

Main Interface Description

Required Parameters

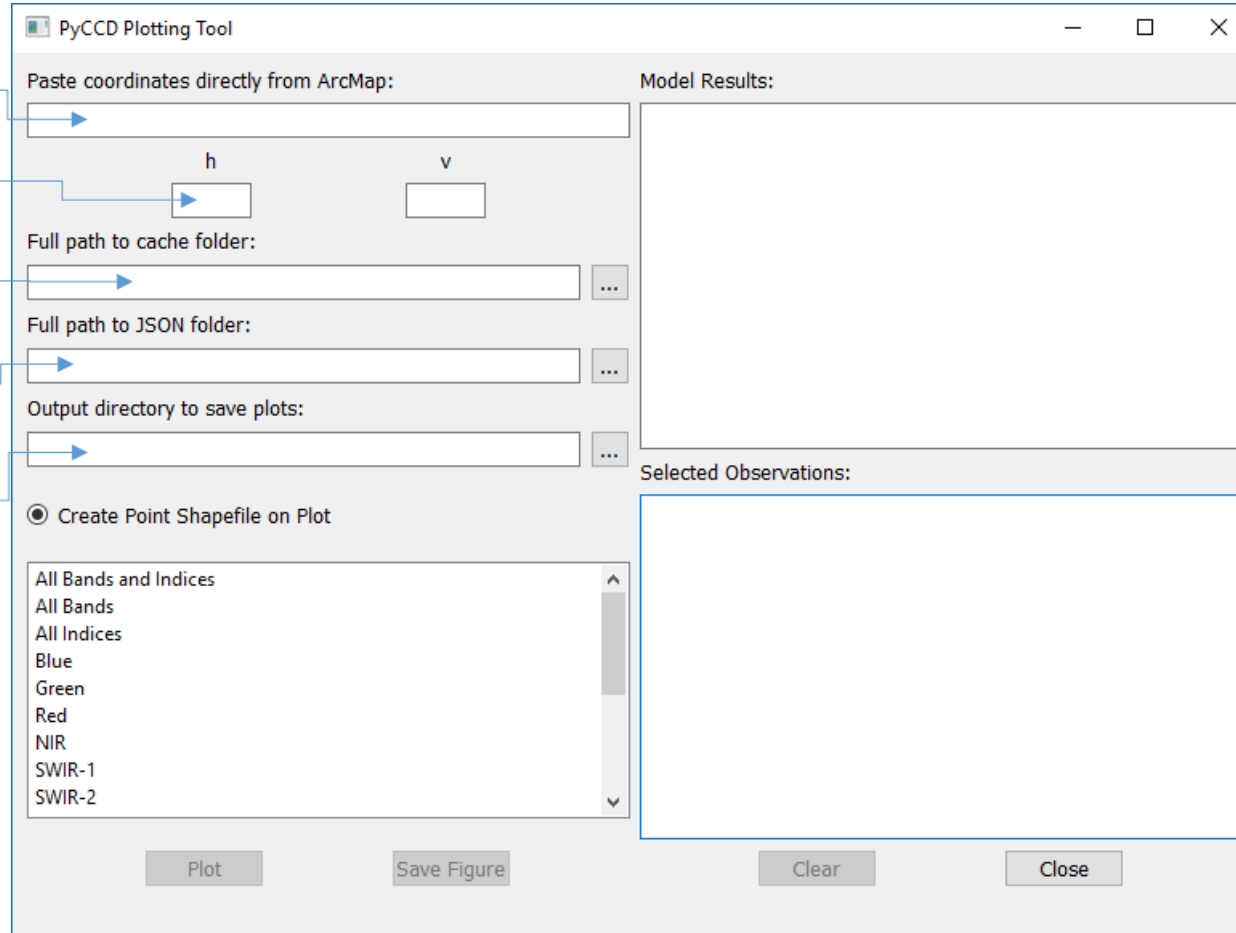
Enter the pixel coordinates where time series data will be obtained

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 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.

