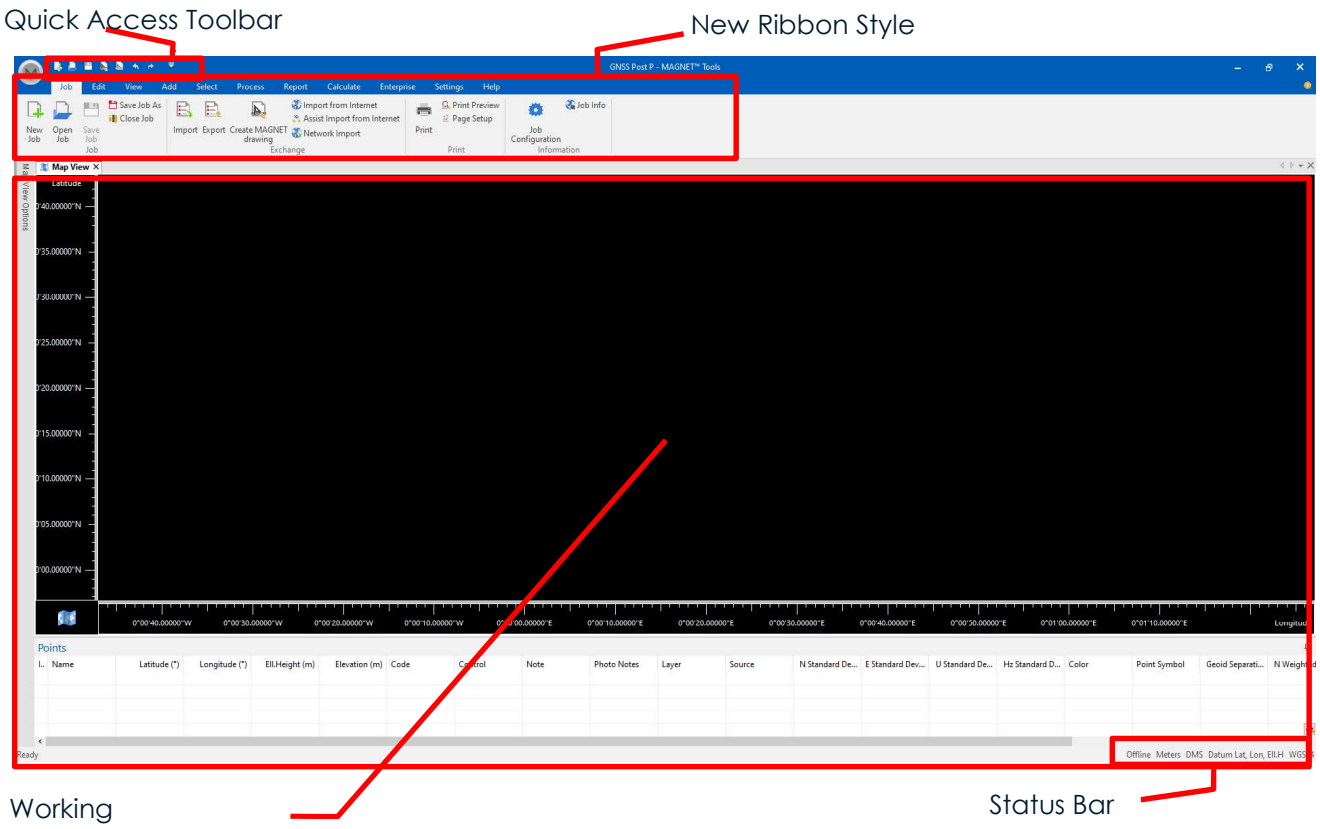
Module 8B: MAGNET Tools Interface

After completion of this lesson, the student should be familiar with the MAGNET Tools interface, menu structure, and some of the available views.

Main Screen

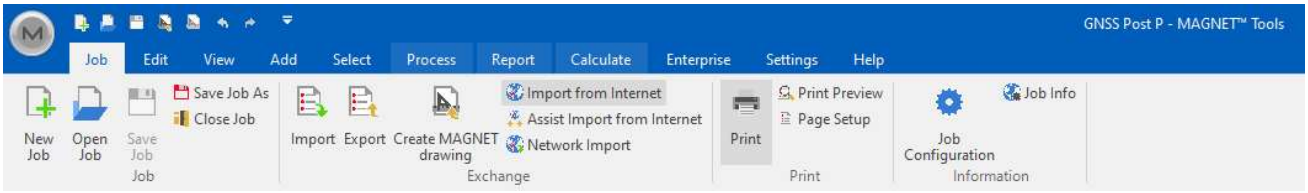
Once the start-up procedure has been completed and a new project has been created, MAGNET Tools will display the main screen. The image below shows the default general layout of the main screen when a new project is created.



