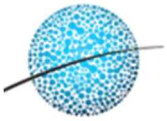
Pacific Island Countries Advanced Seasonal Outlook version 2.0

User Manual Ver. 1.0



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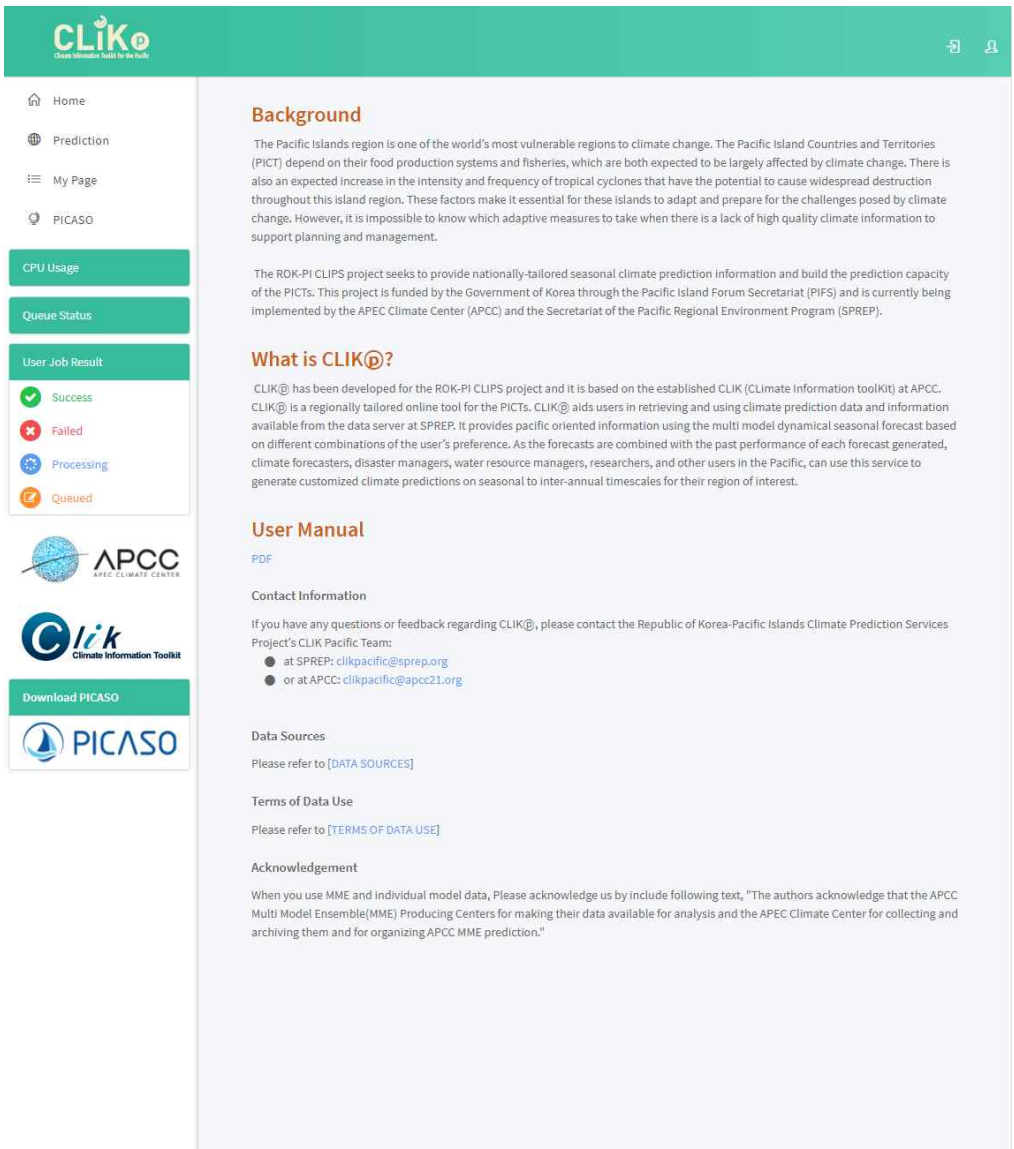
1 PICASO Installation Directions

◆ Installation Directions for the Pacific Island Countries Advanced Seasonal Outlook (PICASO)

1.1 Download PICASO

◆ The PICASO installation file can be downloaded through the Climate Information ToolKit for the Pacific (CLIK-P) website: http://clikp.sprep.org/. When you visit the CLIK-P homepage [Fig 1], click the PICASO logo on the lower left corner under “Download PICASO” [Fig 2], and you can download the installation file. Only CLIK-P users can download the file, so please sign up for CLIK-P if you are not already a user.

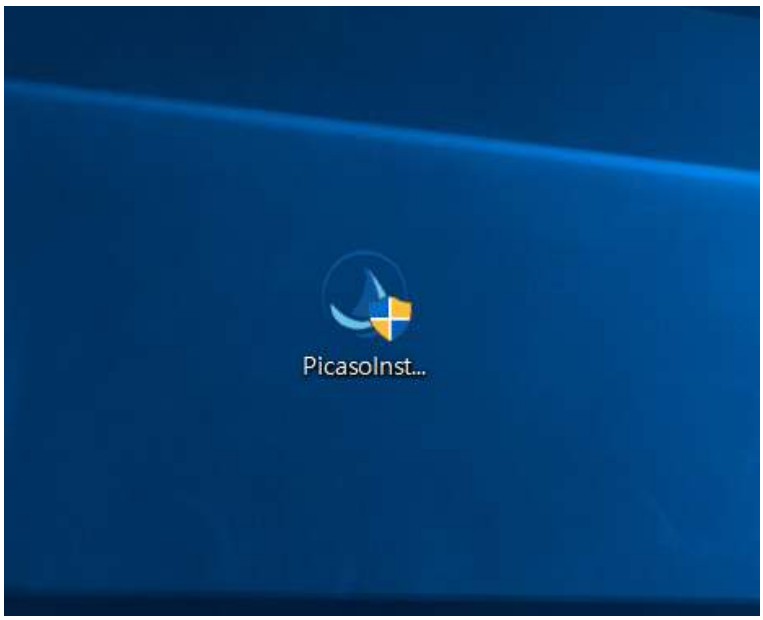


[Fig 1] CLIK-P homepage, where you can download the PICASO installation file.

[Fig 2] PICASO download link

1.2 PICASO Installation

- When the PICASO Installation file (PicasoInstaller) is completely downloaded, you will see the Installer file on the user specified folder or the default download folder of your web browser [Fig 3]. You can simply double click on the PICASO Installation file to initiate the installation process. The PICASO Installation file requires Administer Authority. Please accept the Administrator Authority according to the user's PC security measures.
- Depending on the type of security software such as antivirus solution used on the user's PC, installation may be denied or delayed. Please adjust your antivirus solution settings to allow PICASO Installation.



[Fig 3] PICASO installation file

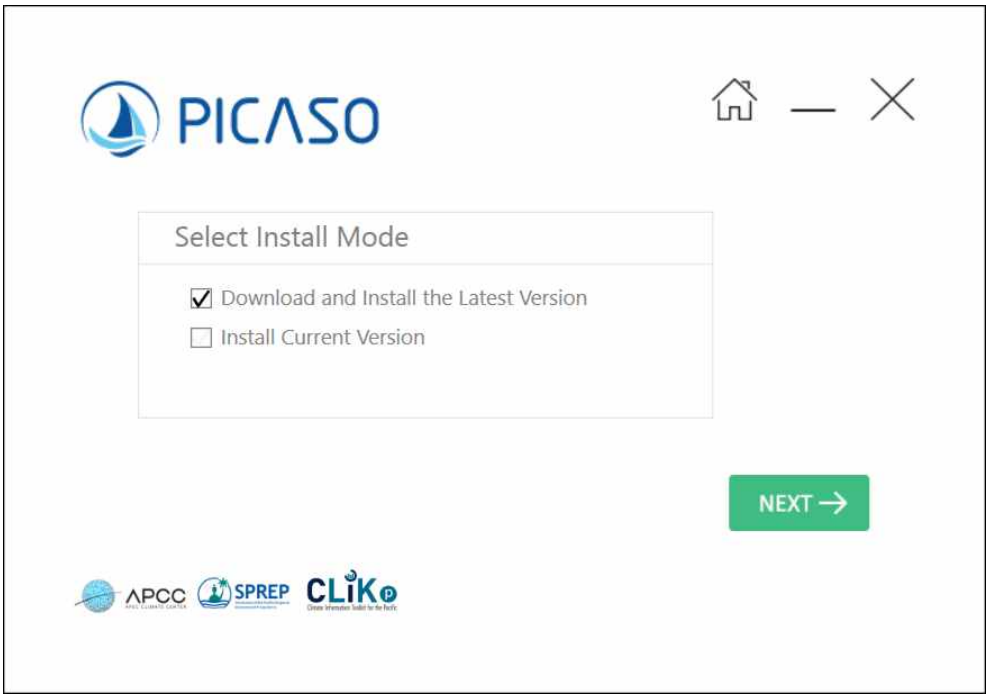
- A Splash screen [Fig 4] will appear shortly and disappear when you start the PICASO Installer. When the Splash Screen disappears, the PICASO Installation Main Screen will appear [Fig 5].

[Fig 4] PICASO Installation splash screen

- An E-mail address where users can send questions will appear on the PICASO Installation Main Screen.
- In order to proceed to the next step for installation, click on the “Install Desktop” button [Fig 5].

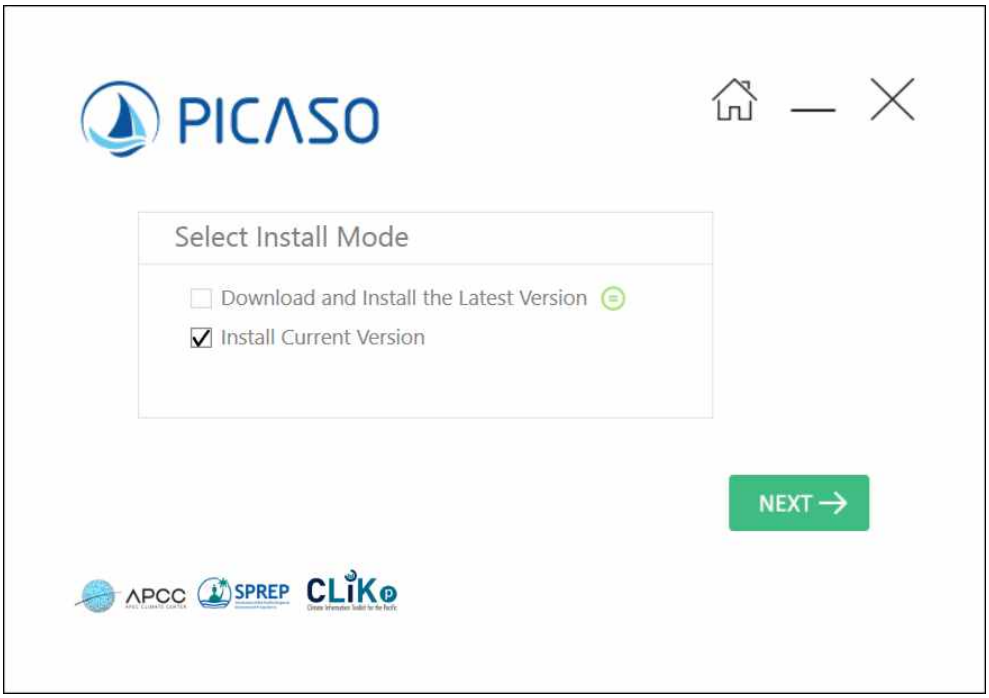
[Fig 5] PICASO Installation main screen

- PICASO offers two installation modes: (1) “Download and Install the Latest Version” and (2) “Install Current Version”.
- The “Download and Install the Latest Version” option will utilize the Internet to check the PICASO server for an updated version of PICASO, and if a later version is found, it will download the latest PICASO version for installation [Fig 6].
- Even if you have access to the Internet, you may choose “Install Current Version”.

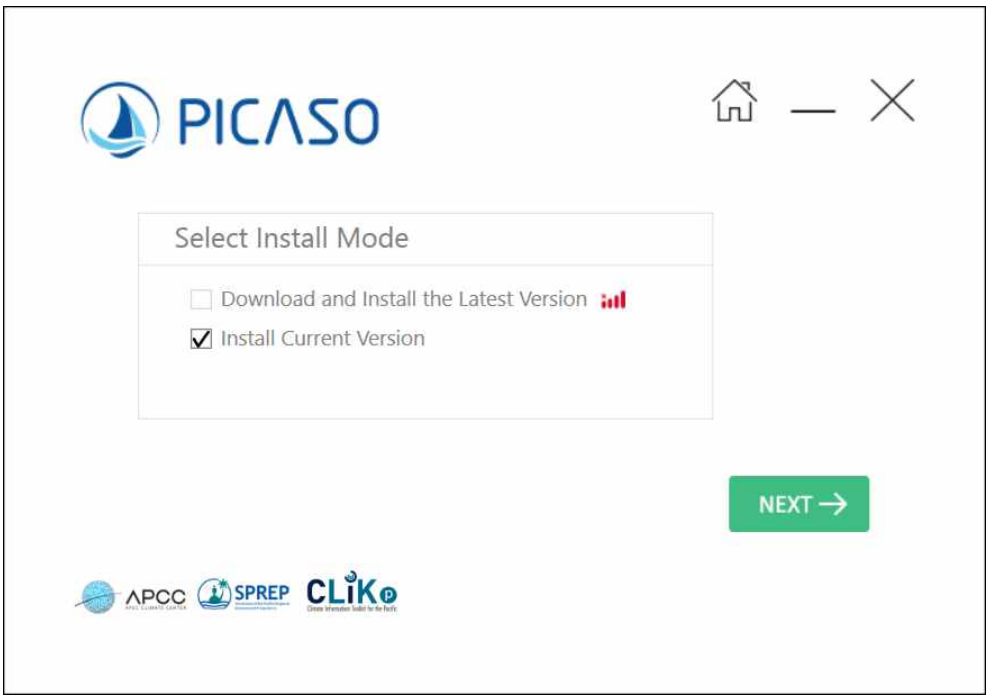


[Fig 6] Download and install the latest version option

- The “Install Current Version” option basically do not require the Internet access.
- If the installation file is the latest version, a icon will appear shown in [Fig 7], and if the installation file is unable to connect to the Internet, a icon will appear as shown in [Fig 8].
-



[Fig 7] Install current version option selected, also with indication that this installation file is the latest version



[Fig 8] Install current version option selected, also with indication that the installation file is unable to connect to the Internet

- Select the desired installation mode and click the “NEXT” button in [Fig 6] to proceed to the installation progress screen [Fig 9]. In the installation progress screen, the installation proceeds according to the mode selected in the installation mode. The difference between the “Download and Install the Latest Version” and “Install Current Version” options is the potential addition of downloading a new PICASO client.
- A progress bar and text shows current progress.

[Fig 9] Installation progress screen

- When installation is completed, a completion screen [Fig 10] is displayed. Clicking the “QUIT” button ends the PICASO Installation. The “START PICASO” check box determines if PICASO is launched upon exiting the PICASO Installation. If you click the “QUIT” button with the “START PICASO” check box selected, the PICASO Installer closes and PICASO is launched. Clicking the “QUIT” button without selecting the “START PICASO” check box will only close the PICASO Installation.

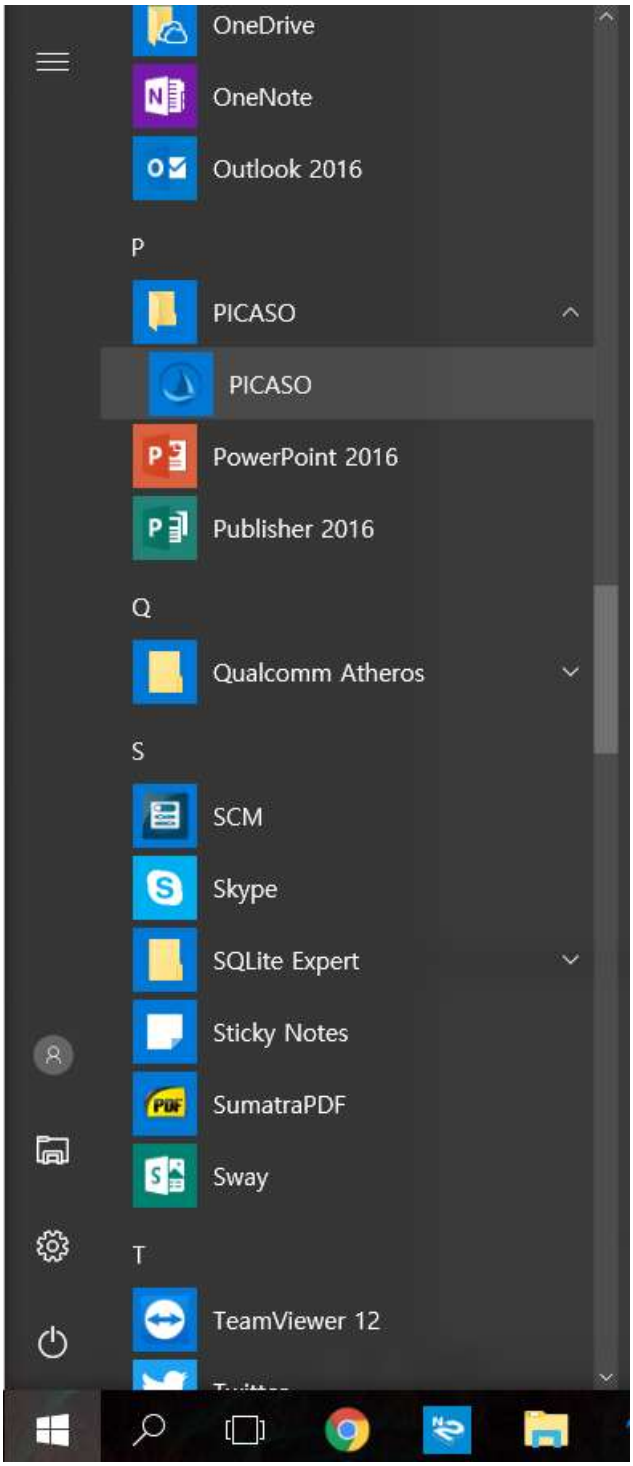
[Fig 10] Installation complete screen

1.3 Start PICASO

- After the installation, launch PICASO.
- If you selected the START PICASO in the PICASO Installation, PICASO will launch automatically.
- Click the PICASO shortcut icon created on the desktop as shown in [Fig 11].

[Fig 11] PICASO shortcut icon

◆ You can also launch PICASO using the start menu as shown in [Fig 12].

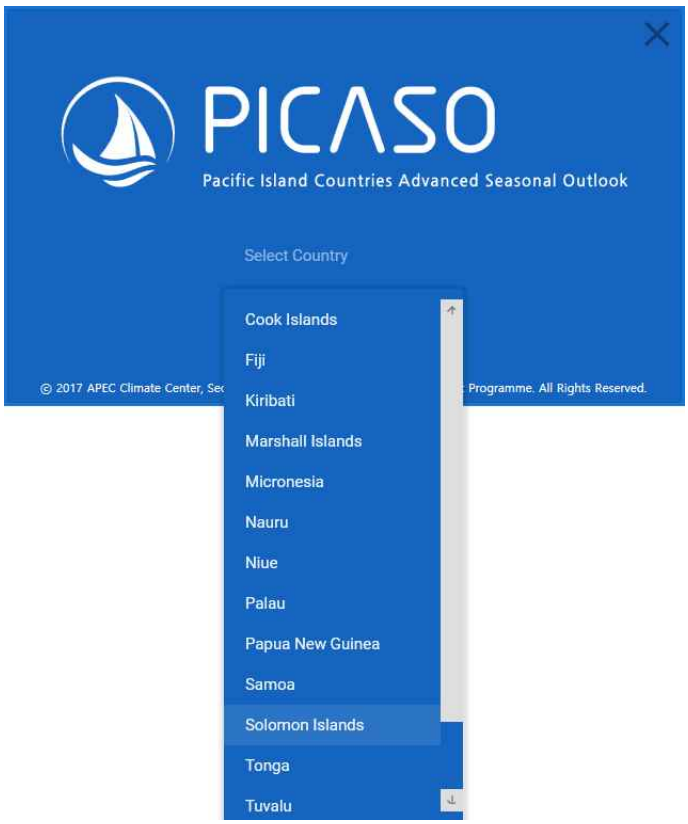


[Fig 12] PICASO from the start menu

2 Country Setting

- [Fig 13] is displayed only when launching PICASO for the first time to select a default country for the software.
- When the user country is selected in the "Select Country" combo box as shown in [Fig 14], the "OK" Button is activated as shown in [Fig 15].

[Fig 13] First-time launch screen

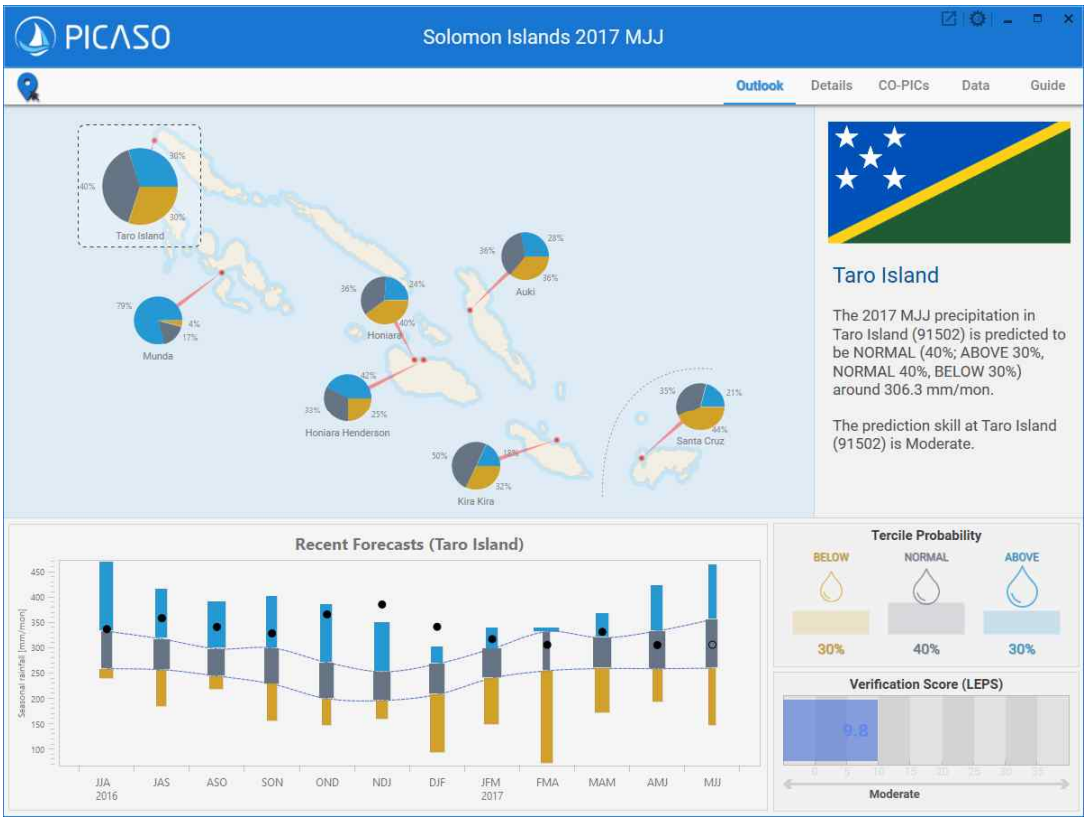


[Fig 14] Country option list

[Fig 15] PICASO default country setting

3 Start Screen

- [Fig 16] is the first screen that will appear after launching PICASO. On the top of the ribbon, PICASO's current settings (Country/Year/Season) will appear in the center, and on the right, there are the: “New Window” Icon ( ), “Menu” Icon ( ), “Help” Icon ( ), “Minimize Window” Icon ( ), “Maximize Window” Icon ( ), and “Close Window” Icon ( ).
- On the bottom of the ribbon, you can find the function to select the “Outlook”, “Details”, “CO-PICs”, “Data”, “Guide” tabs. On the left side, “Select a Station” ( ) allows you to display and select the all available stations in the set country.

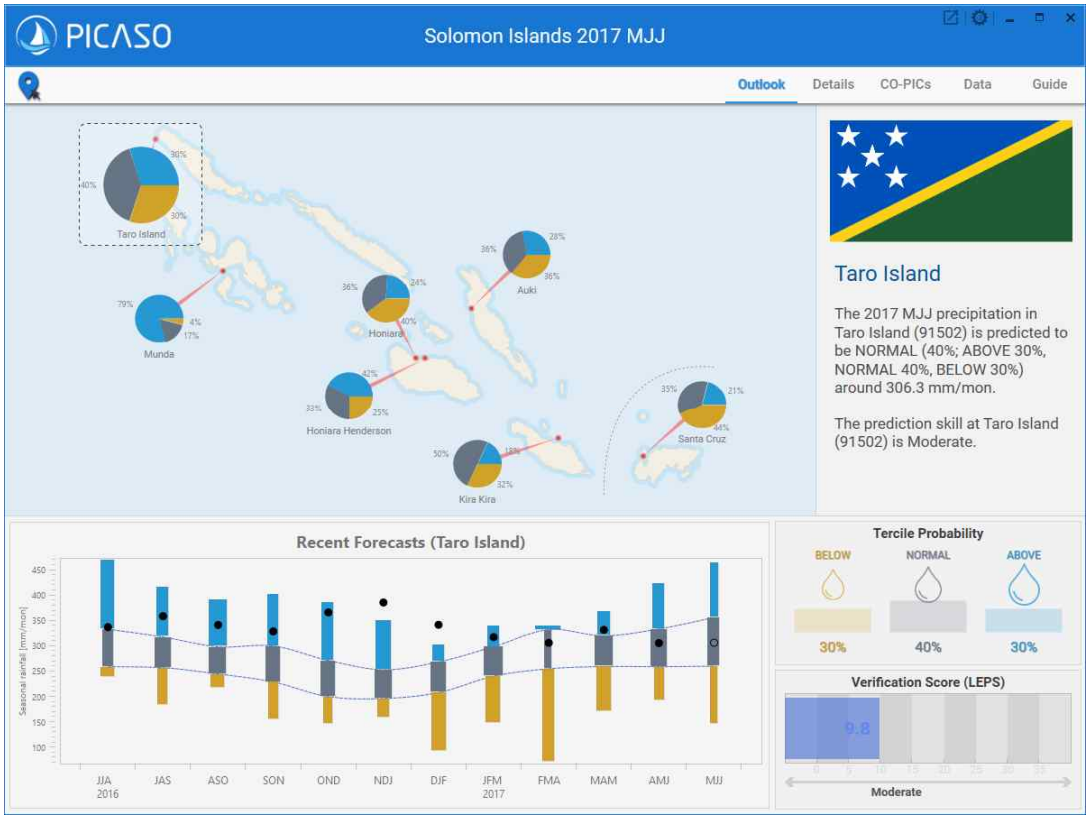


[Fig 16] PICASO start screen

4 PICASO seasonal forecast

4.1 Outlook

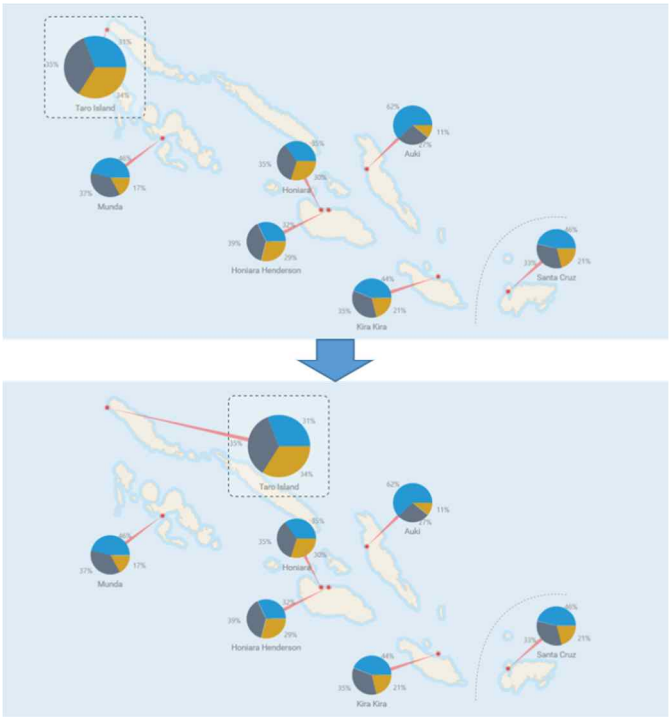
- Outlook is a tab that displays the seasonal forecasts of all of the stations in one country on the map and displays detailed seasonal forecasts for each selected station.
- We use a specialized lightweight map for the island countries, and indicate the location and forecast information of each station on the map with a pie chart.
- Each pie chart displays the station name and rainfall tercile probability information (below normal, near normal, above normal). You can switch stations by clicking on the respective pie charts.
- On the right side of the map, the selected country's flag, station name, and climate outlook information in simple text are displayed. The climate outlook information text is designed to be easy for the user to understand by summarizing the station outlook in a natural language format. The prediction performance is also simply categorized as: (1) very low, (2) low, (3) moderate, (4) good, (5) high, (6) very high, (7) high, and (8) excellent. But this text is recommended to be used as supplementary data.
- "Recent Forecasts" displays seasonal rainfall observations and forecasts for the last 12 seasons as a timeseries with the dots indicating actual observations and the bars indicating the probabilistic tercile forecasts. The display information is a three-month average precipitation: if the observation has the full three months of data, the circle is filled, and if it does not have the full three months of data, the circle will be empty. In the bar graph indicating the previous probabilistic tercile forecasts, the tercile's probability value is expressed by the area of the bar.
- "Tercile Probability" indicates the precipitation prediction probability information with bar graphs indicating the probability of below normal, normal, and above normal rainfall. This represents the probability that the predicted precipitation is distributed, based on the tercile value of the observed precipitation climate value in the training period.
- "Verification Score (LEPS)" compares the prediction result with the observation result, and outputs the result of predictability within the validation period. The skill assessment method used is the Revised Linear Error in Probability Space (LEPS) score, which is the skill assessment method already used in most island countries.



[Fig 17] Outlook tab

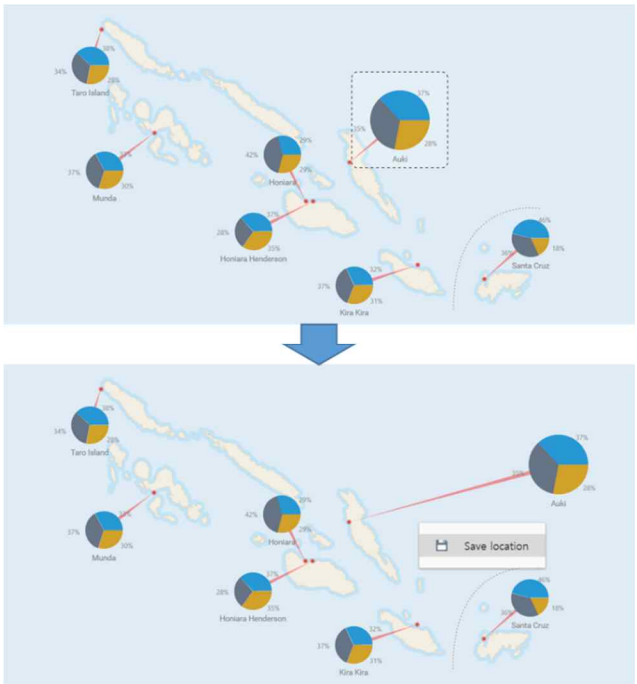
4.1.1 Map

- You can move the position of the pie chart by clicking and dragging the pie chart with the mouse as shown in [Fig 18].



