USER'S GUIDE

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subsurface imaging solutions

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1 Introduction

QuickMap is used to quickly display colored map images of GPR survey data. These maps can be snow depth maps generated from SnowScan data, ice thickness maps generated from Ice Profiling data, depth slice maps from area survey data exported from EKKO_View Deluxe and GPS location maps from any survey where GPS data were collected. In many cases, the map can be generated in just a few seconds.

In addition, any map image created in QuickMap can be saved to a Google Earth file and automatically superimposed on a satellite image of the earth in the Google Earth application.

2 Overview

2.1 QuickMap Main Screen

The QuickMap main screen appears in Figure 2-1.

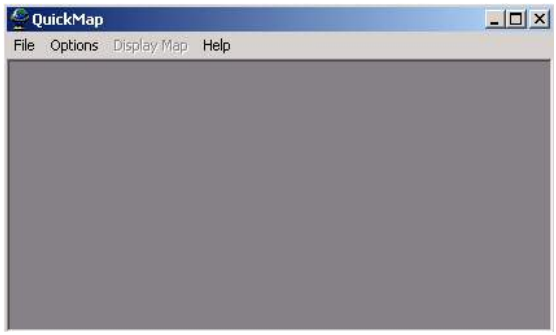

Figure 2-1: The QuickMap main screen before data has been opened and displayed.

After opening a data set (**File > Open**) and selecting **Display Map** from the menu, the QuickMap image will be displayed as shown in **Figure 2-2**.

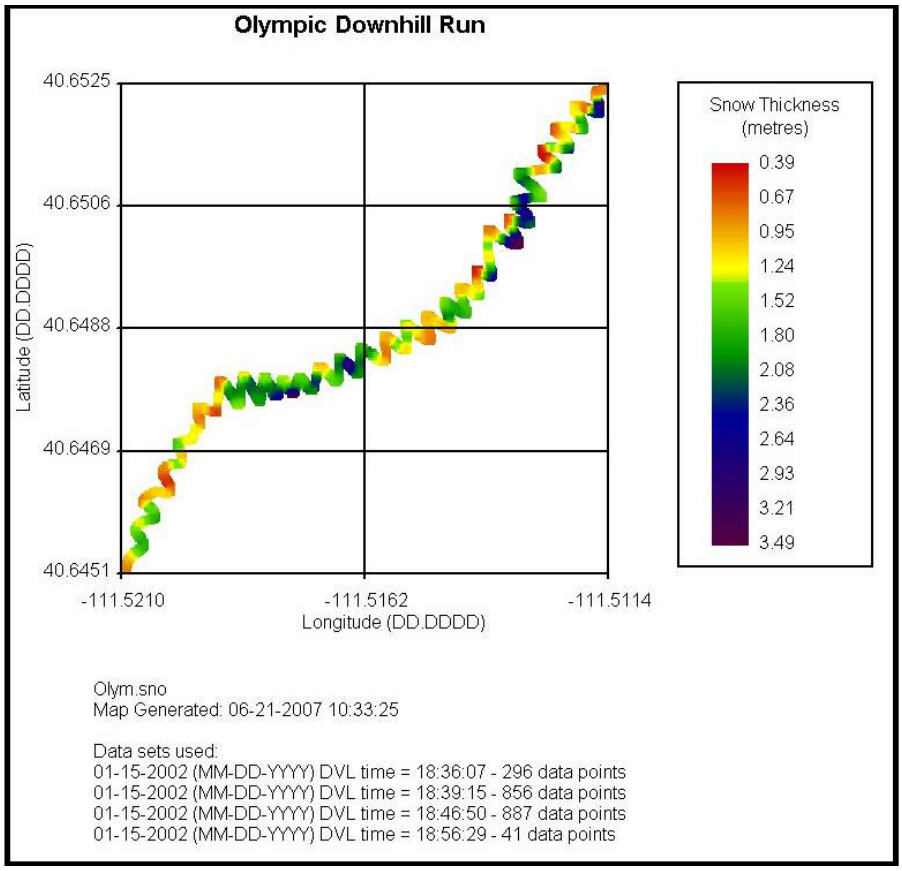

Figure 2-2: The QuickMap screen displaying SnowScan data. The border, grid lines, data set list and title shown here are optional.

The user can select which XY coordinate system to display under **Options > XY Coordinates** including latitude and longitude, UTM and Local.

The user can also select to generate other types of maps under **Options > Z Parameter to Plot** including data location points, fiducials, data quality and elevation. These maps will vary depending on the type of data opened.

The map images can be modified by changing other options like resizing the image, limiting the Z values to a specific range, changing the pixel size and using a specific color table to draw the image with. These options are available under **Options**.

Once the image has been generated, the user can view the statistics of the image, save it to a bitmap or jpeg file, or print it to a printer. These options are available under **File**.

3 Menus

3.1 File

3.1.1 Open SnowScan

The **File > Open SnowScan** option opens SnowScan data sets from a SnowScan File (*.SNO).

If the SnowScan file has a .GPS extension (or any other extension), it can be opened by changing the File – Open dialog box to display files of all types (*.*) rather than just *.SNO files. Then browse and select the SnowScan file.