FEATURE	DESCRIPTION
RIBBON STYLE MENU	All of the options available in MAGNET Tools are found in their separate categories (See menus for detailed description of menus).
QUICK ACCESS TOOLBAR	Quick access to some MAGNET Tools options. These include create, open, and save jobs, undo/redo, and switch/export to CAD or Topcon CAD view.
WORKING SPACE/VIEW	The working area of MAGNET Tools. Activated views appear here (defaults to map and tabular views).

STATUS BAR	Displays current units, coordinate type, and projection. Use to perform coordinate transformation to any predefined datum/projection and unit transformation.

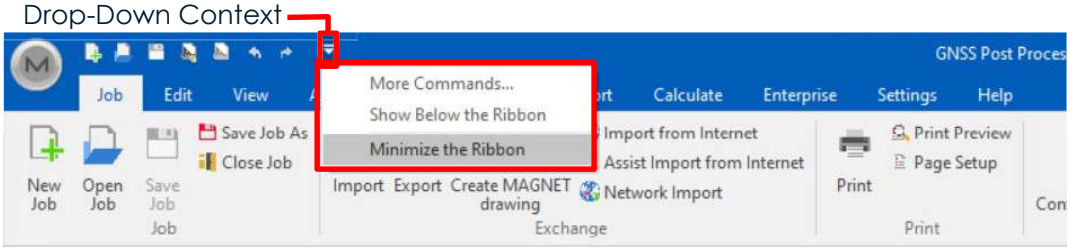
Menus



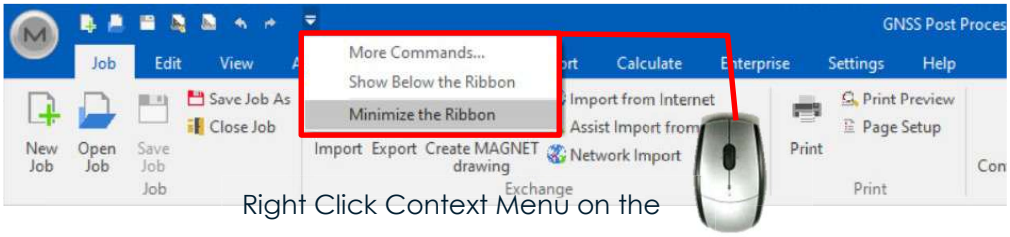
MENU	CONTENTS
JOB	Standard Windows options found in this menu like New, Open, Save, etc., and also some MAGNET Tools specific options for Import/Export and Job Configurations, now includes tools for plotting
EDIT	Standard Windows Edit options found in MAGNET Tools editing menu
VIEW	All of the available view options for diplaying data in MAGNET Tools project
WINDOW	All of the options to manipulate the view display areas
ADD	All of the options to add or insert new entities into MAGNET Tools project
SELECT	All of the options to select different entities in MAGNET Tools project (GPS or TS data)
PROCESS	Processing and adjustment options for GPS and TS data, also includes localization and datum transformation
REPORT	All reporting options and configurations
CALCULATE	Tools for calculating such as inverse, surface compare, translate and rotate
ENTERPRISE	All MAGNET Enterprise related options, i.e. Logon, Chat, Connect to Project, Upload/Download Files, and Real-time
HELP	Help document, Display MAGNET Tools Hints and information about the license version of Civilcad that is installed

With the new ribbon style menu, there is an option that enables you to expand your workspace that is available on the screen, and also to setup where the Quick Access Toolbar is positioned. You can either **click the drop-down button** beside the Quick Access Toolbar *(Option 1)* or just **right click** the mouse anywhere within the ribbon *(Option 2)*, and a small context menu will appear, then select appropriate options.

OPTION 1:



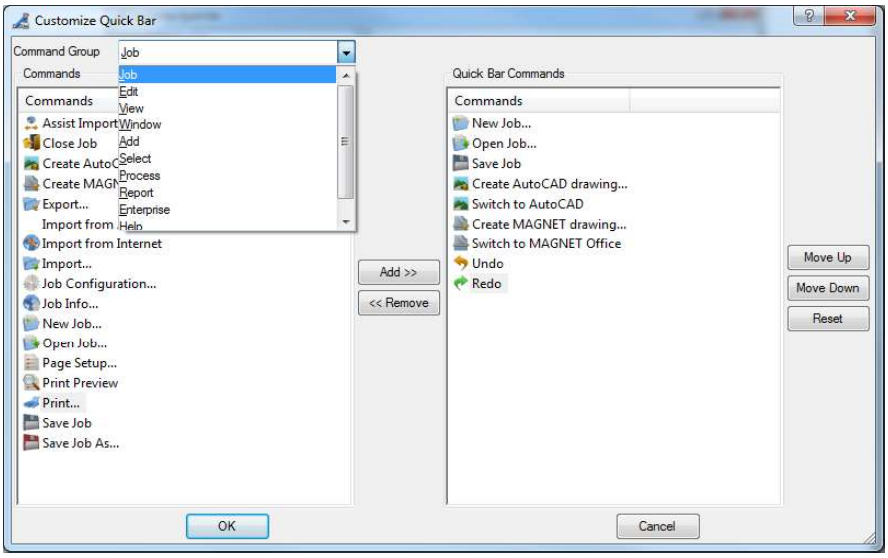
OPTION 2:



