

Main Interface Description

Required Parameters

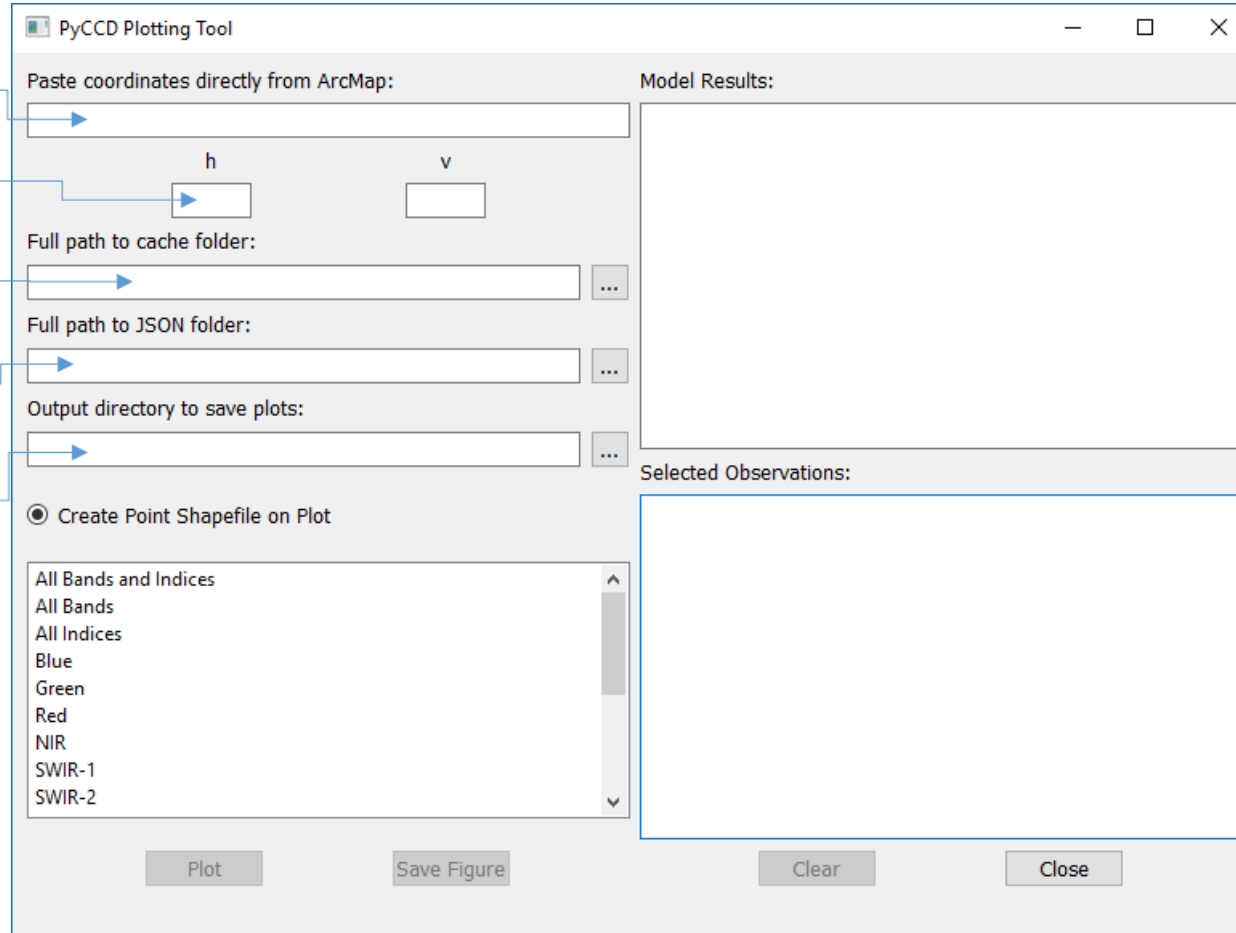
Enter the pixel coordinates where time series data will be obtained

Enter the H and V for the ARD-tile that contains the entered pixel coordinates

Enter the full path to the location of the ARD-tile cache files.