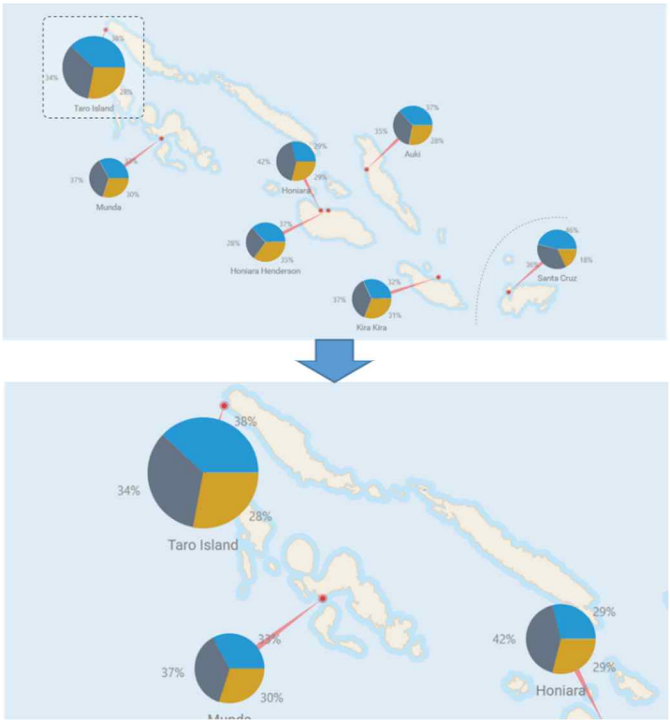
[Fig 18] Moving the pie chart in the Outlook tab

◆ If you want to save the location of the moved pie chart, right-click on the map as shown in [Fig 19] and click the “Save Location” button.



[Fig 19] Save location

◆ Zoom In & Zoom Out is possible with the mouse scroll wheel or by holding down the shift key and clicking the mouse left / right buttons as shown in [Fig 20].



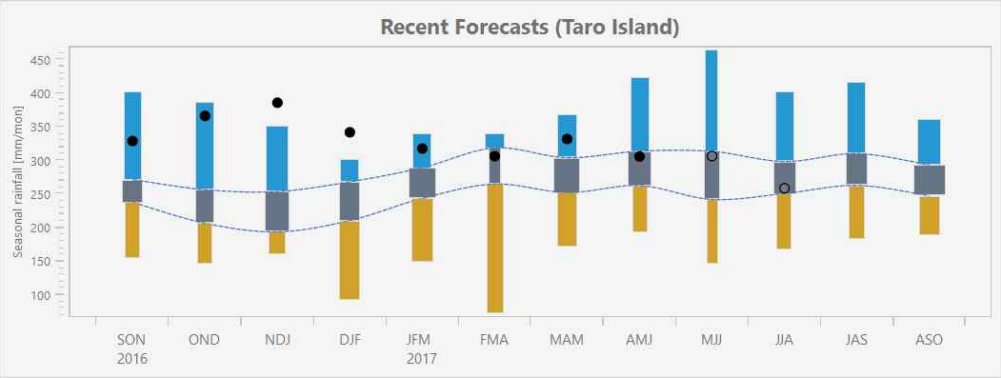
[Fig 20] Zooming in & out in the Outlook tab

◆ Drag the bottom of the map as shown in [Fig 21] to adjust the size.

[Fig 21] Adjusting map size in the Outlook tab

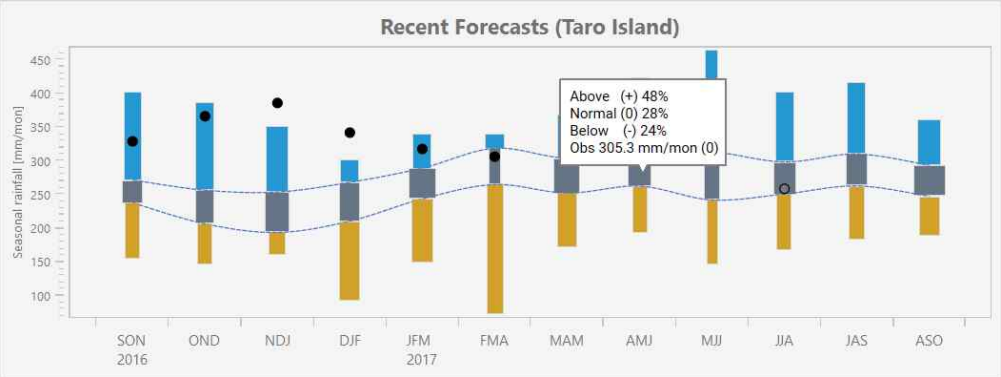
4.1.2 Recent Forecasts Chart

◆ "Recent Forecasts" shows the seasonal rainfall data for 12 seasons before the selected season [Fig 22]. The bars indicate the tercile probabilities as well as the ranges for the three categories of below normal, normal, and above normal rainfall, and the upper and lower limits of the bar correspond to the upper / lower 5% of the predicted probability distribution. The line chart indicates the reference information that is used to divide the three categories, which is equal to the tercile reference value of the observed precipitation climate value for the training period. The area of each category in the bar is proportional to the probability of each predicted category. The observation data is expressed as dots. If there are 3 months of complete observation data, "●" will appear, and if the data is incomplete, "○" will appear. If the data does not exist, nothing will appear.



[Fig 22] Recent Forecasts chart in the Outlook tab

◆ If you want to check the exact digital numerical data for each season, click on an area of the chart and the respective numerical data will be displayed [Fig 23].



[Fig 23] Recent Forecasts chart digital numerical data in the Outlook tab

4.1.3 Verification Score (LEPS)

- "Verification Score" compares the prediction data provided by PICASO with the user-input observation data to quantify the skill of the prediction. The Verification score provides a representative value of the Revised Linear Error in Probability Space (LEPS) score based on the prediction skill calculated in the validation period.
- The verification score is indicated by the bar chart and shows the qualitative category of the score in text form below the x-axis. Examples of the bar graph are shown in [Fig24].

[Fig 24] Various verification score bar graphs in the Outlook tab

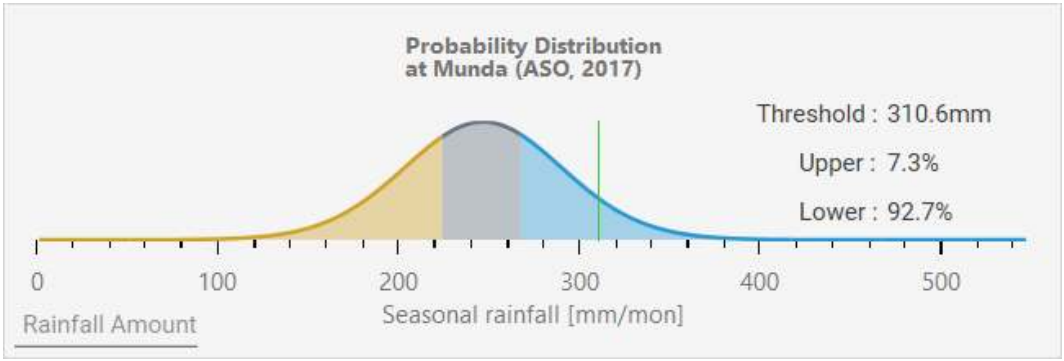
4.2 Details

- The Details tab displays more detailed information than the Outlook tab on the station's seasonal forecast and the result of the historical and recent (validation) forecast data.
- The forecast data is indicated in text, pie chart, and probability distribution formats.
- Displays both HSS (Heidke Skill Score) and LEPS verification score for the latest (validation period) prediction.
- The “Probability Distribution” shows a normal distribution chart for rainfall.
- "Prediction vs. Observation" consists of a box-plot chart as well as validation score and history tables, which display forecast data and observation data for the training and validation periods.

[Fig 25] Details

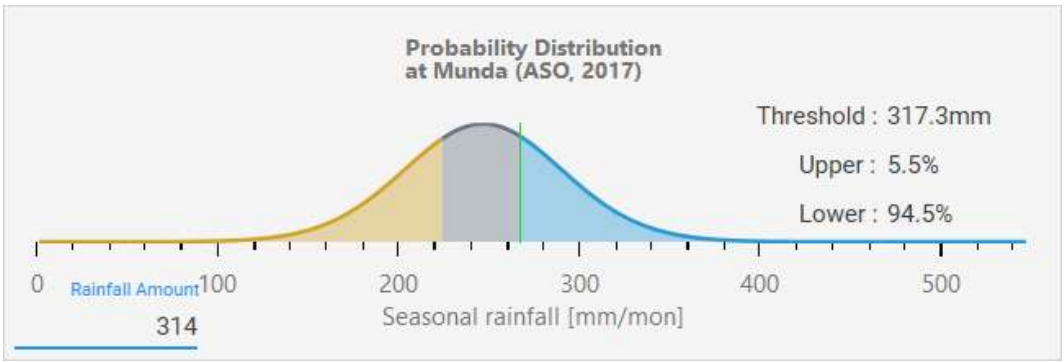
4.2.1 Probability Distribution

- “Probability Distribution" is a chart showing the forecast distribution of seasonal rainfall. It consists of the aforementioned terciles (below normal, normal, and above normal), each of which is separated by color.
- If you click on a reference value in the chart with your mouse, you will see the selected rainfall threshold and the probability that the rainfall will be higher or lower than the selected value. You can change the selected value by clicking and dragging with the mouse.



[Fig 26] Clicking on a rainfall threshold value on the probability distribution chart in the Details tab

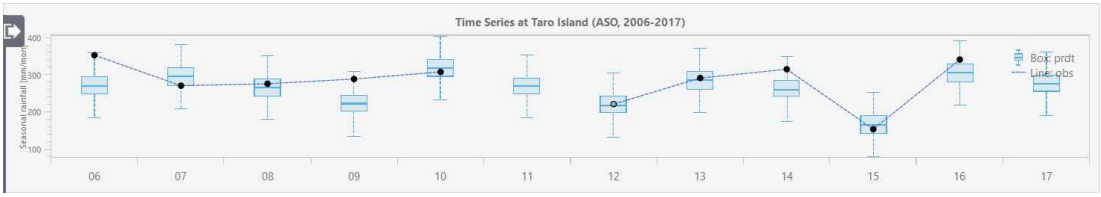
- If you want to select a reference value more precisely, you can enter the desired rainfall amount directly in the cell labeled "Rainfall Amount" on the bottom left [Fig 27]. If there is no value that matches the input value, the chart will select the closest approximate value and display its upper and lower probabilities.



[Fig 27] Inputting a rainfall threshold value in the cell in the Details tab

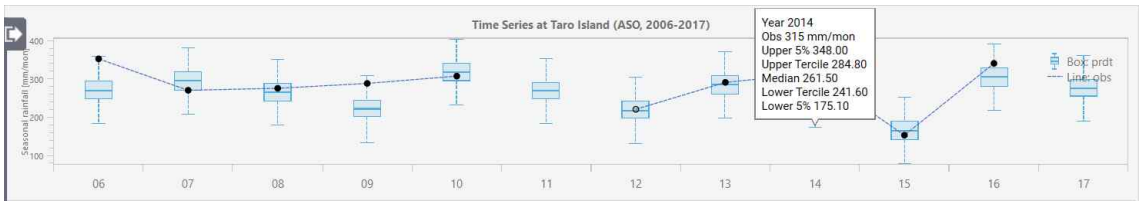
4.2.2 Prediction vs. Observation

- The box-plot chart displays both yearly forecast and historical information. The box indicates the forecasted precipitation distribution information. The line and points show observed rainfall information. The observation data is expressed as dots: if there are 3 months of complete observation data, "●" will appear; if the data is incomplete, "○" will appear; and if the data does not exist, nothing will appear.
- The predicted value appears in the form of an error bar. The top and bottom of the error line represent the upper / lower 5% of the predicted value, and the top and bottom of the box represent the upper / lower tercile value of the predicted value. The bold horizontal line in the box represents the median.



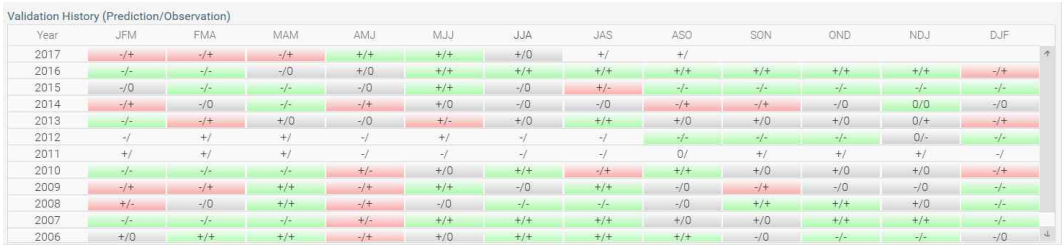
[Fig 28] Box-plot chart in the Details tab

- If you want to check the exact numerical data in a certain year, click on the chart, and the numerical data for the observed rainfall and the upper / lower 5%, median, upper / lower tercile of the forecast distribution will be shown as in [Fig 29].



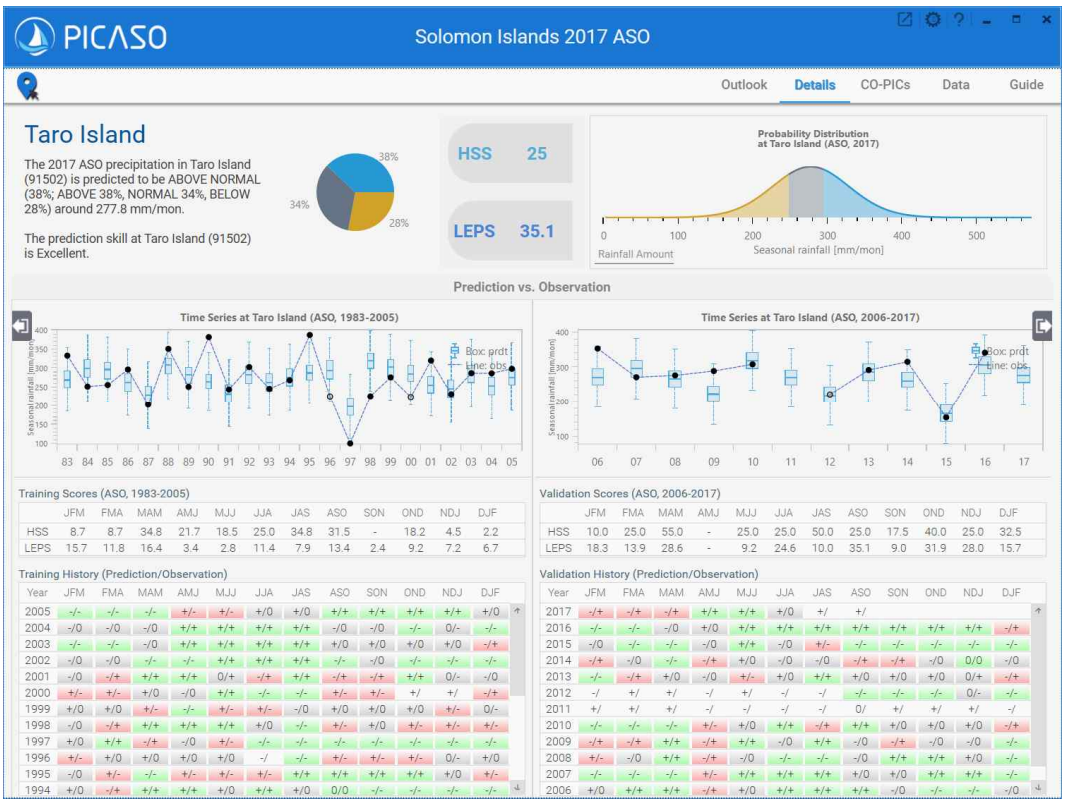
[Fig 29] Toggling the detailed numerical data on the box-plot chart in the Details tab

- The history table displays the results of the tercile forecasts compared to the actual observations to show of the forecasts were accurate. +, 0, - indicate the above normal, normal, and below normal terciles, respectively. The cell displays green for accurate forecasts, gray for similar forecasts, and red for wrong forecasts, allowing the user to check the accuracy of previous forecasts at a glance. If there is no predicted value or observation value, it is left as blank without coloring.



[Fig 30] Validation history table in the Details tab

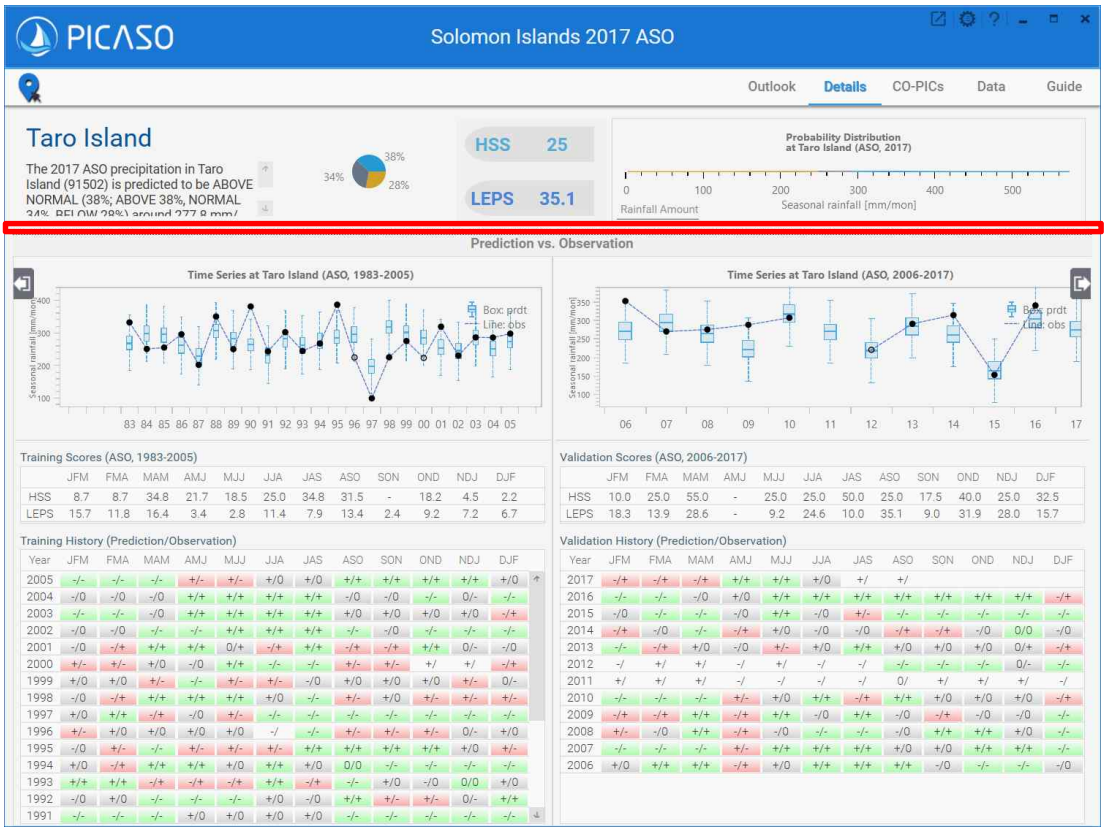
- The validation history table shows information from the validation period starting from 2006. You can also check the information from the training period (1983 – 2005), by clicking the Expand icon ( ) on the left side of the Box Plot Chart [Fig 31].



[Fig 31] Expanding to see validation information from 1983 – 2005 in the Details tab

- If you want to see only the training period information, you can hide the validation information by clicking the Expand icon ( ) on the right side of the Validation Box Plot Chart on the screen [Fig 31]
- When you place the mouse cursor on the upper part of Prediction vs. Observation tab

as shown in [Fig 32], mouse cursor will change to a ⇳ shape. Dragging this border allows you to adjust to your desired size.

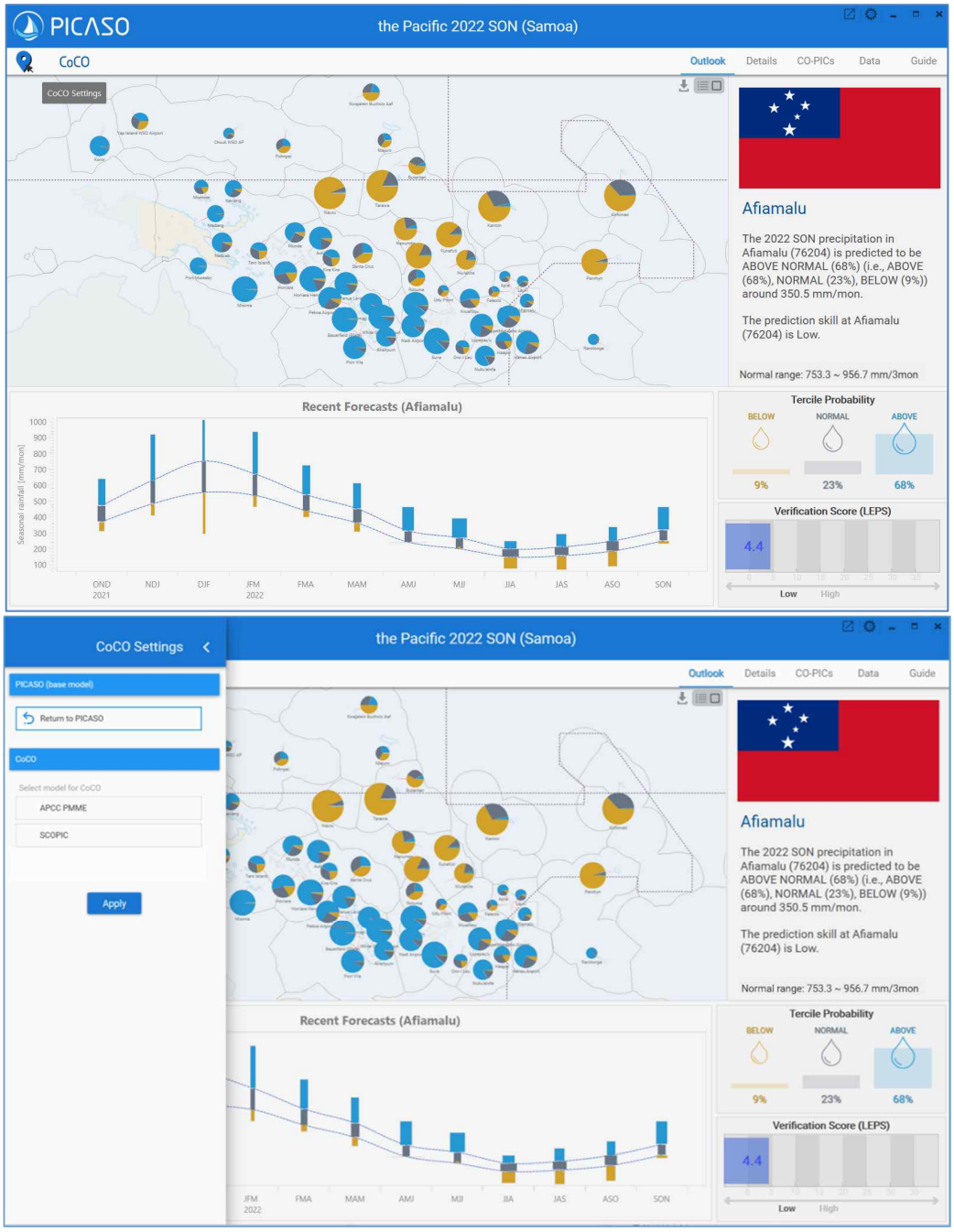


[Fig 32] Adjusting the prediction vs. observation information size in the Details tab

5 CoCO seasonal forecast

5.1 CoCO function

- This newly-added CoCO function will provide best seasonal outlook by allowing users to integrate other seasonal predictions into PICASO seasonal prediction.
- The letter CoCO in the upper left corner of the screen is a button to start off CoCO function (Fig 33). If you click “CoCO”, the CoCO setting window will pop up.



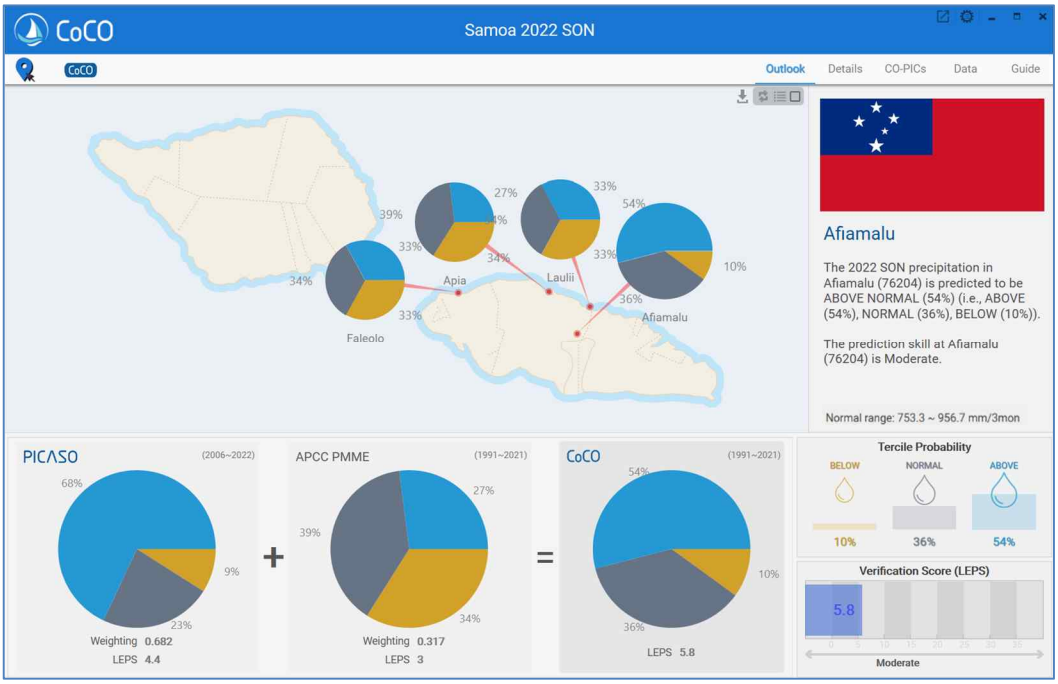
[Fig 33] Main page of the PICASO version 2.0

- In that menu, select the prediction system (or model) that you would like to combine with PICASO prediction and then click the 'Apply' to produce a Consensus Climate Outlook.
- When the CoCO function is applied (CoCO mode), the letter CoCO on the main screen has a blue shade and the PICASO logo on the top left is changed to the CoCO logo (Fig 34). These changes will help users recognize at a glance whether CoCO is applied or not.
- As for CoCO, PICASO prediction is the default prediction, and another prediction has to be selected by the user. Basically, the users need to input another prediction data to use the CoCO function but prediction candidates can be added for users' convenience.
- APCC PMME prediction (1983~current) and SCOPIC prediction (2010~2022) are the built-in predictions available to produce actual CoCO predictions as well as to test CoCO function.
- If users press 'Return to PICASO' in CoCO setting, users can go back to PICASO seasonal forecast outlook.

5.2 Outlook

- CoCO outlook tab displays the CoCO seasonal prediction of all of the stations in one country on the map and displays detailed CoCO seasonal prediction for each selected station (Fig 34). Each pie chart displays the station name and rainfall tercile probability information (below normal, near normal, above normal). Users can switch stations by clicking the respective pie charts.
- On the lower side of the map, the PICASO prediction (left), the selected prediction (center), and the CoCO prediction (right) are displayed for the selected station in the pie chart form. Under the pie chart of each prediction are the predictability (LEPS) and weight (%) and in the upper right of each pie chart is the data period for predictability evaluation.
- The revised Linear Error in Probability Space (LEPS) score is a representative value of the verification score already used in most Pacific island countries (see 4.1.3).
- CoCO function is a process of integrating data from so many different systems, which makes it difficult to set an absolute standard for the data period. For this reason, each prediction might have a different verification period. Nevertheless, one of the important considerations in adding the CoCO function is the convenience of existing users of PICASO. PICASO seasonal predictions and its verification scores need to stay the same before and after the CoCO function is applied. That is why the verification period for PICASO seasonal prediction is kept the same before and after the CoCO function.

- In principle, verification should be performed from the year after the end of the training period to the year selected by the user, and then the value should be used as a weight in the combining process. However, since most other seasonal predictions do not have information about the training period and the forecast period, the verification score is calculated using all the given data up to the year selected by the user. As such, in most cases, the data is not long enough so all the data are to be used to secure the reliability of the verification score.
- For this reason, in order to use as long period as possible, the calculation period of the CoCO seasonal prediction (output) and LEPS score are used as common periods for two different seasonal predictions. All data available are used for CoCO seasonal prediction because the predictions available are likely to have insufficient data periods in most cases. Therefore, the verification period of PICASO and CoCO often differ. To prevent misunderstanding, the period used in the calculation is set to be shown.
- The contribution of the square of LEPS is used as a weight, and the sum of the two weights is 1. In other words, the weights show how much the prediction has contributed to the new prediction. If one of two LEPS scores of the input prediction is negative, the other prediction becomes a CoCO prediction. If both LEPS scores are negative, “climatological prediction’ becomes a CoCO prediction.
- For the user's convenience, a normal range is provided at the bottom of the description box, such as " Normal Range: 700~1200mm/3mon" (Fig 34). This value is the climatological statistics (1983–2005, This period is the training period of the PICASO prediction) of the observation data. The value of the normal range does not refer to the prediction normal range, so please use it only as a rough estimate. In the case of CoCO mode, since there is no model climatology, the probability value cannot be converted into physical quantity. Check the Details page for more information



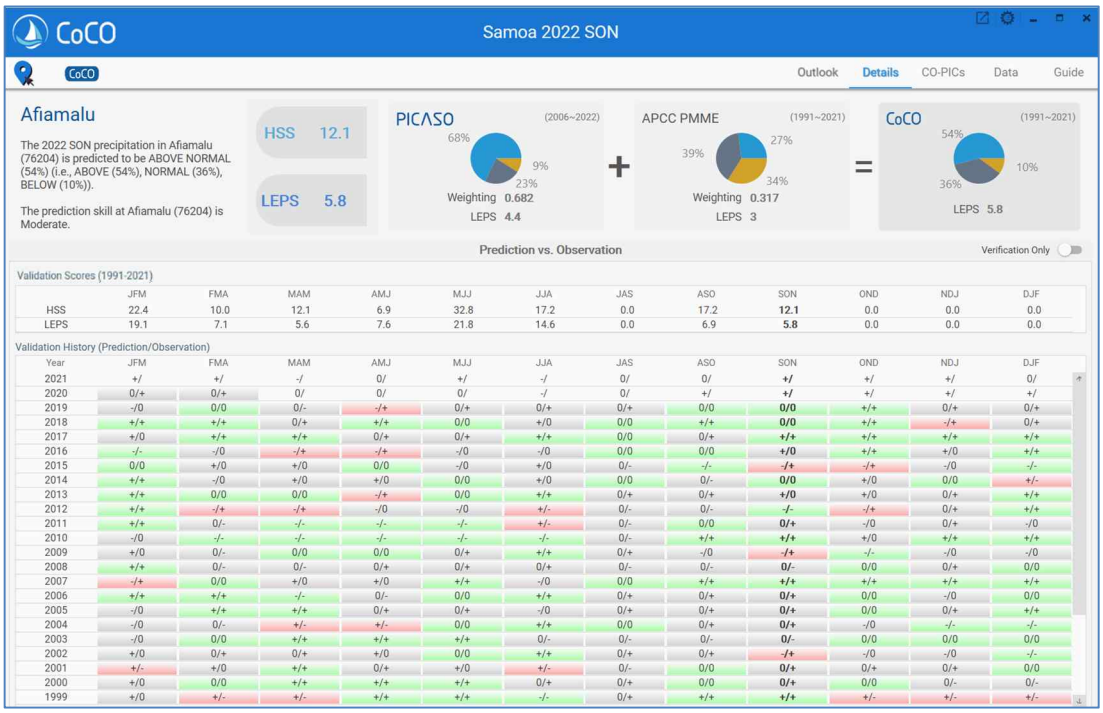
[Fig 34] Outlook tab with activated CoCO

5.3 Details

- The Details tab with activated CoCO displays more detailed information of the CoCO prediction. The basic form is the same as PICASO but training period and validation period are not divided for maximum use of data in the CoCo mode.
- Each climate prediction model has its own climate values, which can be used to convert probability predictions into physical quantities. However, in the case of CoCO, it is impossible to convert to physical quantities (mm for precipitation) because the results of completely different prediction models are combined, so it is only expressed as probability (%).