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

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 interface. It features a title bar with standard window controls. The main area is divided into several sections: a 'Paste coordinates directly from ArcMap:' section with a text input field; an 'h' and 'v' section with two small input fields; a 'Full path to cache folder:' section with a text input field and a browse button (...); a 'Full path to JSON folder:' section with a text input field and a browse button (...); an 'Output directory to save plots:' section with a text input field and a browse button (...); a 'Model Results:' section with a large empty text area; a 'Selected Observations:' section with a large empty text area; and a 'Create Point Shapefile on Plot' section with a radio button and a list of options: 'All Bands and Indices', 'All Bands', 'All Indices', 'Blue', 'Green', 'Red', 'NIR', 'SWIR-1', and 'SWIR-2'. At the bottom, there are four buttons: 'Plot', 'Save Figure', 'Clear', and 'Close'. Blue arrows point from the 'Required Parameters' and 'Additional Options' text blocks to the corresponding input fields and controls in the interface.

PyCCD Plotting Tool

Paste coordinates directly from ArcMap:

h v

Full path to cache folder:

Full path to JSON folder:

Output directory to save plots:

Model Results:

Selected Observations:

☒ Create Point Shapefile on Plot

All Bands and Indices
All Bands
All Indices
Blue
Green
Red
NIR
SWIR-1
SWIR-2

Plot Save Figure Clear Close

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

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 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 labeled 'Create Point Shapefile on Plot'; a list box containing 'All Bands and Indices', 'All Bands', 'All Indices', 'Blue', 'Green', 'Red', 'NIR', 'SWIR-1', and '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 circular endpoints point from descriptive text on the left to specific UI elements: from 'Required Parameters' to the coordinate and path input fields; from 'Additional Options' to the shapefile radio button and the list box; and from the bottom text 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

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

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

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

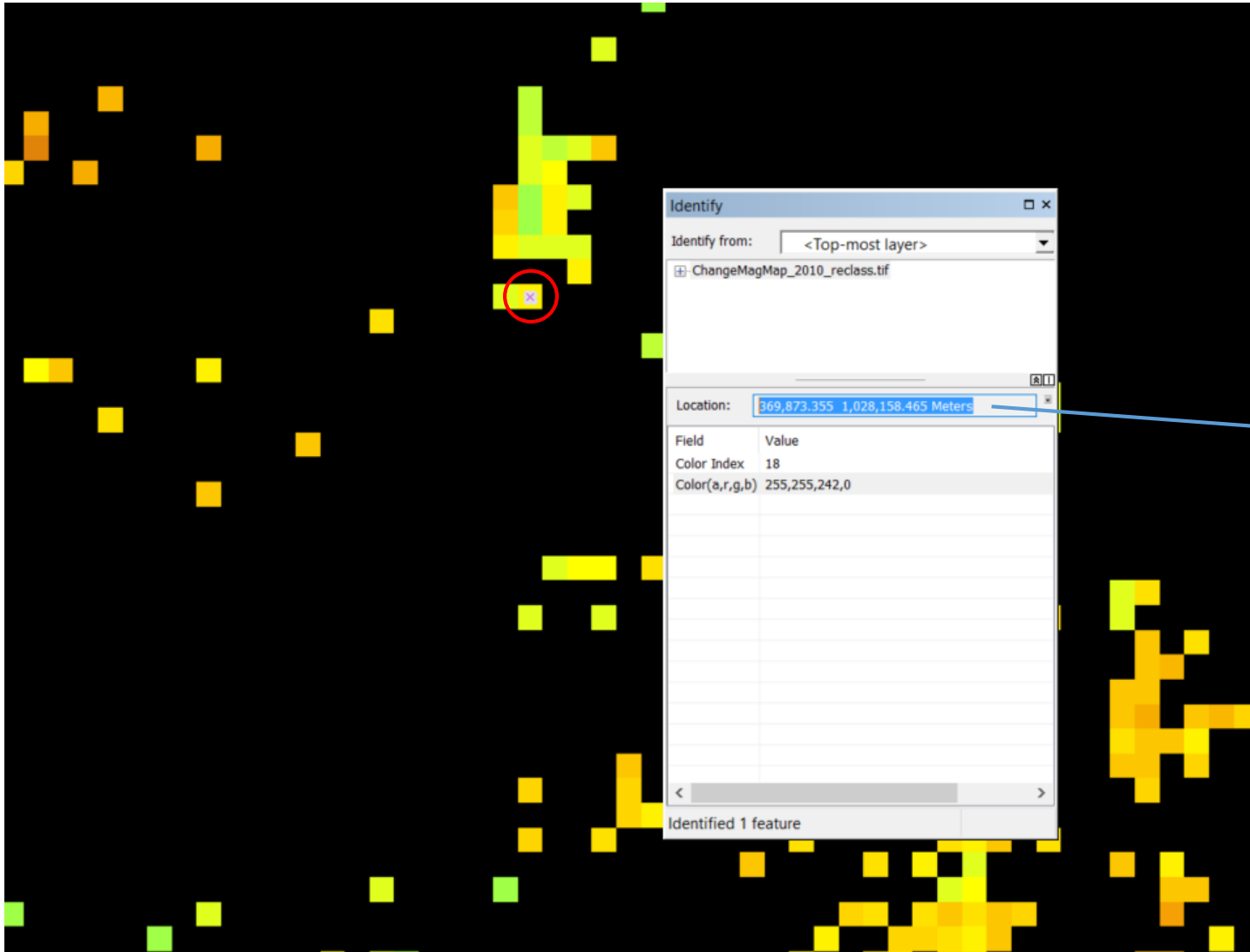
The screenshot shows the PyCCD Plotting Tool window. It has a title bar with standard window controls. The main area is divided into several sections. On the left, under 'Required Parameters', there are five text input fields with blue arrows pointing to them from external text boxes. These fields are for: 'Paste coordinates directly from ArcMap:', 'h' and 'v' (two small input boxes), 'Full path to cache folder:', 'Full path to JSON folder:', and 'Output directory to save plots:'. Each of these four path fields has a blue arrow pointing to it from an external text box. Below these fields is a radio button labeled 'Create Point Shapefile on Plot' which is selected. To its right 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 from an external text box to the 'All Bands and Indices' option. At the bottom of the window are four buttons: 'Plot', 'Save Figure', 'Clear', and 'Close'. Blue arrows point from external text boxes to each of these buttons. On the right side of the window, there are two large empty rectangular areas. The top one is labeled 'Model Results:' and the bottom one is labeled 'Selected Observations:'. Blue arrows point from external text boxes to each of these areas. The window also has standard window controls (minimize, maximize, close) in the top right corner.