After selecting the SnowScan file, a window opens showing all the data sets inside the file.

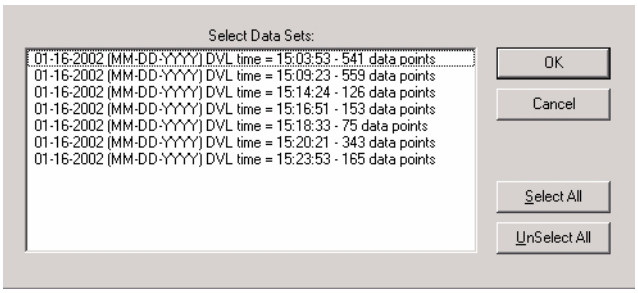

Figure 3-1: If the SnowScan (.SNO) file contains multiple data sets, the user must select one(s) to plot in QuickMap.*

Use this window to select the data sets you want to see. If the data sets are from the same area, you can select more than one data set and generate a map. You must select at least one data set to open the file. Once the file is open, the map is not immediately displayed to the screen until you select the **Display Map** menu item.

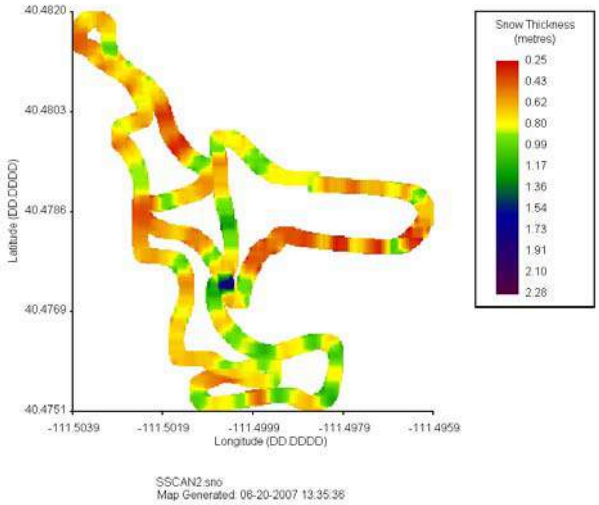

Figure 3-2: Snow thickness map from a SnowScan data set.

The default map is snow thickness but other maps can be created including:

1) Data location points
2) Elevation
3) Fiducials (and Fiducial Messages)
4) GPS Type
5) PDOP
6) Snow Quality

To generate different maps, select from **Options > Z Parameter to Plot**.

3.1.2 Open Ice Profiling

The **File > Open Ice Profiling** menu item opens an Ice Profiling data set from a Comma Separated Values File (*.CSV) or a Text File (*.TXT). These files are generated using the IcePicker program (see the IcePicker User's Guide for more details).

The default extension is CSV but to switch between file extensions, change the Files of Type dropdown list to display files of the desired type (*.TXT or *.CSV). Then Browse and select the Ice Profiling file.

Once the file is open, the map is not immediately displayed to the screen until you select the **Display Map** menu item.

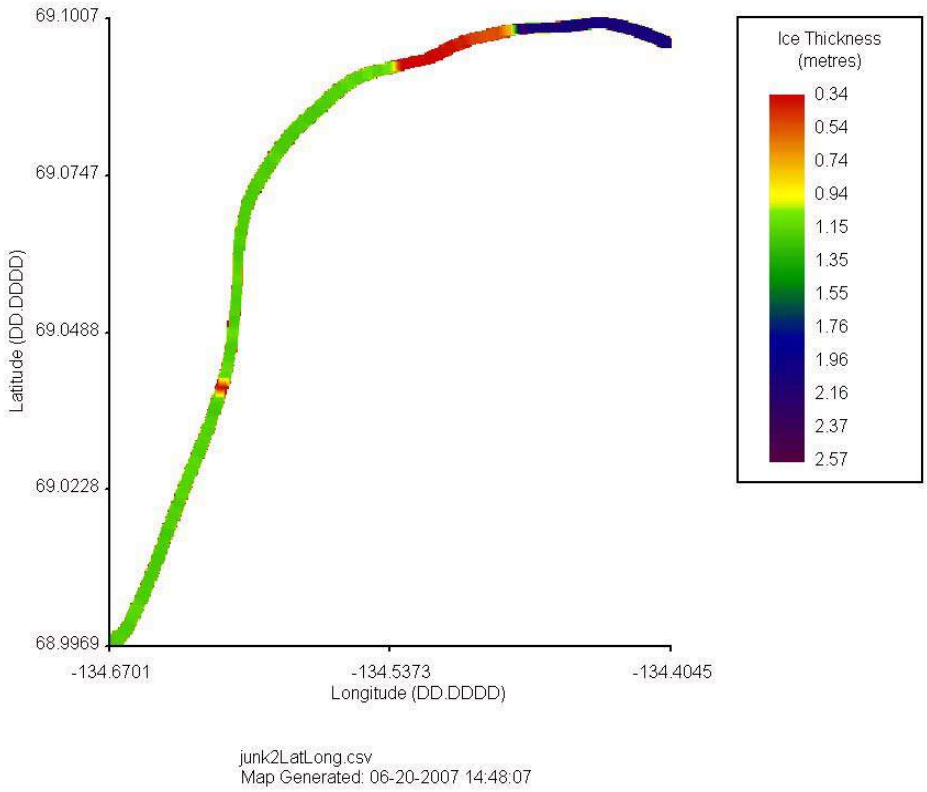

Figure 3-3: Ice thickness map from an Ice Profiling data set.