5.3.1 Predictions vs. Observation

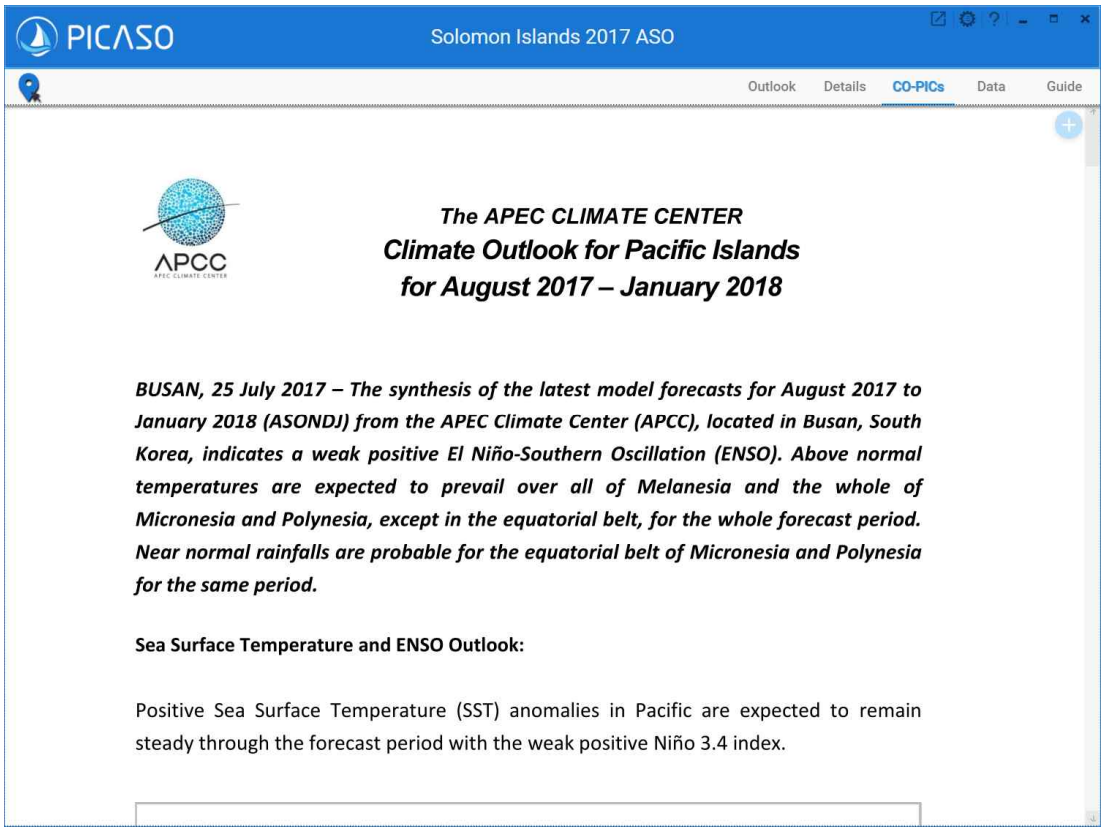
- The table displays the results of the comparison between tercile predictions and the actual observations to show the accuracy of forecasts (Fig 35). +, 0, - indicate the above normal, near normal, and below normal terciles, respectively. The cell with green shade indicates accurate forecasts. Gray shade stands for similar forecasts while red for wrong forecasts. This allows users to check the accuracy of previous forecasts at a glance. If there are no predicted values or observation value, it is left blank without color shade.



[Fig 35] Details tab with activated CoCO

6 CO-PICs (Climate Outlook-Pacific Island Countries)

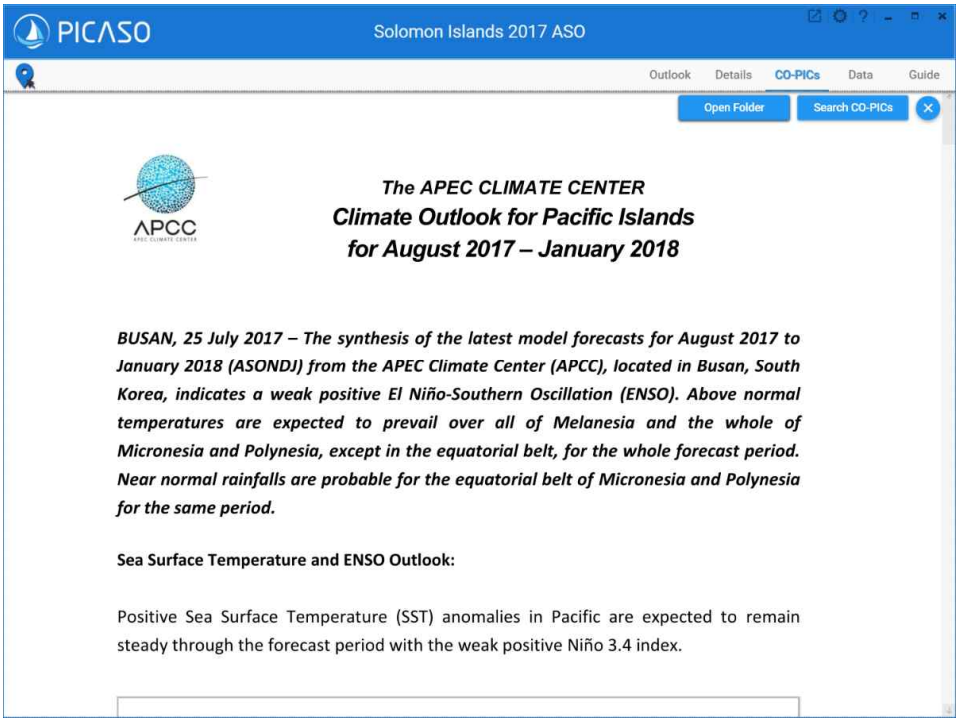
- CO-PICs will display the PDF file provided by APCC on the Pacific Island 6-month climate forecast screen based on Global data.
- It will download the PDF file from APCC according to the conditions set by the user, so it will not re-download the same contents
- Does not support for all years and supports data from JASOND 2014.
- CO-PICs provides “Open Folder”, “Search CO-PICs” function, and it will appear as right top corner of [Fig 33], and hover the cursor over button.



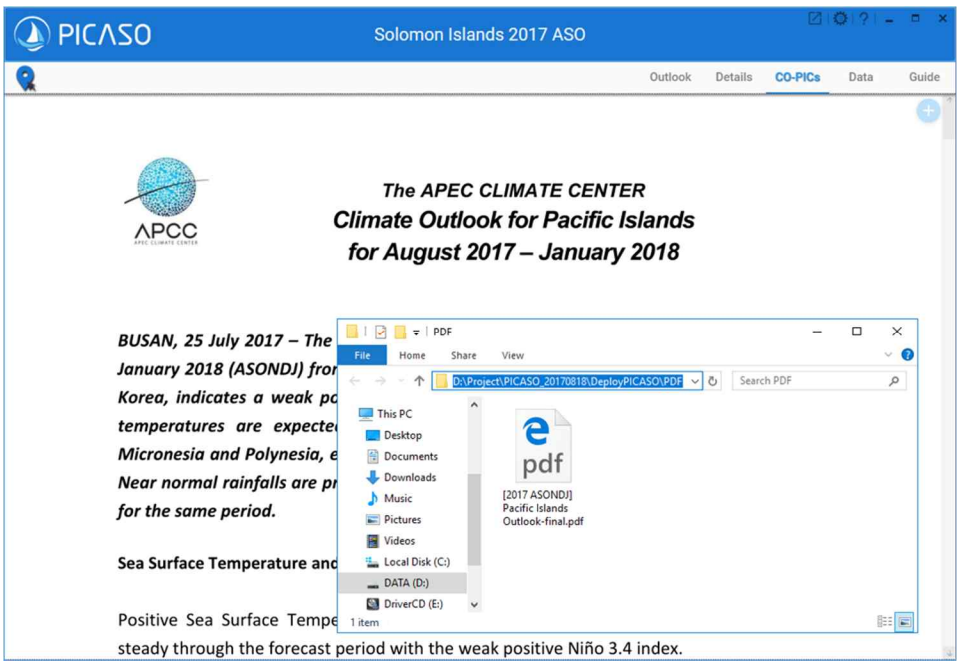
[Fig 36] CO-PICs

6.1 Open Folder

◆ Click the Open Folder button ( ) in [Fig 34] to open the file browser from the location where the PDF file is saved.



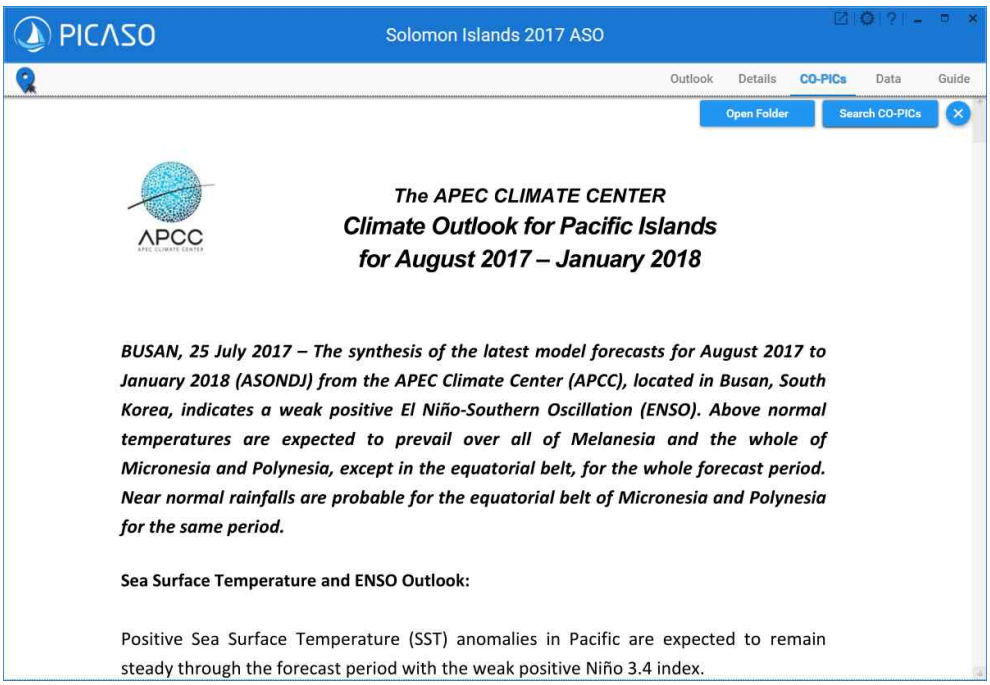
[Fig 37] "Open Folder" button



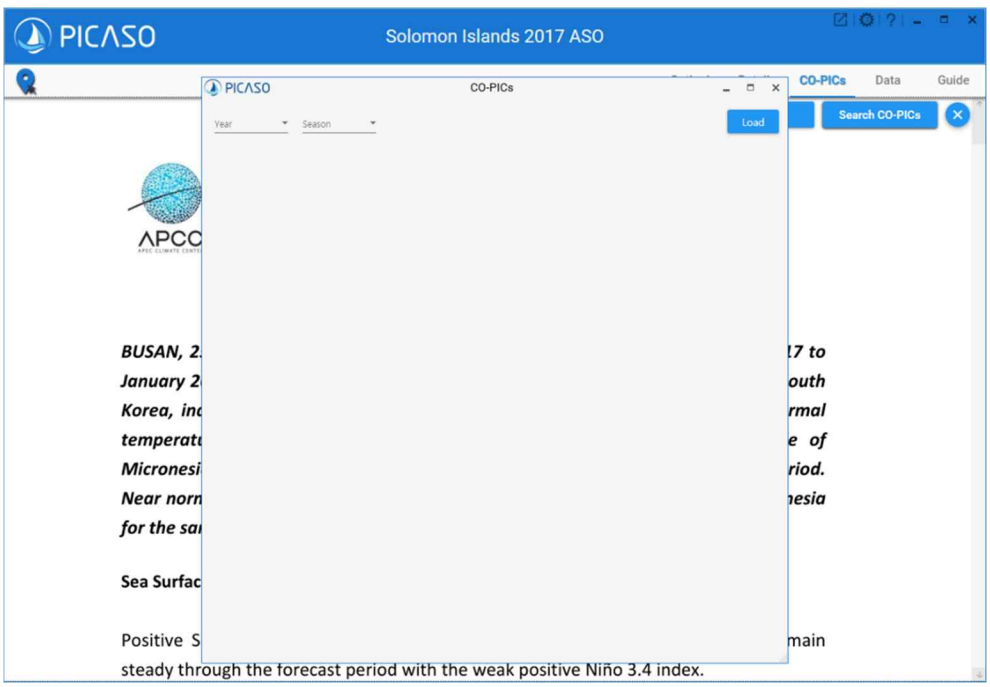
[Fig 38] File explorer

6.2 Search CO-PICs

◆ Click “Search CO-PICs” button in [Fig 36] to create a new pop-up window and to search for Outlook at different times.

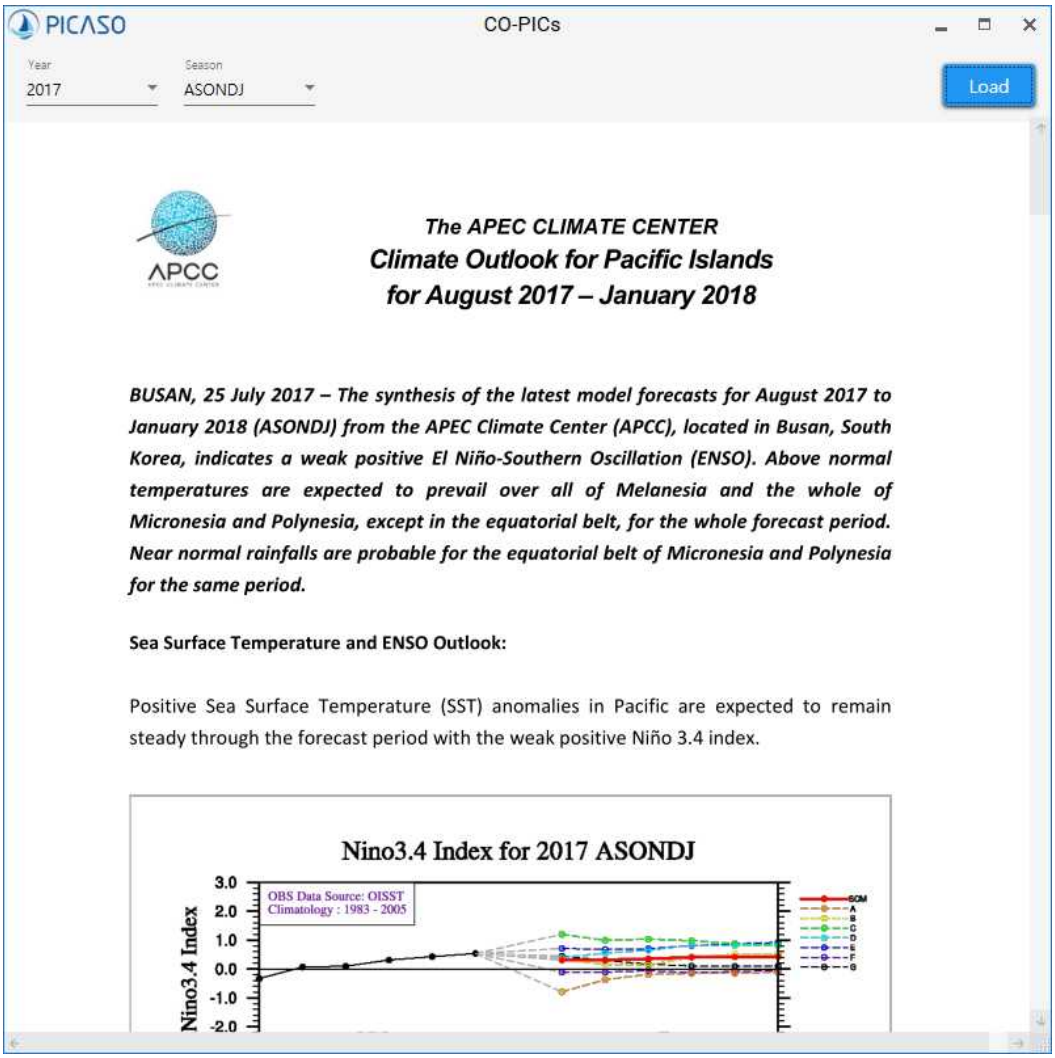


[Fig 39] “Search CO-PICs” button



[Fig 40] Create “Search CO-PICs” window

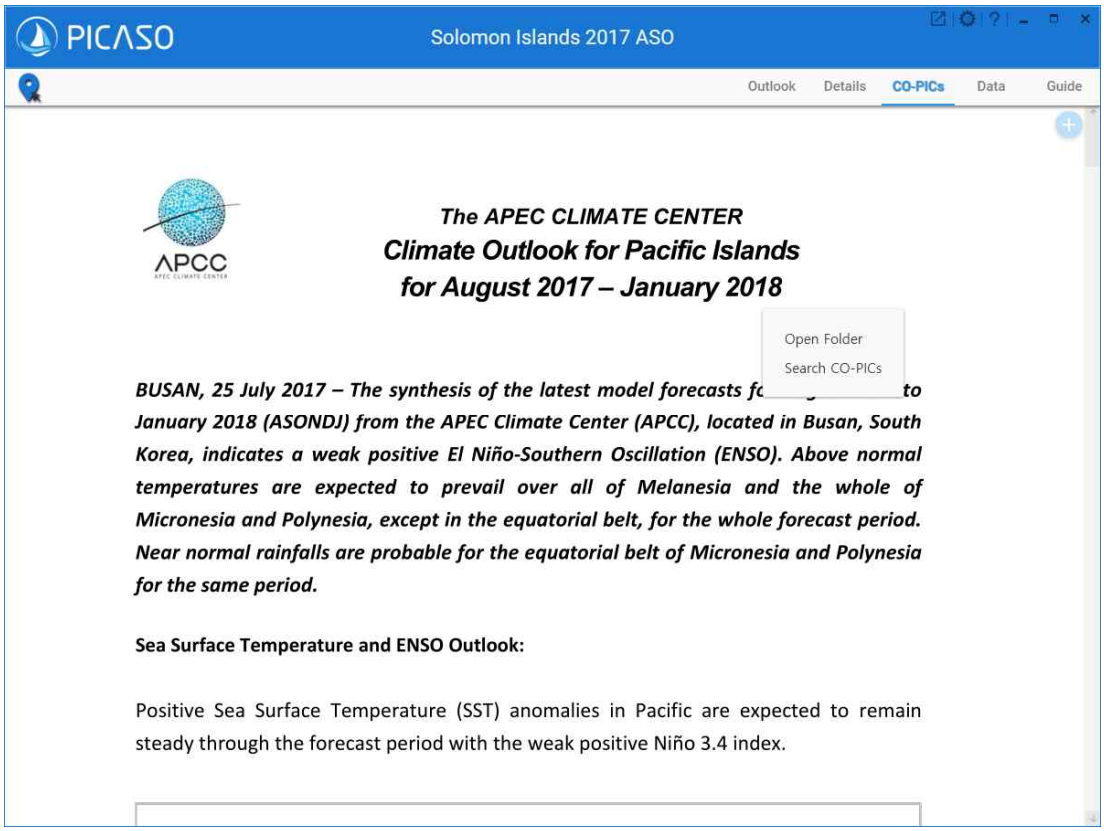
◆ Set the Year and Season information as shown in [Fig 38] and click the "Load" button to display the PDF file matching the set value.



[Fig 41] Load PDF file

6.3 Pop-up

- If you right click on CO-PICs screen, a pop up will appear as [Fig 39]. The function is same as the CO-PICs menu ( ).
- You can use either of the two accordingly

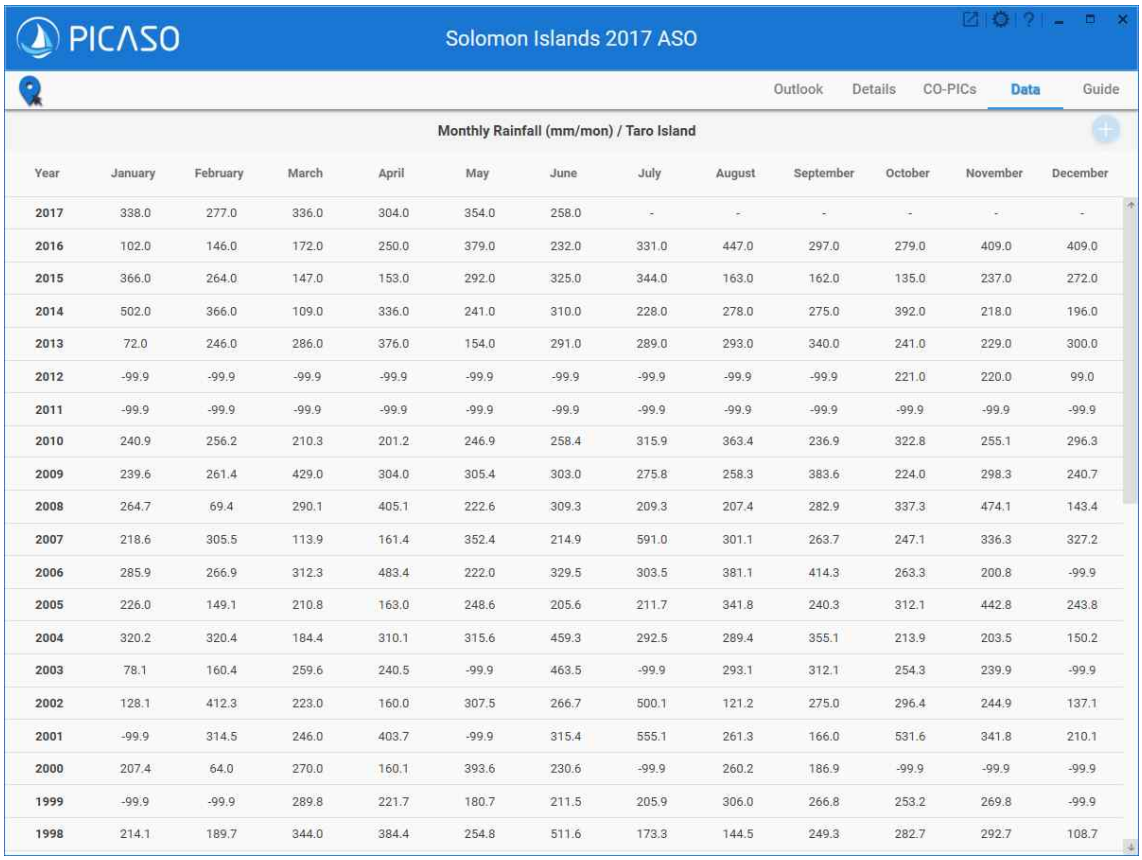


[Fig 42] CO-PICs pop-up

7 Data

7.1 Observation data

- Data is the screen to manage the observation result for the point, and it provides the function to input and modify observation data.
- PICASO is a system that provides information to users by using prediction data and observation data. Predictive data is provided by the PICASO operating organization and must be entered manually by the user.
- If you do not enter observation data, PICASO cannot provide you with complete and meaningful information, so PICASO users should input accurate observation data.
- In the Data, “Import”, “Export”, “Edit” functions are offered, and it will appear if you move the cursor to ( ).

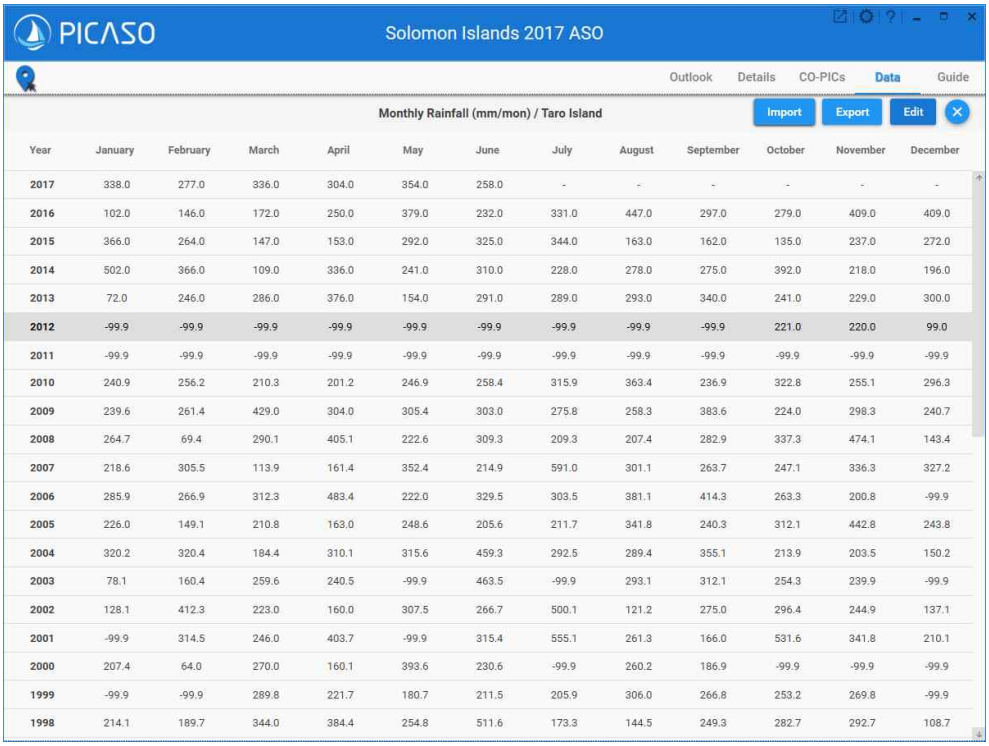


Year	January	February	March	April	May	June	July	August	September	October	November	December
2017	338.0	277.0	336.0	304.0	354.0	258.0	-	-	-	-	-	-
2016	102.0	146.0	172.0	250.0	379.0	232.0	331.0	447.0	297.0	279.0	409.0	409.0
2015	366.0	264.0	147.0	153.0	292.0	325.0	344.0	163.0	162.0	135.0	237.0	272.0
2014	502.0	366.0	109.0	336.0	241.0	310.0	228.0	278.0	275.0	392.0	218.0	196.0
2013	72.0	246.0	286.0	376.0	154.0	291.0	289.0	293.0	340.0	241.0	229.0	300.0
2012	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	221.0	220.0	99.0
2011	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9
2010	240.9	256.2	210.3	201.2	246.9	258.4	315.9	363.4	236.9	322.8	255.1	296.3
2009	239.6	261.4	429.0	304.0	305.4	303.0	275.8	258.3	383.6	224.0	298.3	240.7
2008	264.7	69.4	290.1	405.1	222.6	309.3	209.3	207.4	282.9	337.3	474.1	143.4
2007	218.6	305.5	113.9	161.4	352.4	214.9	591.0	301.1	263.7	247.1	336.3	327.2
2006	285.9	266.9	312.3	483.4	222.0	329.5	303.5	381.1	414.3	263.3	200.8	-99.9
2005	226.0	149.1	210.8	163.0	248.6	205.6	211.7	341.8	240.3	312.1	442.8	243.8
2004	320.2	320.4	184.4	310.1	315.6	459.3	292.5	289.4	355.1	213.9	203.5	150.2
2003	78.1	160.4	259.6	240.5	-99.9	463.5	-99.9	293.1	312.1	254.3	239.9	-99.9
2002	128.1	412.3	223.0	160.0	307.5	266.7	500.1	121.2	275.0	296.4	244.9	137.1
2001	-99.9	314.5	246.0	403.7	-99.9	315.4	555.1	261.3	166.0	531.6	341.8	210.1
2000	207.4	64.0	270.0	160.1	393.6	230.6	-99.9	260.2	186.9	-99.9	-99.9	-99.9
1999	-99.9	-99.9	289.8	221.7	180.7	211.5	205.9	306.0	266.8	253.2	269.8	-99.9
1998	214.1	189.7	344.0	384.4	254.8	511.6	173.3	144.5	249.3	282.7	292.7	108.7

[Fig 43] Data

7.1.1 Import

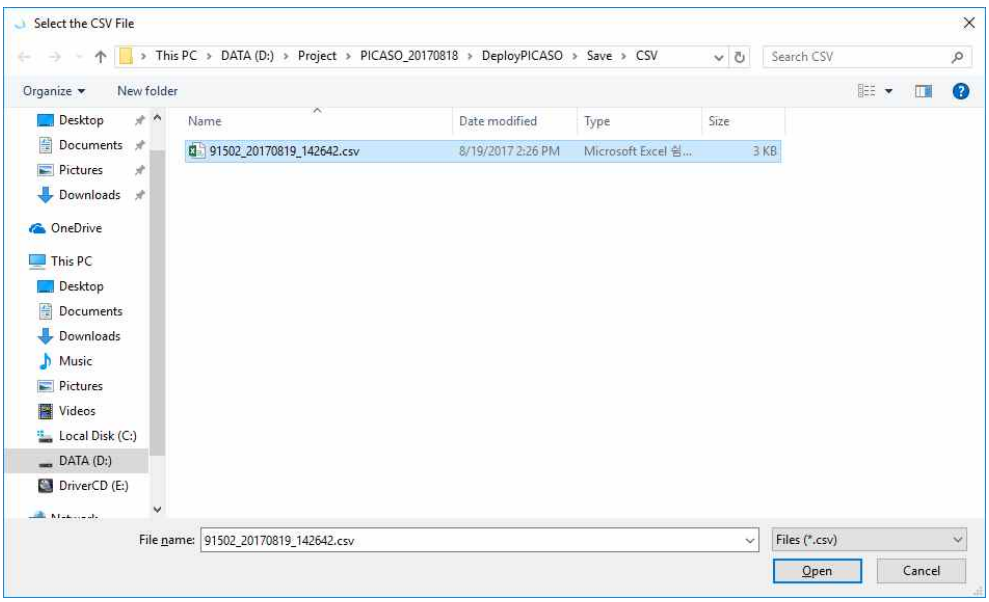
◆ Click the “Import” button to create a window to select a CSV file as shown in [Fig 42].