Output

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

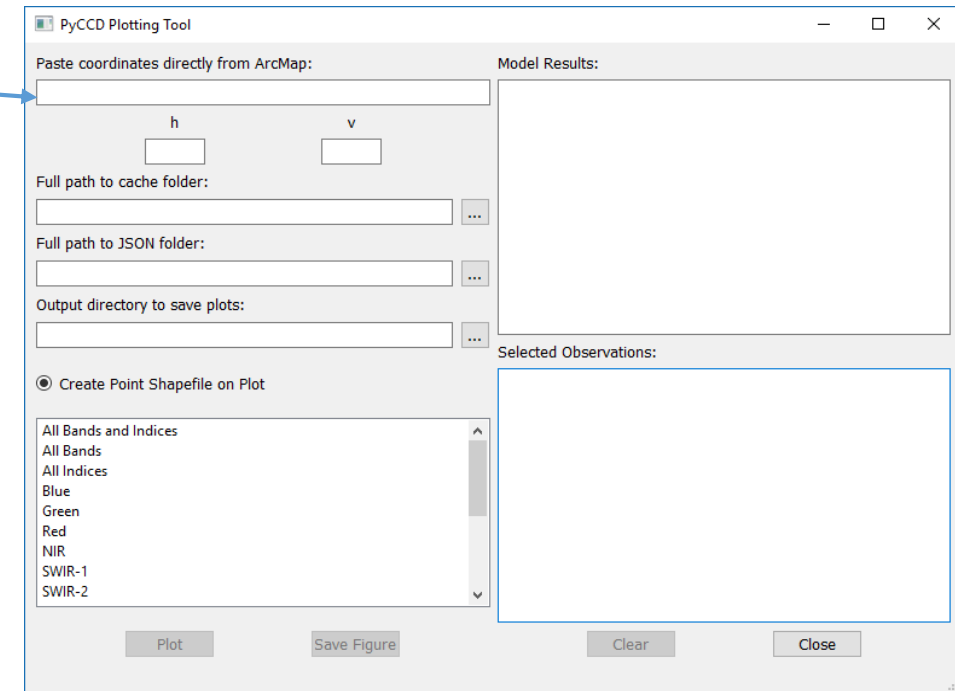
Selected Observations: Each observation point clicked on the plot figure will be displayed here along with its band or index value, date of acquisition, and scene identifier