The default map is ice thickness but other maps can be created including:

1) Data location points
2) Amplitude
3) Elevation
4) Fiducials (and Fiducial Messages)
5) Ice Quality

To generate different maps, select from **Options > Z Parameter to Plot**.

3.1.3 Open QuickMap Slice

The **File > Open QuickMap Slice** menu item opens a time or depth slice data set from a Comma Separated Values File (*.CSV). These files are generated in the EKKO_View Deluxe software using the Convert > Export Time Slice option (see the EKKO_View Deluxe User's Guide for more details).

The default map is a Slice of the average amplitude over the specified time or depth range. If the Slice file contains more than one slice, the user is prompted to select a specific slice to display. Once the file is open, the map is not immediately displayed to the screen until you select the **Display Map** menu item.

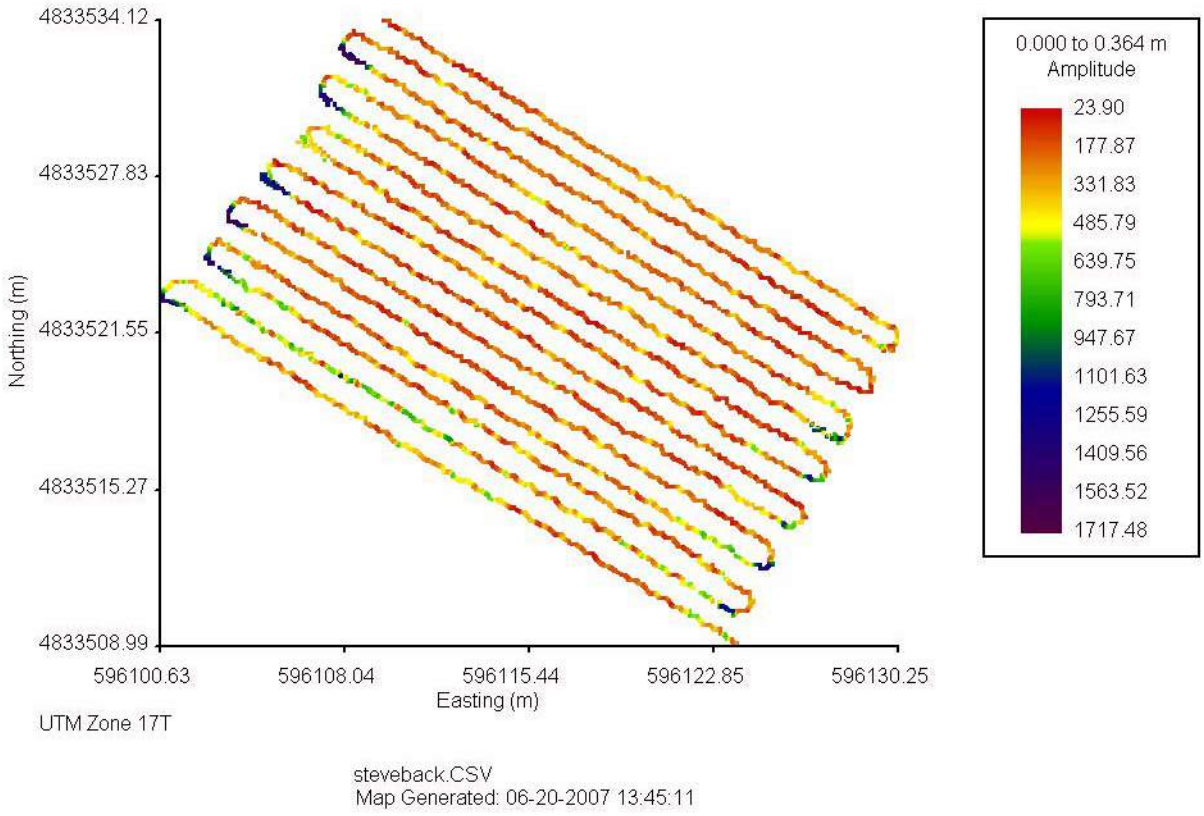

Figure 3-4: Slice map of amplitude from a grid data set.

If the Slice file contains more than one slice, adjacent slices can be generated and displayed by pressing the F5 or F6 keys. Specifically, pressing the F5 key moves up to the next slice and pressing F6 moves down to the next slice.

Other maps can be created including:

1) Data location points
2) Elevation
3) Fiducials (and Fiducial Messages)

To generate different maps, select from **Options > Z Parameter to Plot**.

3.1.4 Open GPS File

The **File > Open GPS File** item opens GPS file (*.GPS). GPS files are created during data acquisition with a GPS attached to a Sensors & Software GPR system (see the system user's guide for more details about how to collect GPS data during a GPR survey).