Year	January	February	March	April	May	June	July	August	September	October	November	December
2017	338.0	277.0	336.0	304.0	354.0	258.0	-	-	-	-	-	-
2016	102.0	146.0	172.0	250.0	379.0	232.0	331.0	447.0	297.0	279.0	409.0	409.0
2015	366.0	264.0	147.0	153.0	292.0	325.0	344.0	163.0	162.0	135.0	237.0	272.0
2014	502.0	366.0	109.0	336.0	241.0	310.0	228.0	278.0	275.0	392.0	218.0	196.0
2013	72.0	246.0	286.0	376.0	154.0	291.0	289.0	293.0	340.0	241.0	229.0	300.0
2012	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	221.0	220.0	99.0
2011	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9
2010	240.9	256.2	210.3	201.2	246.9	258.4	315.9	363.4	236.9	322.8	255.1	296.3
2009	239.6	261.4	429.0	304.0	305.4	303.0	275.8	258.3	383.6	224.0	298.3	240.7
2008	264.7	69.4	290.1	405.1	222.6	309.3	209.3	207.4	282.9	337.3	474.1	143.4
2007	218.6	305.5	113.9	161.4	352.4	214.9	591.0	301.1	263.7	247.1	336.3	327.2
2006	285.9	266.9	312.3	483.4	222.0	329.5	303.5	381.1	414.3	263.3	200.8	-99.9
2005	226.0	149.1	210.8	163.0	248.6	205.6	211.7	341.8	240.3	312.1	442.8	243.8
2004	320.2	320.4	184.4	310.1	315.6	459.3	292.5	289.4	355.1	213.9	203.5	150.2
2003	78.1	160.4	259.6	240.5	-99.9	463.5	-99.9	293.1	312.1	254.3	239.9	-99.9
2002	128.1	412.3	223.0	160.0	307.5	266.7	500.1	121.2	275.0	296.4	244.9	137.1
2001	-99.9	314.5	246.0	403.7	-99.9	315.4	555.1	261.3	166.0	531.6	341.8	210.1
2000	207.4	64.0	270.0	160.1	393.6	230.6	-99.9	260.2	186.9	-99.9	-99.9	-99.9
1999	-99.9	-99.9	289.8	221.7	180.7	211.5	205.9	306.0	266.8	253.2	269.8	-99.9
1998	214.1	189.7	344.0	384.4	254.8	511.6	173.3	144.5	249.3	282.7	292.7	108.7

[Fig 44] “Import” button

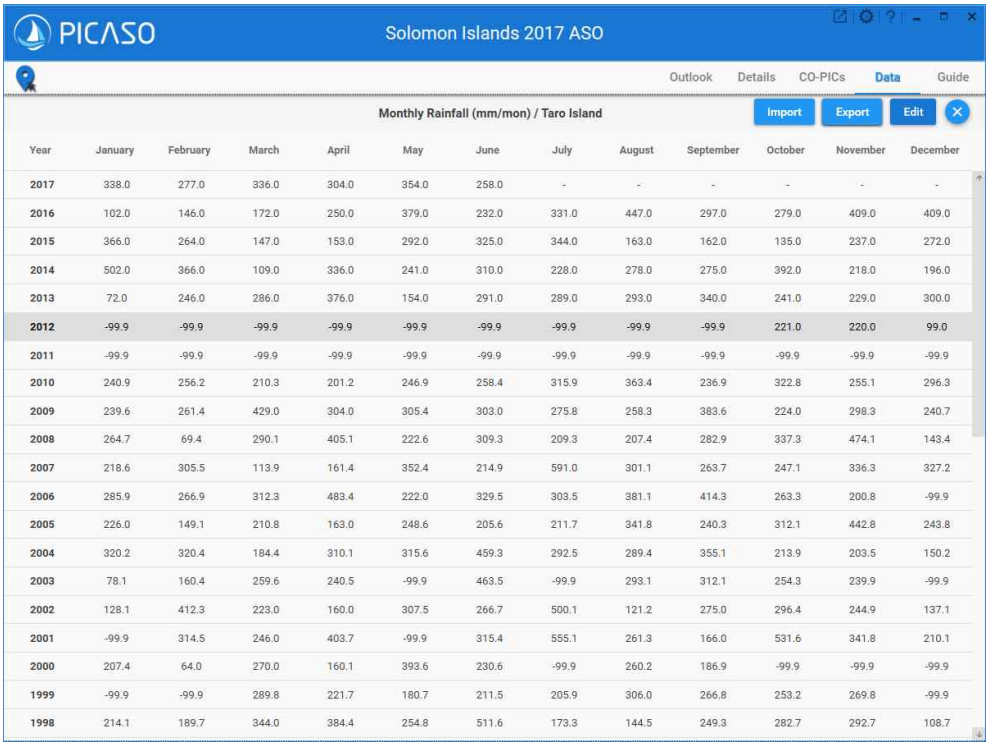
◆ Select CSV file and click “Open” button to input observation data to PICASO.



[Fig 45] Import observation data file

7.1.2 Export

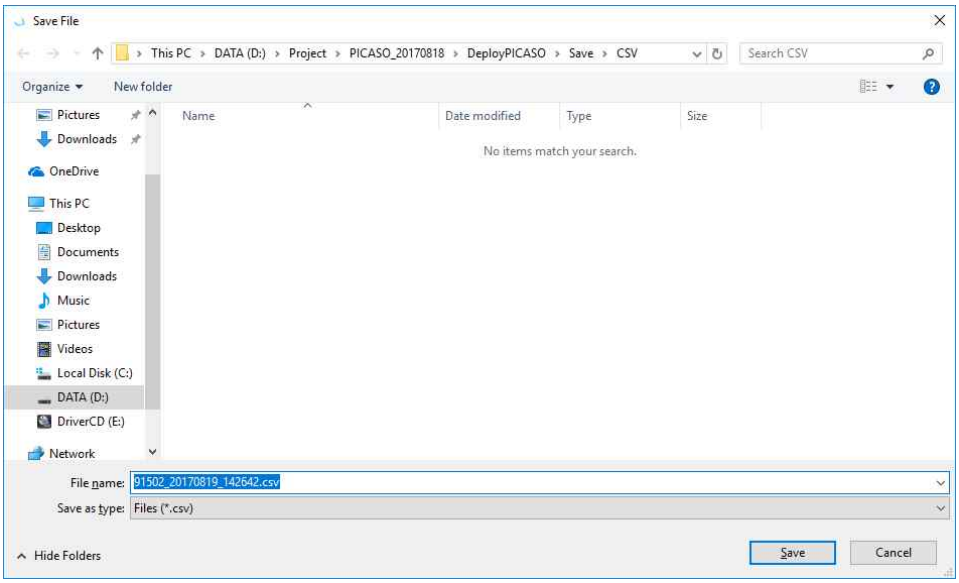
◆ Click the “Export” button to create a window to save the observation data as CSV file as shown in [Fig 44].



Year	January	February	March	April	May	June	July	August	September	October	November	December
2017	338.0	277.0	336.0	304.0	354.0	258.0	-	-	-	-	-	-
2016	102.0	146.0	172.0	250.0	379.0	232.0	331.0	447.0	297.0	279.0	409.0	409.0
2015	366.0	264.0	147.0	153.0	292.0	325.0	344.0	163.0	162.0	135.0	237.0	272.0
2014	502.0	366.0	109.0	336.0	241.0	310.0	228.0	278.0	275.0	392.0	218.0	196.0
2013	72.0	246.0	286.0	376.0	154.0	291.0	289.0	293.0	340.0	241.0	229.0	300.0
2012	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	221.0	220.0	99.0
2011	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9
2010	240.9	256.2	210.3	201.2	246.9	258.4	315.9	363.4	236.9	322.8	255.1	296.3
2009	239.6	261.4	429.0	304.0	305.4	303.0	275.8	258.3	383.6	224.0	298.3	240.7
2008	264.7	69.4	290.1	405.1	222.6	309.3	209.3	207.4	282.9	337.3	474.1	143.4
2007	218.6	305.5	113.9	161.4	352.4	214.9	591.0	301.1	263.7	247.1	336.3	327.2
2006	285.9	266.9	312.3	483.4	222.0	329.5	303.5	381.1	414.3	263.3	200.8	-99.9
2005	226.0	149.1	210.8	163.0	248.6	205.6	211.7	341.8	240.3	312.1	442.8	243.8
2004	320.2	320.4	184.4	310.1	315.6	459.3	292.5	289.4	355.1	213.9	203.5	150.2
2003	78.1	160.4	259.6	240.5	-99.9	463.5	-99.9	293.1	312.1	254.3	239.9	-99.9
2002	128.1	412.3	223.0	160.0	307.5	266.7	500.1	121.2	275.0	296.4	244.9	137.1
2001	-99.9	314.5	246.0	403.7	-99.9	315.4	555.1	261.3	166.0	531.6	341.8	210.1
2000	207.4	64.0	270.0	160.1	393.6	230.6	-99.9	260.2	186.9	-99.9	-99.9	-99.9
1999	-99.9	-99.9	289.8	221.7	180.7	211.5	205.9	306.0	266.8	253.2	269.8	-99.9
1998	214.1	189.7	344.0	384.4	254.8	511.6	173.3	144.5	249.3	282.7	292.7	108.7

[Fig 46] “Export” button

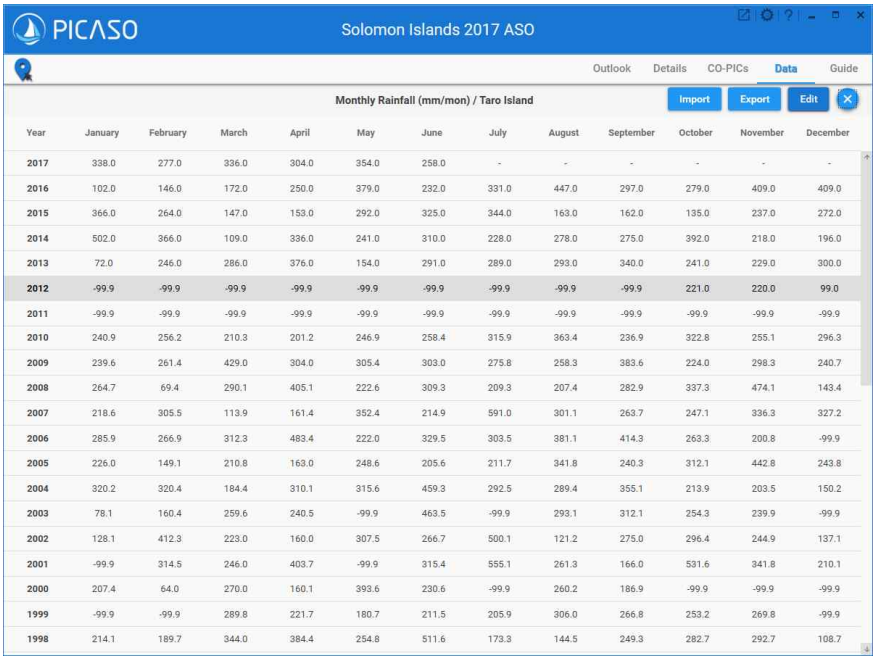
◆ Enter the file name and path and click the “Save” button to save the observation data entered in PICASO as CSV File.



[Fig 47] Export observation data file

7.1.3 Edit

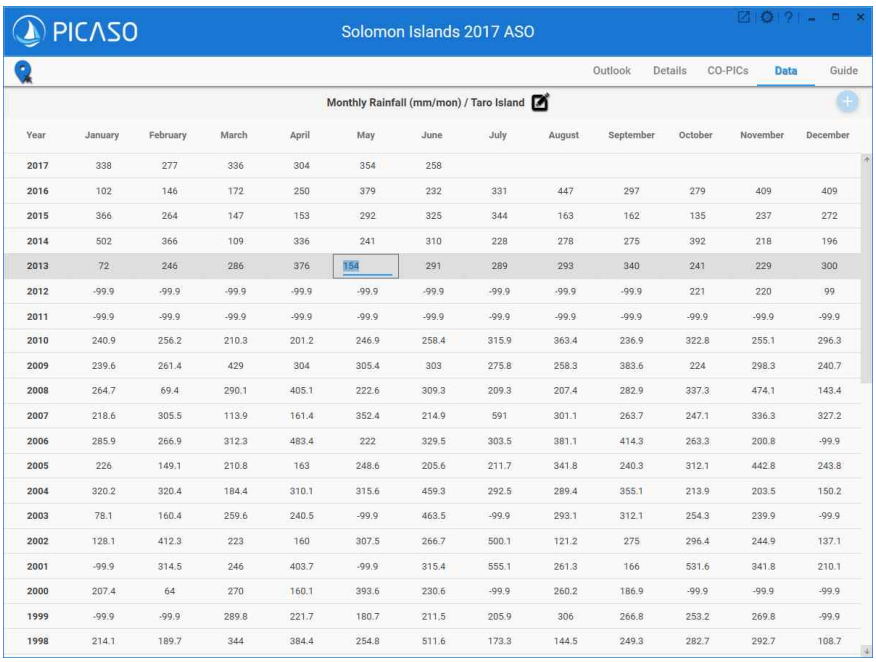
- Click the “Edit” button to change to observation data edit mode.
- When you enter the edit mode, ( ) will appear.



Year	January	February	March	April	May	June	July	August	September	October	November	December
2017	338.0	277.0	336.0	304.0	354.0	258.0	-	-	-	-	-	-
2016	102.0	146.0	172.0	250.0	379.0	232.0	331.0	447.0	297.0	279.0	409.0	409.0
2015	366.0	264.0	147.0	153.0	292.0	325.0	344.0	163.0	162.0	135.0	237.0	272.0
2014	502.0	366.0	109.0	336.0	241.0	310.0	228.0	278.0	275.0	392.0	218.0	196.0
2013	72.0	246.0	286.0	376.0	154.0	291.0	289.0	293.0	340.0	241.0	229.0	300.0
2012	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	221.0	220.0	99.0
2011	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9
2010	240.9	256.2	210.3	201.2	246.9	258.4	315.9	363.4	236.9	322.8	255.1	296.3
2009	239.6	261.4	429.0	304.0	305.4	303.0	275.8	258.3	383.6	224.0	298.3	240.7
2008	264.7	69.4	290.1	405.1	222.6	309.3	209.3	207.4	282.9	337.3	474.1	143.4
2007	218.6	305.5	113.9	161.4	352.4	214.9	591.0	301.1	263.7	247.1	336.3	327.2
2006	285.9	266.9	312.3	483.4	222.0	329.5	303.5	381.1	414.3	263.3	200.8	-99.9
2005	226.0	149.1	210.8	163.0	248.6	205.6	211.7	341.8	240.3	312.1	442.8	243.8
2004	320.2	320.4	184.4	310.1	315.6	459.3	292.5	289.4	355.1	213.9	203.5	150.2
2003	78.1	160.4	259.6	240.5	-99.9	463.5	-99.9	293.1	312.1	254.3	239.9	-99.9
2002	128.1	412.3	223.0	160.0	307.5	266.7	500.1	121.2	275.0	296.4	244.9	137.1
2001	-99.9	314.5	246.0	403.7	-99.9	315.4	555.1	261.3	166.0	531.6	341.8	210.1
2000	207.4	64.0	270.0	160.1	393.6	230.6	-99.9	260.2	186.9	-99.9	-99.9	-99.9
1999	-99.9	-99.9	289.8	221.7	180.7	211.5	205.9	306.0	266.8	253.2	269.8	-99.9
1998	214.1	189.7	344.0	384.4	254.8	511.6	173.3	144.5	249.3	282.7	292.7	108.7

[Fig 48] “Edit” button

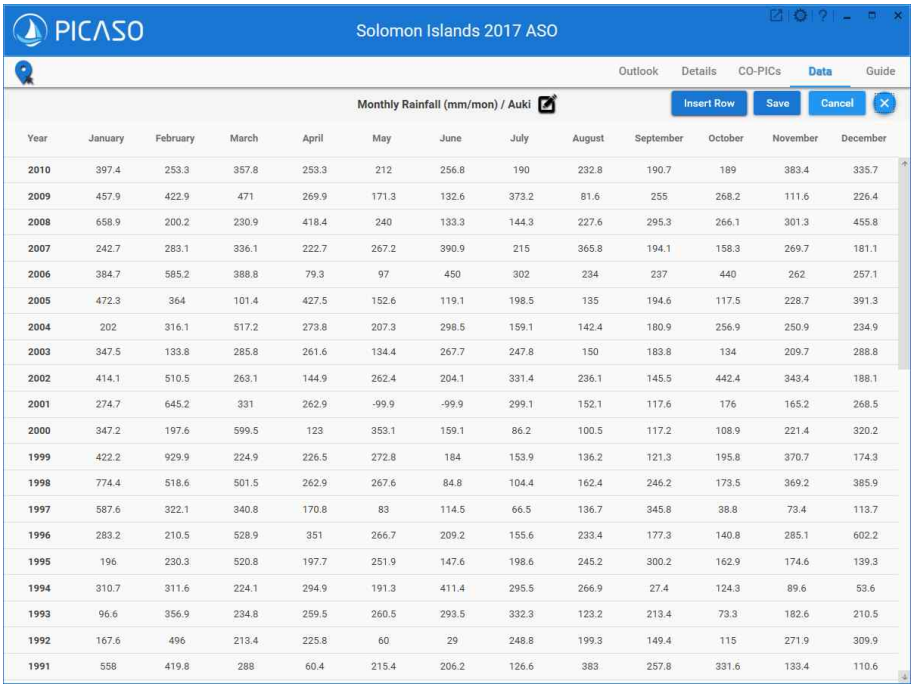
- Double-click the observation data to be edited to change to edit mode and modify the value.



Year	January	February	March	April	May	June	July	August	September	October	November	December
2017	338	277	336	304	354	258						
2016	102	146	172	250	379	232	331	447	297	279	409	409
2015	366	264	147	153	292	325	344	163	162	135	237	272
2014	502	366	109	336	241	310	228	278	275	392	218	196
2013	72	246	286	376	154	291	289	293	340	241	229	300
2012	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	221	220	99
2011	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9	-99.9
2010	240.9	256.2	210.3	201.2	246.9	258.4	315.9	363.4	236.9	322.8	255.1	296.3
2009	239.6	261.4	429	304	305.4	303	275.8	258.3	383.6	224	298.3	240.7
2008	264.7	69.4	290.1	405.1	222.6	309.3	209.3	207.4	282.9	337.3	474.1	143.4
2007	218.6	305.5	113.9	161.4	352.4	214.9	591	301.1	263.7	247.1	336.3	327.2
2006	285.9	266.9	312.3	483.4	222	329.5	303.5	381.1	414.3	263.3	200.8	-99.9
2005	226	149.1	210.8	163	248.6	205.6	211.7	341.8	240.3	312.1	442.8	243.8
2004	320.2	320.4	184.4	310.1	315.6	459.3	292.5	289.4	355.1	213.9	203.5	150.2
2003	78.1	160.4	259.6	240.5	-99.9	463.5	-99.9	293.1	312.1	254.3	239.9	-99.9
2002	128.1	412.3	223	160	307.5	266.7	500.1	121.2	275	296.4	244.9	137.1
2001	-99.9	314.5	246	403.7	-99.9	315.4	555.1	261.3	166	531.6	341.8	210.1
2000	207.4	64	270	160.1	393.6	230.6	-99.9	260.2	186.9	-99.9	-99.9	-99.9
1999	-99.9	-99.9	289.8	221.7	180.7	211.5	205.9	306	266.8	253.2	269.8	-99.9
1998	214.1	189.7	344	384.4	254.8	511.6	173.3	144.5	249.3	282.7	292.7	108.7

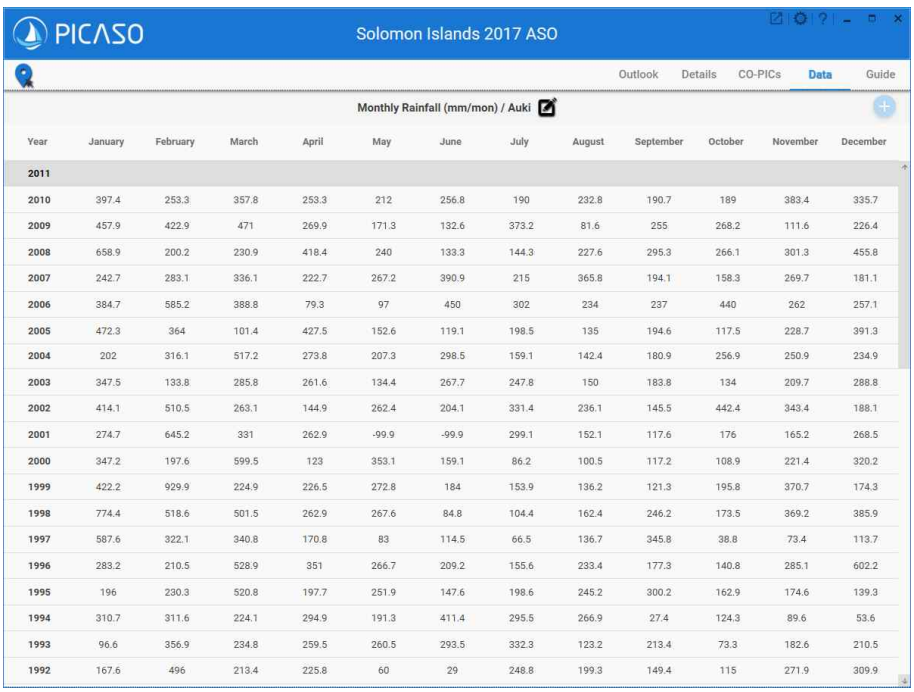
[Fig 49] Edit observation data

◆ If you need a new row, move the cursor over ( ) and “Insert Row” will appear. Click it, and a new row will be added like [Fig 48].



Year	January	February	March	April	May	June	July	August	September	October	November	December
2010	397.4	253.3	357.8	253.3	212	256.8	190	232.8	190.7	189	383.4	335.7
2009	457.9	422.9	471	269.9	171.3	132.6	373.2	81.6	255	268.2	111.6	226.4
2008	658.9	200.2	230.9	418.4	240	133.3	144.3	227.6	295.3	266.1	301.3	455.8
2007	242.7	283.1	336.1	222.7	267.2	390.9	215	365.8	194.1	158.3	269.7	181.1
2006	384.7	585.2	388.8	79.3	97	450	302	234	237	440	262	257.1
2005	472.3	364	101.4	427.5	152.6	119.1	198.5	135	194.6	117.5	228.7	391.3
2004	202	316.1	517.2	273.8	207.3	298.5	159.1	142.4	180.9	256.9	250.9	234.9
2003	347.5	133.8	285.8	261.6	134.4	267.7	247.8	150	183.8	134	209.7	288.8
2002	414.1	510.5	263.1	144.9	262.4	204.1	331.4	236.1	145.5	442.4	343.4	188.1
2001	274.7	645.2	331	262.9	-99.9	-99.9	299.1	152.1	117.6	176	165.2	268.5
2000	347.2	197.6	599.5	123	353.1	159.1	86.2	100.5	117.2	108.9	221.4	320.2
1999	422.2	929.9	224.9	226.5	272.8	184	153.9	136.2	121.3	195.8	370.7	174.3
1998	774.4	518.6	501.5	262.9	267.6	84.8	104.4	162.4	246.2	173.5	369.2	385.9
1997	587.6	322.1	340.8	170.8	83	114.5	66.5	136.7	345.8	38.8	73.4	113.7
1996	283.2	210.5	528.9	351	266.7	209.2	155.6	233.4	177.3	140.8	285.1	602.2
1995	196	230.3	520.8	197.7	251.9	147.6	198.6	245.2	300.2	162.9	174.6	139.3
1994	310.7	311.6	224.1	294.9	191.3	411.4	295.5	266.9	27.4	124.3	89.6	53.6
1993	96.6	356.9	234.8	259.5	260.5	293.5	332.3	123.2	213.4	73.3	182.6	210.5
1992	167.6	496	213.4	225.8	60	29	248.8	199.3	149.4	115	271.9	309.9
1991	558	419.8	288	60.4	215.4	206.2	126.6	383	257.8	331.6	133.4	110.6

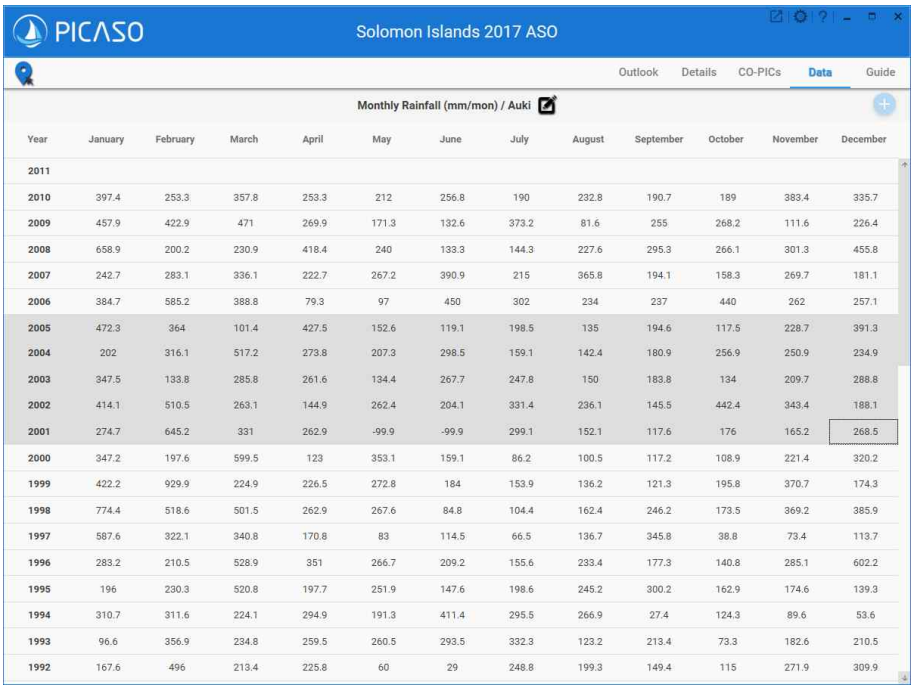
[Fig 50] “Insert Row” button



Year	January	February	March	April	May	June	July	August	September	October	November	December
2011												
2010	397.4	253.3	357.8	253.3	212	256.8	190	232.8	190.7	189	383.4	335.7
2009	457.9	422.9	471	269.9	171.3	132.6	373.2	81.6	255	268.2	111.6	226.4
2008	658.9	200.2	230.9	418.4	240	133.3	144.3	227.6	295.3	266.1	301.3	455.8
2007	242.7	283.1	336.1	222.7	267.2	390.9	215	365.8	194.1	158.3	269.7	181.1
2006	384.7	585.2	388.8	79.3	97	450	302	234	237	440	262	257.1
2005	472.3	364	101.4	427.5	152.6	119.1	198.5	135	194.6	117.5	228.7	391.3
2004	202	316.1	517.2	273.8	207.3	298.5	159.1	142.4	180.9	256.9	250.9	234.9
2003	347.5	133.8	285.8	261.6	134.4	267.7	247.8	150	183.8	134	209.7	288.8
2002	414.1	510.5	263.1	144.9	262.4	204.1	331.4	236.1	145.5	442.4	343.4	188.1
2001	274.7	645.2	331	262.9	-99.9	-99.9	299.1	152.1	117.6	176	165.2	268.5
2000	347.2	197.6	599.5	123	353.1	159.1	86.2	100.5	117.2	108.9	221.4	320.2
1999	422.2	929.9	224.9	226.5	272.8	184	153.9	136.2	121.3	195.8	370.7	174.3
1998	774.4	518.6	501.5	262.9	267.6	84.8	104.4	162.4	246.2	173.5	369.2	385.9
1997	587.6	322.1	340.8	170.8	83	114.5	66.5	136.7	345.8	38.8	73.4	113.7
1996	283.2	210.5	528.9	351	266.7	209.2	155.6	233.4	177.3	140.8	285.1	602.2
1995	196	230.3	520.8	197.7	251.9	147.6	198.6	245.2	300.2	162.9	174.6	139.3
1994	310.7	311.6	224.1	294.9	191.3	411.4	295.5	266.9	27.4	124.3	89.6	53.6
1993	96.6	356.9	234.8	259.5	260.5	293.5	332.3	123.2	213.4	73.3	182.6	210.5
1992	167.6	496	213.4	225.8	60	29	248.8	199.3	149.4	115	271.9	309.9

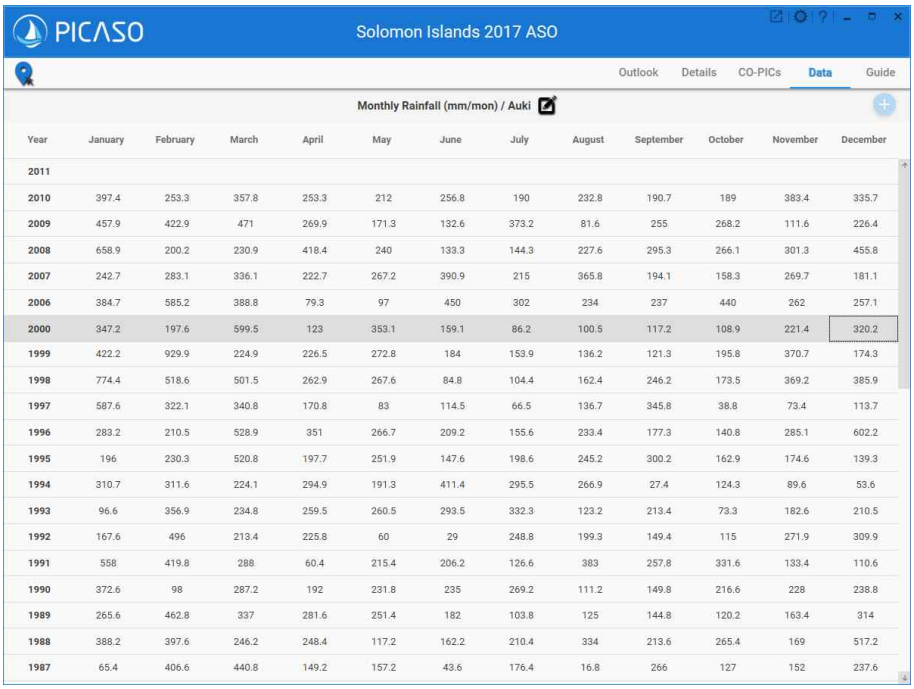
[Fig 51] Insert row

◆ If you want to delete a row, click on the row to delete and press the Del key on the keyboard to delete it as shown in [Fig 50]. Multiple selections are possible by using Shift & Ctrl key.



