

PASAP Seasonal Prediction Portal – User Manual

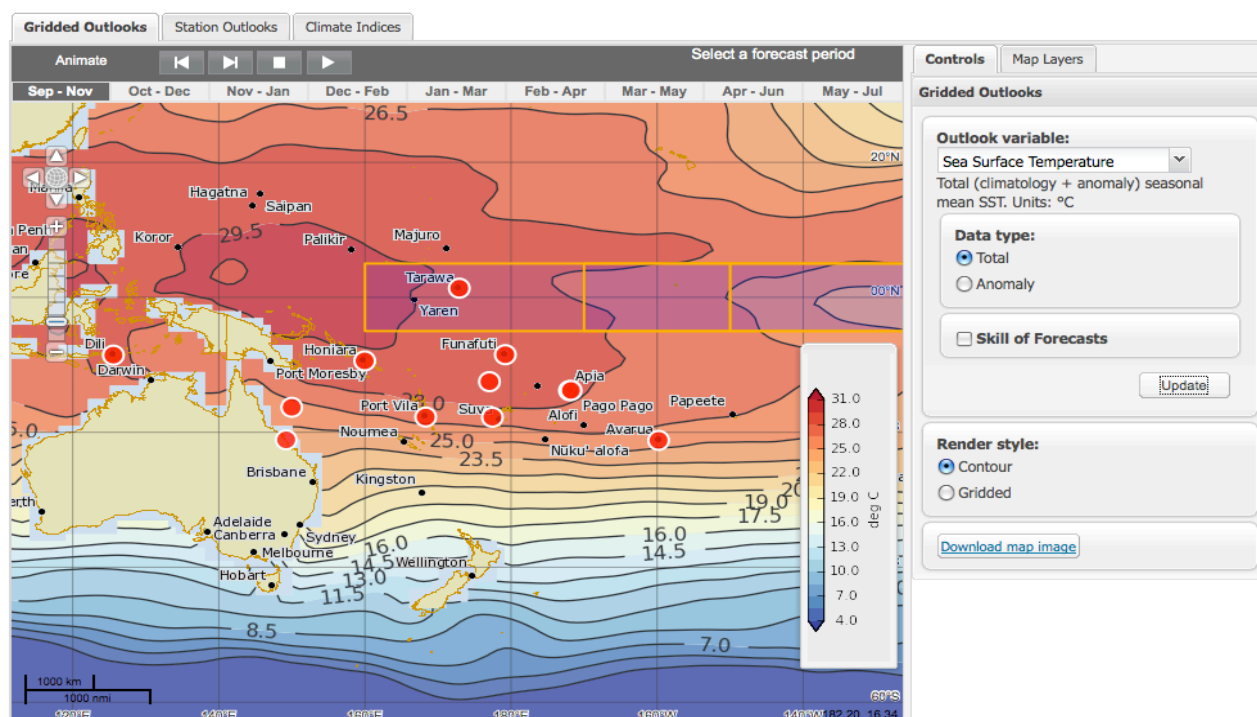
Part 1: Website Guide

The PASAP Seasonal Prediction portal provides seasonal climate outlooks at local and Pacific-wide scales. The outlooks are based on the current operational version of POAMA, a dynamical model based seasonal prediction system run at the Australian Bureau of Meteorology.

This document provides an overview of the user interface and describes how to accomplish key tasks.

Accessing the Portal

Supported browsers:	Firefox, Chrome
URL:	http://poama.bom.gov.au/experimental/pasap
Username:	poama
Password:	Email a.charles@bom.gov.au or d.jones@bom.gov.au



Documentation produced by K. Shelton and A. Charles, 2011. PASAP - Climate Prediction Capabilities Strengthened in National Meteorological Services. An Ausaid / DCCE sponsored project delivered by the Australian Bureau of Meteorology. PASAP Seasonal Prediction Portal and associated data products designed and built by A. Charles, R. de Wit, A. Cottril, S. Langford, E. Lim, D. Jones, H. Hendon, Y. Kuleshov.

1. PASAP Portal Overview

The PASAP Portal is divided into three main areas. The primary area is the “Data View Area” with two secondary areas, the “Outlook Type Tabs” and the “Side Panel”. The orientation of the PASAP Portal is displayed below.