Enter the full path to the location of the ARD-tile .json files

Enter the full path to the directory where plot figures and shapefiles will be saved



The PyCCD Plotting Tool interface is a window with a title bar and standard window controls. It is divided into several sections:

- Paste coordinates directly from ArcMap:** A text input field with a blue arrow icon on the left.
- h** and **v**: Two small text input fields for horizontal and vertical coordinates.
- Full path to cache folder:** A text input field with a blue arrow icon and a browse button (three dots).
- Full path to JSON folder:** A text input field with a blue arrow icon and a browse button (three dots).
- Output directory to save plots:** A text input field with a blue arrow icon and a browse button (three dots).
- Create Point Shapefile on Plot:** A radio button option.
- Model Results:** A large empty rectangular area for displaying model results.
- Selected Observations:** A large empty rectangular area for displaying selected observations.
- Band Selection List:** A list box containing the following items: All Bands and Indices, All Bands, All Indices, Blue, Green, Red, NIR, SWIR-1, and SWIR-2. It has scroll arrows at the top and bottom.
- Buttons:** Four buttons at the bottom: Plot, Save Figure, Clear, and Close.

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Additional Options

Toggle on/off to create an ESRI point shapefile each time "Plot" is clicked

Select which bands and indices to plot "All Bands and Indices" is default option

The screenshot shows the PyCCD Plotting Tool window. It has a title bar with standard window controls. The main area is divided into several sections. On the left, under 'Paste coordinates directly from ArcMap:', there is a text input field with a blue arrow pointing to it from the first 'Required Parameters' description. Below this are two input fields labeled 'h' and 'v', with a blue arrow pointing to the 'h' field from the second 'Required Parameters' description. Further down are three more text input fields with blue arrows pointing to them from the third, fourth, and fifth 'Required Parameters' descriptions respectively. These are labeled 'Full path to cache folder:', 'Full path to JSON folder:', and 'Output directory to save plots:'. Each of these three fields has a blue arrow pointing to it from the corresponding 'Additional Options' description. Below the input fields is a radio button labeled 'Create Point Shapefile on Plot' with a blue arrow pointing to it from the first 'Additional Options' description. To the right of the radio button is a list box containing the following items: 'All Bands and Indices', 'All Bands', 'All Indices', 'Blue', 'Green', 'Red', 'NIR', 'SWIR-1', and 'SWIR-2'. A blue arrow points to the 'All Bands and Indices' item from the second 'Additional Options' description. To the right of the input fields and radio button is a large empty rectangular area labeled 'Model Results:'. Below the radio button and list box is another large empty rectangular area labeled 'Selected Observations:'. At the bottom of the window are four buttons: 'Plot', 'Save Figure', 'Clear', and 'Close'.

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The screenshot shows the PyCCD Plotting Tool interface. It features a title bar with standard window controls. The main area is divided into several sections: 'Paste coordinates directly from ArcMap:' with a text input field; 'h' and 'v' input fields for ARD-tile coordinates; 'Full path to cache folder:', 'Full path to JSON folder:', and 'Output directory to save plots:' each with a text input field and a browse button (...); a radio button for 'Create Point Shapefile on Plot'; a list box for selecting bands and indices (All Bands and Indices, All Bands, All Indices, Blue, Green, Red, NIR, SWIR-1, SWIR-2); a large 'Model Results:' area; and a 'Selected Observations:' area. At the bottom, there are four buttons: 'Plot', 'Save Figure', 'Clear', and 'Close'. Blue lines with dots at the end point from descriptive text blocks to specific UI elements: from 'Required Parameters' to the coordinate and path inputs; from 'Additional Options' to the shapefile toggle and list box; and from the bottom text blocks to the 'Plot', 'Save Figure', 'Clear', and 'Close' buttons.

Controls

Plot: Activate the plotting and display the interactive plot figure. Closes the current figure if one is open.