Year	January	February	March	April	May	June	July	August	September	October	November	December
2011												
2010	397.4	253.3	357.8	253.3	212	256.8	190	232.8	190.7	189	383.4	335.7
2009	457.9	422.9	471	269.9	171.3	132.6	373.2	81.6	255	268.2	111.6	226.4
2008	658.9	200.2	230.9	418.4	240	133.3	144.3	227.6	295.3	266.1	301.3	455.8
2007	242.7	283.1	336.1	222.7	267.2	390.9	215	365.8	194.1	158.3	269.7	181.1
2006	384.7	585.2	388.8	79.3	97	450	302	234	237	440	262	257.1
2005	472.3	364	101.4	427.5	152.6	119.1	198.5	135	194.6	117.5	228.7	391.3
2004	202	316.1	517.2	273.8	207.3	298.5	159.1	142.4	180.9	256.9	250.9	234.9
2003	347.5	133.8	285.8	261.6	134.4	267.7	247.8	150	183.8	134	209.7	288.8
2002	414.1	510.5	263.1	144.9	262.4	204.1	331.4	236.1	145.5	442.4	343.4	188.1
2001	274.7	645.2	331	262.9	-99.9	-99.9	299.1	152.1	117.6	176	165.2	268.5
2000	347.2	197.6	599.5	123	353.1	159.1	86.2	100.5	117.2	108.9	221.4	320.2
1999	422.2	929.9	224.9	226.5	272.8	184	153.9	136.2	121.3	195.8	370.7	174.3
1998	774.4	518.6	501.5	262.9	267.6	84.8	104.4	162.4	246.2	173.5	369.2	385.9
1997	587.6	322.1	340.8	170.8	83	114.5	66.5	136.7	345.8	38.8	73.4	113.7
1996	283.2	210.5	528.9	351	266.7	209.2	155.6	233.4	177.3	140.8	285.1	602.2
1995	196	230.3	520.8	197.7	251.9	147.6	198.6	245.2	300.2	162.9	174.6	139.3
1994	310.7	311.6	224.1	294.9	191.3	411.4	295.5	266.9	27.4	124.3	89.6	53.6
1993	96.6	356.9	234.8	259.5	260.5	293.5	332.3	123.2	213.4	73.3	182.6	210.5
1992	167.6	496	213.4	225.8	60	29	248.8	199.3	149.4	115	271.9	309.9

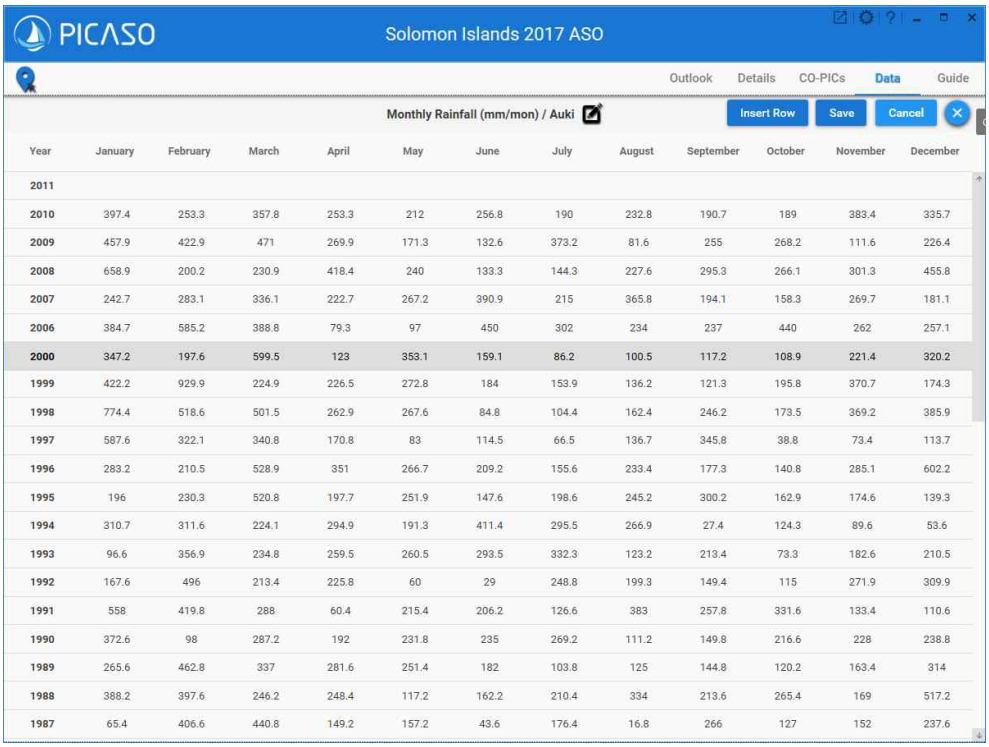
[Fig 52] Select row



Year	January	February	March	April	May	June	July	August	September	October	November	December
2011												
2010	397.4	253.3	357.8	253.3	212	256.8	190	232.8	190.7	189	383.4	335.7
2009	457.9	422.9	471	269.9	171.3	132.6	373.2	81.6	255	268.2	111.6	226.4
2008	658.9	200.2	230.9	418.4	240	133.3	144.3	227.6	295.3	266.1	301.3	455.8
2007	242.7	283.1	336.1	222.7	267.2	390.9	215	365.8	194.1	158.3	269.7	181.1
2006	384.7	585.2	388.8	79.3	97	450	302	234	237	440	262	257.1
2000	347.2	197.6	599.5	123	353.1	159.1	86.2	100.5	117.2	108.9	221.4	320.2
1999	422.2	929.9	224.9	226.5	272.8	184	153.9	136.2	121.3	195.8	370.7	174.3
1998	774.4	518.6	501.5	262.9	267.6	84.8	104.4	162.4	246.2	173.5	369.2	385.9
1997	587.6	322.1	340.8	170.8	83	114.5	66.5	136.7	345.8	38.8	73.4	113.7
1996	283.2	210.5	528.9	351	266.7	209.2	155.6	233.4	177.3	140.8	285.1	602.2
1995	196	230.3	520.8	197.7	251.9	147.6	198.6	245.2	300.2	162.9	174.6	139.3
1994	310.7	311.6	224.1	294.9	191.3	411.4	295.5	266.9	27.4	124.3	89.6	53.6
1993	96.6	356.9	234.8	259.5	260.5	293.5	332.3	123.2	213.4	73.3	182.6	210.5
1992	167.6	496	213.4	225.8	60	29	248.8	199.3	149.4	115	271.9	309.9
1991	558	419.8	288	60.4	215.4	206.2	126.6	383	257.8	331.6	133.4	110.6
1990	372.6	98	287.2	192	231.8	235	269.2	111.2	149.8	216.6	228	238.8
1989	265.6	462.8	337	281.6	251.4	182	103.8	125	144.8	120.2	163.4	314
1988	388.2	397.6	246.2	248.4	117.2	162.2	210.4	334	213.6	265.4	169	517.2
1987	65.4	406.6	440.8	149.2	157.2	43.6	176.4	16.8	266	127	152	237.6

[Fig 53] Delete row

◆ When you put the cursor over ( ), “Save” and “Cancel” buttons appear. If you want to save, click “Save”, or undo the edit, click “Cancel”.

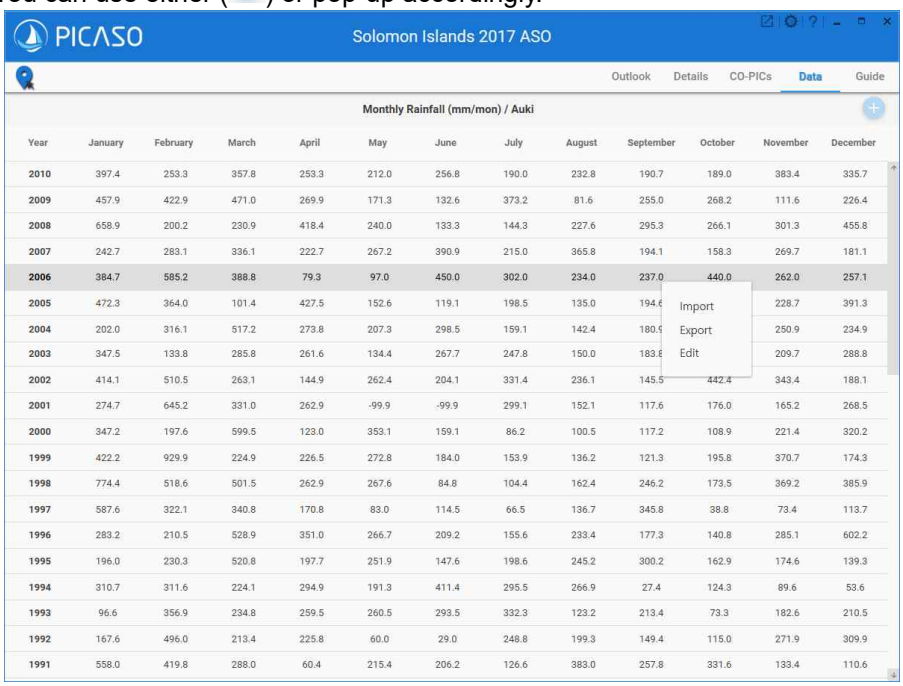


Year	January	February	March	April	May	June	July	August	September	October	November	December
2011												
2010	397.4	253.3	357.8	253.3	212	256.8	190	232.8	190.7	189	383.4	335.7
2009	457.9	422.9	471	269.9	171.3	132.6	373.2	81.6	255	268.2	111.6	226.4
2008	658.9	200.2	230.9	418.4	240	133.3	144.3	227.6	295.3	266.1	301.3	455.8
2007	242.7	283.1	336.1	222.7	267.2	390.9	215	365.8	194.1	158.3	269.7	181.1
2006	384.7	585.2	388.8	79.3	97	450	302	234	237	440	262	257.1
2000	347.2	197.6	599.5	123	353.1	159.1	86.2	100.5	117.2	108.9	221.4	320.2
1999	422.2	929.9	224.9	226.5	272.8	184	153.9	136.2	121.3	195.8	370.7	174.3
1998	774.4	518.6	501.5	262.9	267.6	84.8	104.4	162.4	246.2	173.5	369.2	385.9
1997	587.6	322.1	340.8	170.8	83	114.5	66.5	136.7	345.8	38.8	73.4	113.7
1996	283.2	210.5	528.9	351	266.7	209.2	155.6	233.4	177.3	140.8	285.1	602.2
1995	196	230.3	520.8	197.7	251.9	147.6	198.6	245.2	300.2	162.9	174.6	139.3
1994	310.7	311.6	224.1	294.9	191.3	411.4	295.5	266.9	27.4	124.3	89.6	53.6
1993	96.6	356.9	234.8	259.5	260.5	293.5	332.3	123.2	213.4	73.3	182.6	210.5
1992	167.6	496	213.4	225.8	60	29	248.8	199.3	149.4	115	271.9	309.9
1991	558	419.8	288	60.4	215.4	206.2	126.6	383	257.8	331.6	133.4	110.6
1990	372.6	98	287.2	192	231.8	235	269.2	111.2	149.8	216.6	228	238.8
1989	265.6	462.8	337	281.6	251.4	182	103.8	125	144.8	120.2	163.4	314
1988	388.2	397.6	246.2	248.4	117.2	162.2	210.4	334	213.6	265.4	169	517.2
1987	65.4	406.6	440.8	149.2	157.2	43.6	176.4	16.8	266	127	152	237.6

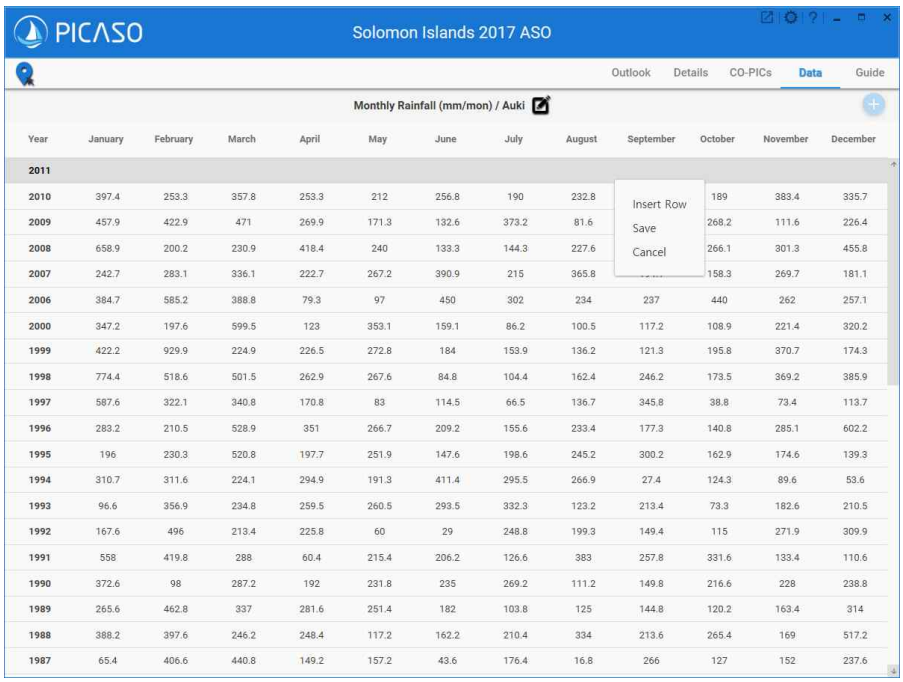
[Fig 54] “Save” & “Cancel”

7.1.4 Pop-up

- If you right-click on Data screen, a pop up will appear like [Fig 52]. Pop-up offers the same function as the ( ).
- You can use either ( ) or pop-up accordingly.



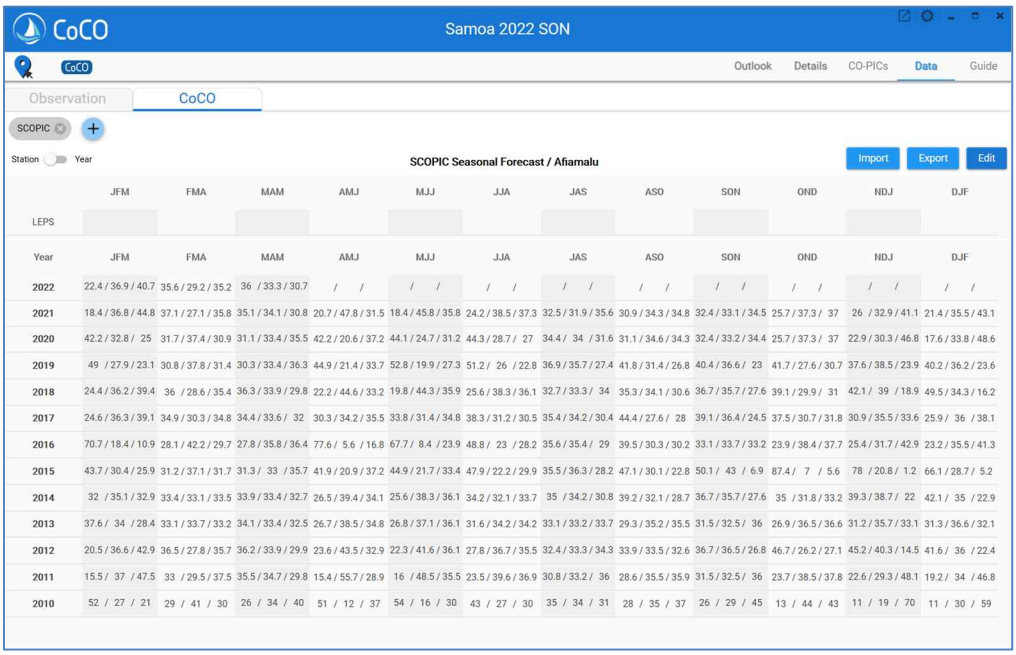
[Fig 55] Data pop-up



[Fig 56] Edit pop-up

7.2 Prediction data for CoCO

- The seasonal prediction data in this data tab is only necessary to operate CoCO function and is not used to operate the original PICASO prediction (Fig 57)
- In order to operate CoCO function, all of the observation data, PICASO prediction data, and user-selected prediction data are needed. Even if users do not have their own prediction data to add, APCC PMME prediction data and SCOPIC prediction data are provided to perform CoCO function.
- PICASO prediction data and APCC PMME data are automatically updated in the middle of each month whereas SCOPIC prediction data cannot be automatically updated due to permission issues. PICASO version 2.0 contains SCOPIC prediction data (2010 JFM to 2022 MAM) and it is done only once with the help of SPREP. The observation data can be updated by the user's input of the data of their own country as before.
- If users want to combine other predictions, they need to input the prediction data they want. It is important to remember that the CoCO function is applicable only to the tercile probability seasonal prediction, so make sure that the new prediction data that users input are in tercile format.
- 'import', 'Export', and 'Edit' functions are same as observation tab (see 7.1).

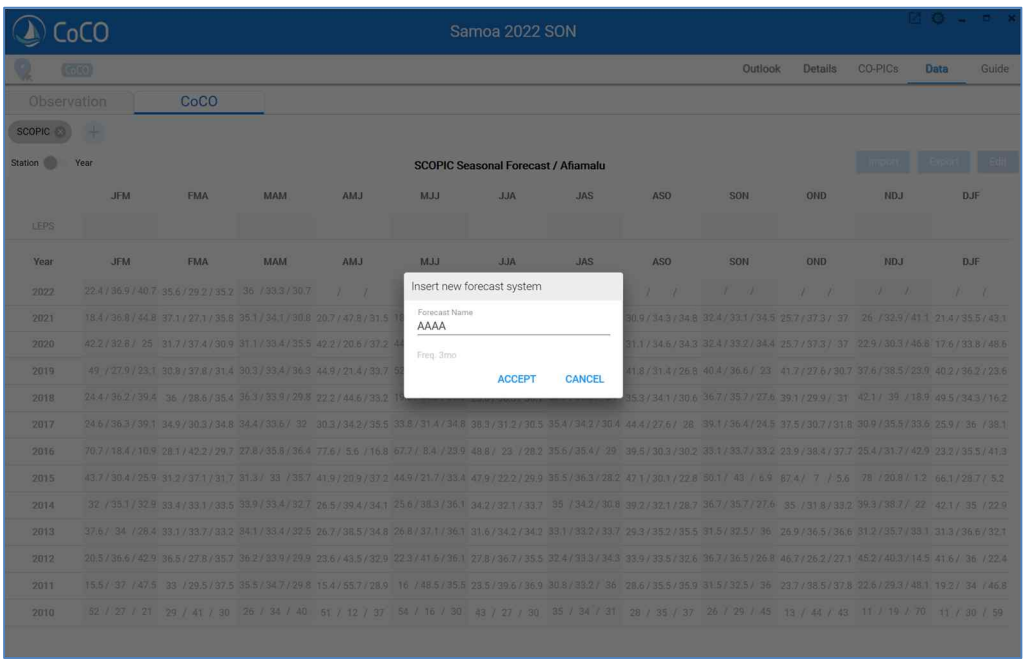


[Fig 57] CoCO tab in the DATA menu

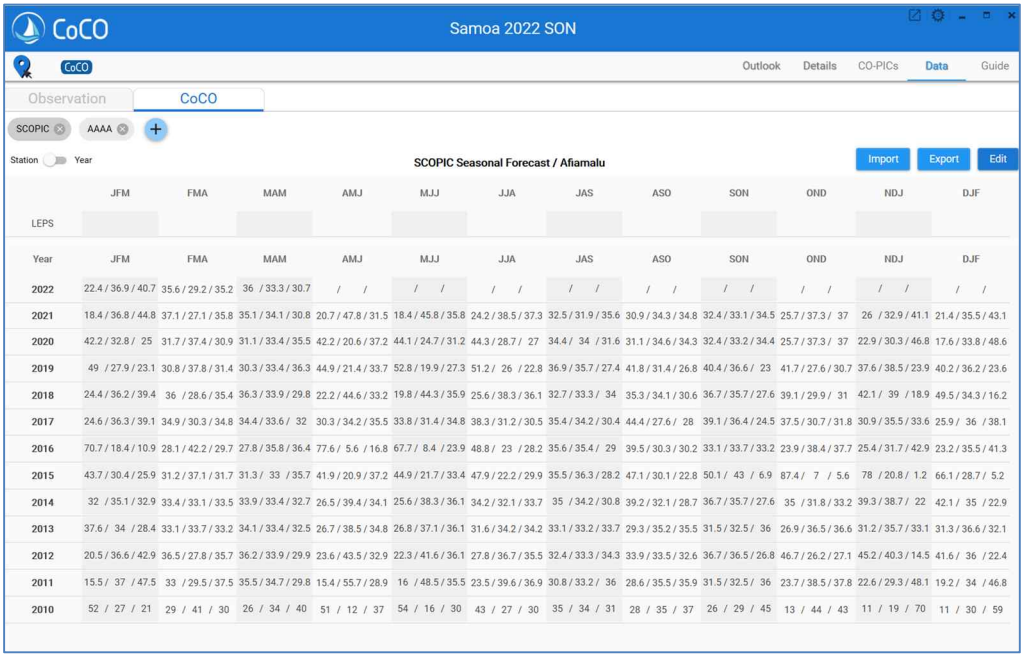
7.2.1 Add prediction data

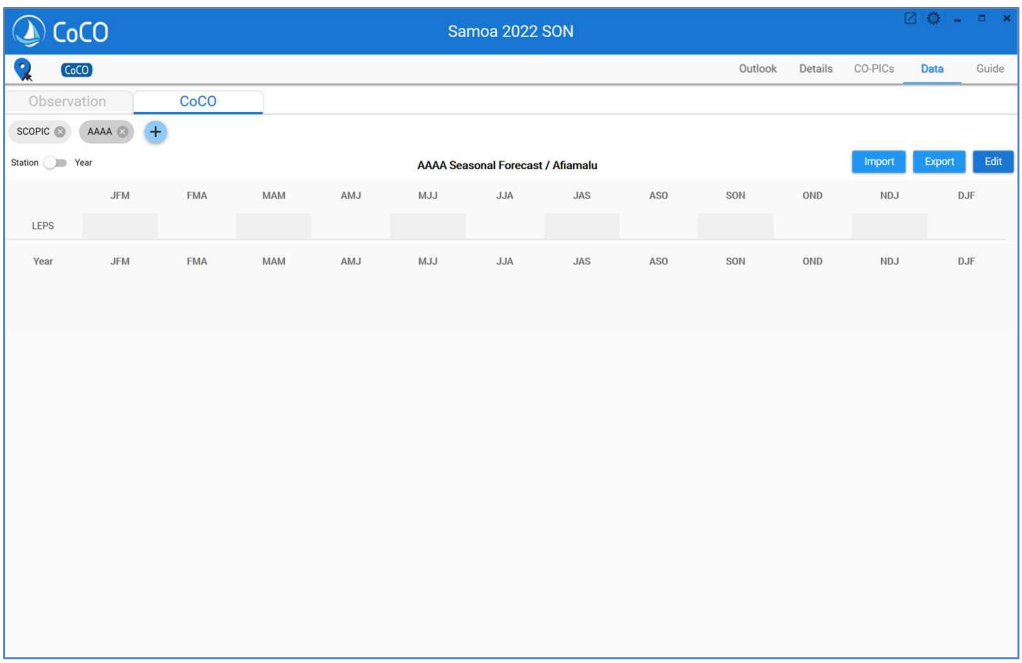
- On the CoCO tab, users can use the plus button (⊕) to add a new prediction (Fig 57).

- Suppose that users would like to insert a ‘AAAA’ prediction for example. First, Type the name of the prediction system ‘AAAA’ in the title pop-up (Fig 58). After typing in the prediction name, the tab for the prediction system will appear on the top left corner (Fig 59 upper panel).
- If users click the ‘AAAA’ button, a data input page will turn up (Fig 59 lower panel). As for data input, users can either put in the prediction data manually or import a data file .
- For manual input, press ‘edit’ and type numbers. Make sure that the sum of BN, NN, and AN amounts to 100. Data will be saved only when the total of three probabilities is exactly 100.
- If there are missing values, type -99.9 or -999.9 so that missing values are not included in the calculation. Missing values should not be recorded as 0 although it will be displayed as 0 for technical reason. When you finish editing, press the save button.
- If the color of numbers has changed, it means that the total of BN, NN, and AN is not 100. In this case, the data will not be saved and the save button will be inactivated. Then thorough review is needed. When the sum of the ‘tercile’ inputs is less than 100, the numbers will turn green. If it exceeds 100, the numbers will turn red. Remember data can only be saved when the total is 100 (Fig 60). This is a way for preventing mistakes or typos by users that may occur during manual input.

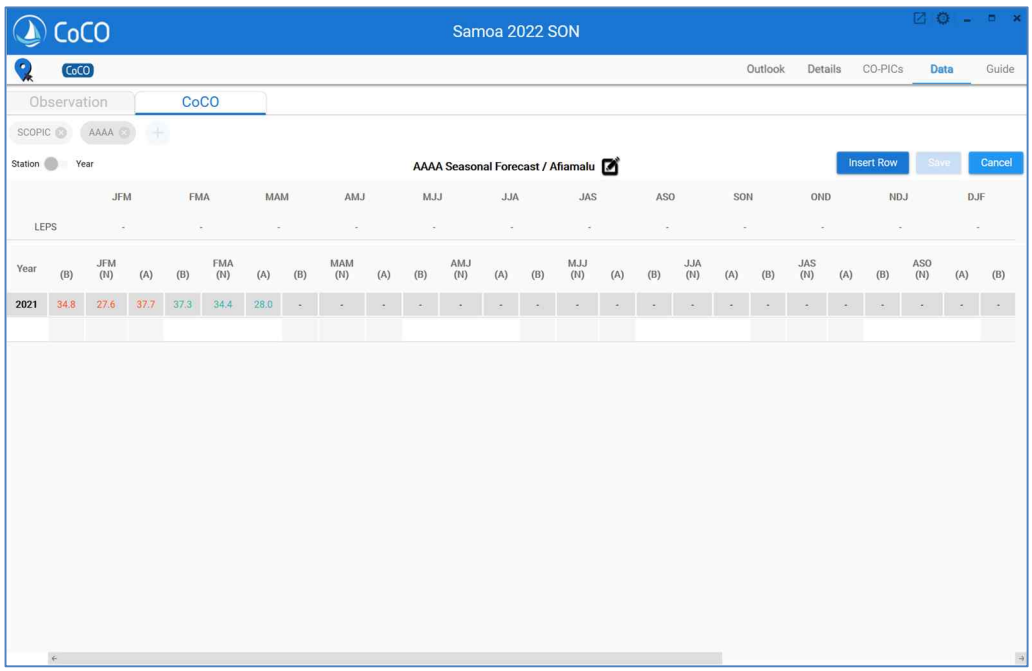


[Fig 58] Title pup-up



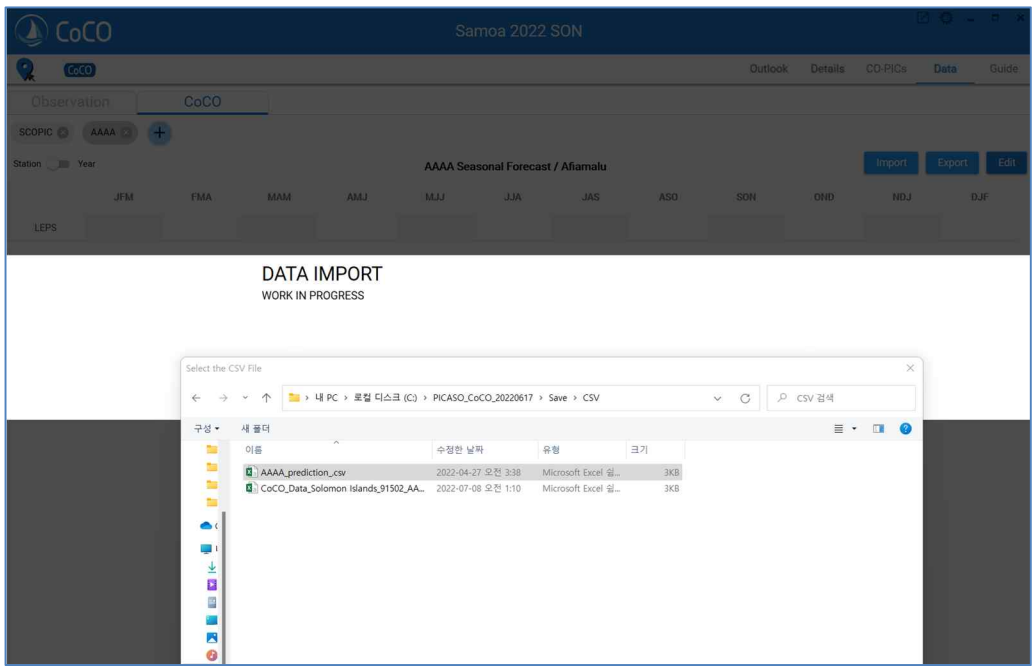


[Fig 59] Manual input page

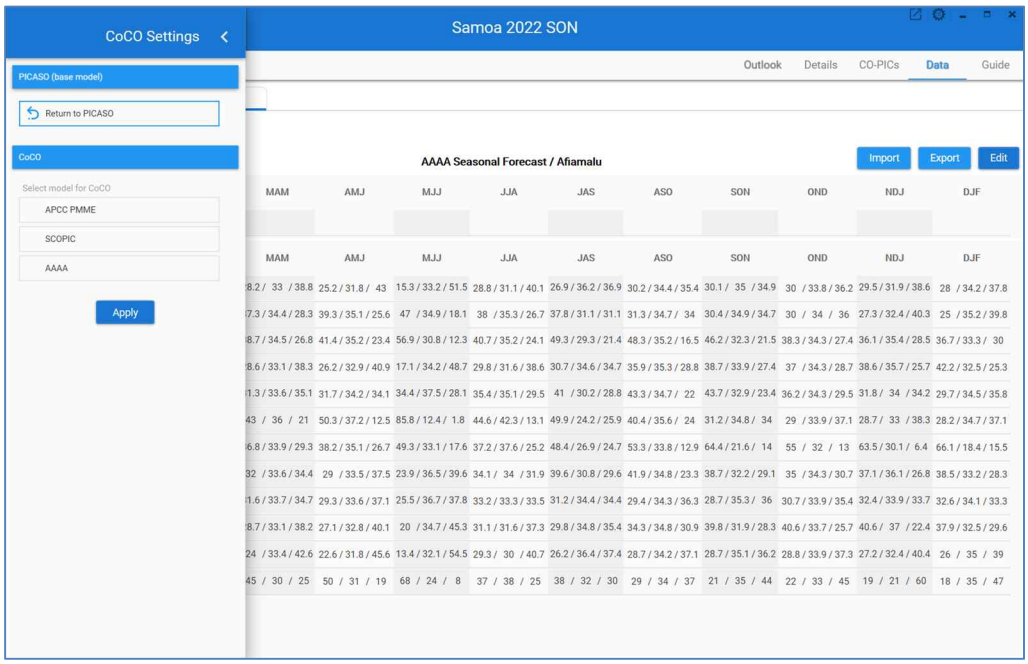


[Fig 60] Error page

- If users have the data as a file, users can use the import function for data input. Also, users can download the inserted data as a file using the export function. Data file for import and export is in the form of csv.
- If there are data for less than 10 years, the LEPS score is not automatically calculated and the screen will show “Need more data”. However, if users know the prediction system’s LEPS score, even though the prediction period is less than 10 years, users can manually type the LEPS score on the Data tab.
- After adding prediction data on the Data tab and open the ‘CoCO setting’ window, the prediction title users typed will be added to the ‘Select model for CoCO’ menu. By selecting the added prediction title, users can produce a new CoCO prediction which combines PICASO prediction and newly added prediction.
- The CoCO tab on the data page is accessible whether in the CoCO mode or PICASO mode. Data can be put in regardless of which mode is activated.



[Fig 61] Data import

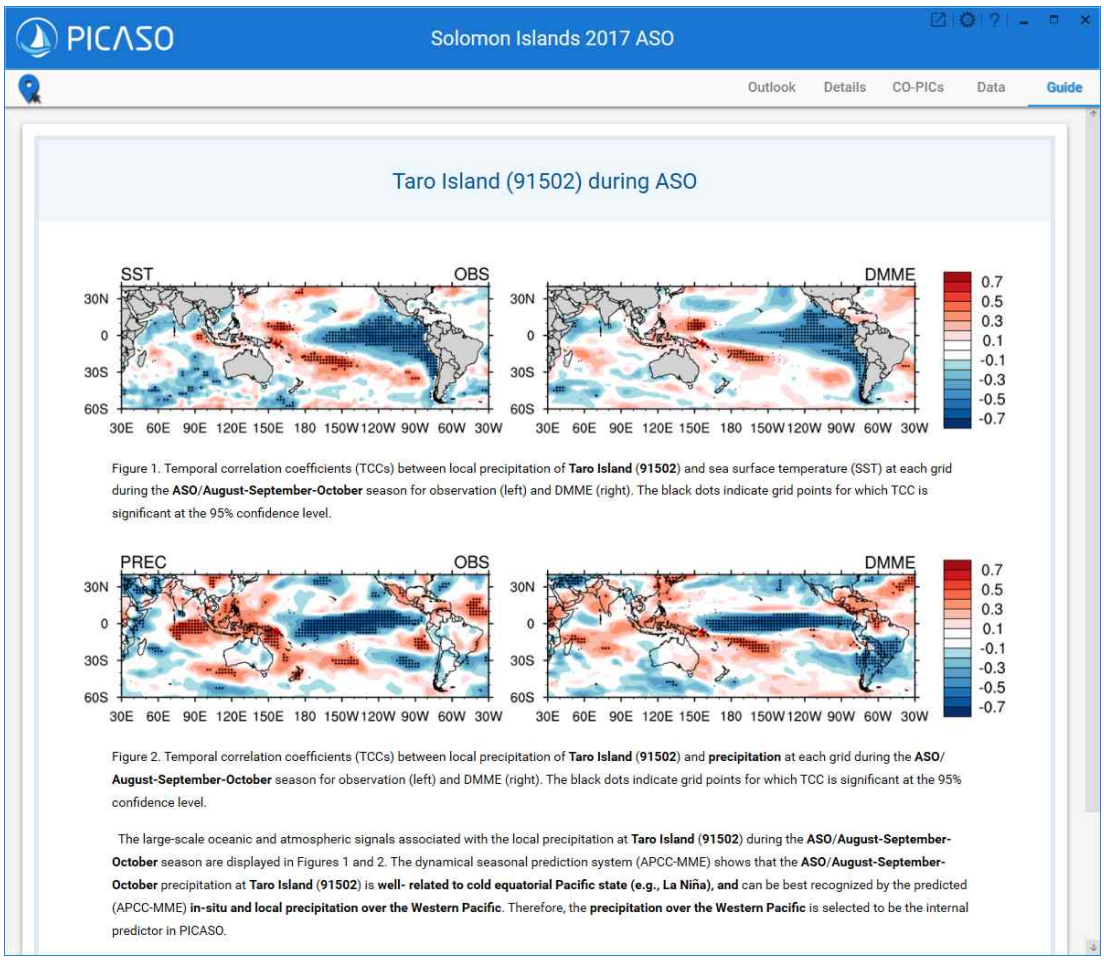


[Fig 62] CoCO setting menu after prediction data input

8 Guide

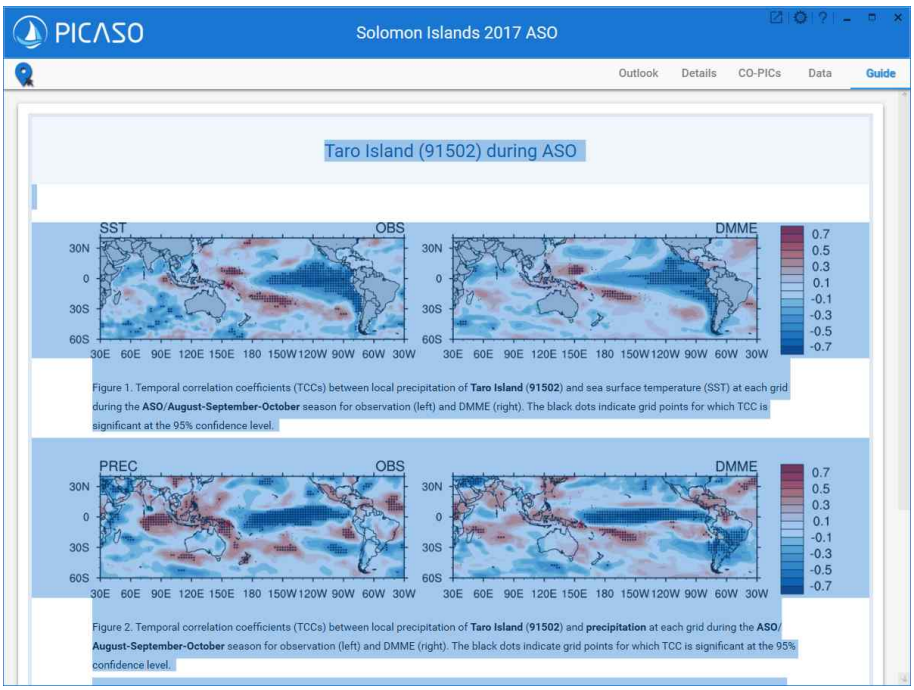
◆ The Guide tab contains information on how to tailor the dynamic model predictions for each observation point in PICASO, and provides an associated mechanical description

along with a global correlation map.