Outlook Type Tabs

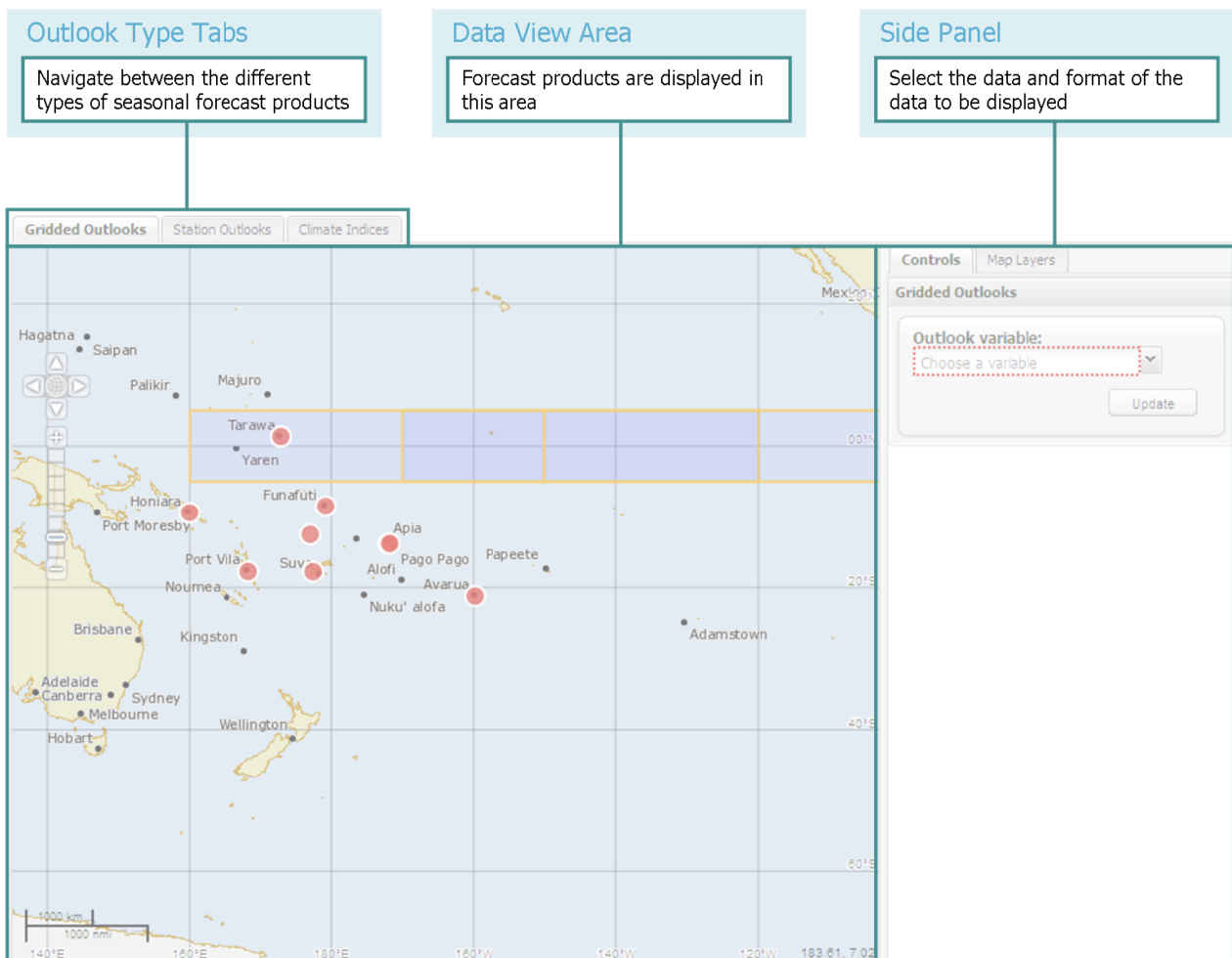
These tabs are used for navigation between the different types of seasonal forecasts that are available through the PASAP Portal. The product types available include “Gridded Outlooks”, “Station Outlooks” and “Climate Indices”. Documentation for each of these products can be found in sections 2, 3 and 4, respectively.

Data View Area

The forecast products are displayed in this area. Further documentation relevant to the specific outlook type can be found in sections 2, 3 and 4.

Side Panel

The data and format of the data to be displayed in the Data View Area are selected in this side tab. Further documentation relevant to the specific outlook type can be found in sections 2, 3 and 4.



2. Outlook Type: Gridded Outlooks

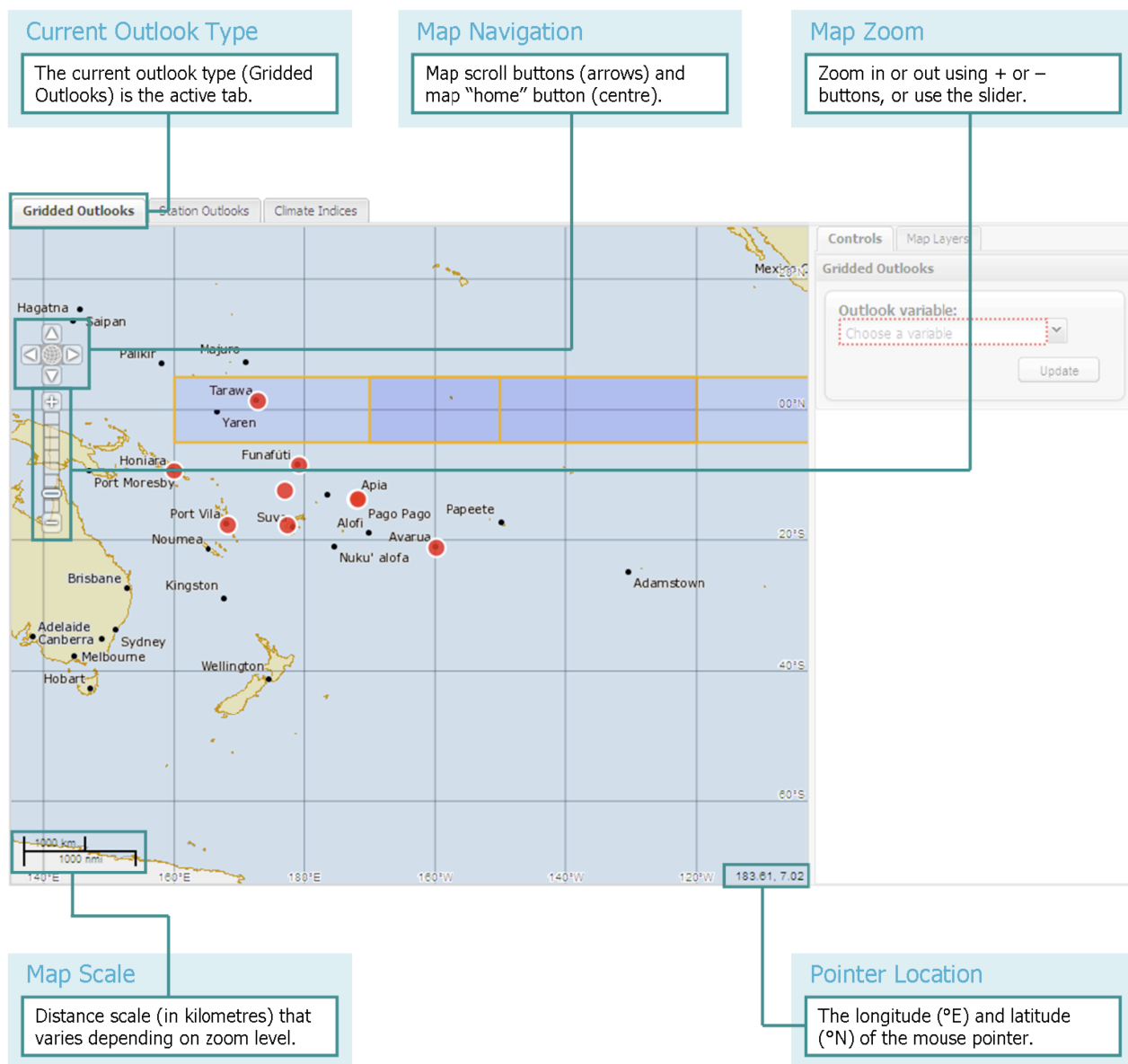
Seasonal forecasts presented in this format are displayed as maps of gridded data. An overview of the Data View Area and Side Panel are provided, followed by a more in-depth guide to displaying the seasonal forecast products for Gridded Outlooks