Quick Access Toolbar

The MAGNET Tools has a Quick Access Toolbar that comprises of some default commands also available on the ribbon-style menu. It allows users to easily select a command without the need to navigate through the menus. This toolbar is customisable, therefore permitting the users to add or remove quick bar commands from different command groups and allowing for a fully customisable user interface.

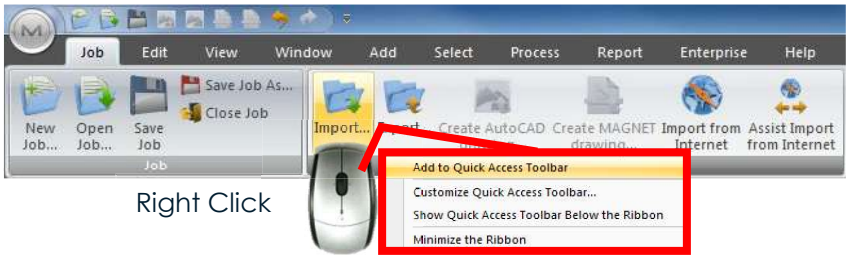
To open the options for customising the toolbar, select **More Commands** when accessed through drop-down context menu or **Customize Access Toolbar** when accessed through the right click context menu on the ribbon (See p.9 Menus). A dialogue box will prompt after selecting either of the options.



The **CUSTOMIZE QUICK BAR** window contains two panels. The left panel of the window displays all available commands under each Command Group. The right panel shows the default commands on the Quick Access Toolbar. In this window, you can:

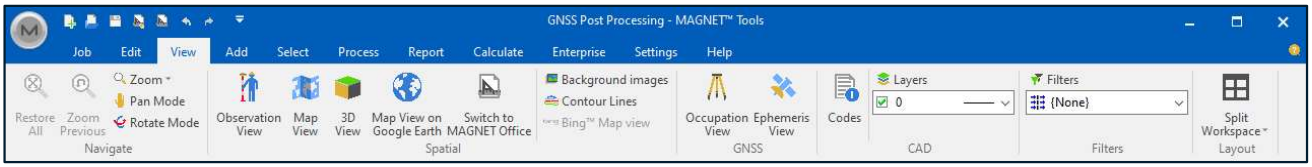
- Add commands to the Quick Access Toolbar (by clicking **Add>>**),
- Remove commands from the Quick Access Toolbar (by clicking **<<Remove**),
- Arrange the order of the commands in the Quick Access Toolbar (by clicking **Move Up/Move Down**),
- Return to original settings of the Quick Access Toolbar (by clicking **Reset**)

Users can add any number of commands in the Quick Access Toolbar. Another way of adding a command to the Quick Access Toolbar is through right clicking on any command icon on the menu and select **Add to Quick Access Toolbar**.



Views

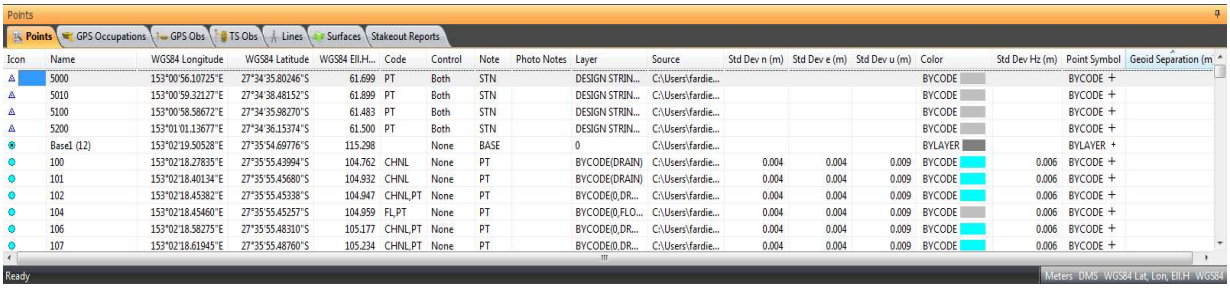
MAGNET Tools has many views available for displaying data in a project. Some views are better suited to certain applications than others. A good understanding of the different available viewports is important when using MAGNET Tools. Users can access different views under the View Tab in the ribbon-style menu.