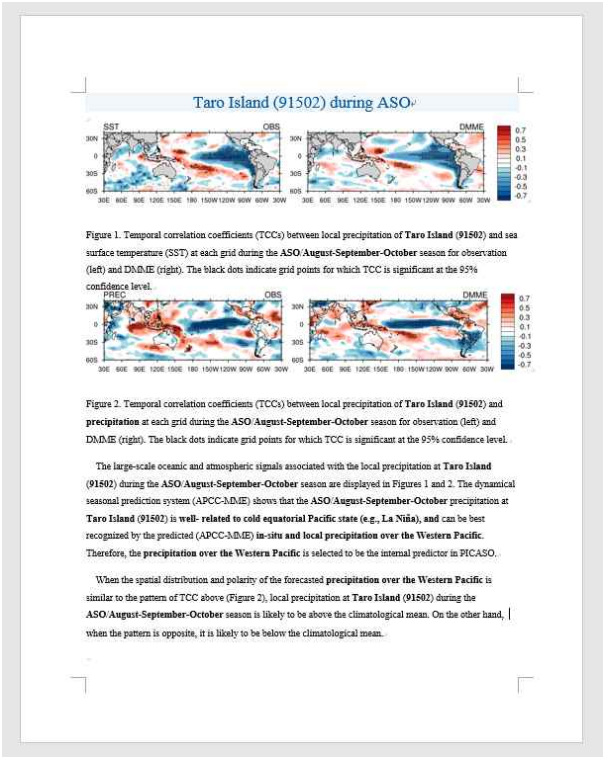


[Fig 63] Guide tab

◆ In the Guide tab, image and text information can be selected by dragging with mouse as [Fig 55]. Selected images and text can be copied to other documents.



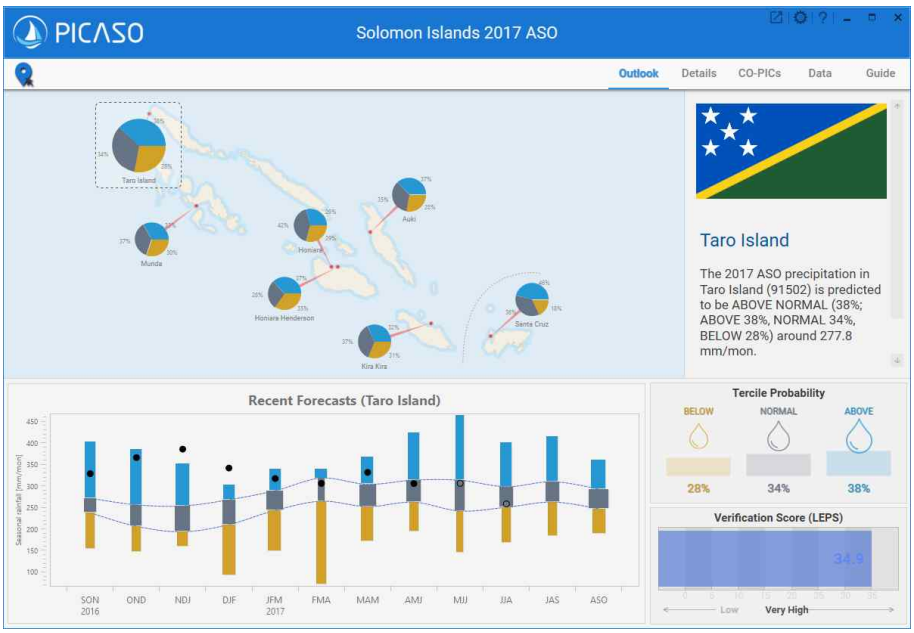
[Fig 64] Select contents from Guide tab



[Fig 65] Copy contents from Guide tab

9 Select a Station

- You can change the point in one country among the PICASO initial setting conditions.
- Click the "Select a Station" icon ( ) on the upper left corner to open the station selection screen.

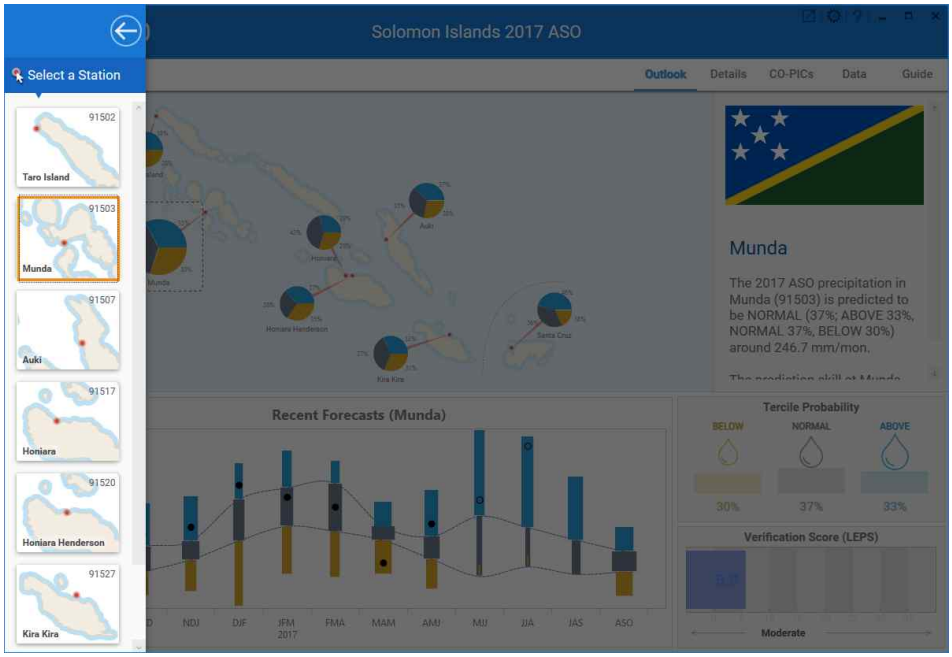


[Fig 66] “Select a Station” icon

- Station name and ID are displayed, and its condition is changed when you click the station you want.

[Fig 67] “Select a Station”

◆ Click ( ) on the top left corner, and Station selection page will close.

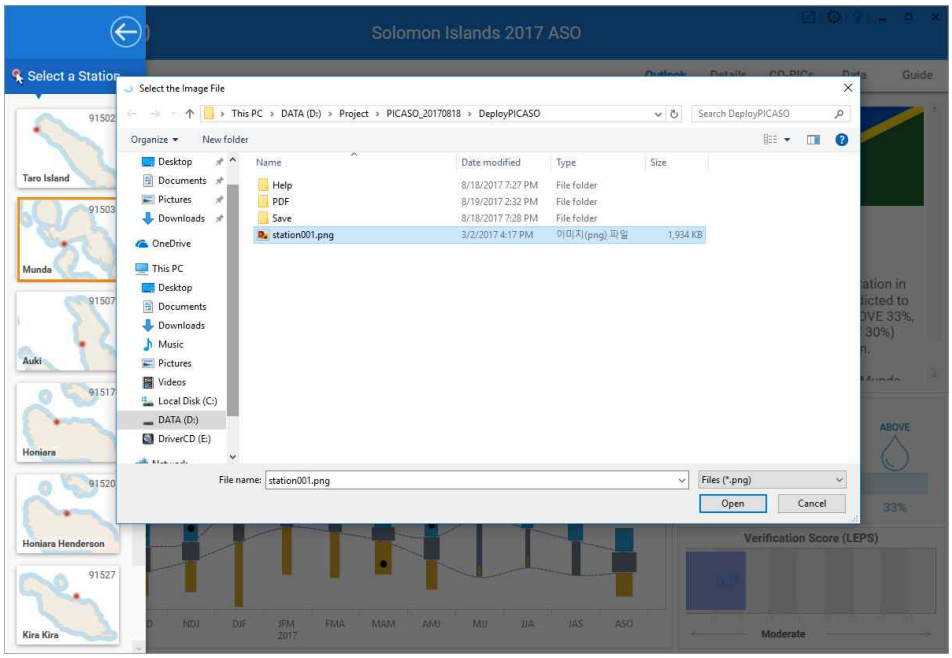


[Fig 68] Close station

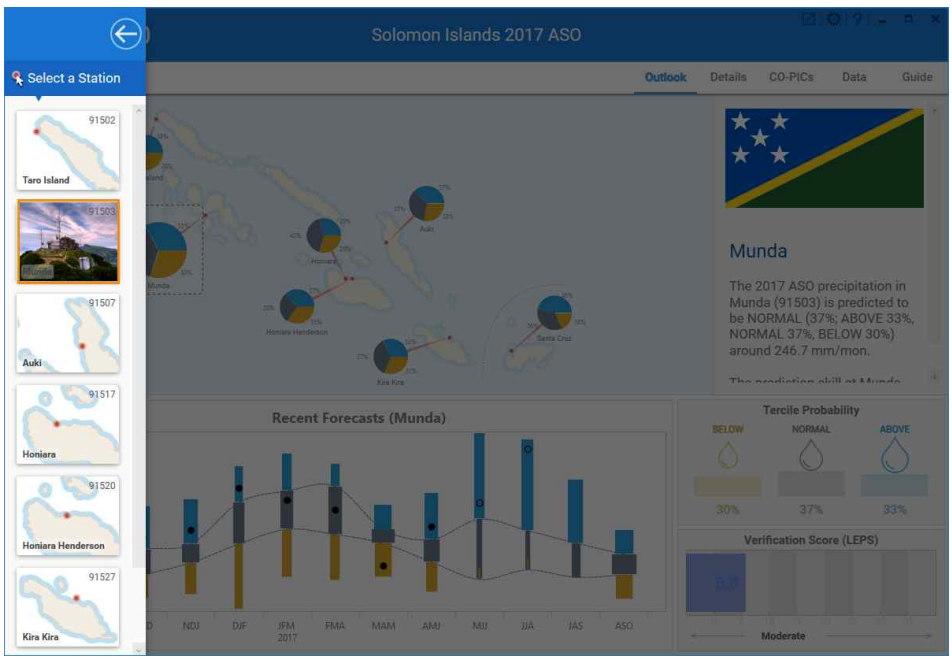
◆ If you want to change the station image, right-click on the station image you want to change to display the same pop-up menu as [Fig 60]. If you click the "Upload Image" menu in the pop-up menu, a file explorer for selecting an image file is displayed.

[Fig 69] "Upload Image"

◆ Select the image file to change and click the “Open” button. The selected image will be changed to the station image as shown in [Fig 62].



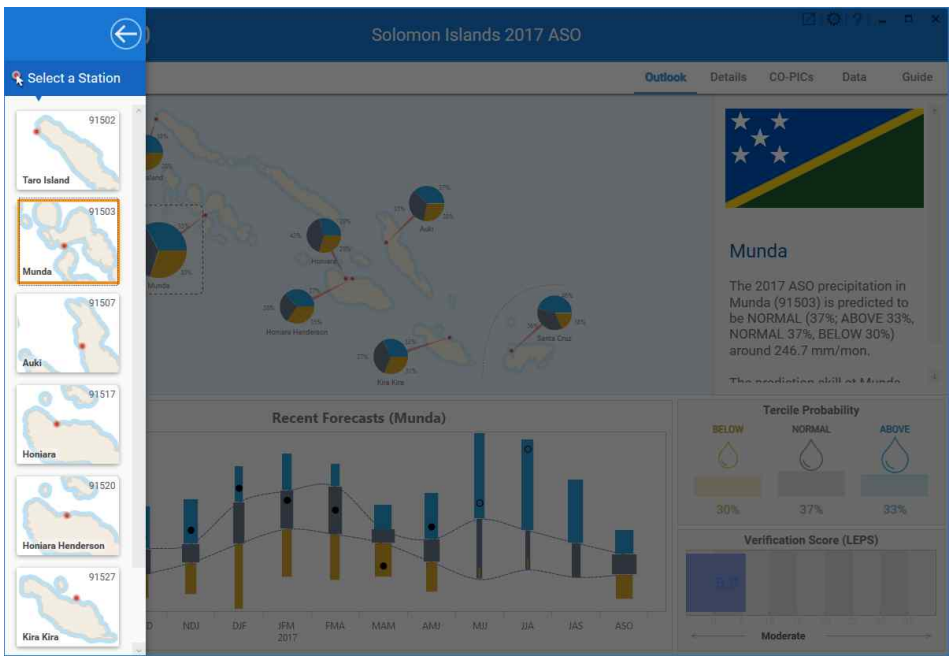
[Fig 70] Select station image file



[Fig 71] Change station image

◆ If you want to use the existing station image, right click on the station image as in [Fig 63] and select "Use default image" menu from the pop-up menu.

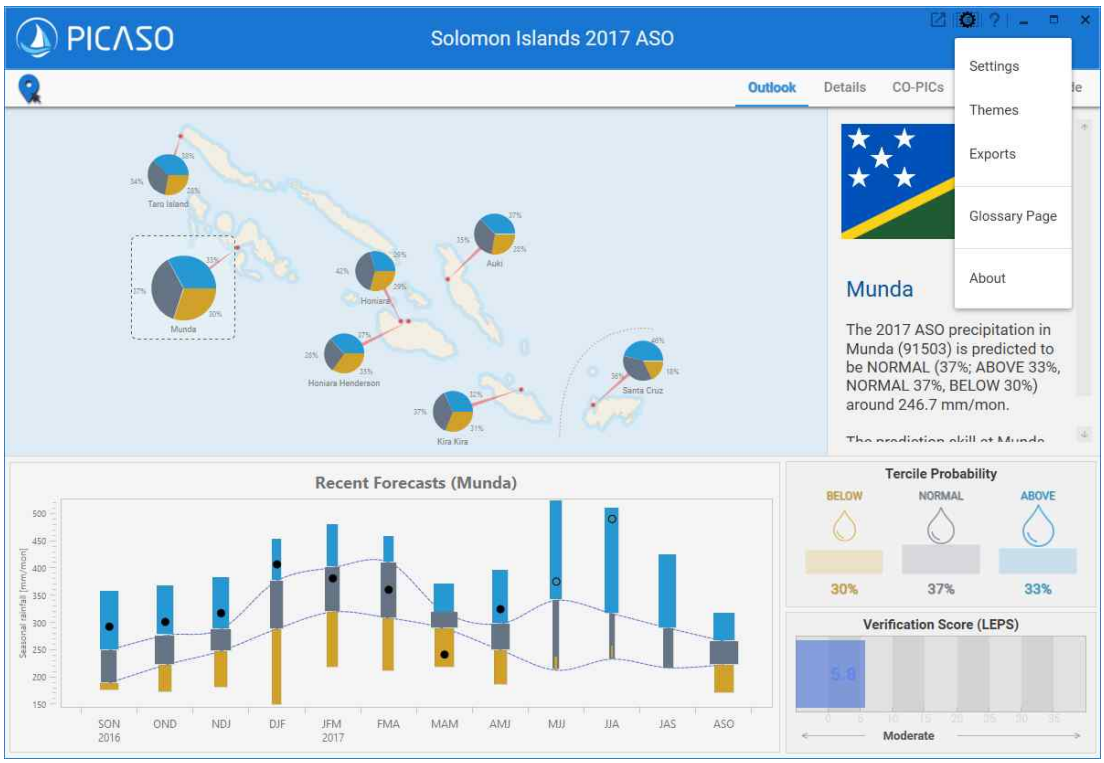
[Fig 72] Select “Use default image” menu



[Fig 73] Change to default station image

10 Menu

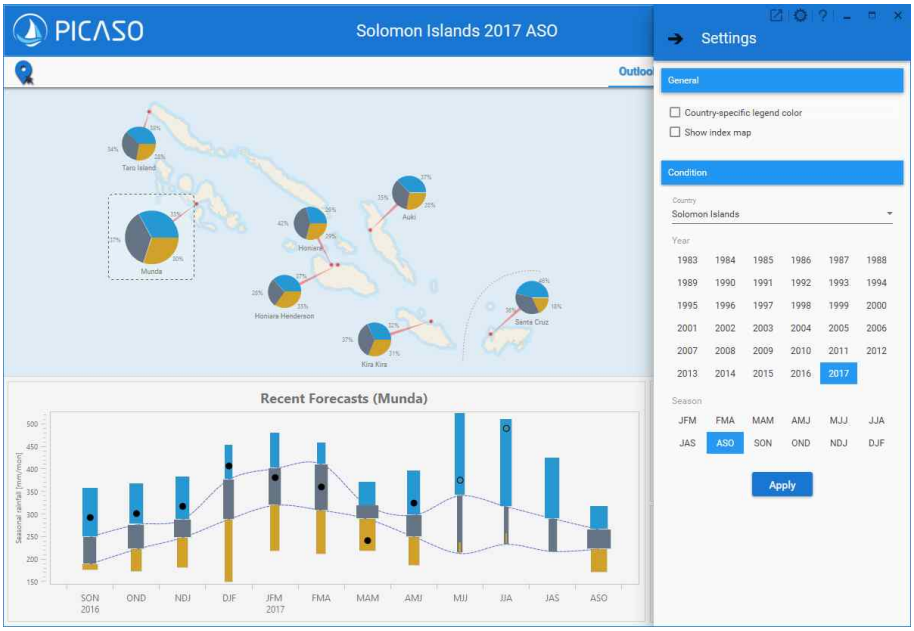
- Provides various functions required for PICASO. Click the "Menu" button ( ) on the upper right of the screen to display the list as shown in [Fig 65].
- "Settings" menu displays the page that changes the setting condition of PICASO.
- "Themes" menu displays the page that changes color information of PICASO.
- “Exports" menu displays a page that saves the PICASO screen as a PNG file or PDF file.
- “Glossary Page" menu displays the glossary page used in PICASO.
- “About” menu displays PICASO introduction page.



[Fig 74] Menu

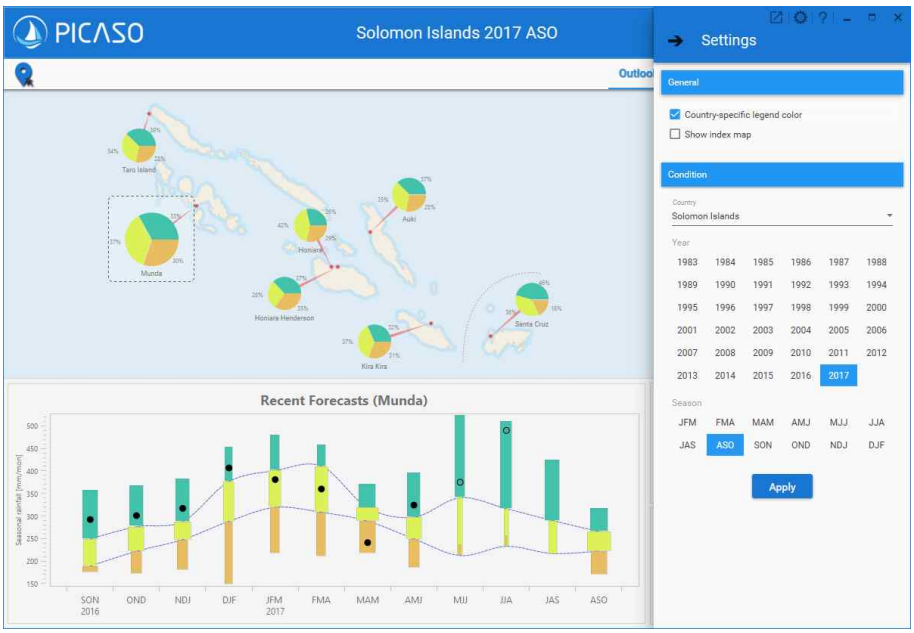
11 Settings

◆ Change the setting condition of PICASO and change the setting of general part.



[Fig 75] Settings

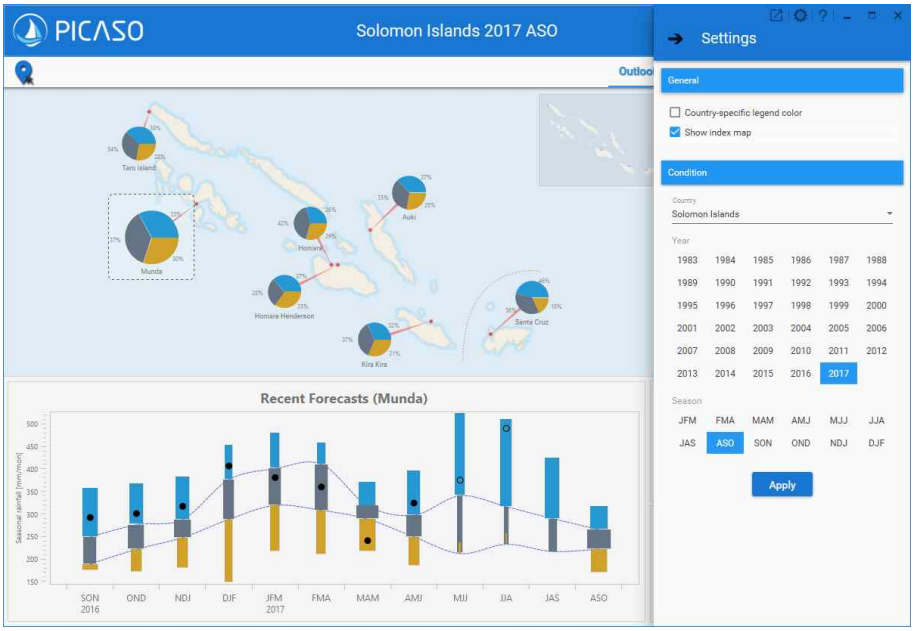
◆ "Country-specific legend color" is a function to change the color information corresponding to BELOW, NORAML, ABOVE. It is changed to the color preferred in each country as shown in [Fig 67]. Select to change the default color of the presented PICASO.



[Fig 76] Country-specific legend color

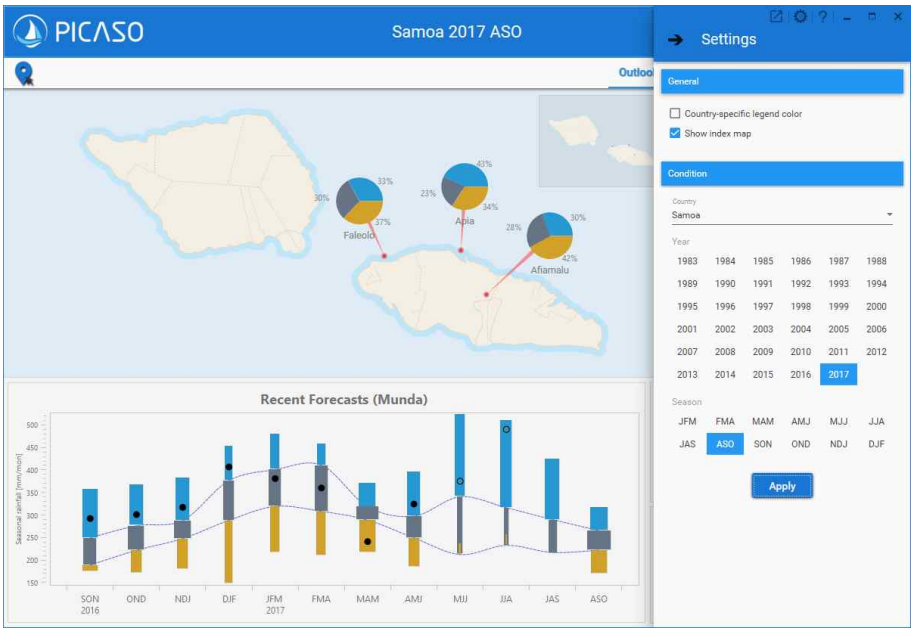
◆ "Show index map" is a function to select whether or not to output Index map on the map

of Outlook screen. When selecting [Fig 68], Index map is displayed on the map and removed from the presentation screen.



[Fig 77] Show index map

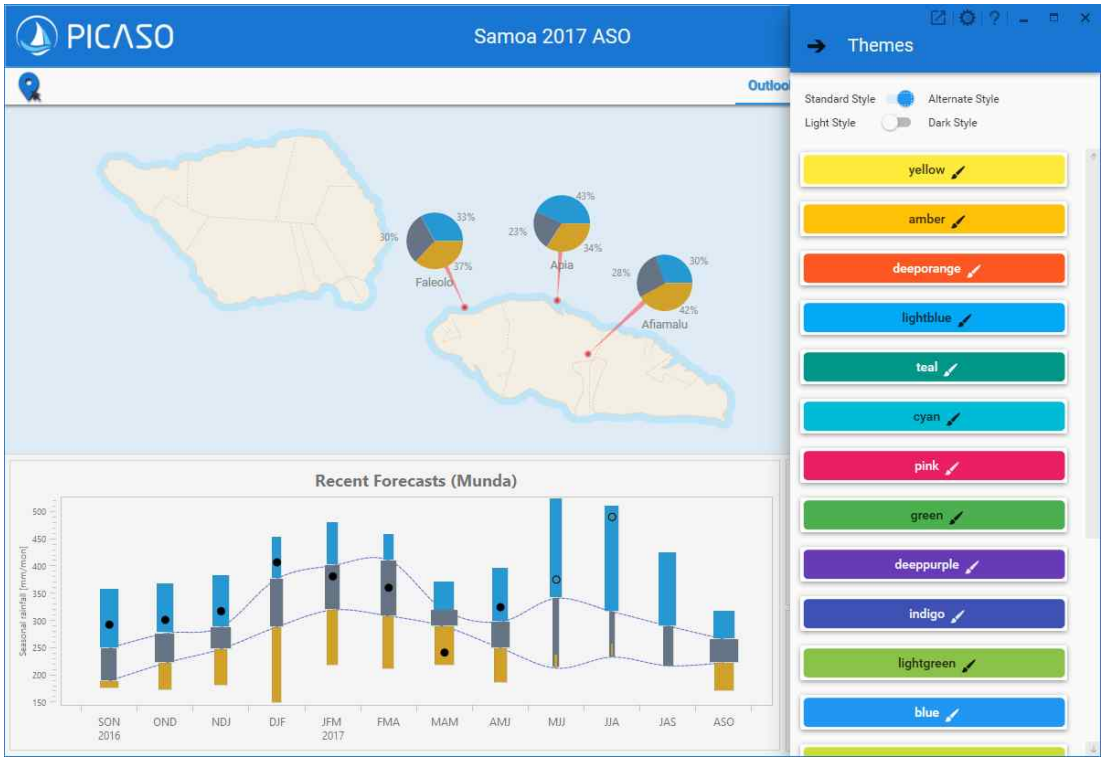
- “Country” can change country settings.
- “Year” can change year settings.
- “Season” can change seasonal settings.
- Country, Year, Season does not apply right away after the change. When you press “Apply”, then the changed setting will apply to PICASO.



[Fig 78] Changed Condition

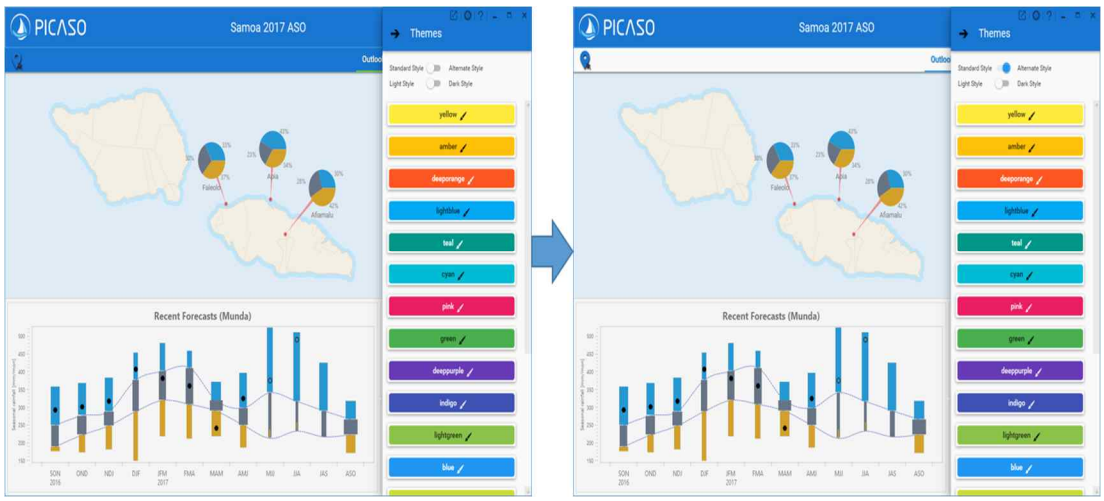
12 Themes

◆ Change the PICASO screen to the color that matches the user's preference.



[Fig 79] Themes

◆ "Standard Style or Alternate Style" changes the title bar style at the top of the screen as [Fig 71].