Save Figure: Save the current figure to a .png

Clear: Clear the selected observations

Close: Exit out of the GUI and close the plot figure if it is open

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Close: Exit out of the GUI and close the plot figure if it is open

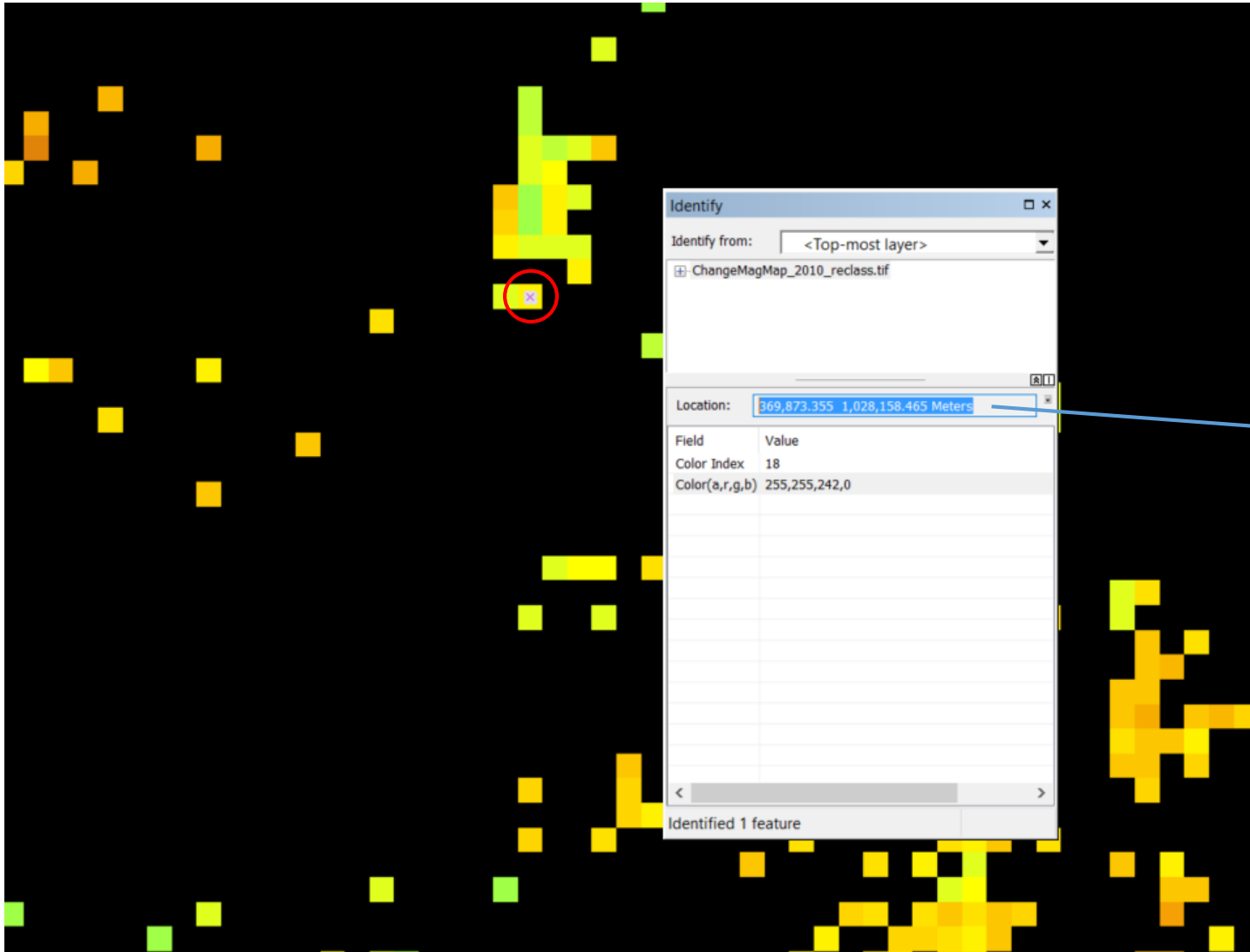
The screenshot shows the PyCCD Plotting Tool interface. It features a title bar with standard window controls. The main area is divided into several sections: 'Paste coordinates directly from ArcMap:' with a text input field; 'h' and 'v' input fields for ARD-tile coordinates; 'Full path to cache folder:', 'Full path to JSON folder:', and 'Output directory to save plots:' each with a text input field and a browse button (...); a radio button for 'Create Point Shapefile on Plot'; a list box for selecting bands and indices (All Bands and Indices, All Bands, All Indices, Blue, Green, Red, NIR, SWIR-1, SWIR-2); a large 'Model Results:' text area; and a 'Selected Observations:' text area. At the bottom are four buttons: 'Plot', 'Save Figure', 'Clear', and 'Close'. Blue arrows point from descriptive text blocks to specific UI elements: from 'Required Parameters' to the coordinate and path inputs; from 'Additional Options' to the shapefile toggle and band list; from 'Output' to the results and observations text areas; and from the 'Controls' section to the bottom buttons.