Tabular

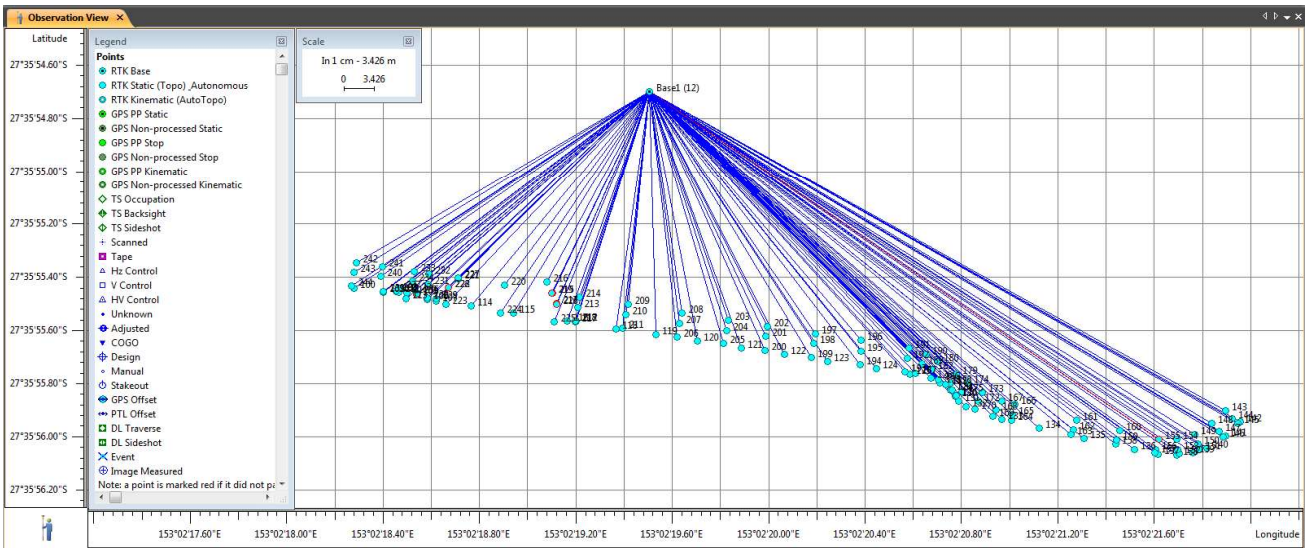
Tabular View contains tabs representing the different types of information. It displays data in a spread sheet style format. It is dynamic and expands to include all data within a file. The data in the job defines which tabs will display.

By default, **Points Tab** always displays in Tabular View. It displays the coordinates in the current coordinate system and the current unit, set in the Status Bar. Using the Status Bar, users can perform coordinate transformation to any predefined datum/projection and unit transformation.



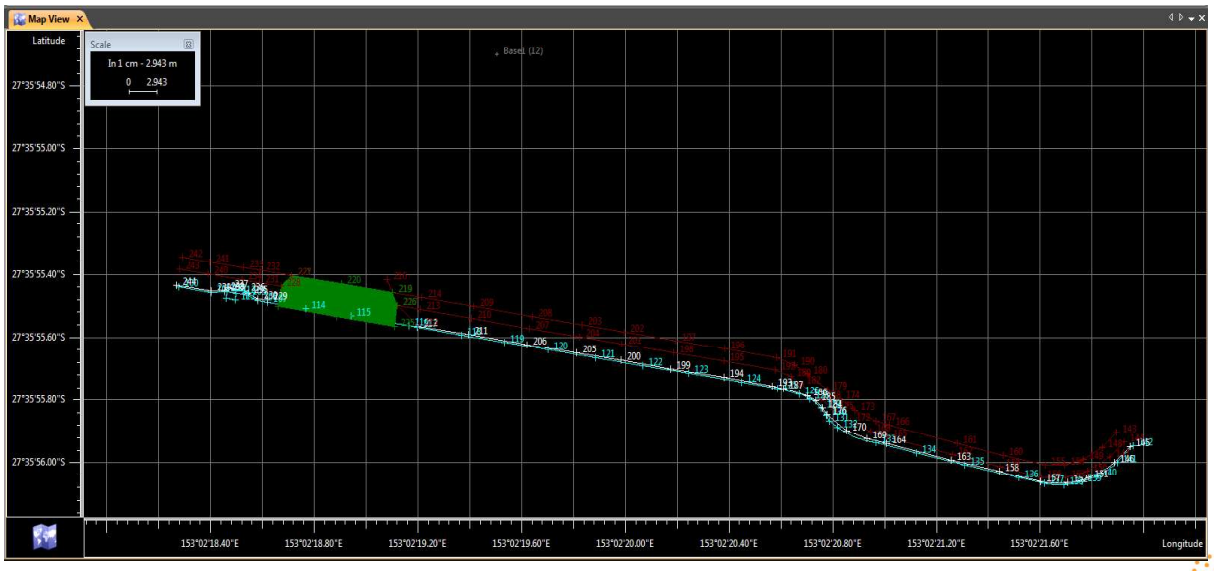
Observations

The **Observations View** displays graphic representation of the GPS, RTK, TS, and DL survey data in the horizontal plane of the current coordinate datum or projection. Use Observation View for displaying a common network configuration, multiple background images, estimating the mutual position of points and vectors, and finding the necessary vector or point. The displayed points and observations use symbols described in the Legend Window. Users have the option to either show or hide coordinate grid, scale bar, legend window, background image, and change the background color (see p.21 Configuring the Display).