Once the file is open, the map is not immediately displayed to the screen until you select the **Display Map** menu item.

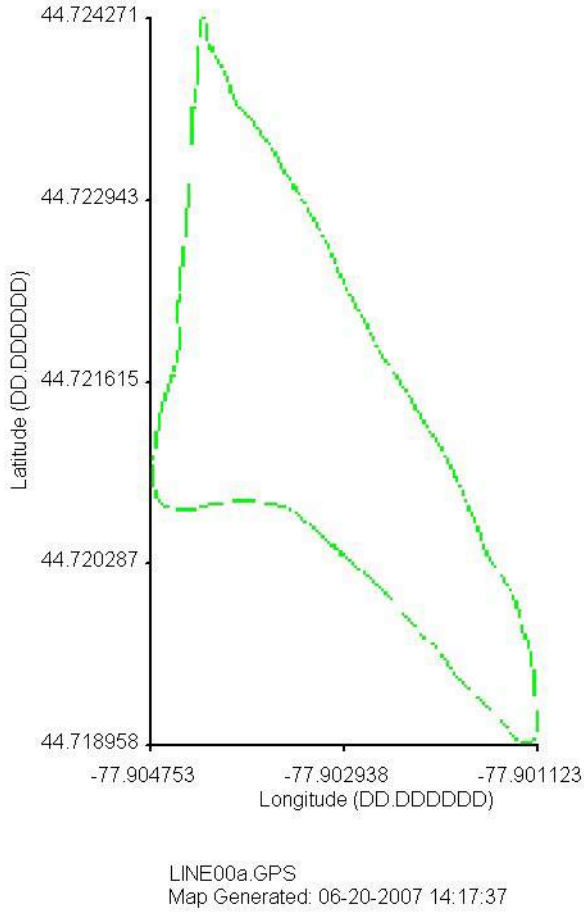

Figure 3-5: Map of GPS locations.

The default map is GPS data locations but other maps can be created including:

1) Elevation
2) Fiducials (and Fiducial Messages)

To generate different maps, select from **Options > Z Parameter to Plot**.

3.1.5 Generate GoogleEarth File

The **File > Generate GoogleEarth File** saves the current image to a Google Earth (*.kmz) file. A Save As dialog opens and prompts the user to select a name for the image.

After the file is saved, the Google Earth application (if available) is launched and the data image is automatically superimposed onto the Google Earth image of the survey area.

The Generate GoogleEarth File menu option is disabled (greyed out) until a map image has been generated.

