

MAPCITE

USER GUIDE

EXCEL ADD-IN OBJECT MODEL

VERSION 1.0

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Welcome to MAPCITE Excel Add-In Object Model

This user guide is designed to work alongside the video tutorial and covers the basic functions that you may want to achieve, and quickly. It is designed to take you through the key steps needed to visualise your data and create maps that you can share.






MAPCITE namespace

The image displays three screenshots of the MAPCITE Excel Add-In Object Model, showing the structure of the DataSets, DataSet, and Map classes.

- DataSets Class:**
 - Methods:
 - Create
 - Delete
 - DisableAll
 - EnableAll
 - Find
- DataSet Class:**
 - Properties:
 - DataRange
 - DataType
 - Enabled
 - FirstRowHeadings
 - LabelColumn
 - LatitudeColumn
 - LongitudeColumn
 - Name
 - NumericColumn
 - PinIcon
 - Worksheet
 - Methods:
 - Delete
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- Map Class:**
 - Properties:
 - AutoRefresh
 - DockPosition
 - HeatmapIntensity
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 - PinClustering
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 - ShowHeatmap
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 - Visible
 - Width
 - ZoomLevel
 - Methods:
 - CenterMap
 - Hide
 - Refresh
 - SaveImage
 - SaveSettings
 - SetBestZoomLevel
 - SetMapPosition
 - Show












DataSets Class

Methods




	Name	Description
	Create + 11 overloads	Initializes a new instance of the DataSet class.
	Delete (String)	Deletes the data set with the given name.
	DisableAll	Disables all data sets.
	EnableAll	Enables all data sets
	Find (String)	Returns an instance of the DataSet class matching the given name or Nothing if it doesn't exist.

DataSet Class

Properties













	Name	Description
	DataRange	Get or sets the data range.
	DataType	Get or sets the data type.
	Enabled	Get or sets whether the data set is enabled.
	FirstRowHeadings	Get or sets whether the data set's first row contains column headings.
	LabelColumn	Get or sets the column containing the pin labels.
	LatitudeColumn	Get or sets the column containing the latitude.
	LongitudeColumn	Get or sets the column containing the longitude.
	Name	Get or sets the name of the data set.
	NumericColumn	Get or sets the column containing the numeric data.
	PinIcon	Get or sets the pin icon to display on the map.
	Worksheet	Get or sets the worksheet name.

Methods





	Name	Description
	Delete	Deletes the data set.
	ExtractSubset (String, String, String)	Extracts a subset of the data set between the given latitude and longitude and copies it to a worksheet with the specified name.
	Save	Saves the data set.





Map Class

Properties

	Name	Description
	AutoRefresh	Gets or sets whether the map should be refreshed automatically when a change is made to the underlying datasets.
	DockPosition	Gets or sets the dock position of the map. See the DockPosition enum.
	HeatmapIntensity	Gets or sets the intensity of the heat map.
	HeatmapSize	Gets or sets the size of the heat map.
	Height	Gets or sets the height of the map.
	PinClustering	Gets or sets whether pins are clustered when close together.
	PinLabels	Gets or sets whether to show pin labels on the map.
	ShowHeatmap	Gets or sets whether to show a heat map.
	ShowPins	Gets or sets whether to show pins on the map.
	Visible	Gets or sets whether the map is visible.
	Width	Gets or sets the width of the map.
	ZoomLevel	Gets or sets the level the map is zoomed.

Methods

	Name	Description
	CenterMap	Centers the map based on all map points for all enabled data sets.
	Hide	Hides the map.
	Refresh	Refreshes the map.
	SaveImage (String) + 3 overloads	Saves a jpeg image of the map with the given filename.

	SaveSettings	Saves the map settings for the workbook. This includes whether the map is visible, the location and zoom level of the map, whether pins or a heat map is shown, pin labels, clustering, auto-refresh and heat map size and intensity.
	SetBestZoomLevel	Sets the best zoom level for the map based on the enabled data sets.
	SetMapPosition (String, String)	Positions the center of the map at the given latitude and longitude.
	Show	Shows the map.