Example Tool Use

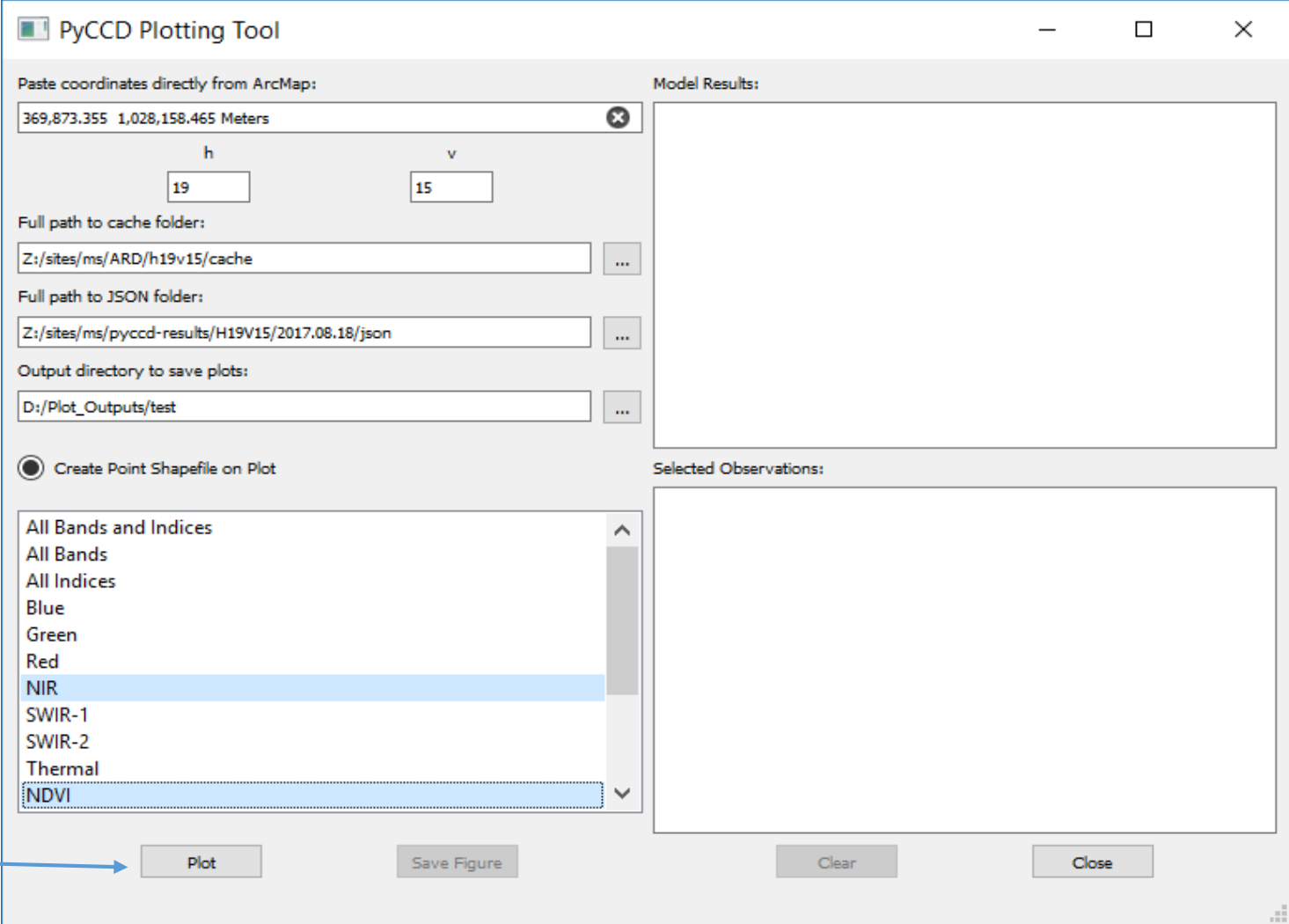


Select Point

- 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. It includes a title bar with standard window controls. The main area is divided into several sections: a coordinate input section with a text box containing '369,873.355 1,028,158.465 Meters' and a close button; a section for horizontal (h) and vertical (v) coordinates with input boxes containing '19' and '15'; three text boxes for file paths (cache, JSON, and output directory) with browse buttons; a radio button for 'Create Point Shapefile on Plot'; a list box for selecting bands and indices with 'NIR' and 'NDVI' selected; and a 'Model Results' section. At the bottom, there are buttons for 'Plot', 'Save Figure', 'Clear', and 'Close'. A blue arrow points from the 'Plot' button to the text on the left.