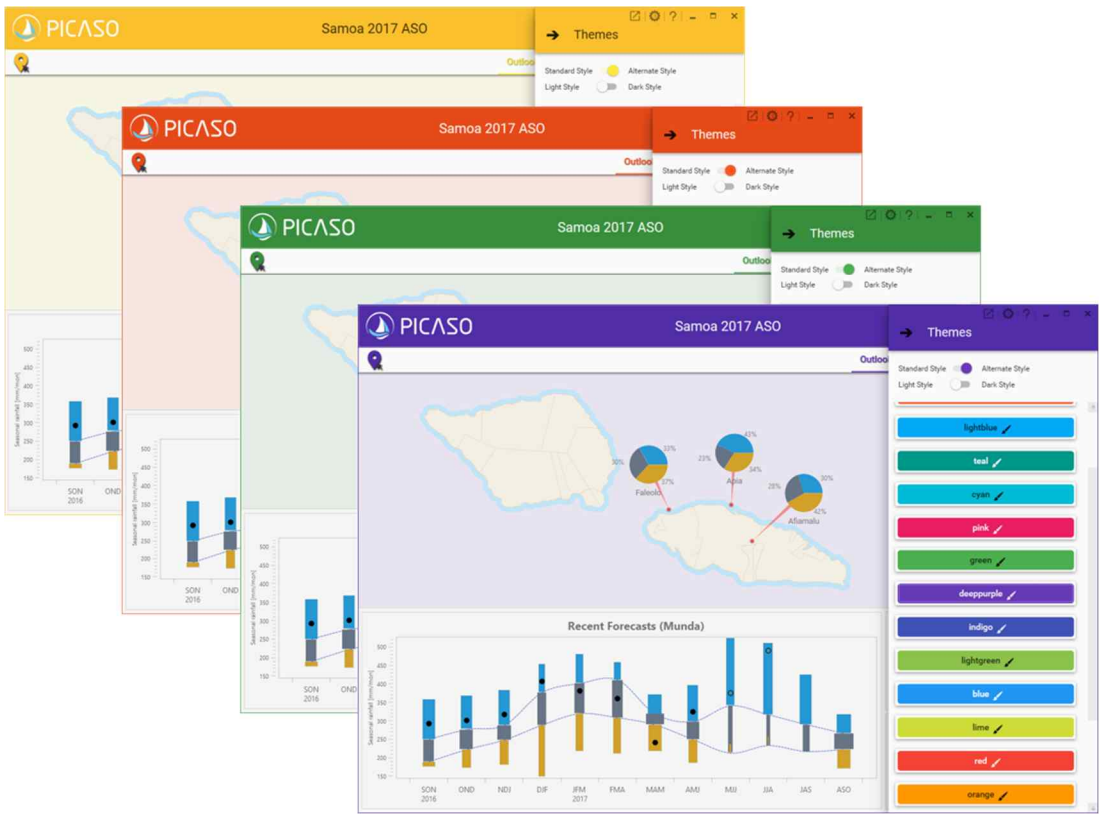


[Fig 80] "Standard Style" or "Alternate Style"

◆ “Light Style” or “Dark Style” changes the background style of PICASO screen as [Fig72].

[Fig 81] “Light Style” or “Dark Style”

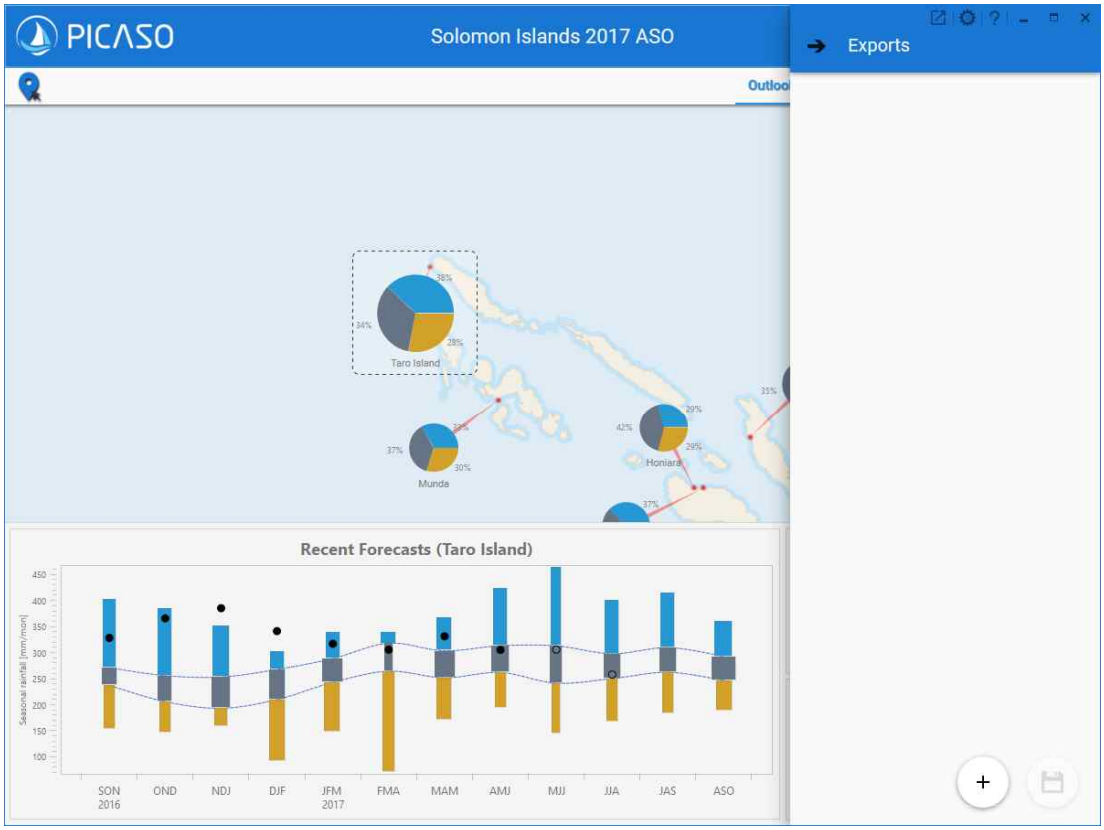
◆ Click the desired color to change the screen to the selected color. Supports a total of 19 colors.



[Fig 82] Colors

13 Exports

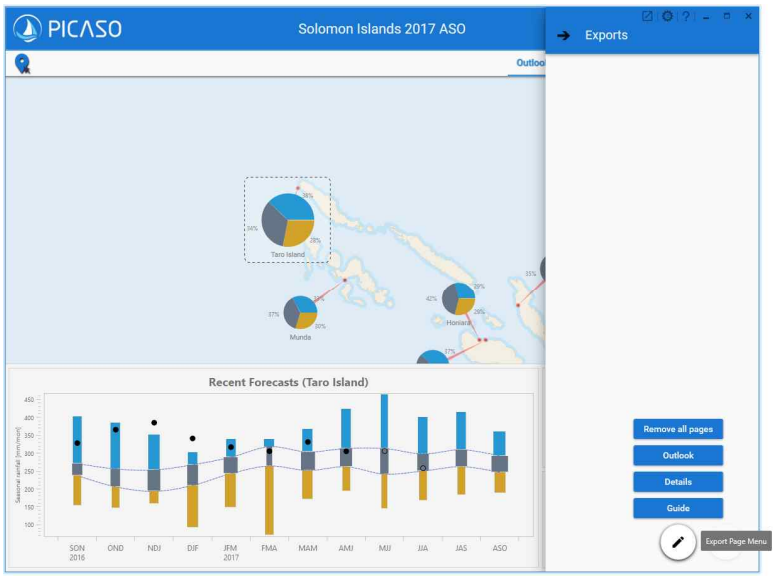
- It provides the function to save PICASO screen as PNG file and PDF file.
- The Exports function provides three screens: “Outlook”, “Details”, and “Guide”.
- Provide the ability to export only the control that the user desires among various controls placed on the screen.
- Provide separate image storage for some graphics.
- PICASO license information is added to the file generated by the Exports function.



[Fig 83] Exports

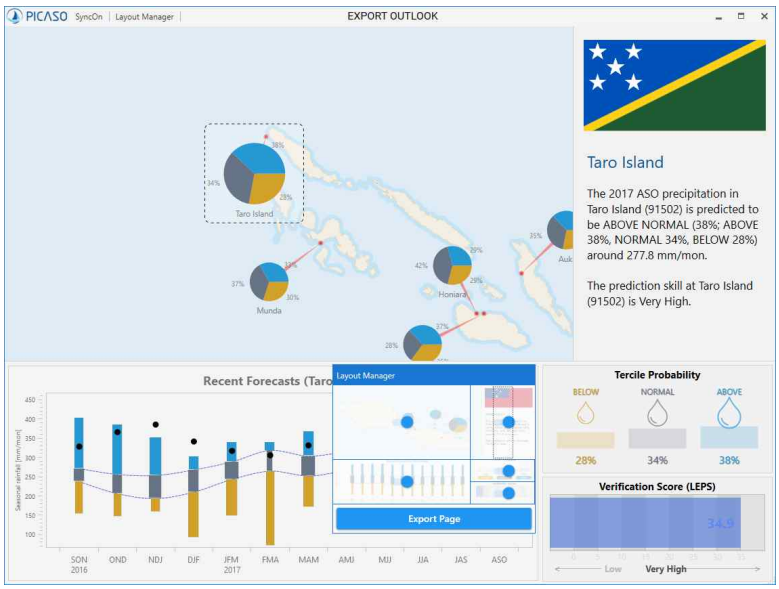
13.1 Export Page

- When you move the mouse over the "Export Page Menu" icon ( ) at the bottom of the screen as shown in [Fig 75], "Remove all page" button, "Outlook" button, "Details" button and "Guide" button are displayed. It provides export function for the screen and initialization function of export screen.
- Each “Outlook”, “Details”, “Guide” screen configuration is different, but the screen extraction method is the same.



[Fig 84] Exports Page Menu

- Clicking the "Outlook" button will display the screen for export like [Fig 76].

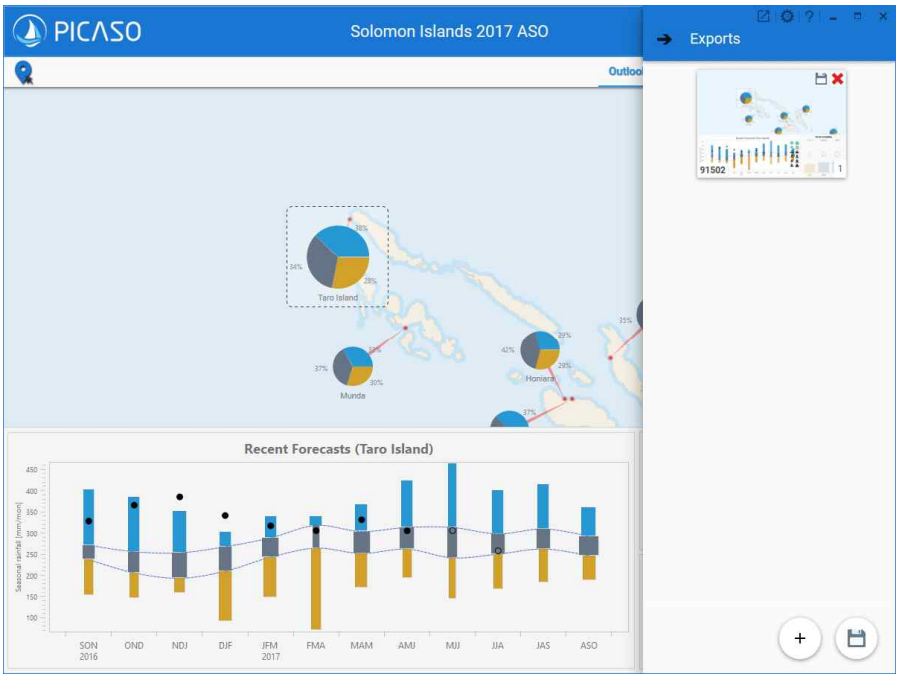


[Fig 85] “Export Outlook”

◆ Toggle button in “Layout Manager” to show or hide specific layout.

[Fig 86] “Layout Manager”

◆ When the desired screen configuration is completed, click the "Export Page" button to add it to the screen extraction list. The extracted screen is added to the extraction list as [Fig 78].

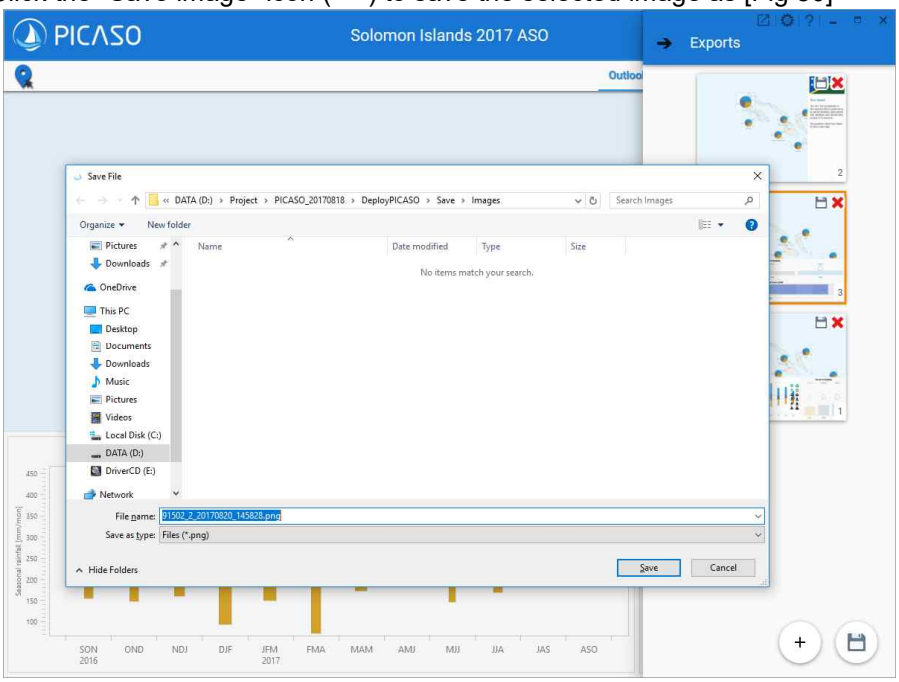


[Fig 87] “Export Page”

◆ When you see the added screen of screen extraction list, “Save Image” ( ), “Remove” ( ) Icons appear, and on the lower side, “station ID” and “export page index” appear.

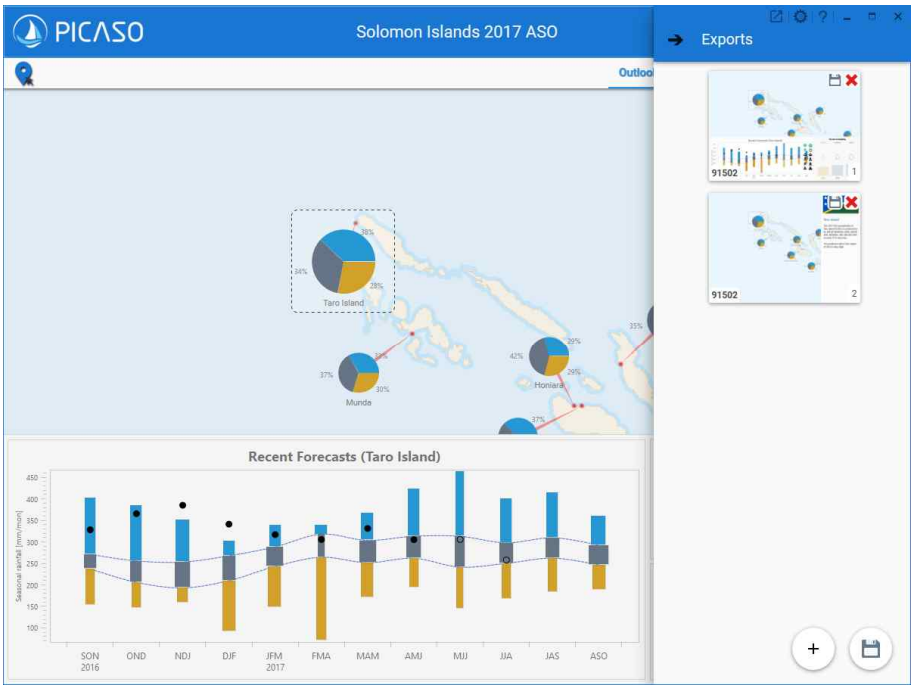
[Fig 88] Export list

◆ Click the "Save image" icon ( ) to save the selected image as [Fig 80]



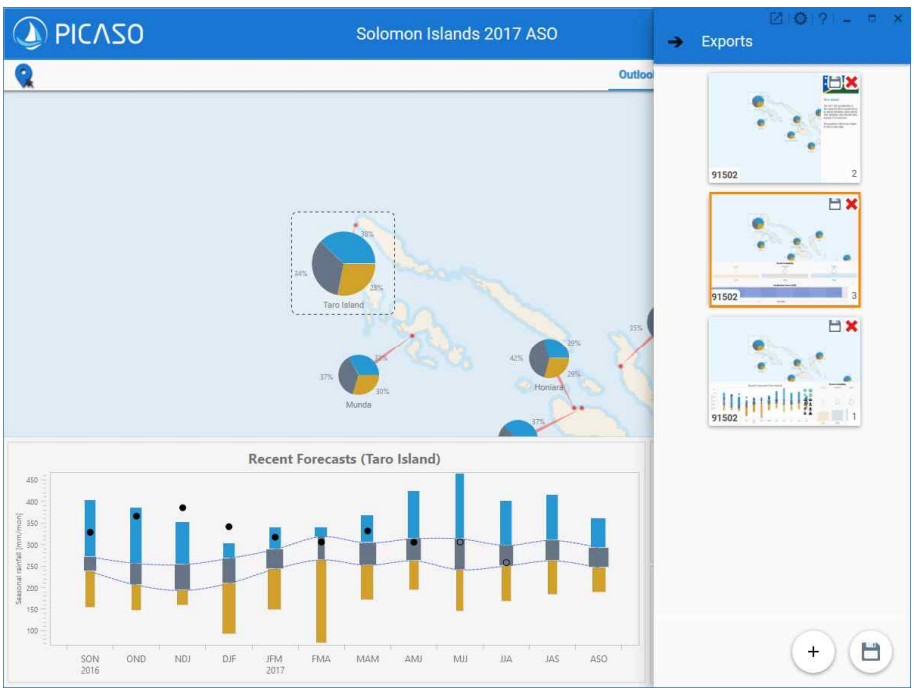
[Fig 89] “Save image”

◆ Click the "Remove" ( ) icon to remove it from the screen extraction list as [Fig 81]



[Fig 90] "Remove"

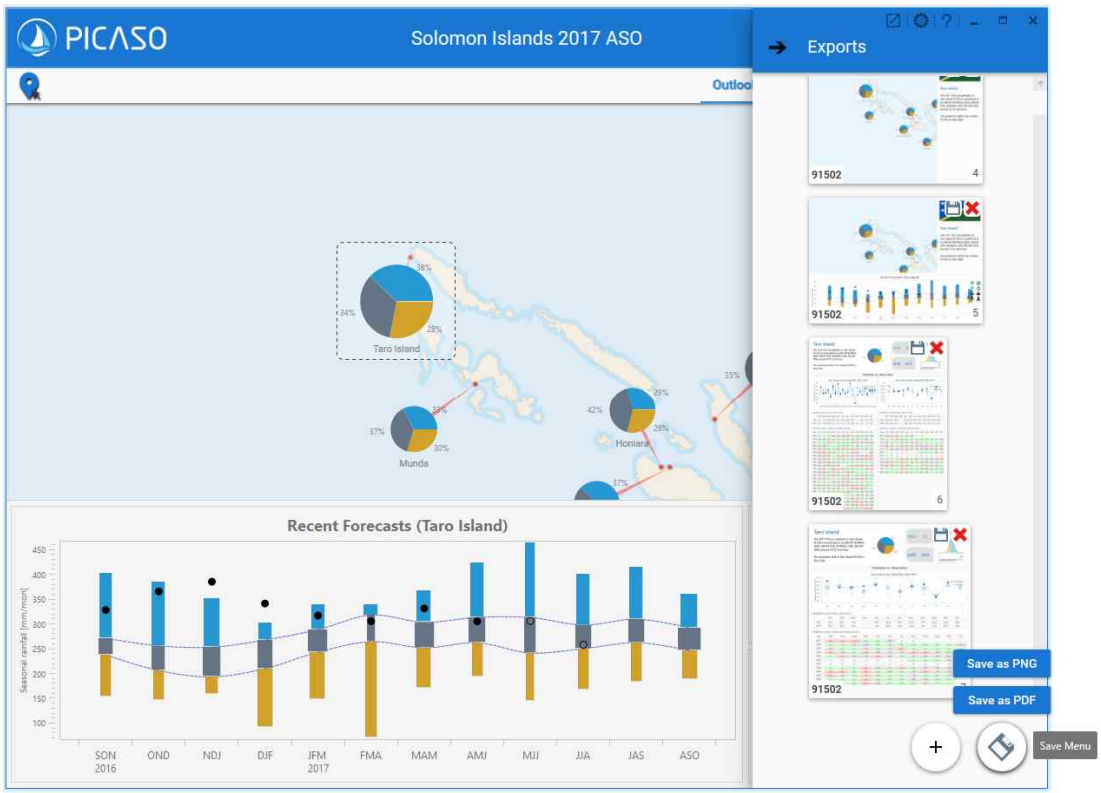
◆ Screen extraction list can change the order of list by drag & drop method.



[Fig 91] Change order of export list

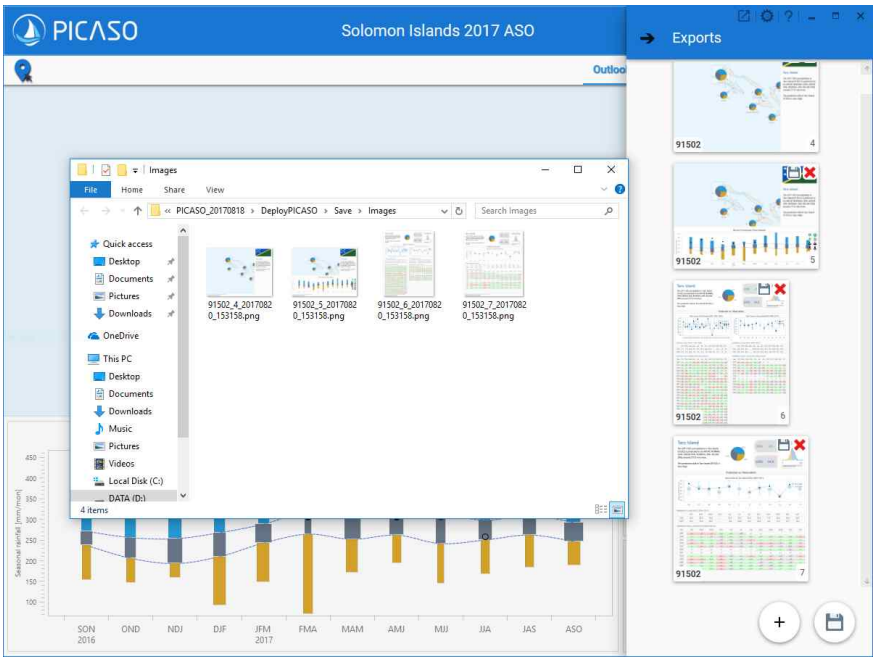
13.2 Save

- Provides the function to save extracted screen as image file or PDF file.
- When you hover over the "Save Menu" icon ( ), you will see the "Save as PNG" and "Save as PDF" menus as shown in [Fig 83].
- "Save as PNG" changes all screens in the screen extraction list to individual image files (.PNG).
- “Save as PDF "saves all screens in the screen extraction list as one PDF file



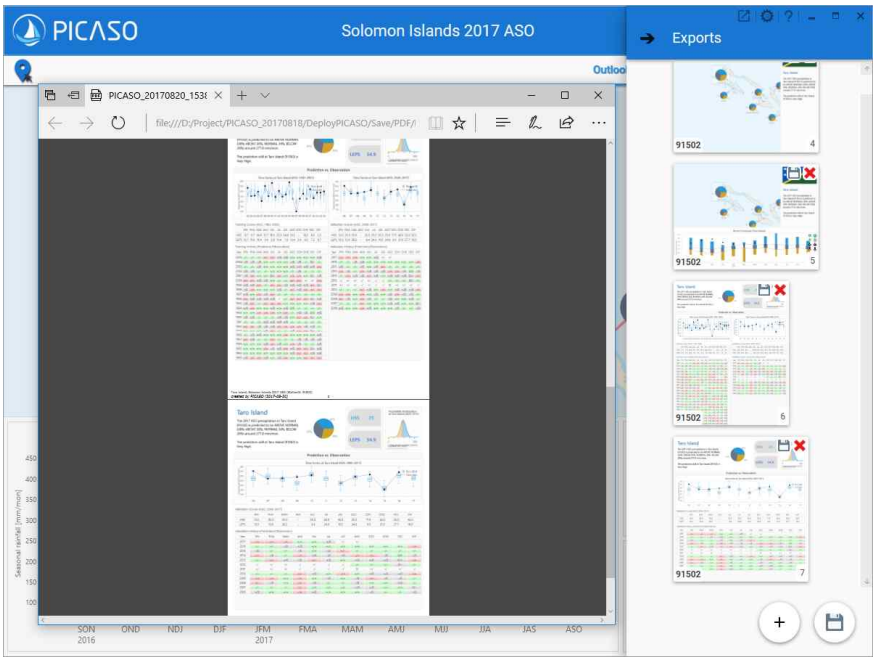
[Fig 92] “Save Menu”

◆ “Save as PNG "button to save the extracted image as an image file and open the file browser from the location where the image file is saved.



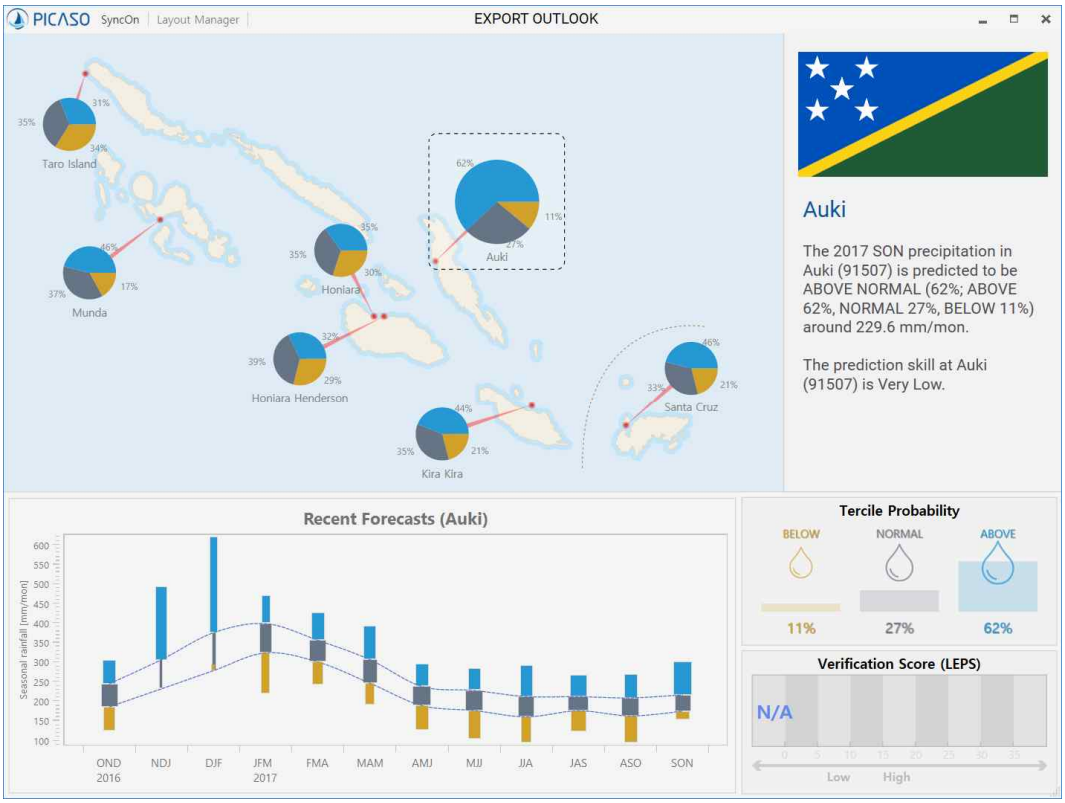
[Fig 93] “Save as PNG”

◆ “Save as PDF "button to save the extracted screen as a PDF file, and when the saving is completed, open the PDF file so that the user can check it. The location where the file is stored is the same as the location where the CO-PICs PDF file is stored.

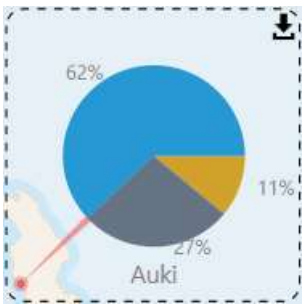


[Fig 94] “Save as PDF”

◆ Charts and visualization controls on the Outlook tab, Details screen provide separate image saving. For example, when you mouse over the pie chart in the “Export Outlook” screen, the "Save" icon ( ) appears in the upper right corner as shown in [Fig 87]

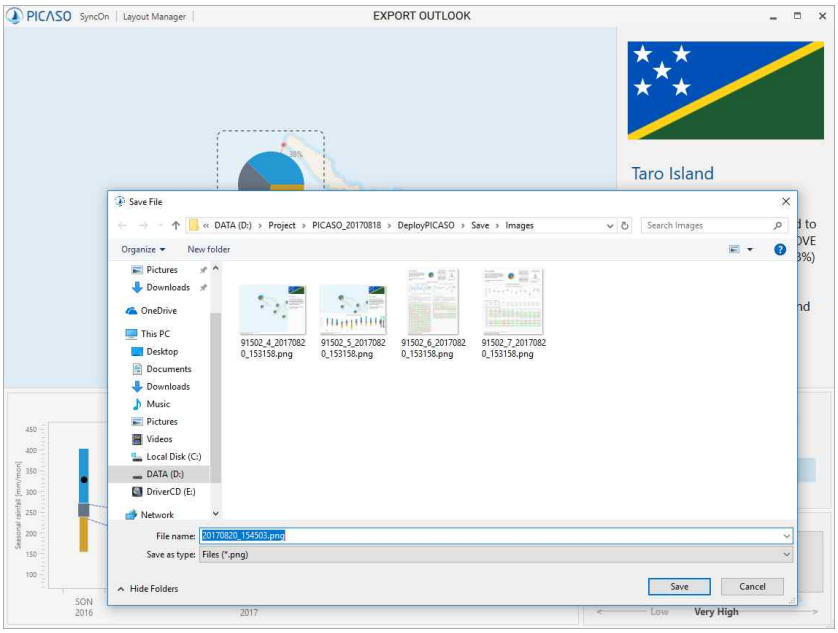


[Fig 95] Save as chart image



[Fig 96] Chart save icon

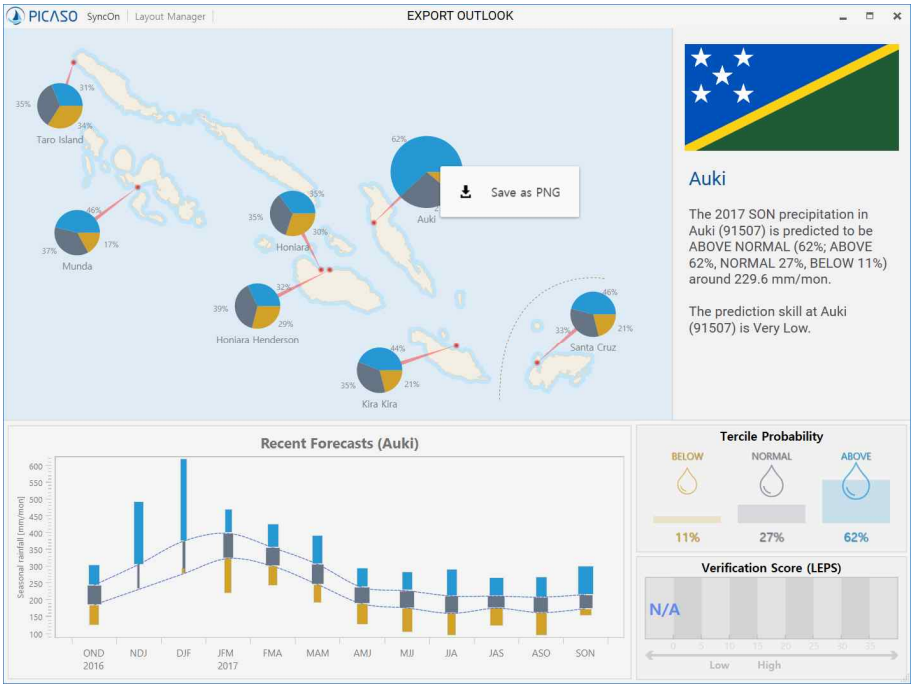
◆ Save the image by clicking the "Save" button after inputting the name of the path that saved the image like [Fig 88].



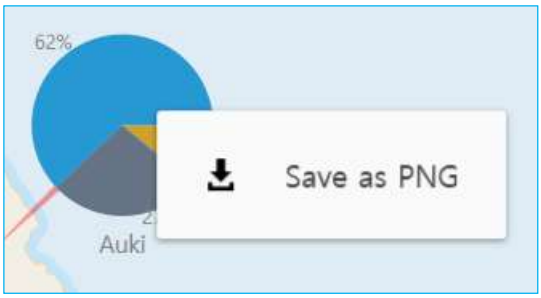
[Fig 97] Save Pie Chart

◆ Provide image saving function using pop-up menu. If you click on the chart you want to save as an image as in [Fig 89], a pop-up menu will be displayed as shown in [Fig 90] and a window will be displayed for saving image as shown in [Fig 88]. Enter the path and file name and click the "Save" button to save the image.