Example

```
'get a reference to the mapcite object

Dim mapcite As Object

Set mapcite = Application.COMAddIns("MapciteExcelAddIn").Object

'hide the map to avoid any refreshes until we're finished

mapcite.Map.Visible = False

'disable all existing datasets so we only display the new one

mapcite.DataSets.DisableAll

'get a reference to the dataset we want to extract data from

Dim srcDs As Object

Set srcDs = mapcite.DataSets.Find("existing dataset")

'extract into new worksheet data based on a latitude and longitude

Dim newRange As String

newRange = srcDs.ExtractSubset("", "", "new worksheet")

'delete any existing dataset with the same name as the new one

mapcite.DataSets.Delete "new data"

'create a new dataset for new worksheet, based on existing dataset

Dim newDataSet As Object

Set newDataSet = mapcite.DataSets.Create("new data", "new
worksheet", _
    srcDs.PinIcon, newRange, srcDs.LatitudeColumn, _
    srcDs.LongitudeColumn, srcDs.LabelColumn, srcDs.NumericColumn, _
    srcDs.DataType, True, srcDs.FirstRowHeadings)
```

DataSets.Create Method

Initializes a new instance of the [DataSet](#) class.

Syntax

```
Public Function Create(
    Optional ByVal name As String = "",
    Optional ByVal worksheet As String = "",
    Optional ByVal pinIcon As PinIcon = -1,
    Optional ByVal dataRange As String = "",
    Optional ByVal latitudeColumn As Integer = -1,
    Optional ByVal longitudeColumn As Integer = -1,
    Optional ByVal labelColumn As Integer = -1,
    Optional ByVal numericColumn As Integer = -1,
    Optional ByVal dataType As Integer = 1,
    Optional ByVal enabled As Boolean = True,
```

Parameters

Parameter	Type	Description
name	String	The name of the data set.
worksheet	String	The name of the worksheet that the data set references.
pinIcon	PinIcon	The pin icon to be displayed on the map.
dataRange	String	The Excel data range that represents the data in the worksheet.
latitudeColumn	Integer	The worksheet column number that holds the latitude data.
longitudeColumn	Integer	The worksheet column number that holds the longitude data.
labelColumn	Integer	The worksheet column number that holds the pin label data.
numericColumn	Integer	The worksheet column number that holds the numeric data used for the heat map intensity.
dataType	DataType	The data type represented on the map.
Enabled	Boolean	True if the dataset should be enabled, otherwise false.
firstRowHeadings	Boolean	True if the first row of the data set contains row headings, otherwise false.

Return Value

Type: [Mapcite.DataSet](#)

An instance of a newly created [DataSet](#) class if successful, otherwise Nothing.

DataSets.Delete Method

Deletes a data set.

Syntax

```
Public Sub Delete(  
    ByVal name As String)
```

Parameters

Parameter	Type	Description
name	String	The name of the data set to delete.

Return Value

None

DataSets.DisableAll Method

Disables all data sets.

Syntax

```
Public Sub DisableAll()
```

Parameters

None

Return Value

None

DataSets.EnableAll Method

Enables all data sets.

Syntax

```
Public Sub EnableAll()
```

Parameters

None

Return Value

None

DataSets.Find Method

Finds and returns an instance of a [DataSet](#) class matching the given name.

Syntax

```
Public Function Find(name As String) As DataSet
```

Parameters

Parameter	Type	Description
name	String	The name of the data set to find.

Return Value

Type: [Mapcite.DataSet](#)

An instance of a [DataSet](#) class matching the given name, or Nothing if not found.

DataSet.Delete Method

Deletes the data set.

Syntax

```
Public Sub Delete()
```

Parameters

None

Return Value

None

DataSet.Save Method

Saves the data set.

Syntax

```
Public Sub Save ()
```

Parameters

None

Return Value

None

DataSet.Extract Method

Extracts rows from a data set and copies them into a new or existing worksheet.

Syntax

```
Public Function Extract(  
    ByVal latitudeRange As String = "",  
    ByVal longitudeRange As String = "",  
    ByVal worksheet As String) As String
```

Parameters

Parameter	Type	Description
latitudeRange	String	The latitude range within which the extracted data should fall.
longitudeRange	String	The longitude range within which the extracted data should fall.
Worksheet	String	The name of the worksheet to copy the extracted data rows.

Return Value

Type: String

A string representation of an Excel cell range for the extracted data.