2.1 Overview

A brief overview describing the set-up of the Data View Area and Side Panel for Gridded Outlooks.

2.1.1 Data View Area

For Gridded Outlooks, the Data View Area displays a map by default. The “home” map view is one displaying the South Pacific. Several utilities are provided to aid navigation and interpretation when viewing the map. These features are highlighted below.



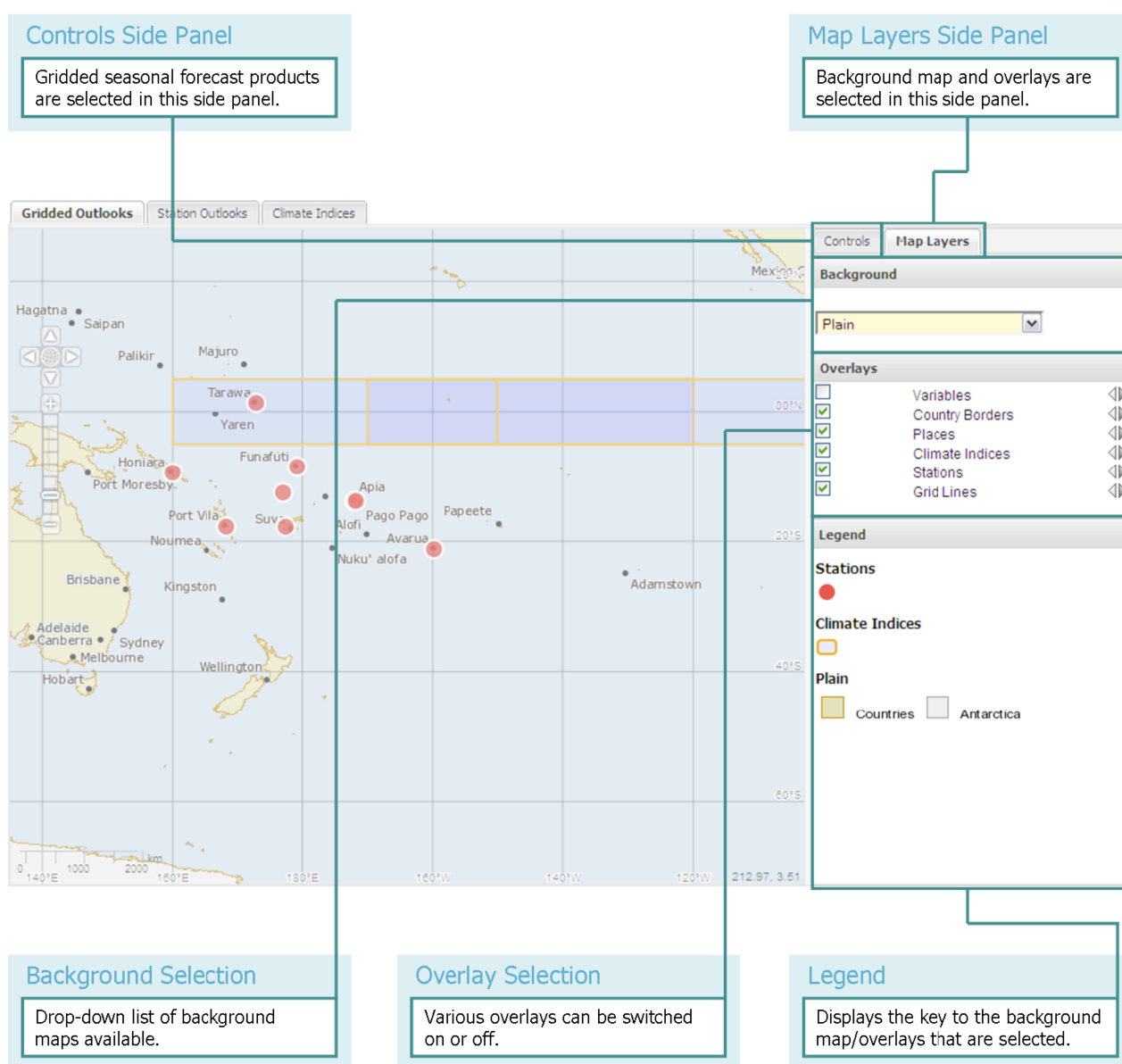
- ☒ **Current Outlook Type**
The “Gridded Outlooks” tab is active.