Map

The **Map View** displays graphic representation of the points, lineworks, surfaces, and roads in the horizontal plane of the current coordinate datum or projection. Objects are displayed with the color/width/style of the corresponding layer. Users have the option to either show or hide coordinate grid, scale bar, background image, and change background color (see p.21 Configuring the Display).

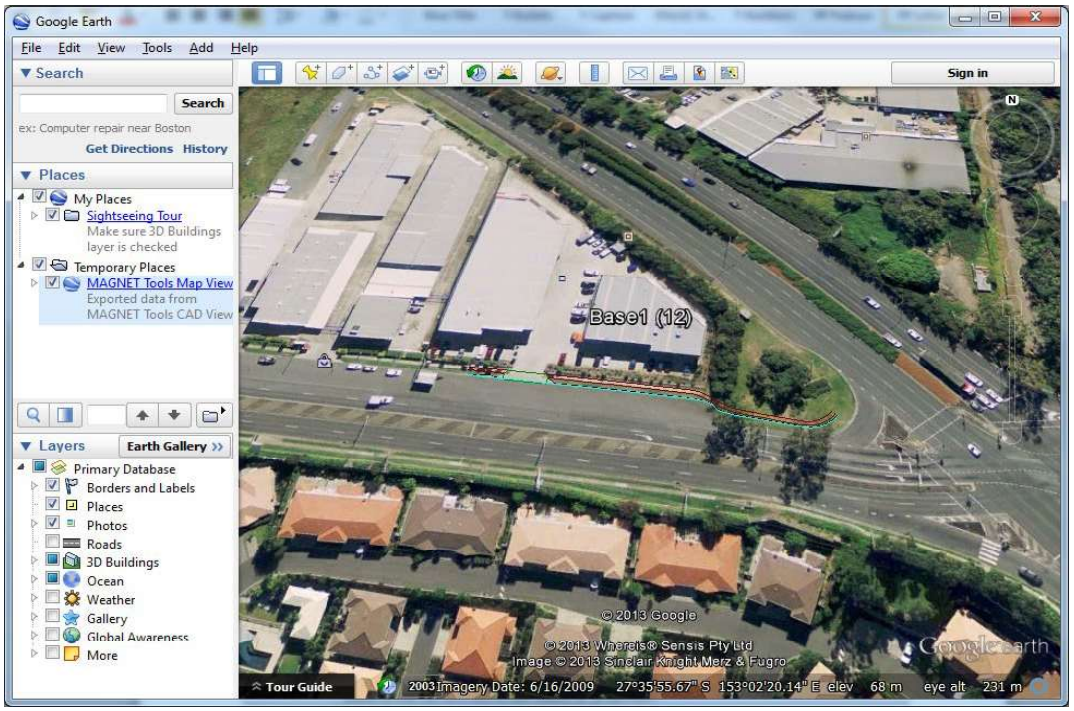


Bing Map

In Map View, users can switch on **Bing Maps** for visualization purposes only. The Bing Maps will be displayed in WebSphere Mercator map projection only to display the job objects on the Bing Maps. MAGNET Tools automatically transforms the objects' coordinates from the current coordinate system to the WebSphere Mercator projection.