Output

Model Results: Parameters for each of the time-series segments at the given coordinate are displayed

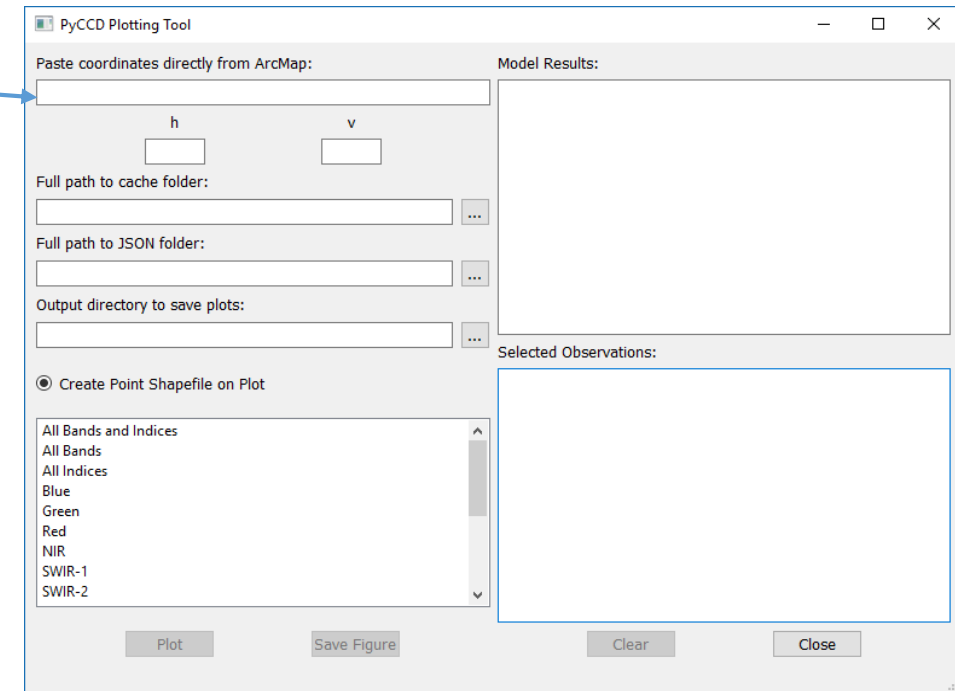
Selected Observations: Each observation point clicked on the plot figure will be displayed here along with its band or index value, date of acquisition, and scene identifier