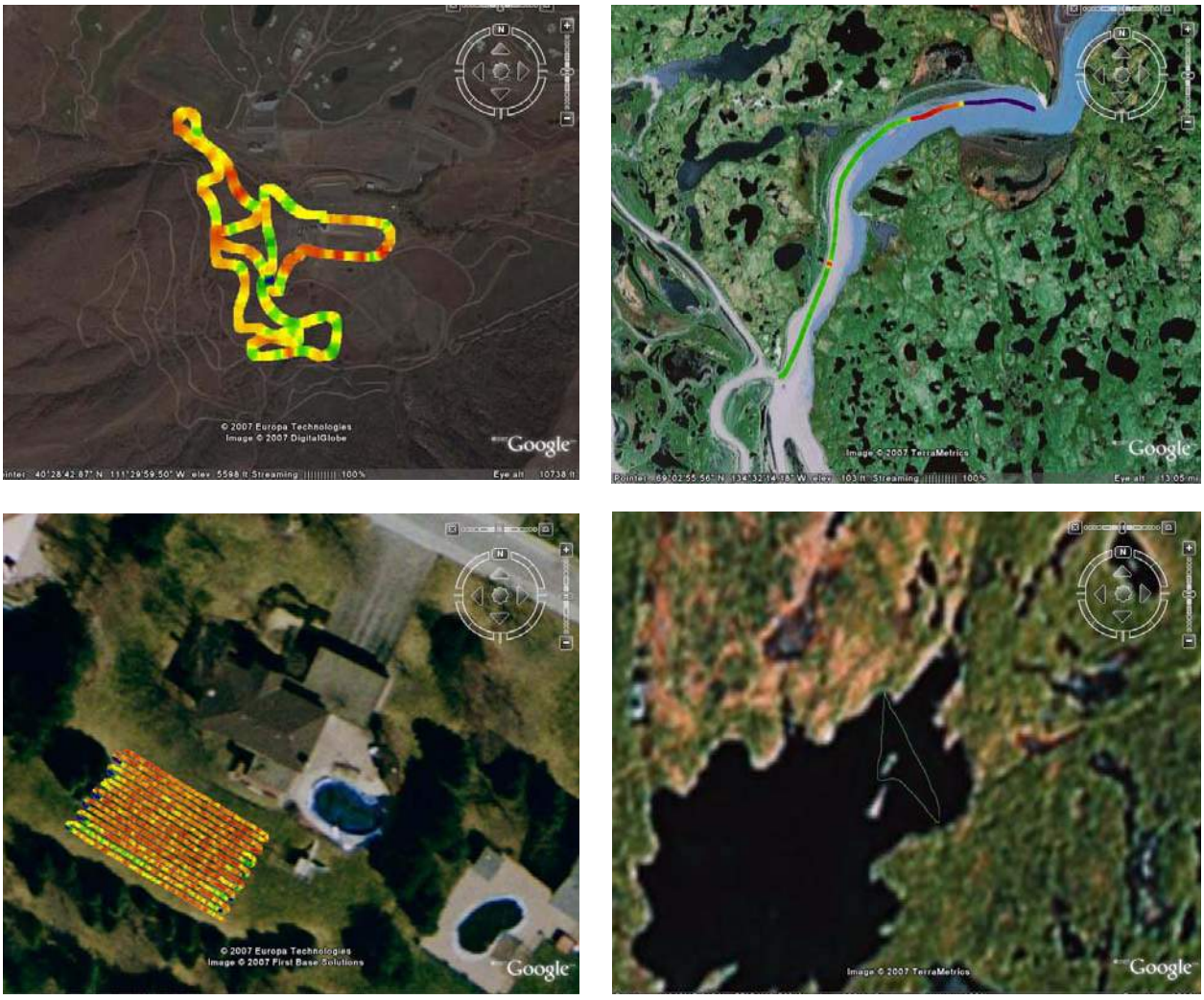

Figure 3-6: GPR data superimposed onto Google Earth images. Upper left image is SnowScan data from Figure 3-2. Upper right is ice profiling data from Figure 3-3. Bottom left is slice data from Figure 3-4 and Bottom right is GPS data from Figure 3-5.

3.1.6 Save Screen as Bitmap

The **File > Save Screen as Bitmap** menu item saves the entire image (including the axes, grid, legend and title) to a Bitmap File (*.BMP).

3.1.7 Save Screen as Jpeg

The **File > Save Screen as Jpeg** menu item saves the entire image to a Jpeg File (*.JPG, *.JPEG). Jpeg files are compressed image files that are generally smaller than Bitmaps files. However, as a result of this compression, the image may not appear exactly the same as the original.

3.1.8 Save Map as Bitmap/Jpeg and World

The **File > Save Map as Bitmap and World** menu item saves the map (not including the axes, grid, legend and title) to a Bitmap File (*.BMP) and a corresponding Bitmap World File (*.BPW).

The **File > Save Screen as Jpeg and World** menu item saves the map to a Jpeg File (*.JPG, *.JPEG) and a corresponding Jpeg World File (*.JGW). Jpeg Files are compressed image files that are generally smaller than Bitmap files. However, as a result of this compression, the image may not appear exactly the same as the original.

The world file is an ASCII file that contains the following six values (one per line) describing the map:

1) X pixel size
2) Rotation about the Y axis
3) Rotation about the X axis
4) Y pixel size
5) X value of the upper left pixel
6) Y value of the upper left pixel

The rotation values are always zero (since QuickMap cannot rotate maps). The units of the values are the same as the units of the map when it was saved.

These options would typically be used to export map images to GIS software packages.

3.1.9 Print

Printing allows you to print the image currently displayed to a printer. The image printed includes the map, axes and grid, legend and title.

The **File > Print** menu item opens a window with the following options:

3.1.9.1 Print

This button will allow you to print the image to a printer. After selecting this option, the printer dialog opens. This dialog allows you to select the printer, the print range and the number of copies you want to print. Press OK in this dialog to print.

3.1.9.2 Print Preview

This button will open a window displaying a preview of the image as it will look if it were printed. This allows you to see the image as it would look printed before printing it. After selecting this option, the printer dialog opens. This dialog allows you to select the printer, the print range and the number of copies you want to print. This dialog also provides access to the printer Properties to change printing options like Print Resolution and Page Orientation. Press OK in this dialog to view the preview.

3.1.9.3 Cancel

This button exits the print window without printing the map.

3.1.9.4 Fit on Page

With this option selected, the image will be sized to fit on one page. If it is smaller than a page, the image will be enlarged to fit the page. Similarly, if it is larger than one page, it will be reduced to fit in the page. The aspect ratio of the image does not change if the size of the image is changed.

3.1.10 Statistics

The Statistics menu item opens a window displaying various statistics about the map currently displayed. The name of the file, title of the map (if one exists), the date and time the map was generated, and the data sets used are all displayed. The statistics are organized by each type of variable: X, Y and Z. The name and unit of each variable is given.