◆ It offers same function as the “Save” ( ), so user can use either one accordingly.



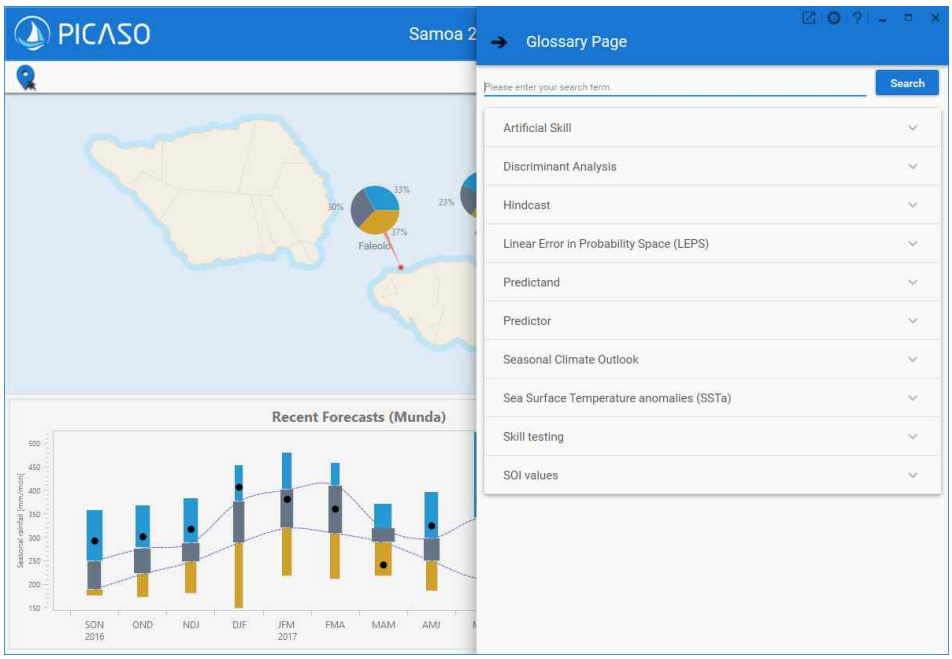
[Fig 98] Save Pie Chart Using pop-up



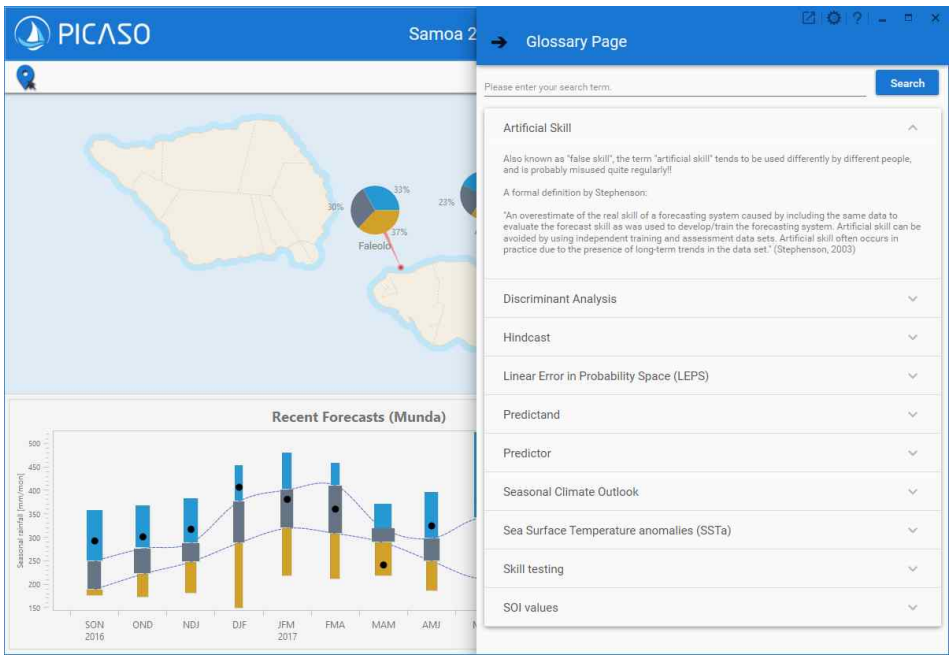
[Fig 99] Save as PNG Pop-up

14 Glossary Page

◆ Provides a description of terms used in PICASO. A list of terms is printed, and if you select the desired item, a detailed description is printed.

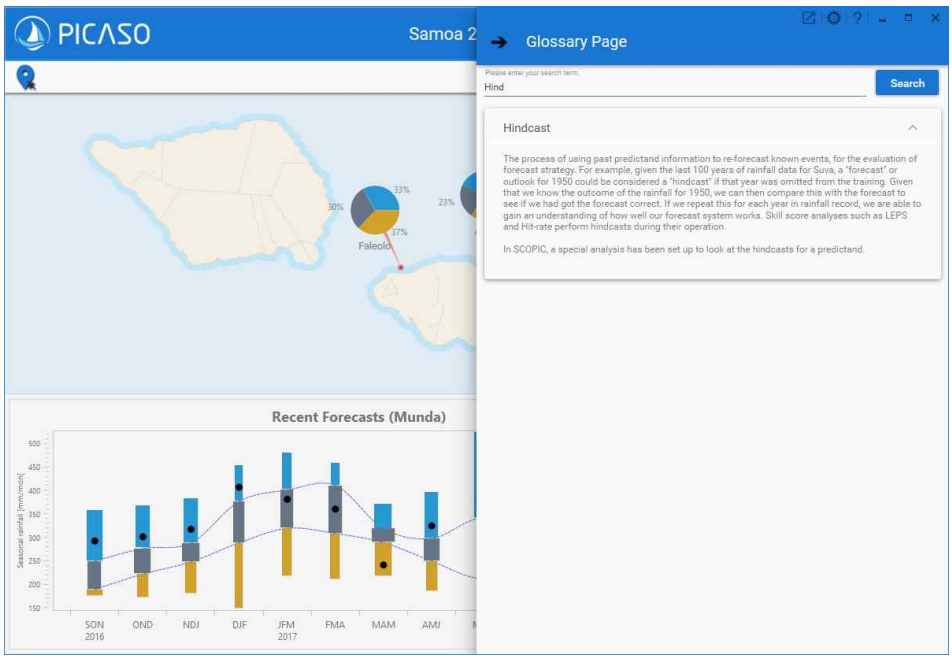


[Fig 100] Glossary Page



[Fig 101] Glossary Description

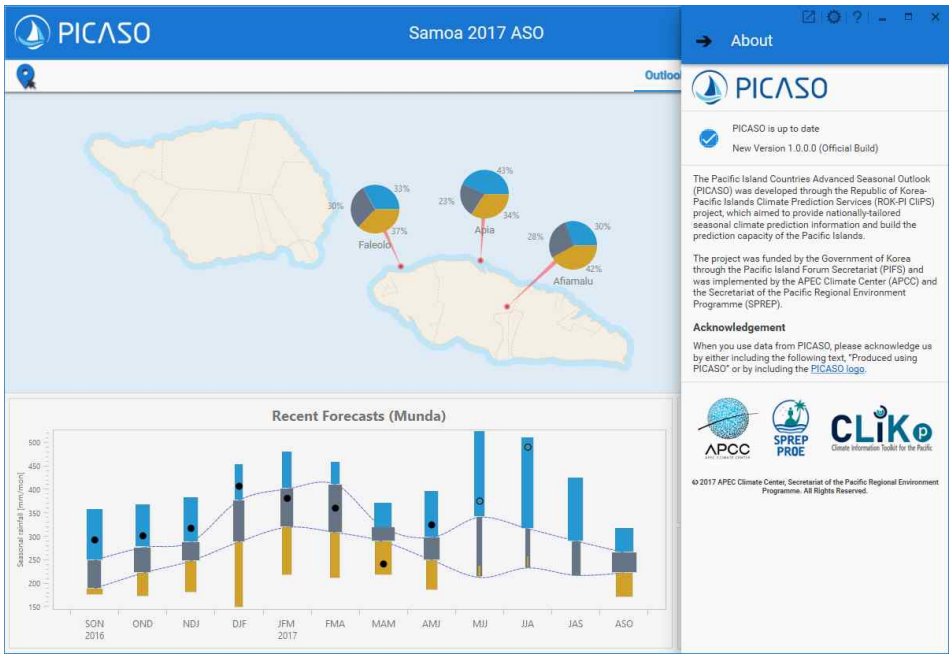
◆ Glossary Page provides search function for terminology. If you enter a search term as shown in [Fig 93] and click the "Search" button, only the terms found are displayed.



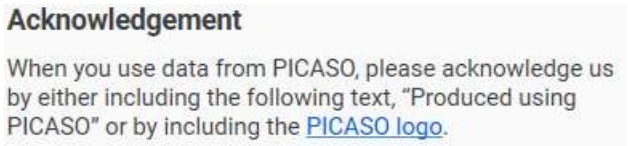
[Fig 102] Search Glossary

15 About

- Provides information on PICASO. The information provided includes the PICASO Client Version, a description of the PICASO, and the PICASO license information.
- Click “PICASO logo” link under Acknowledgment as shown in [Fig 95] to go to the web page where you can download high-resolution PICASO LOGO.
- Click the logo of PICASO related organizations to go to the homepage of each institution.

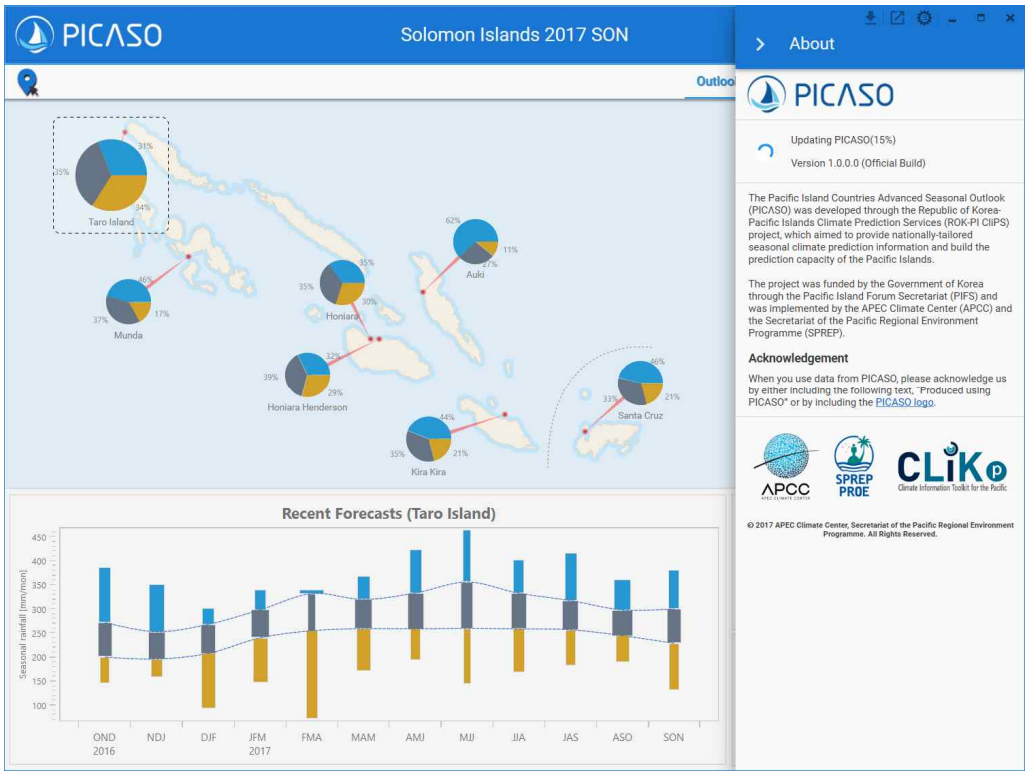


[Fig 103] About

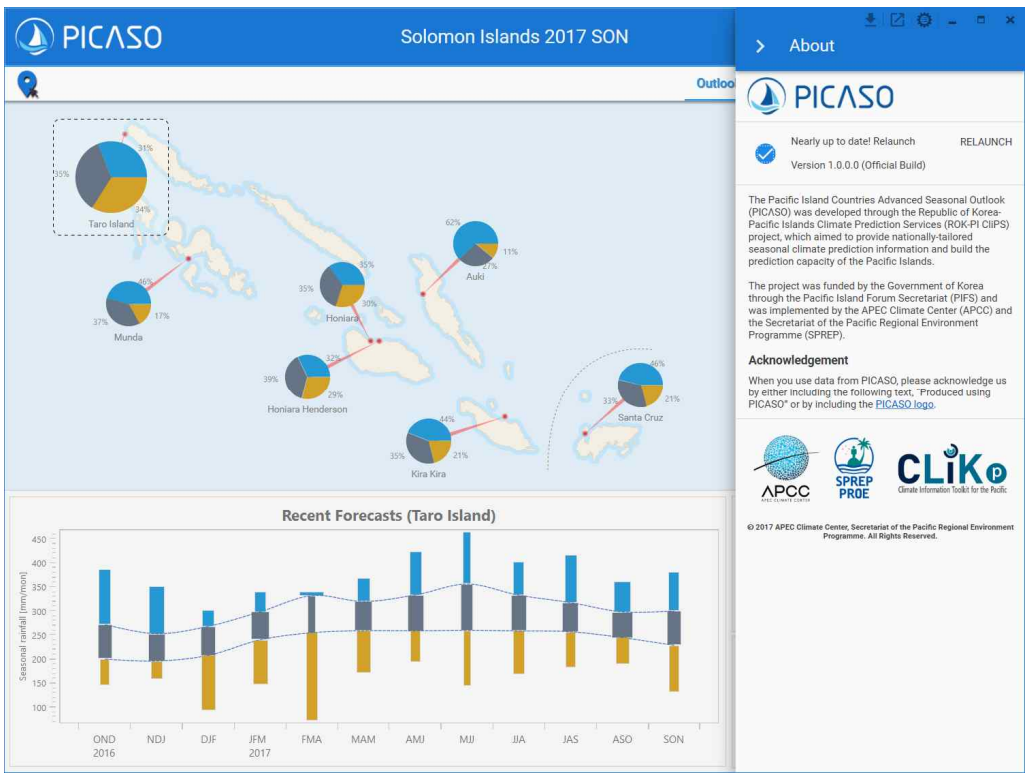


[Fig 104] PICASO Logo Link

- When the About page is displayed on the screen, check the version information and download the new version automatically when the new version is released. When the download is completed, ask the user whether PICASO is running. [Fig 96] is a screen for downloading a new version and [Fig 97] is a screen for downloading. Click the “RELAUNCH” button shown in [Fig 97] to re-execute PICASO.



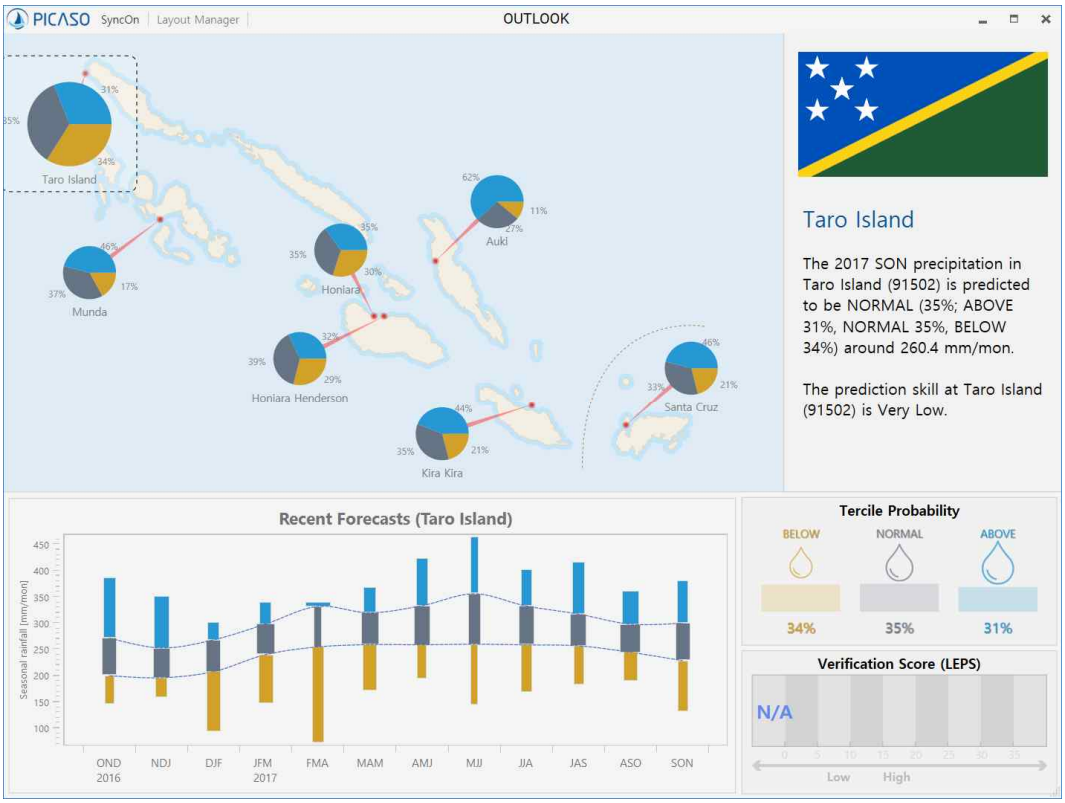
[Fig 105] Download the new version of PICASO



[Fig 106] Download Completed

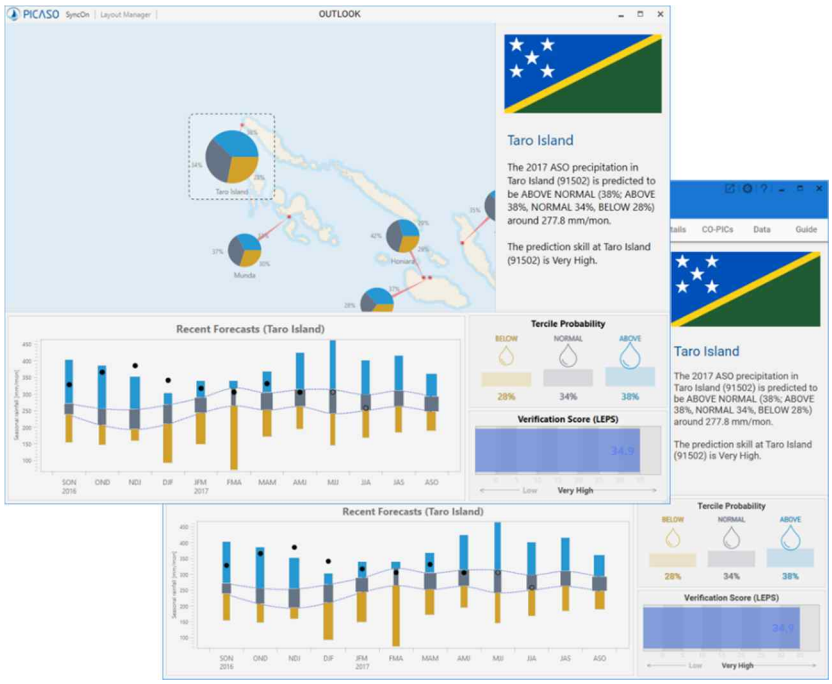
16 New Window

- It creates a duplicated window. Click New Window icon ( ) and the duplicated screen will appear.
- New Window provide convenient compare and analysis, and depending on the use, it can satisfy users' various needs.
- Sync On / Off function to bind or release PICASO screen and data is provided

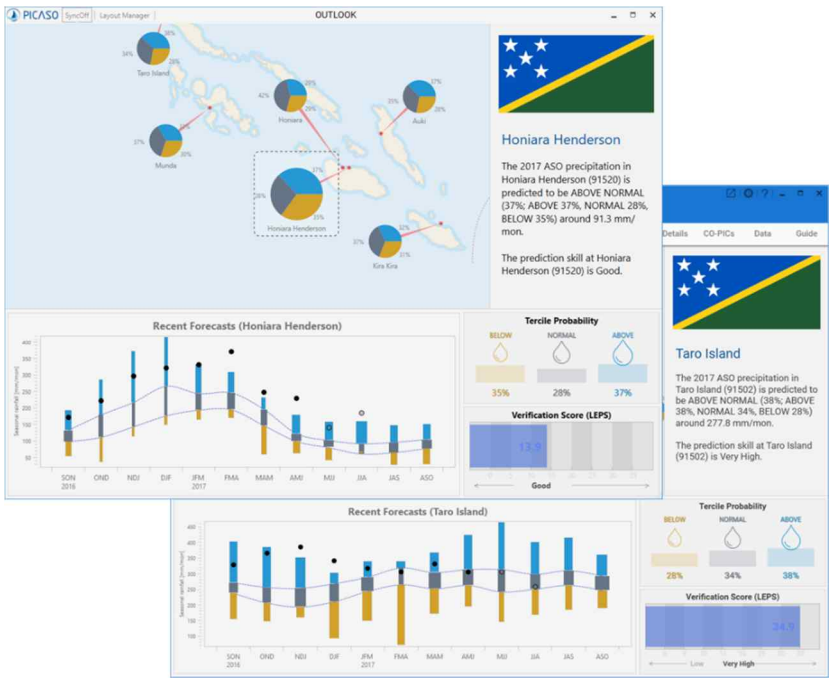


[Fig 107] New Window

- Sync On/Off decides whether to sync data between PICASO and the New Window.
- Click “Sync On” Toggle button on the upper left of [Fig 98] to output the same data as PICASO with Sync On as shown in [Fig 99].
- In case of Sync Off, the last set data is displayed on the screen as in [Fig 100].

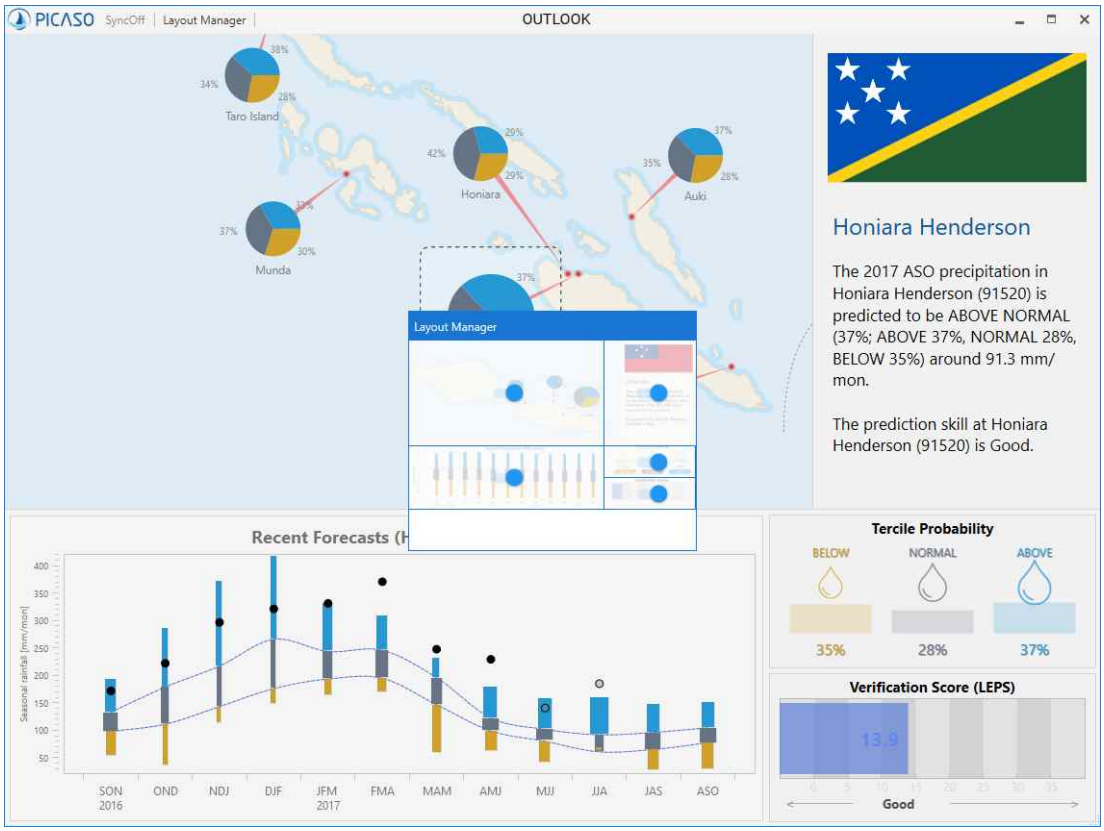


[Fig 108] Sync On



[Fig 109] Sync Off

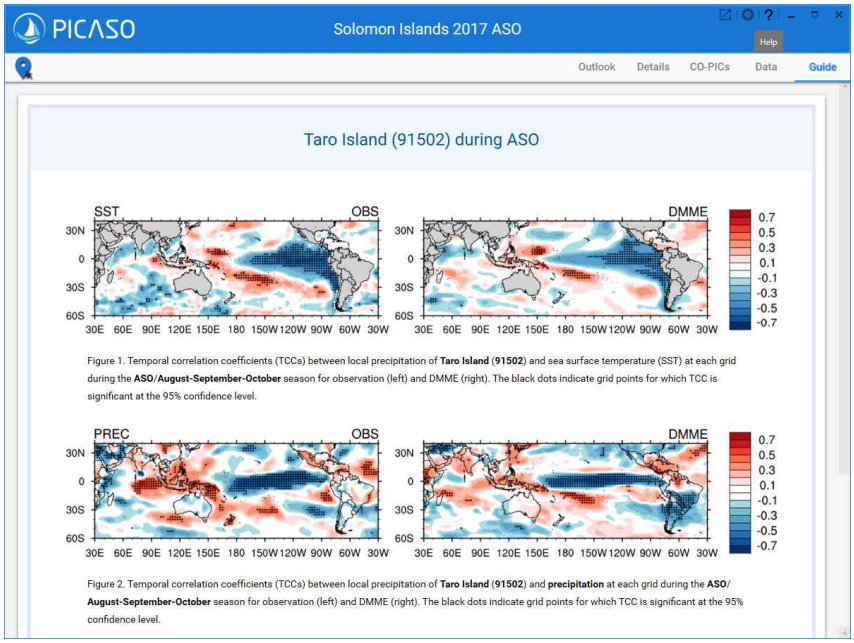
◆ Click the "Layout Manager" button on the upper left of the screen as in [Fig 101], and the Layout Manager will be run and configure the screen in the format desired by the user.



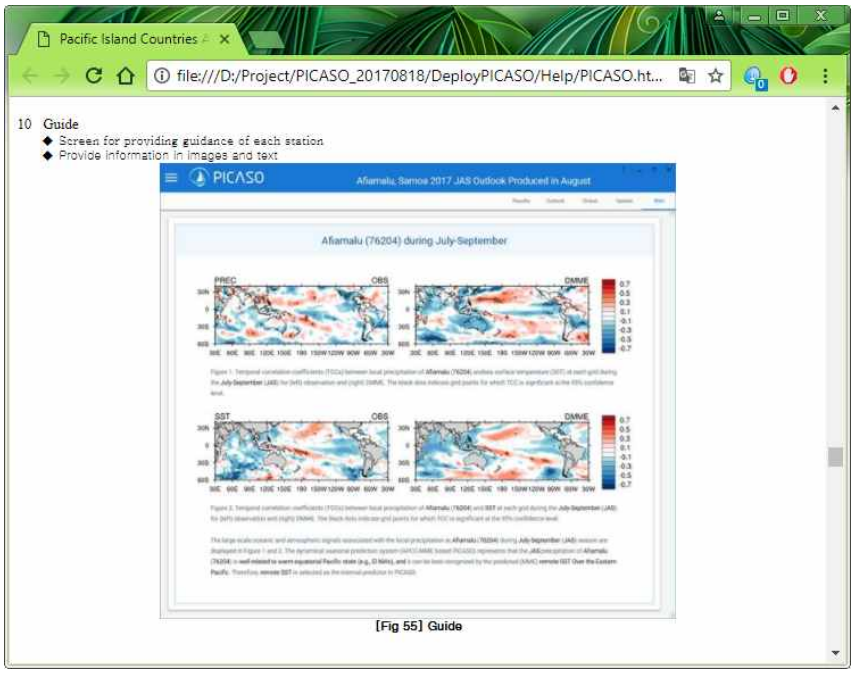
[Fig 110] Layout Manager

17 Help

- Click on the Help icon ( ) on the top right corner, and it offers user manual for PICASO. The Manual will be provided through a web browser, and it will provide information related to the user's current page in PICASO.



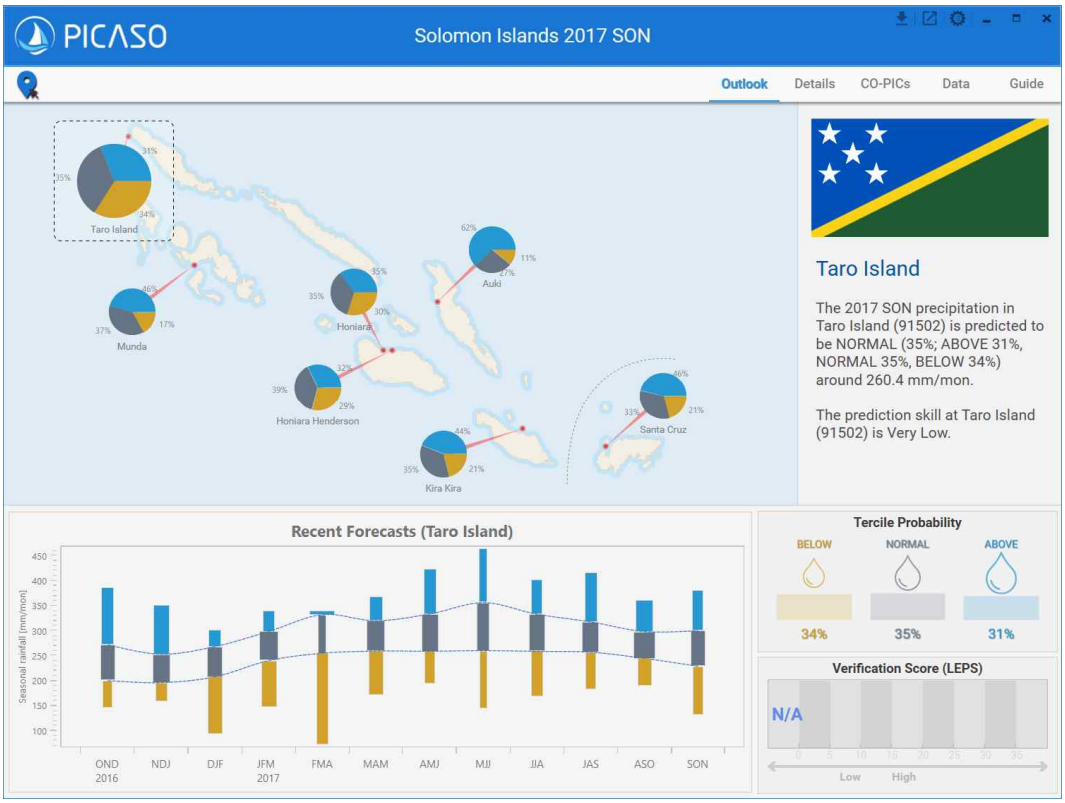
[Fig 111] Help



[Fig 112] PICASO Manual

18 New Version

- PICASO will check the latest version with the server and notify the user if a newer version is available.
- It will not produce any message if the PC is not connected to the network or already has the latest version, but if a newer version is found, a New Version Icon ( ) will appear as [Fig 104].
- If you click New Version Icon ( ), About page will appear and start downloading the latest version of PICASO. For more information, check About page in 15.



[Fig 113] Detecting new version