Example Tool Use

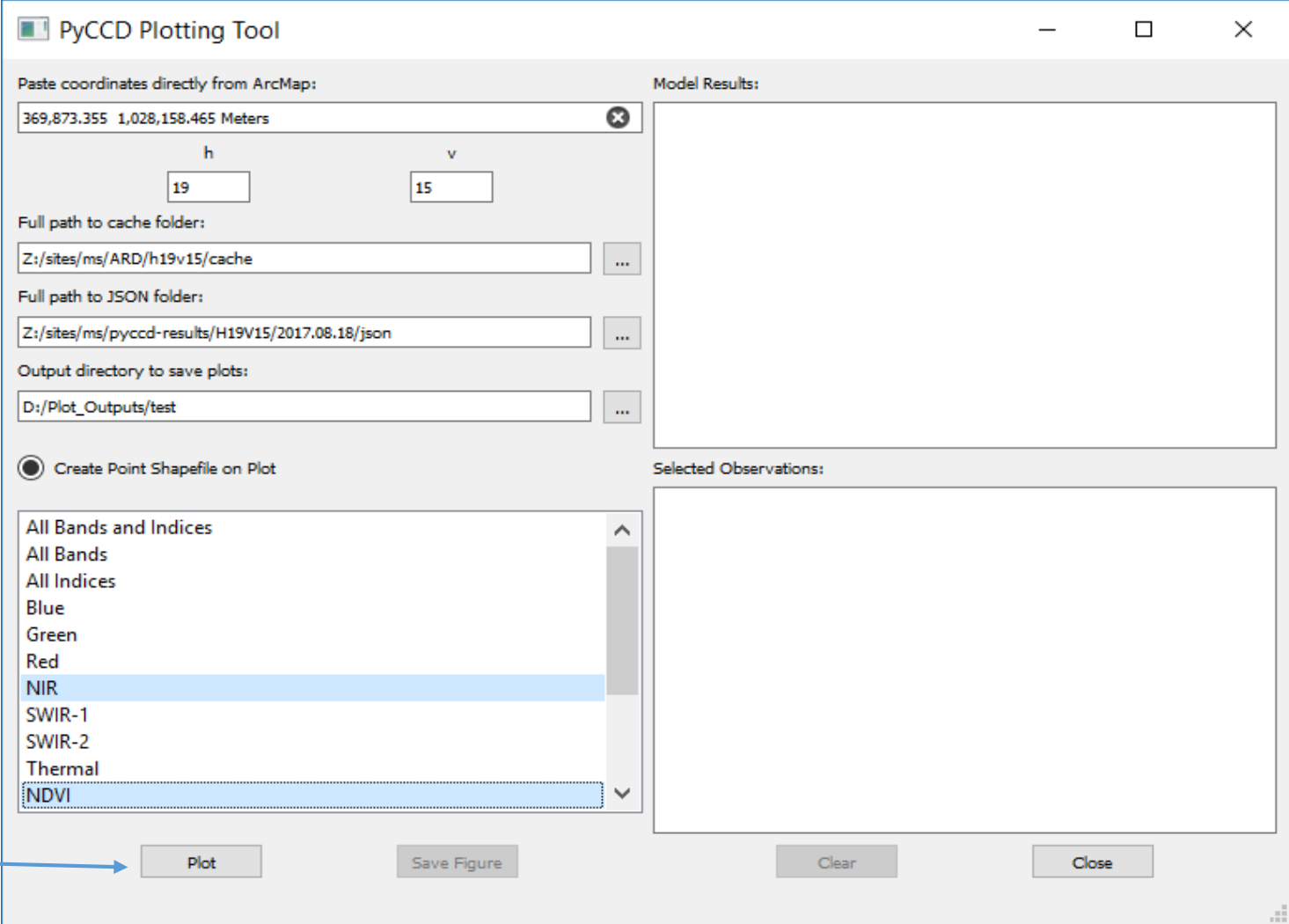


Select Point

- Use the Identify tool in ArcMap to select a point of interest on the screen. Copy the coordinates directly from the Identify window into the plotting tool's coordinates field.



Example Tool Use



The PyCCD Plotting Tool interface is shown with the following fields and options:

- Paste coordinates directly from ArcMap:** 369,873.355 1,028,158.465 Meters
- h:** 19
- v:** 15
- Full path to cache folder:** Z:/sites/ms/ARD/h19v15/cache
- Full path to JSON folder:** Z:/sites/ms/pyccd-results/H19V15/2017.08.18/json
- Output directory to save plots:** D:/Plot_Outputs/test
- ☒ Create Point Shapefile on Plot
- Band Selection:**
 - All Bands and Indices
 - All Bands
 - All Indices
 - Blue
 - Green
 - Red
 - NIR
 - SWIR-1
 - SWIR-2
 - Thermal
 - NDVI

Buttons at the bottom: Plot, Save Figure, Clear, Close.