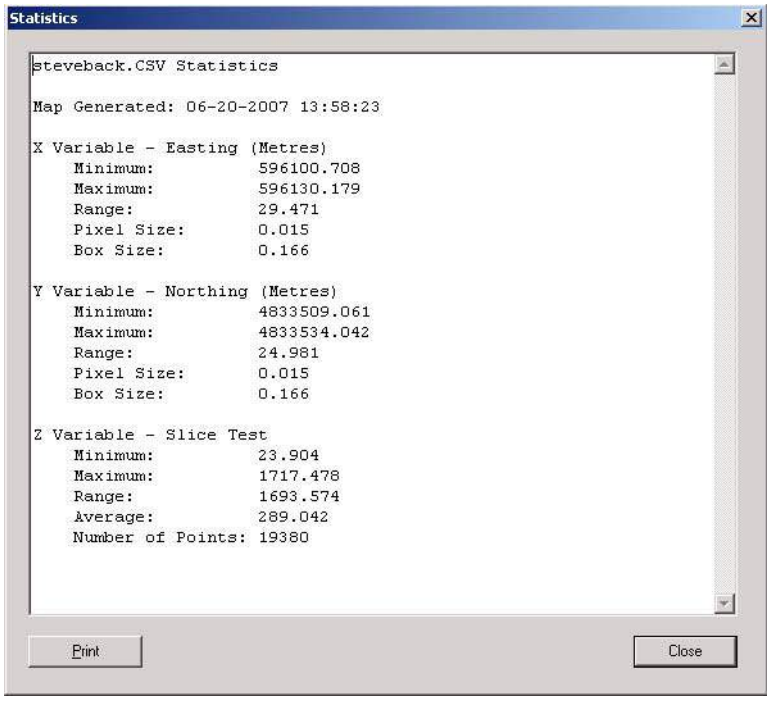

Figure 3-7: Statistics listings are available for all map images.

The following statistics are given, although they do not appear for every variable:

Minimum: The minimum value of the variable.

Maximum: The maximum value of the variable.

Range: The range of values of the variable (i.e. maximum – minimum).

Pixel Size: The size of a pixel in either the X or Y direction. Note that the unit is metres if the XY coordinates are Latitude/Longitude, Absolute UTM or Local UTM. The units are feet if the XY coordinates are Feet. See **Options > Gridding Options** for information about changing the pixel size.

Box Size: The size of the box used in either the X or Y direction. Note that the unit is metres if the XY coordinates are Latitude/Longitude, Absolute UTM or Local UTM. The units are feet if the XY coordinates are Feet. See **Options > Gridding Options** for more information about the Box Size and changing its size.

Average: The average value of all the Z data points.

Number of Points: The number of data points from the original data file used to generate the map.

A **Print** button at the bottom of the window exists to print the statistics. The statistics are printed exactly as shown in the window. After pressing this button, the printer dialog opens. This dialog allows you to select the printer, the print range and the number of copies you want to print. Press OK in this dialog to print.

3.1.11 Exit

The **File > Exit** option closes the current data set and exits the program.

3.2 Options

3.2.1 Add Border

If the **Options > Add Border** option is selected, the map image will be drawn with a border around it (see **Figure 2-2**).

3.2.2 Add Data Set List

If the **Options > Add Data Set List** option is selected, the map image will be drawn with a list of the data sets used to generate the map on the bottom (see **Figure 2-2**).

3.2.3 Add Grid

If the **Options > Add Grid** option is selected, the map image will be drawn with grid lines (see **Figure 2-2**). To select the number of grid lines, use the **Options > Axes Labels** menu item.

3.2.4 Axes Labels

The **Options > Axes Labels** menu item allows you to select the number of grid lines per axis and the font of the axes and legend text.

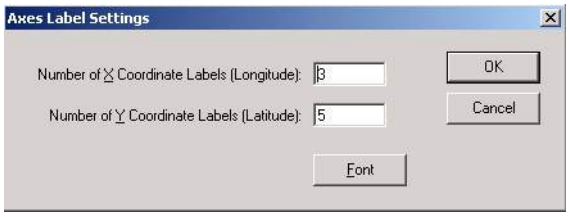

Figure 3-8: Axes labels options.

The window has the following options:

X pts: The number of labels that appear on the X axis.

Y pts: The number of labels that appear on the Y axis.

Font: Change the font, font size and style of the axes and legend text.

Grid lines appear on the map by selecting the **Options > Add Grid** menu option.

3.2.5 Change Color Table

The **Options > Change Color Table** menu item allows you to select the color table for the data displayed in the map image. To change the color table, simply select one, press OK and then press Dispaly Map to regenerate the map image.

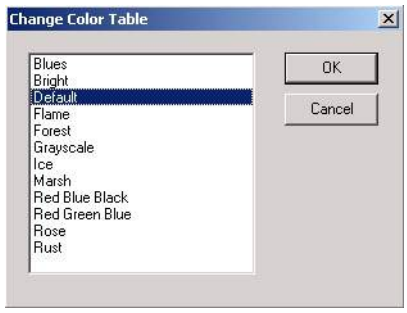

Figure 3-9: Color table options.

3.2.5.1 Custom Color Tables

The color tables exist as *.COL files in the ColorTables folder. Color Table files are simple ASCII files that can be created and edited using any word processor. Therefore, it is possible for the user to create custom Color Table files. Simply, copy one of the existing Color Table files in the ColorTables folder to a new name and edit the file to create a new Color Table file. As long as this new color Table file resides in the ColorTables folder with the other color Tables, it can be selected using the Change Color Table option.

Each color table file has 256 rows of RGB values. The values in each row represent the red, green and blue values (in that order) separated by a single space. The first row is used as the background color. The final row of the color table is used to color the points when viewing the data points only. All the colors, except for the first one, are used to color the map in all other circumstances.