- ☒ **Map Navigation**
The arrow buttons allow navigation (scrolling) around the global map. Navigation can also be achieved by using the mouse to drag the map around (click and hold the mouse button to drag the map). A map “home” button is also provided, at the centre of the arrow buttons. Clicking this button will return the map view to the default location and zoom setting.

- ☒ **Map Zoom**
Eight levels of zoom are provided. To zoom in or out either click on the + or – buttons, or move the zoom slider. Zooming can also be achieved by scrolling with a mouse; double-clicking with a mouse will zoom-in one zoom level, centring the map on the location clicked.
- ☒ **Map Scale**
A distance scale, in kilometres, that varies depending on the zoom level.
- ☒ **Pointer Location**
The current location of the mouse pointer within the Data View Area is displayed as longitude (°E) and latitude (°N) coordinates.

2.1.2 Side Panel Control

The Side Panel Control for Gridded Outlooks is used to determine the gridded seasonal forecast product that is displayed in the Data View Area, as well as the background map that is used and various other overlays that may be desired. Selections available are described below.



- ☒ **Controls Side Panel**
The seasonal forecast data to be plotted in the Data View Area are selected in the Controls Side Panel. See section 2.XXX for in-depth documentation.

Map Layers Side Panel

The background map and various overlays can be selected in the Map Layers Side Panel.

Background Selection

The background map displayed in the Data View Area is selected in this drop-down menu. The map selected will form the background map to any seasonal forecast data displayed in the Data View Area. The background maps available are:

- Plain: Landmasses and oceans are shaded; countries are outlined. This is the default map background
- Plain and economic exclusion zones: Landmasses and oceans are shaded; countries are outlined; territorial waters are shaded and outlined.
- Topography: As “Plain” but with land elevation shaded between 20°N and 60°S.
- Topography and bathymetry: As “Plain” but with land elevation and ocean depth shaded between 20°N and 60°S.
- Blank: A blank (white) background with no geography.

Overlay Selection

List of overlays, displayed in the Data View Area, that can be switched on or off by checking or clearing the box. Available overlays include:

- Variable: When an outlook variable has been selected and plotted (using the Controls Side Panel), the name of that variable is displayed here.
- Country Borders: Country outlines. This overlay appears above any outlook variable that may be plotted in the Data View Area.
- Places: Location and name of capital cities and Australian state/territory capitals. This overlay appears above any outlook variable that may be plotted in the Data View Area.
- Climate Indices: Shaded and outlined boxes indicating the regions over which Niño 3, Niño 3.4 and Niño 4 indices are determined. This overlay appears above any outlook variable that may be plotted in the Data View Area. All three indices are shown and each box is clickable to reveal a pop-up with small image of the SST anomaly time series for that index. A link to Outlook Type: Climate Indices displaying the times series in the Data View Area is also provided in the pop-up. The pop-up can be closed by clicking the “X” in the top right corner of the pop-up.
- Stations: Large red dots indicating the locations of participating South Pacific Island meteorological observing stations for which stations data is available. This overlay appears above any outlook variable that may be plotted in the Data View Area. The dots are clickable to reveal a pop-up with a link to Outlook Type: Station Outlooks displaying information for that station in the Data View Area. The pop-up can be closed by clicking the “X” in the top right corner of the pop-up.
- Grid Lines: Latitude and longitude grid at intervals that vary depending on the zoom-level selected. This overlay appears above any outlook variable that may be plotted in the Data View Area.