PyCCD Plotting Tool

Paste coordinates directly from ArcMap:

369,873.355 1,028,158.465 Meters

h v

19 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

All Bands and Indices

All Bands

All Indices

Blue

Green

Red

NIR

SWIR-1

SWIR-2

Thermal

NDVI

Model Results:

Selected Observations:

Plot Save Figure Clear Close

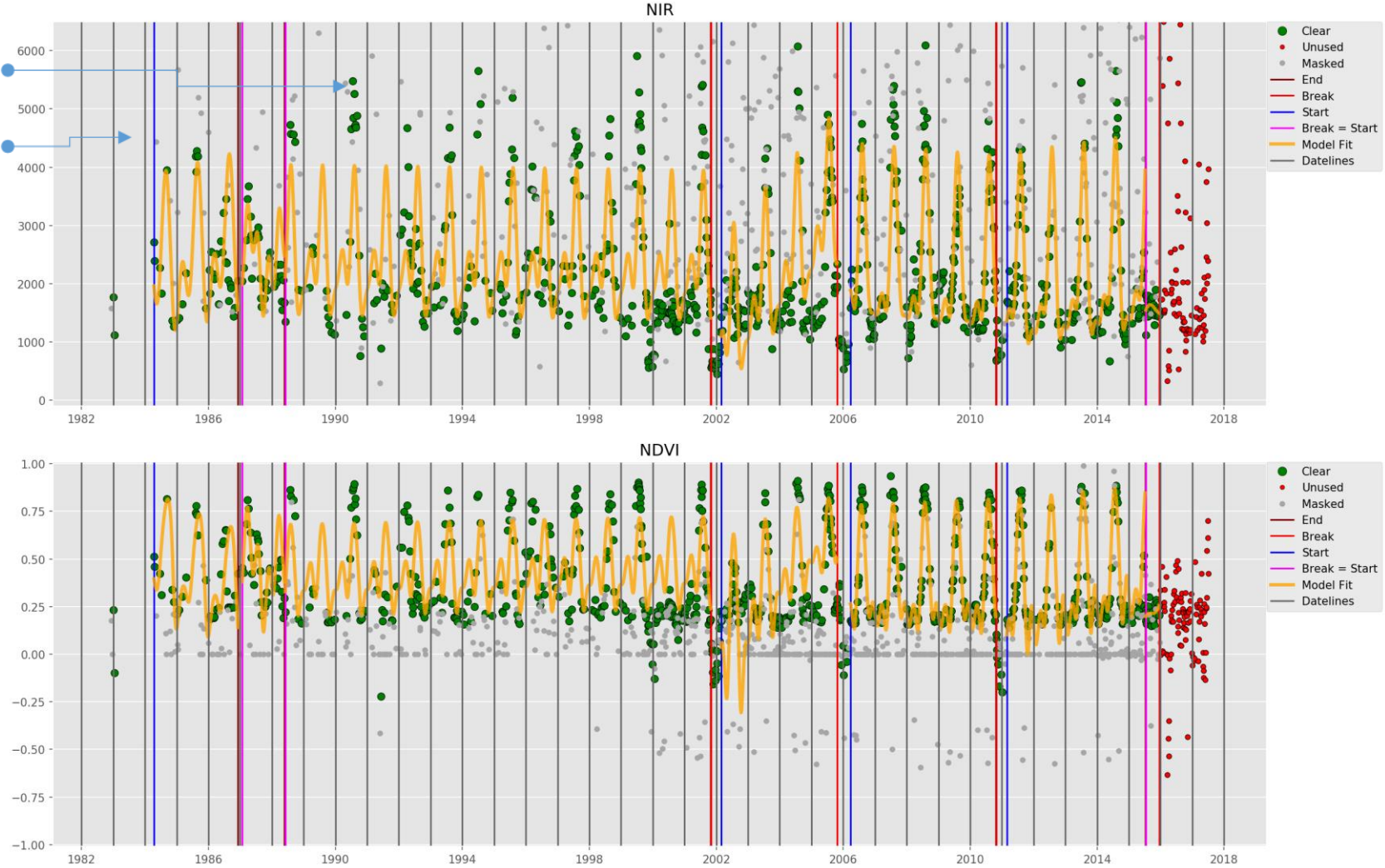
The 'Plot' button becomes active once the required parameters are entered

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.