3.2.6 Gridding Options

The **Options > Gridding Options** menu item allows you to change the size of each pixel and the size of the gridding box used to interpolate data into every pixel to create the data image.

The “Pixel Size” defines the size of the smallest data element on the map image (see **Figure 3-10**).

A “Grid Box” is a square box that surrounds every pixel in the map image (see **Figure 3-10**). The value of the pixel in the center of the grid box is calculated as the average value of the all the data points within that box. The effect of this process is to interpolate data values into all pixels within half a grid box width of the data points.

All Z parameters use a grid box, except for Data Location Points, which only uses the pixel size to show the location of data points.

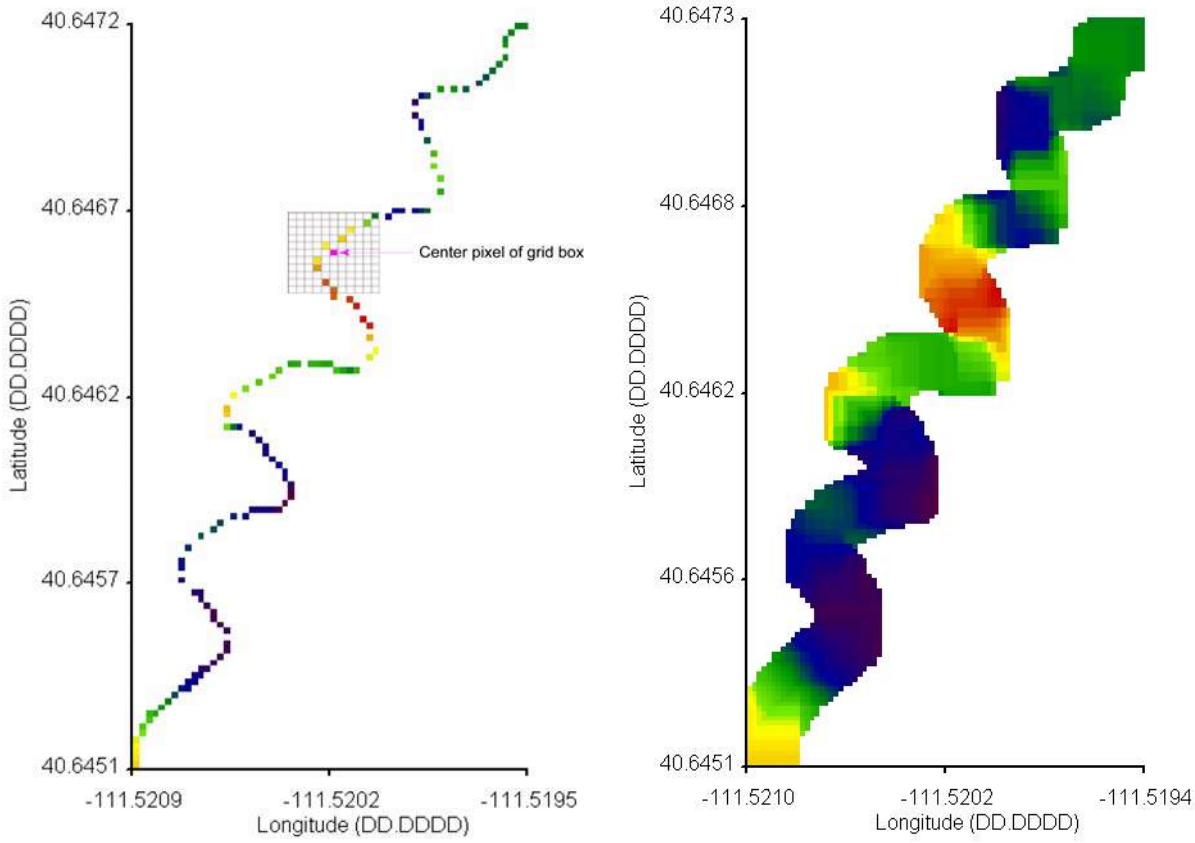

Figure 3-10: The left image shows snow thickness data points diplayed as pixels of a certain size. All map images generated by QuickMap, except the Data Location Points, are interpolated to make the data more visible by moving a grid box around the data points and calculating the average value of all the data points within the box and setting the pixel in the center of the box to that value (right).

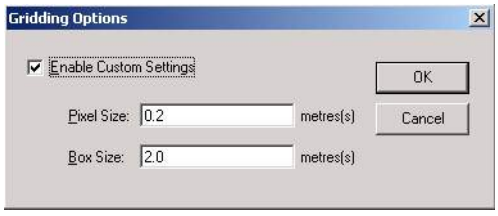

Figure 3-11: Gridding options.

If Enable Custom Settings is not checked, default values are used. The default Pixel Size is the average distance between all the points in the map and the default Box Size is the size of 11 pixels. The default values for the pixel size and box size are listed in the **Statistics** box.

The Gridding Options window has the following options:

3.2.6.1 Enable Custom Settings

The Enable Custom Settings checkbox allows the user to change the default pixel and box sizes. If this option is not checked, the default values are used.

See **Warning About Gridding Options** for more information about the limitations of these settings.