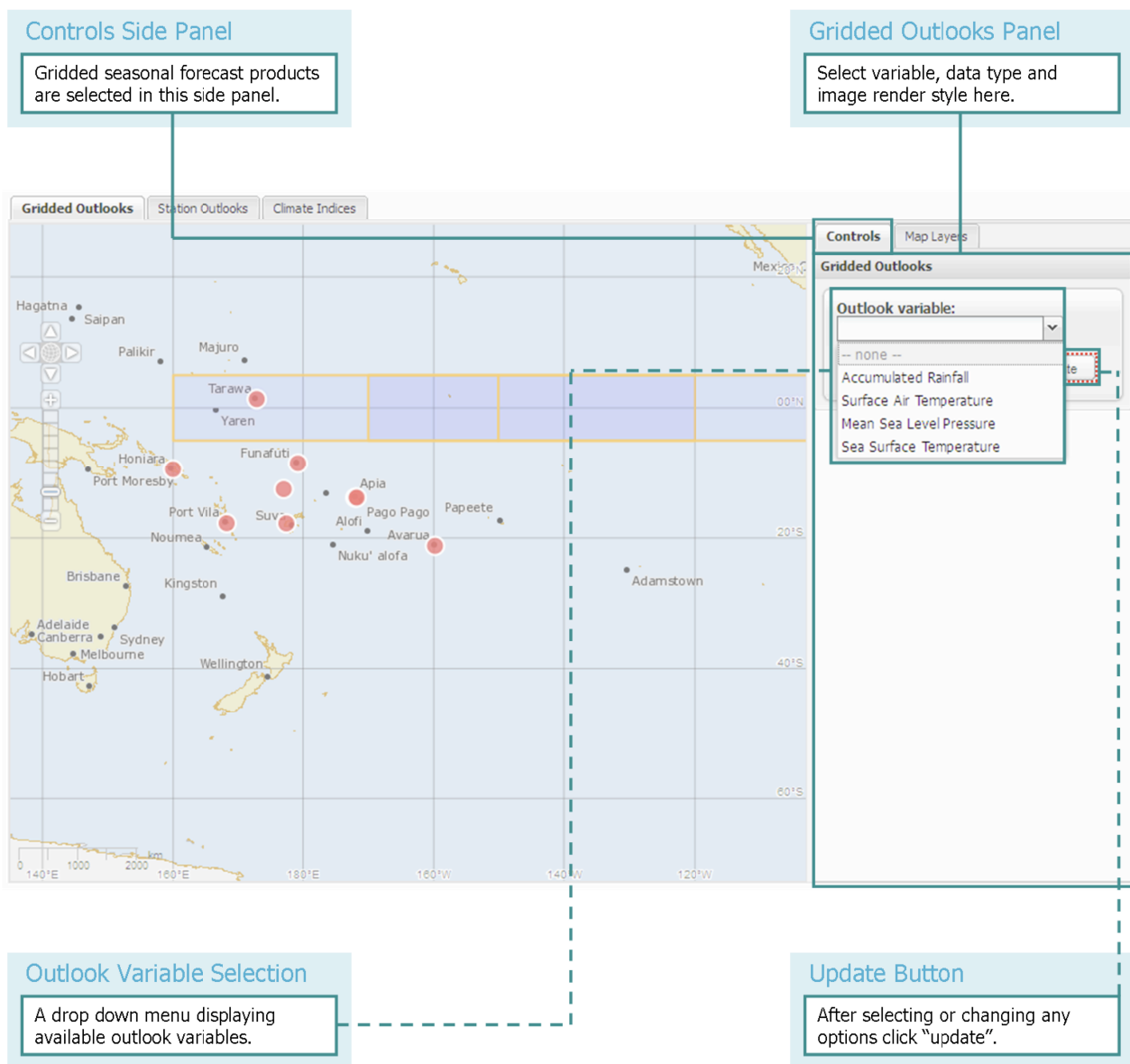
Legend

A key to the map background and overlays that are displayed in the Data View Area. If an outlook variable is displayed, the colour scale relevant to that variable is also displayed.