Model Results:

Selected Observations:

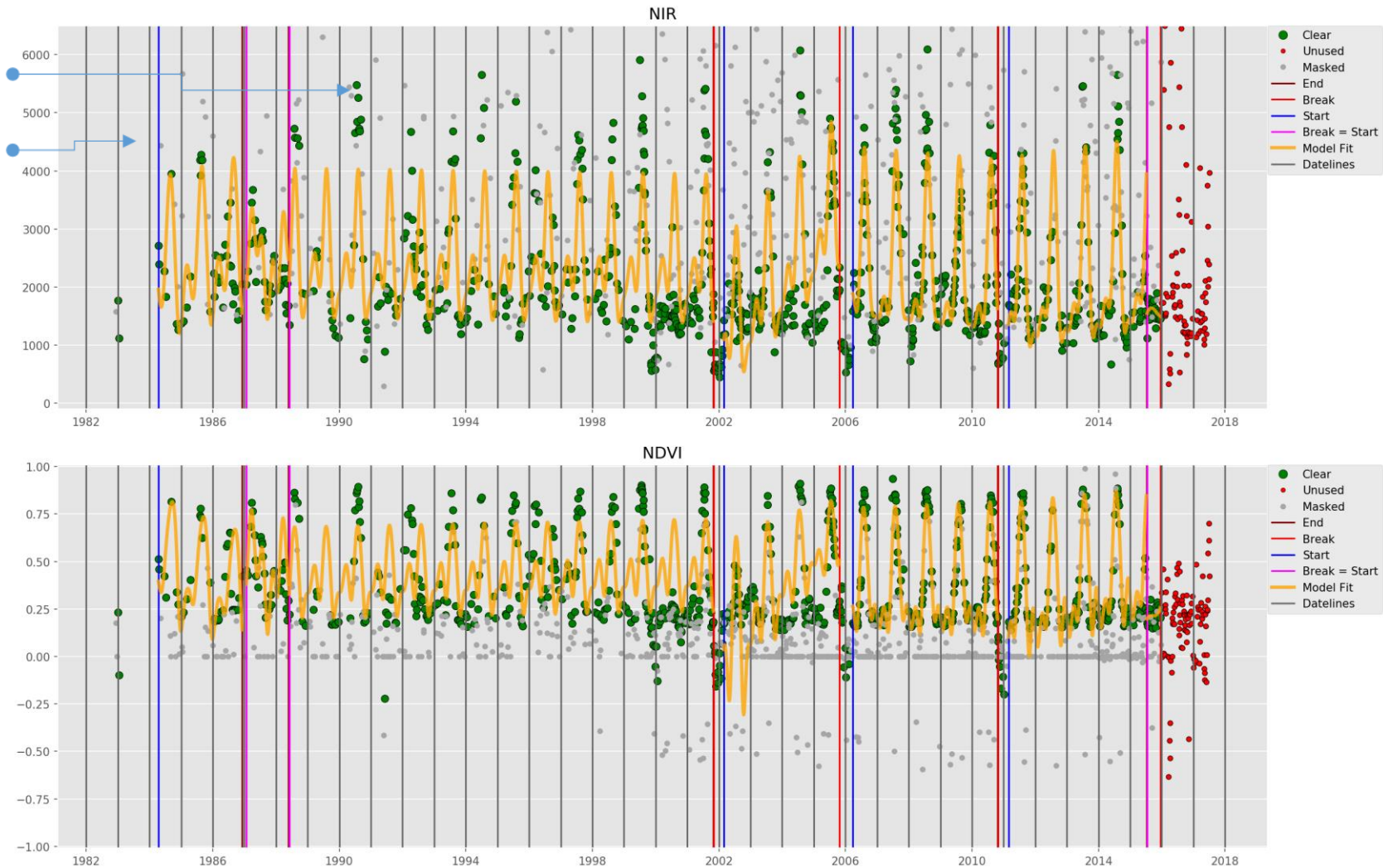
The 'Plot' button becomes active once the required parameters are entered

Plotting Window Description

ARD Observations

Click observations to display acquisition date, scene identifier, and band/index value in the GUI.

Hover the mouse cursor in any subplot to display x/y plot values.