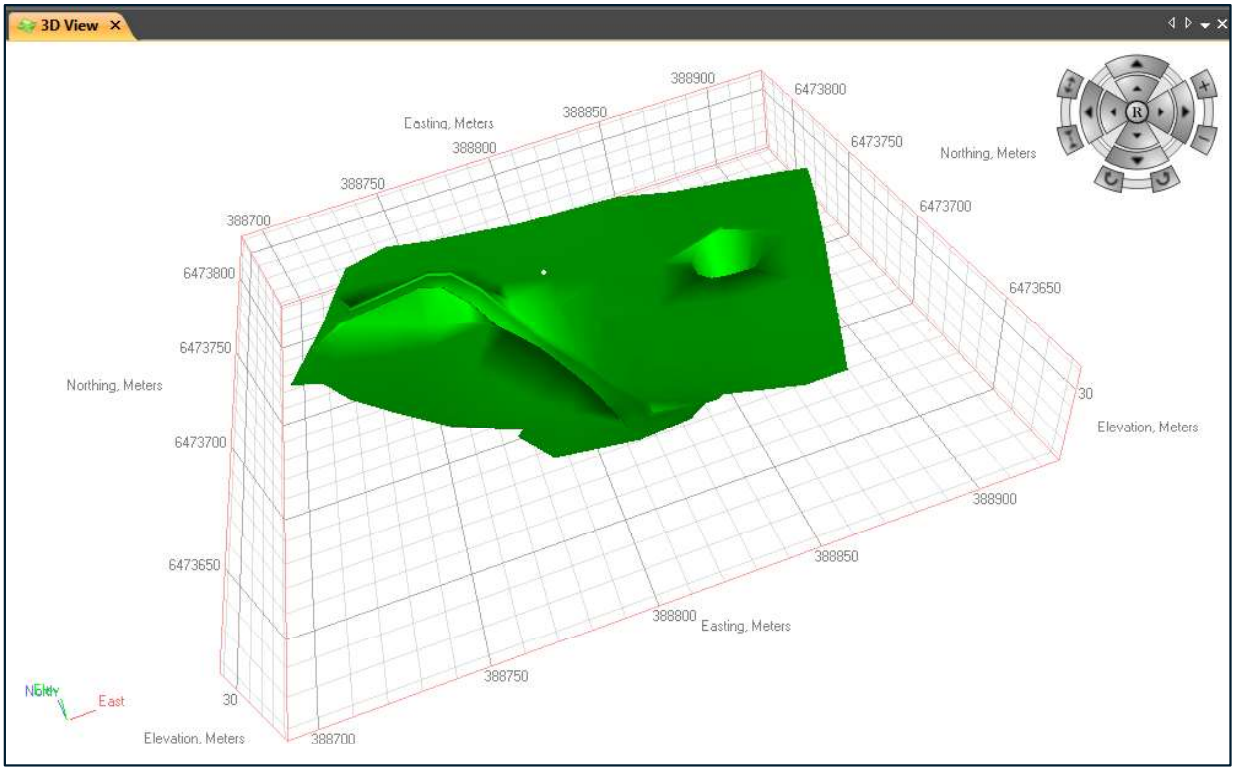
Google Earth

MAGNET Tools allows the user to overlay **Map View over Google Earth**. This option requires Google Earth to be installed on the computer. Projection/localization file is required to view data on Google Earth.



Three-Dimension (3D)

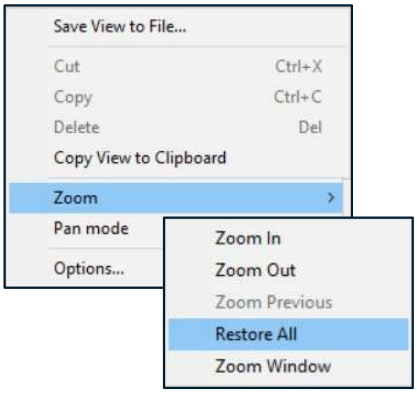
of the data which can be rotated and viewed from any angle. Surfaces and roads are displayed with the color of the layer. Lines are displayed in the color set for these lines.



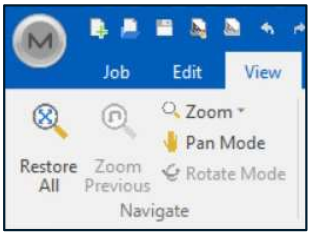
In this view, users can pan, zoom, and rotate an object, increase/decrease the vertical scale, turn an object clockwise/counterclockwise in the screen plane, and restore the default scale and rotation. You can activate these modes using four different options.

Mouse Wheel

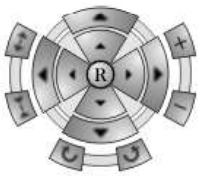
Right Click Pop-up Menu

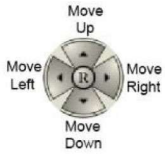
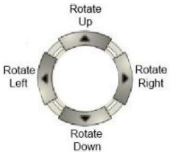
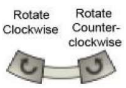


Ribbon Menu



Navigation Control



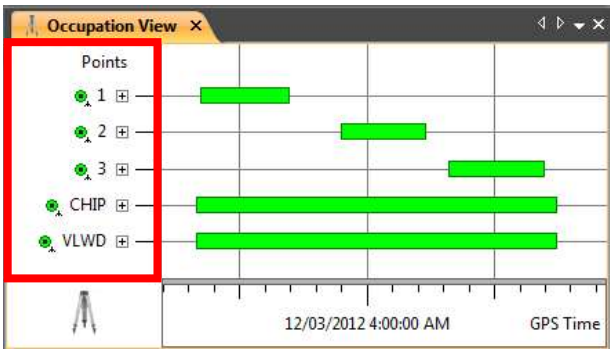
MODE	MOUSE WHEEL	POP-UP MENU	RIBBON MENU	NAVIGATION CONTRL
PAN	Press the wheel and move the mouse from any direction	Right click and select *PanMode*	Click  icon on Window Tab	
ZOOM	Scroll up: Zoom In Scroll down: Zoom Out	Right click and select *Zoom*	Click desired icon on Window Tab 	
ROTATE		Right click and select *Rotate*	Click  icon on Window Tab	
SCALE	Hold down the ***Ctrl + Alt*** *keys* and scroll the mouse wheel			
TURN OBJECT IN SCREEN PLANE				
RESTORE				

Occupation

The Occupation View displays a time-scale graph of the GPS occupations used in the job. This option allows the user to view the session's occupations in two different modes.