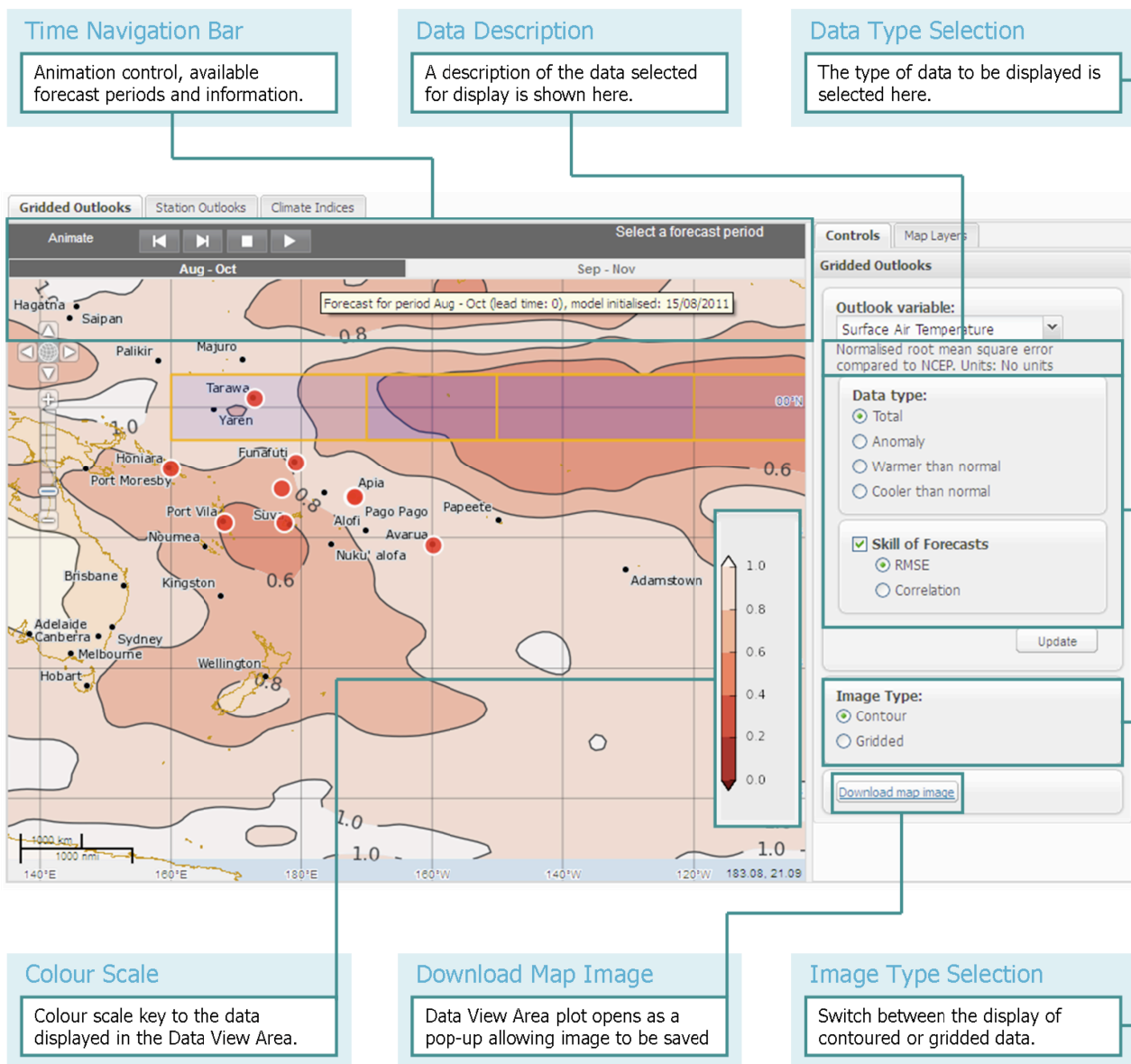
2.2 Gridded Seasonal Forecast Products

Viewing a seasonal forecast of a gridded variable is achieved by selecting the data, which will be plotted in the Data View Area, using the Controls Side Panel. The process by which a seasonal forecast can be viewed and downloaded is described below.

1. The desired Outlook Variable is selected from the drop-down menu in the Gridded Outlooks Panel.
2. The “Update” button will have a red border once a selection has been made or changed, it must be clicked before the selections or changes will appear in the Data View Area. While the data is loading, a “busy” icon will appear above the top right corner of the Side Panel. This icon looks like an anemometer spinning in the wind.



- After an Outlook Variable has been selected, further menus will become available in the Gridded Outlooks Panel. Immediately below the Outlook Variable selection menu is brief a description of the currently selected data.
- Depending on the Outlook Variable selected, various Data Types are available. The update button must be clicked to view each Data Type in the Data View Area.
- Associated with each Outlook Variable and Data Type combination are measures of forecast skill which represent the ability of the model make an accurate forecast. To access the forecast skill measures, the "Skill of Forecasts" box must first be checked. Again, the update button needs to be clicked before the desired forecast skill will be displayed in the Data View Area.
- Once the desired data has been selected and plotted in the Data View Area, a moveable box will appear in the lower right area of the Data View Area. This box contains the colour scale relating to the data plotted in the Data View Area. The box can be moved by clicking and dragging the upper edge of the box.
- Along the top edge of the Data View Area is the Time Navigation Bar. The top portion of this bar is composed of animation controls which can be used to show the displayed data for all available forecast periods. The four controls (l-r) are: rewind to the beginning, skip to the end, stop and play from the currently selected forecast period. Below the animation bar are the available forecast periods; the currently selected period is highlighted with darker shading. The data defaults to the current season. Other forecast periods can be selected by clicking on the lighter coloured boxes, the plotted data will update automatically. By hovering the mouse pointer over a forecast period box, a dialogue box is revealed giving the date the current forecast was run and the lead time the selected forecast period represents for that model run.

