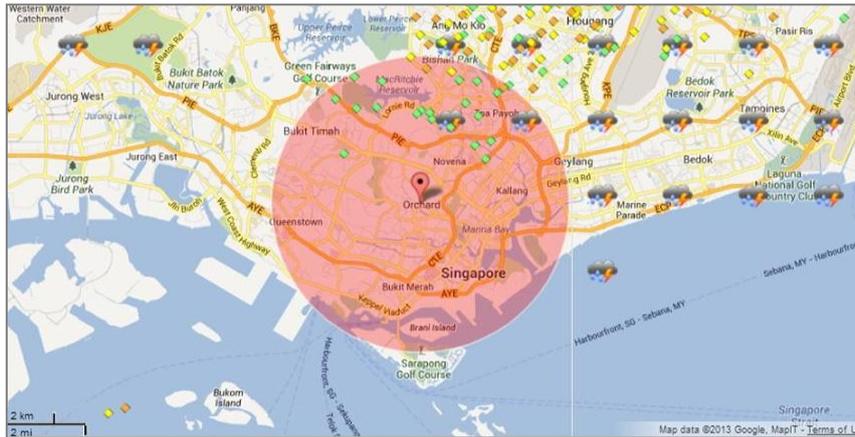
### 2) Scrolling message display

Alert message will be displayed at the top as a scrolling text.



Scrolling alert message

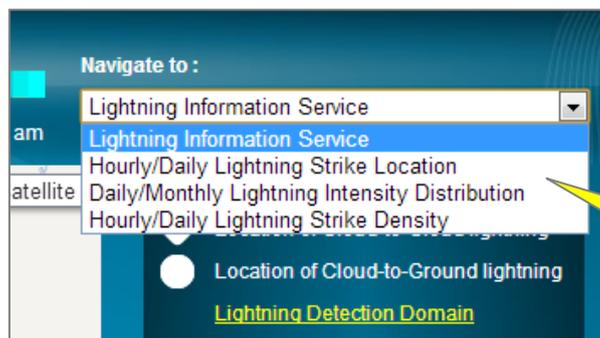
If an alert is active for an alert ring, the ring will be highlighted in red as shown below:



### More Lightning Information Available

Pages with other types of lightning information can be accessed by clicking on the page navigation drop-down list at the top right. These include:

- Hourly/Daily Lightning Strike Location
- Daily/Monthly Lightning Intensity Distribution
- Hourly/Daily Lightning Strike Intensity



Navigate to other lightning information pages