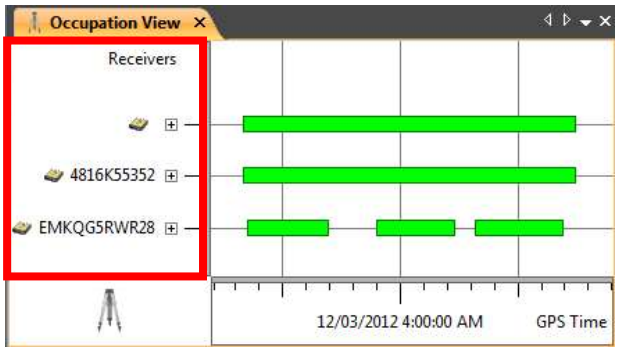
By Points

The vertical axis of the occupation view graph represents the names of the points where the data was collected.

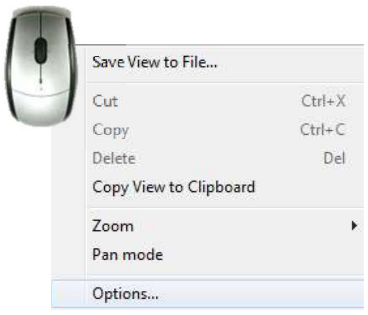


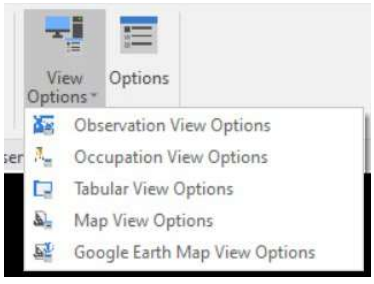
By Receivers

The vertical axis of the occupation view graph represents the serial numbers of the receivers used for data collection.

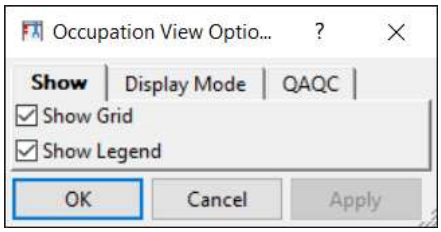


To select the desired display mode, **right click** on any place of the View and select Options command from the pop-up menu or click **View Options** from the Options Group of the View Tab and select Occupation View Options (See p.21 Configuring the Display).

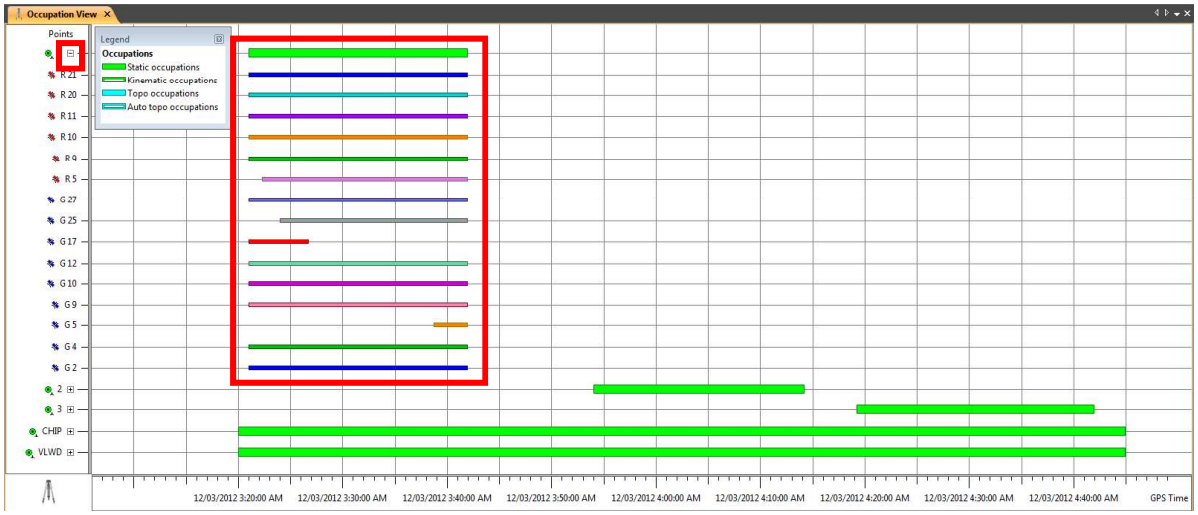




A dialogue box will prompt, and you will be able to select the display mode under the Occupation View.