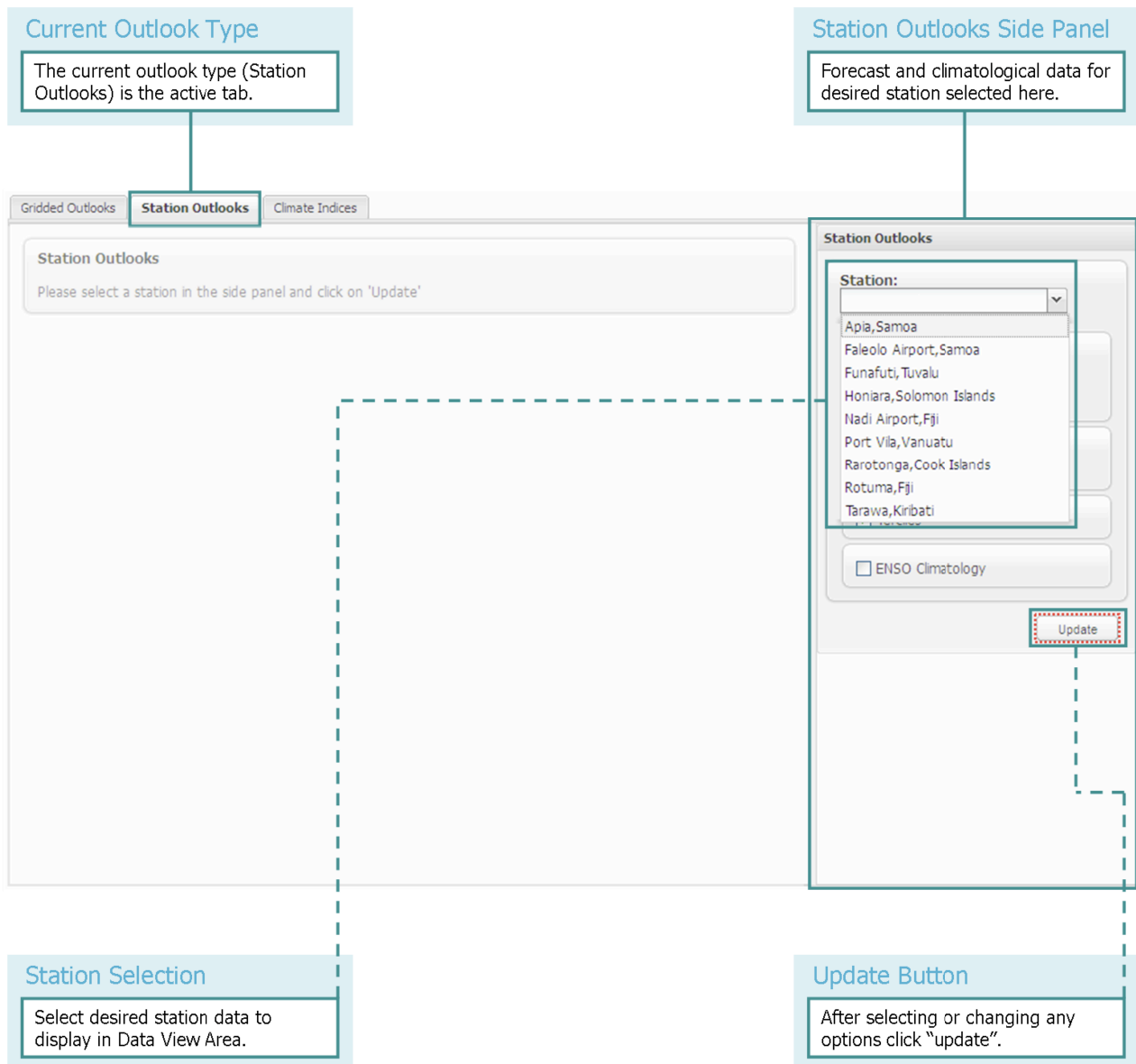


8. The data is displayed in the Data View area can be either contoured shading or grid boxes shaded by their actual values. The way the data is displayed is selected in the Image Type Selection box in the Controls Side Panel.
9. The seasonal forecast as displayed in the Data View Area can be saved as an image by clicking the "Download map image" link in the Controls Side Panel. Clicking this link opens a pop-up window containing a downloadable version of the plot displayed in the Data View Area. The plot can be saved by clicking anywhere in the pop-up window. To close the window, click the "X" in the top right corner of the pop-up window.

3. Outlook Type: Station Outlooks

Seasonal forecasts for participating South Pacific Island meteorological stations are presented along with climatological data. The process for displaying a seasonal forecast or climatological data for a station is described below.

1. The desired station is selected from the drop-down menu in the Station Outlooks Side Panel.
2. The “Update” button will have a red border once a selection has been made or changed, it must be clicked before the selections or changes will appear in the Data View Area. While the data is loading, a “busy” icon will appear above the top right corner of the Side Panel. This icon looks like an anemometer spinning in the wind.



3. Once the station has been selected, choose the variable to view data for in the Variable Selection box.
4. By default, seasonal forecast data for the current season is selected to be plotted. If a different season is desired, this can be selected from the drop-down menu in the Outlook Period box.
5. If climatological data is desired in addition to the forecast data, ensure the box for this is also checked in the Data Selection box. If *only* climatological data is desired, the also un-check the forecast data box.
6. Once the desired station data has been selected and the update button clicked, the plots will be displayed in the Data View Area. Scroll down to view all plots in this area.

7. At the top of the Data View Area, Station Information is displayed. The WMO number for the station is shown along with the latitude (°N) and longitude (°E) coordinates of the station. A map showing the location of the station within the South Pacific region is also displayed.
8. The data plots displayed in the Data View Area can be downloaded by right-clicking on the plot and selecting "Save Image As...". The data represented in the plots can be downloaded by following the "Download Data" link near the top of each plot. The data is provided in text (as ASCII data) in comma-separated values (CSV) format.