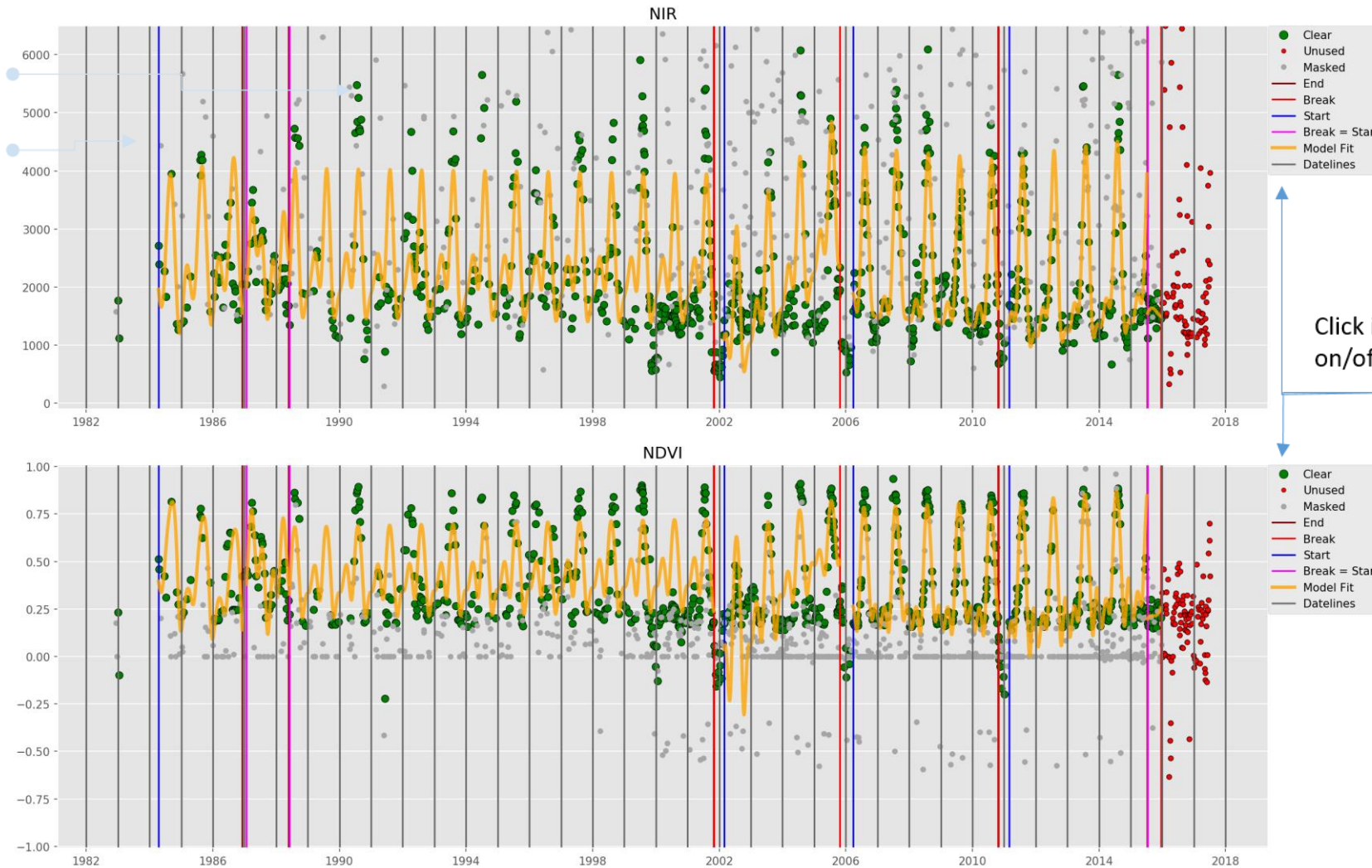


Plotting Window Description

ARD Observations

Click observations to display acquisition date, scene identifier, and band/index value in the GUI.