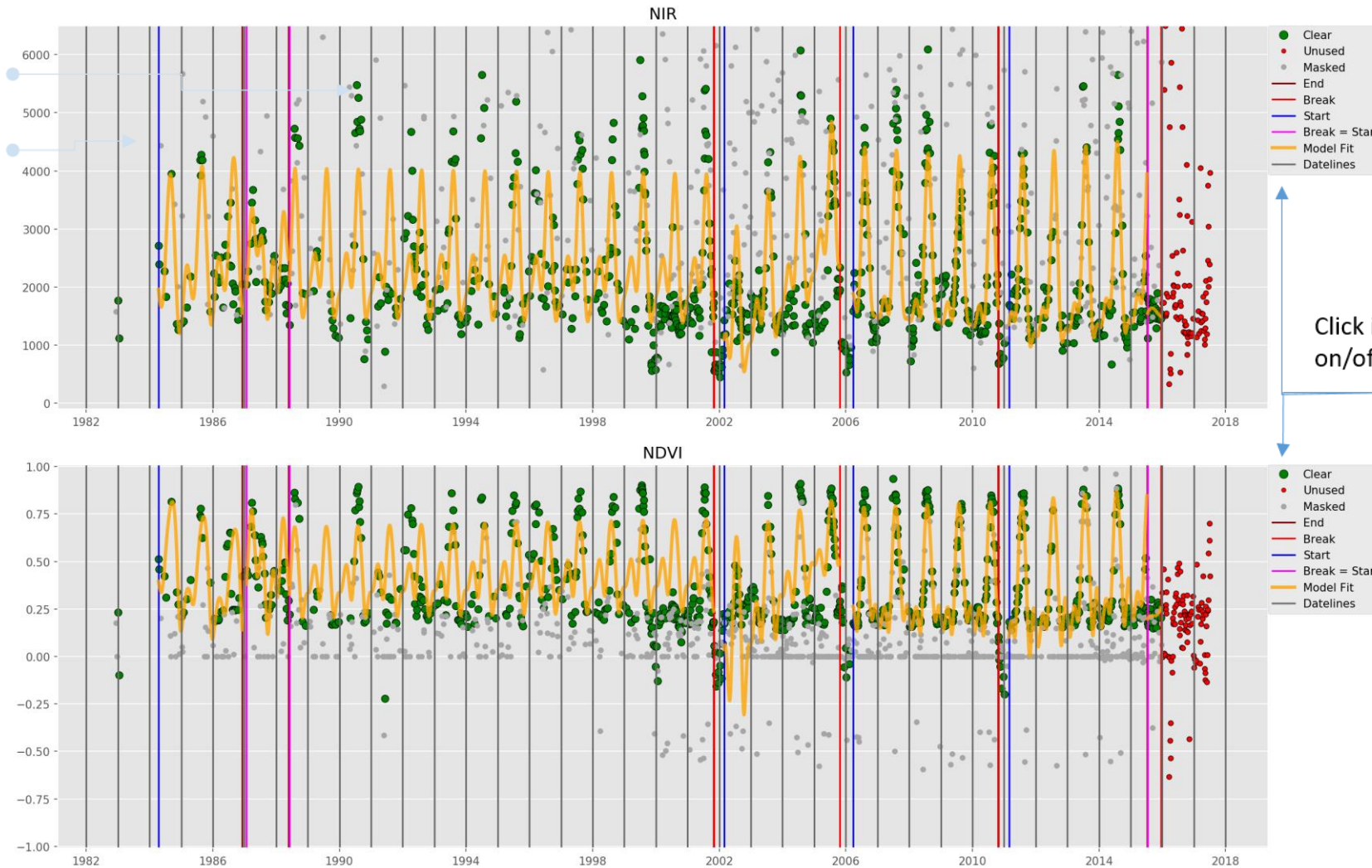


Plotting Window Description

ARD Observations

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

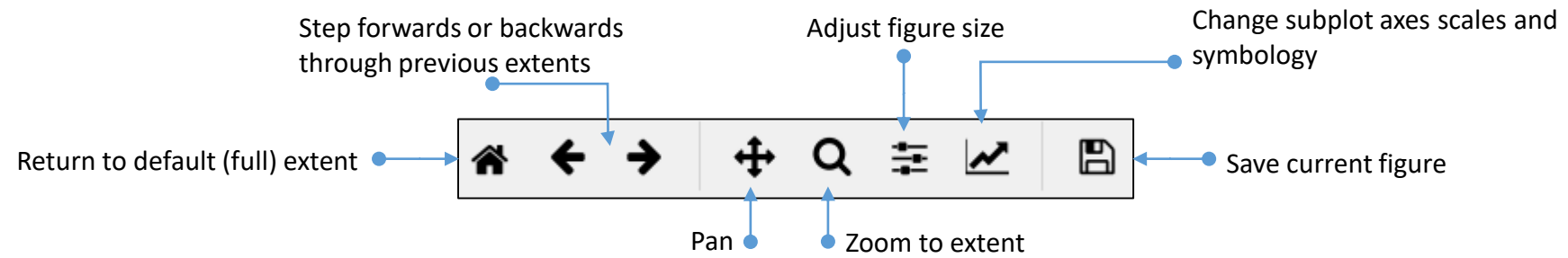
Hover the mouse cursor in any subplot to display x/y plot values.



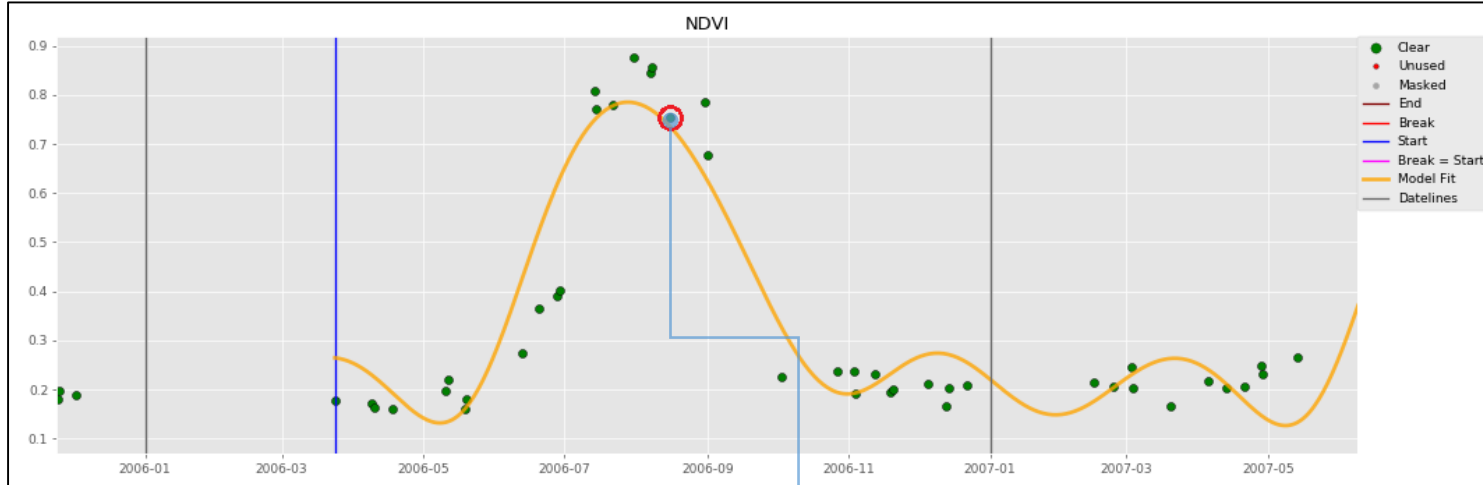
Interactive Legends

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

Built-in Plotting Controls



Displaying ARD Imagery



Click once on any item in the Selected Observations window to display that scene in the ARD Viewer. Clicking on a new scene will automatically close the current ARD Viewer.

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. A band must be 'checked' for each channel in order for this button to have any effect.