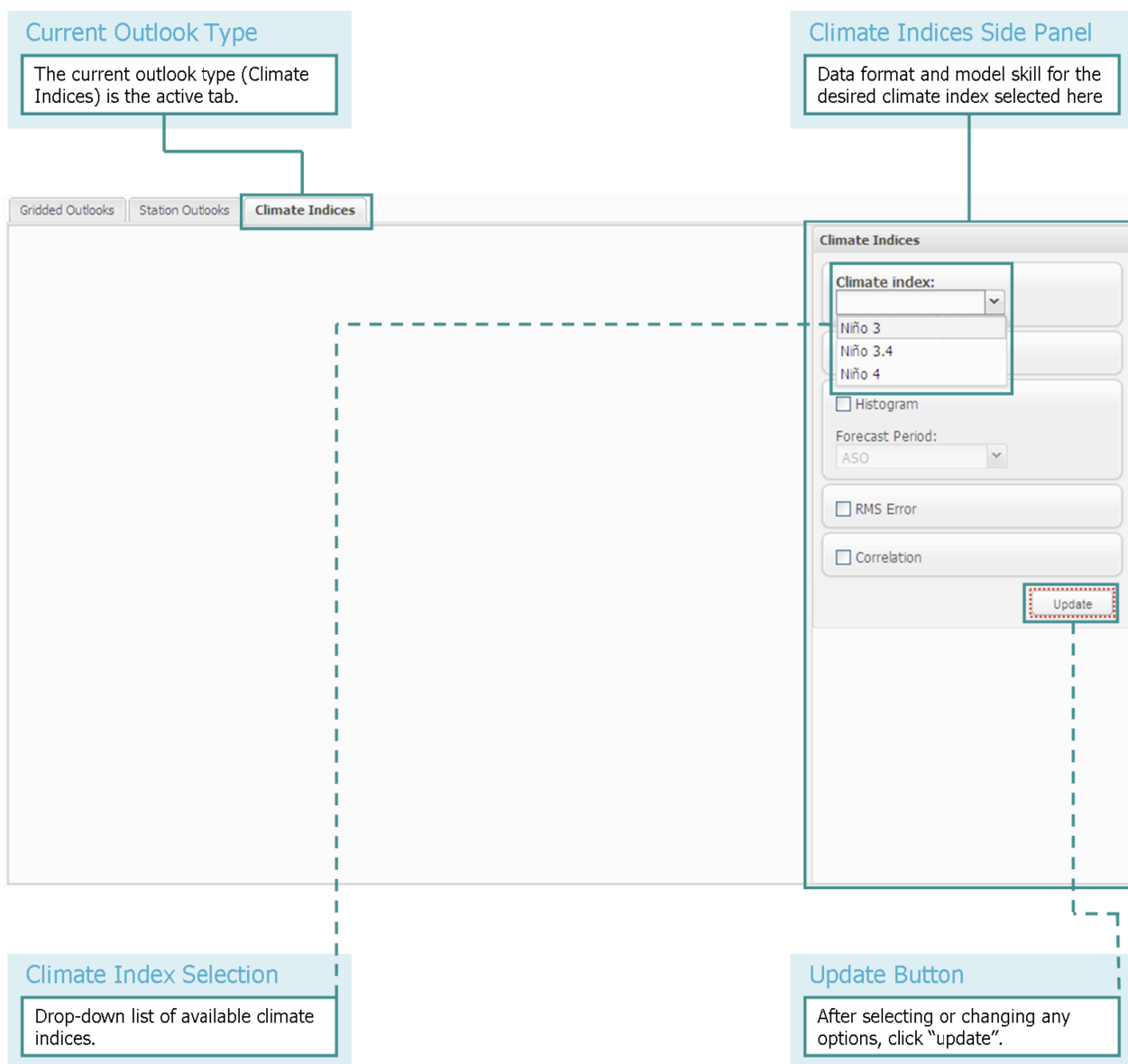
The screenshot shows the 'Station Outlooks' web application. At the top, there are three tabs: 'Gridded Outlooks', 'Station Outlooks' (selected), and 'Climate Indices'. The main content area is divided into two sections. The top section, titled 'Station : Funafuti, Tuvalu', displays the WMO Number: 91642 and Coordinates: -8.50, 179.22, along with a map of the South Pacific region showing Funafuti, Tuvalu. The bottom section, titled 'Rainfall Terciles', shows a bar chart for 'Funafuti - ASO' with the y-axis labeled 'Probability (%)' ranging from 0 to 100.0. The x-axis is labeled 'Tercile' with categories 'Dry', 'Normal', and 'Wet'. The 'Dry' bar is red and reaches 100.0%. The 'Normal' bar is grey and reaches approximately 5%. The 'Wet' bar is white and reaches 0%. Below the chart, a text box states: 'Normal accumulated rainfall for ASO Funafuti: 591 - 844 mm'. To the right of the chart is a 'download_data' link. On the right side of the interface is a 'Station Outlooks' sidebar. It contains a 'Station:' dropdown menu set to 'Funafuti, Tuvalu'. Below it is a 'Variable:' section with radio buttons for 'Rainfall' (selected) and 'Temperature'. Underneath is an 'Outlook Period:' dropdown menu set to 'ASO'. There are two checkboxes: 'Terciles' (checked) and 'ENSO Climatology' (checked). At the bottom of the sidebar is an 'Update' button. Six callout boxes with lines pointing to specific parts of the interface provide additional information:

- Station Information:** Provides information about, and location of, the selected station.
- Scroll Bar:** Scroll down to see all the station data in the Data View Area.
- Variable Selection:** Select the for the forecast or climatological data here.
- Data Download Link:** Download the data in text (ASCII) format by clicking this link.
- Data Selection:** Forecast and/or climatological data to be shown in the Data View Area.
- Outlook Period Selection:** Select the Outlook Period for which forecast data will be shown.

4. Outlook Type: Climate Indices

Seasonal forecasts are available for a variety of climate indices. The process for displaying a seasonal forecast for a climate index is described below.

1. The desired climate index is selected from the drop-down menu in the Climate Indices Side Panel.
2. The “Update” button will have a red border once a selection has been made or changed, it must be clicked before the selections or changes will appear in the Data View Area. While the data is loading, a “busy” icon will appear above the top right corner of the Side Panel. This icon looks like an anemometer spinning in the wind.



3. Once the climate index has been selected, choose any or all types of data (including model skill variables) to display in the Data View Area. By default, “Time Series” is selected; if this plot is not desired ensure the box is un-checked.
4. For certain plot types, different forecast periods can be displayed. By default the current season is selected, if a different forecast period is desired, this can be selected from the drop-down Forecast Period Selection menu.
5. Once the desired climate index data has been selected and the update button clicked, the plots will be displayed in the Data View Area. Scroll down to view all plots in this area.
6. The data plots displayed in the Data View Area can be downloaded by right-clicking on the plot and selecting “Save Image As...”. The data represented in the plots can be downloaded by

following the “Download Data” link near the top of each plot. The data is provided in text (as ASCII data) in comma-separated values (CSV) format.