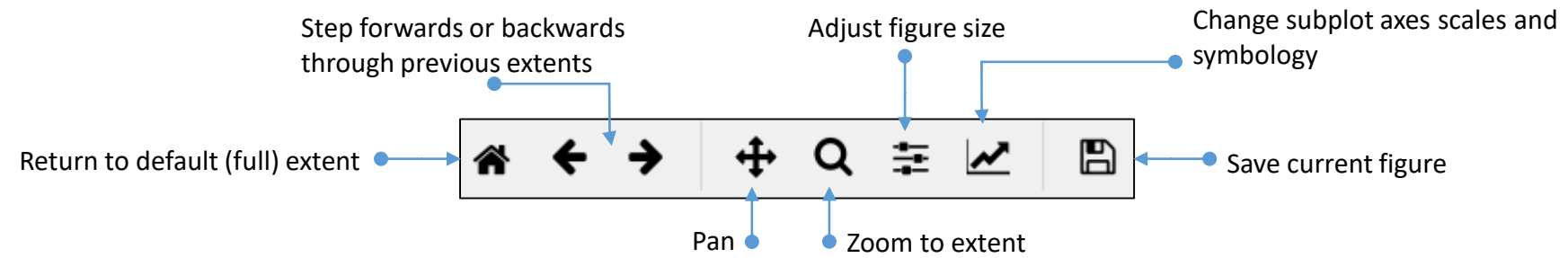
Hover the mouse cursor in any subplot to display x/y plot values.



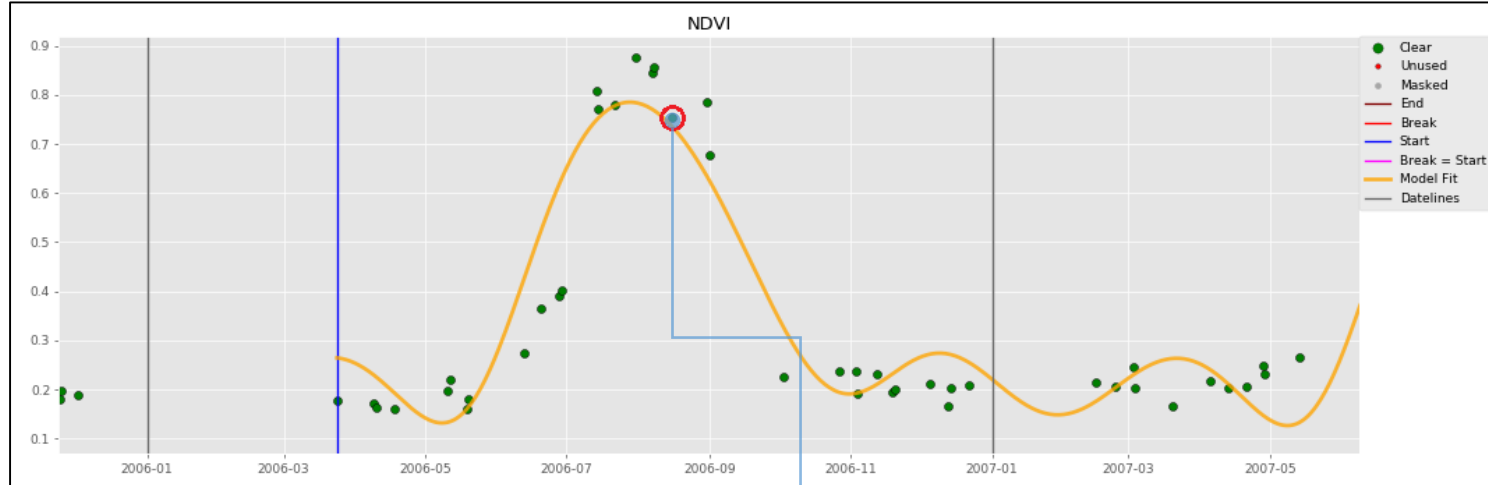
Interactive Legends

Click items in legend to toggle on/off in the corresponding plot

Built-in Plotting Controls



Displaying ARD Imagery



Selected Observations:

Scene ID: LT05_CU_019015_20060816_20170803_C01_V01
Obs. Date: 2006-Aug-16
NDVI-Value: 0.7527539779681762



ARD Viewer Description

Viewer Options

File -> Save Image: Save the current extent and band combination as a .png/.jpg/.bmp, and .png is the default if no extension is entered.
File -> Exit: Close the ARD Viewer

Bands -> R, G, B: Specify a band for the red, green, and blue color channels. The default RGB is 3-2-1.

Extent: Select and update the extent of the image to display. The default is 500x500 pixels. Current options are 100x100, 250x250, 500x500, 1000x1000, and full. The extent will attempt to have as it's center the pixel coordinates entered into the plotting tool, but this depends on the proximity to the tile edge.

Update: Display the new RGB band combination.