Example

```
'This example extracts a range of data from an existing data set  
'and copies the data rows to a new worksheet.  
  
'get a reference to the mapcite object  
Dim mapcite As Object  
Set mapcite = Application.COMAddIns("MapciteExcelAddIn").Object  
  
'get a reference to the dataset object we want to extract data from  
Dim dataset As Object  
Set dataset = mapcite.Find("Existing Dataset")  
  
'extract the data within the latitude and longitude range  
Dim range As String  
range = dataset.Extract "40.82:40.83", "-73.93:-73.92", "New Worksheet"
```

Map.CenterMap Method

Centers the map based on all map points shown for enabled data sets. This can be used in conjunction with [SetBestZoomLevel](#) to display the optimum map for the enabled data sets. Note that [SetBestZoomLevel](#) should be called prior to this method.

Syntax

```
Public Sub CentreMap()
```

Parameters

None

Return Value

None

Map.Hide Method

Hides the map.

Syntax

```
Public Sub Hide()
```

Parameters

None

Return Value

None

Map.Refresh Method

Refreshes the map causing it to be redrawn.

Syntax

```
Public Sub Refresh()
```

Parameters

None

Return Value

None

Map.SaveImage Method

Saves the map as an image.

Syntax

```
Public Sub SaveImage(  
    ByVal filename As String,  
    Optional ByVal format As ImageFormat = ImageFormat.Jpeg,  
    Optional ByVal quality As Integer = 50,  
    Optional ByVal delay As Integer = 1)
```

Parameters

Parameter	Type	Description
filename	String	The full path and filename to save the image.
format	ImageFormat	The image format to use. The default is Jpeg.
quality	Integer	The quality of saved image (from 1 to 100). The default is 50.
delay	Integer	The number of seconds to wait to allow the map to be rendered. If the map is particularly complicated this value may need to be increased. The default is 1 second.

Return Value

None

Map.SaveSettings Method

Saves the map settings. This includes the map visibility, heat map or pins shown, heat map size and intensity, whether pin labels are shown, pin clustering is on or off and whether to auto-refresh the map when data is changed.

Note that in order for these settings to be persisted, the actual Excel workbook must be saved after this call.

Syntax

```
Public Sub SaveSettings()
```

Parameters

None

Return Value

None

Map.SetBestZoomLevel Method

Sets the best zoom level for the map taking into account the enabled data sets. Commonly after a call to this method, a call is made to [CenterMap](#) to ensure all data points are displayed on the map.

Syntax

```
Public Sub SetBestZoomLevel()
```

Parameters

None

Return Value

None

Map.SetMapPosition Method

Sets the center of the map at the specified latitude and longitude.

Syntax

```
Public Sub SetMapPosition(  
    ByVal latitude As String  
    ByVal longitude As String)
```

Parameters

Parameter	Type	Description
latitude	String	The latitude to use to set the center map position.
longitude	String	The longitude to use to set the center map position.

Return Value

None

Map.Show Method

Shows the map.

Syntax

```
Public Sub Show()
```

Parameters

None

Return Value

None

PinIcon Enum

This enum specifies the pin icon used to display on the map.

Enum PinIcons

```
'for use with data pins
```

```
Airport = 0
```

```
Supermarket = 2
```

```
BluePin = 4
```

```
RedPin = 36
```

```
GreenPin = 21
```

```
OrangePin = 31
```

```
PurplePin = 34
```

```
Building = 9
```

```
Parking = 10
```

```
Hazard = 22
```

```
Star = 40
```

```
CompetitorA = 11
```

```
CompetitorB = 12
```

```
CompetitorC = 13
```

```
CompetitorD = 14
```

```
'for use with poly lines and poly shapes
```

```
BlueDot = 46
```

```
GreenDot = 47
```

```
OrangeDot = 48
```

```
RedDot = 49
```

```
YellowDot = 50
```

```
BlackDot = 51
```

End Enum

DataType Enum

This enum specifies the type of data to display on the map.

```
Enum DataType
```

```
    Pins = 0
```

```
    PolyLine = 1
```

```
    PolyShape = 2
```

```
End Enum
```

DockPosition Enum

This enum specifies how the map pane should be docked in the workbook.

```
Enum DockPosition
```

```
    Left = 0
```

```
    Top = 1
```

```
    Right = 2
```

```
    Bottom = 3
```

```
    Floating = 4
```

```
End Enum
```

ImageFormat Enum

This enum specifies the image format to use when saving the map as an image.

```
Enum ImageFormat
```

```
    Jpeg = 0
```

```
End Enum
```

MAPCITE

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