To view individual satellite epochs for a GPS occupation (not for RTK occupation), click the node [+] for the point/receiver. When the node is expanded, the satellite availability bars will be displayed for each occupation.



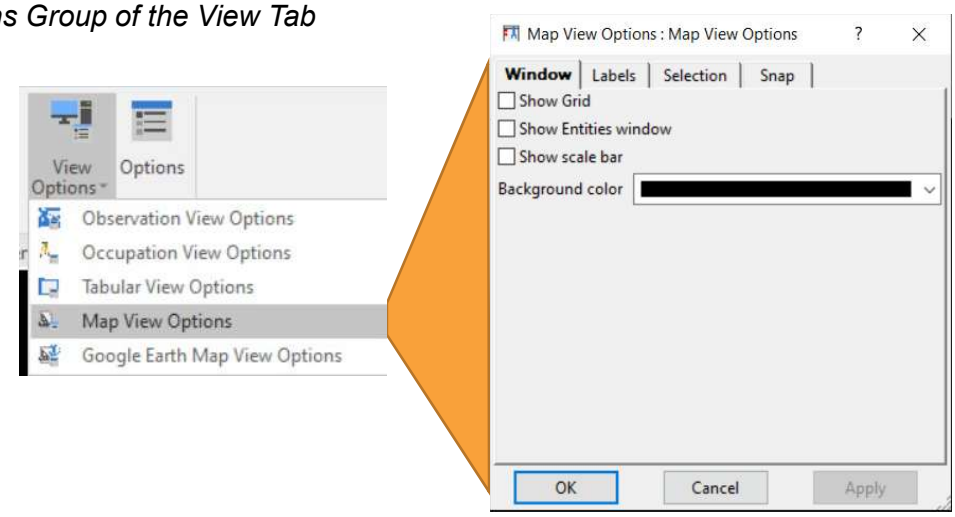
Other Views

VIEW	DESCRIPTION
Antenna List Window	Displays parameters of all GPS antennas which were calibrated by NGS, or TPS. These parameters are viewable but not editable. Also, the windows display the user-defined antenna types.
TS Instrument Window	Displays Total Station parameters. These parameters are viewable but not editable. Also, the window displays the user-defined instrument type.
Ephemeris	Displays the list of the ephemeris which were imported to the current project.
Codes	Displays the list of all codes and their attributes used in the job.
Layers	Displays the list of all layers and their plotting styles used in the job.

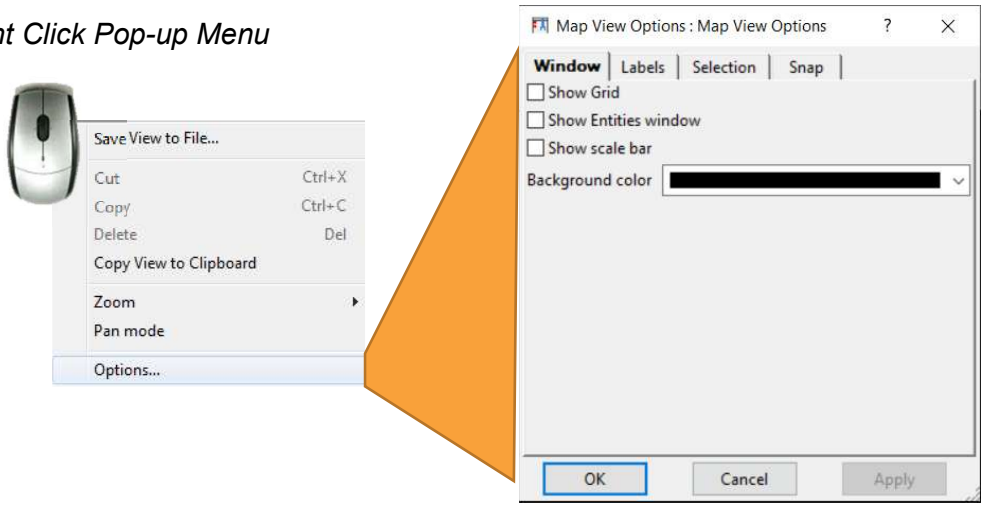
Configure the Display

Each of the views can be customised so that the display suits the user. The options for customising the views can be accessed either by using the **'View Options'** ribbon on the Options group of the View tab or by right clicking in the active view and selecting **'Options'**.

Option 1: Options Group of the View Tab



Option 2: Right Click Pop-up Menu



The display options are copious and change from view to view. Some of the useful display options include:

- Point Labels
- Legends
- Scale Bar
- Precision Indicators