3.2.6.2 Pixel Size

This is the size of each pixel. Pixels are square so both the height and width of the pixel are set to this value. Note that the units are metres if the XY coordinates are Latitude/Longitude, Absolute UTM or Local UTM. The units are feet if the XY coordinates are Feet.

Due to the nature of the image processing, the pixel size might be a slightly different size when the image is generated. After the map is generated, check the **Statistics** for the Pixel Size value actually used to generate the map.

The smaller the pixel size, the longer the map takes to generate. As well, the smaller the pixel size, the larger the physical size of the map will be.

In general, the Pixel Size should be about 1/4 to 1/10th the Box Size.

Beware of making too small a pixel size as it may create a false sense of data resolution. For example, if the data points are typically 1 meter apart, it does not make a lot of sense to set a pixel size of 0.1 metres.

3.2.6.3 Box Size

This is the size of the grid box. The grid box is square so both the height and width of the box are set to this value. Note that the unit is metres if the XY coordinates are Latitude/Longitude, Absolute UTM or Local UTM. The units are feet if the XY coordinates are Feet.

Note that the Box Size used may be rounded from the input value. The Box Size will always be the Pixel Size times an odd number of pixels i.e. 1, 3, 5, 7, etc. After the map is generated, check the **Statistics** for the Box Size value actually used to generate the map.

Beware of making too large a box size. This interpolates the data image over a larger area and may give a false sense of where data were collected.

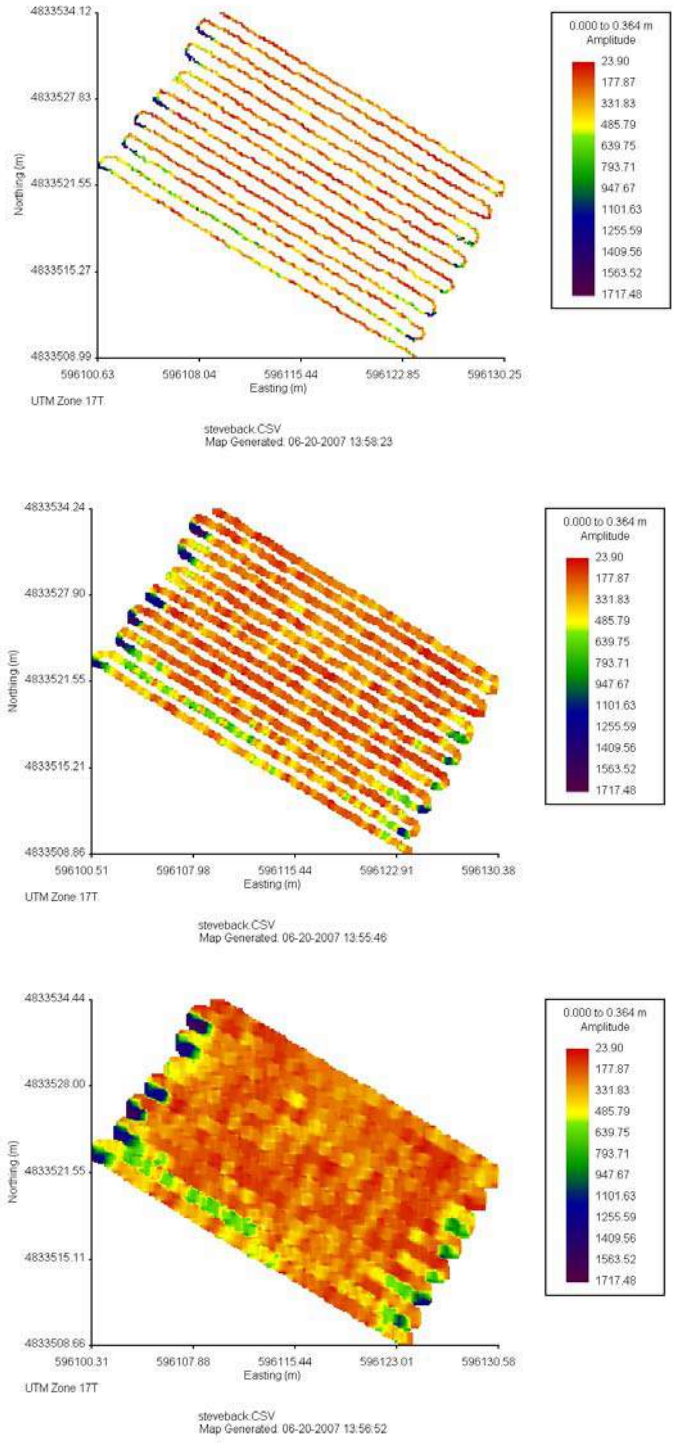

Figure 3-12: Slice images calculated with different Box Sizes. The top image uses the default Box Size of 0.16m, which is based on the average separation between data points. The middle image was calculated by checking the Enable Custom Settings check-box and using a Box Size of 0.5m. The bottom image was calculated by checking the Enable Custom Settings checkbox and using a Box Size of 1.0m. Use caution when setting the box size as large box sizes interpolate data over larger areas and give the impression that data were collected in areas where they were not.

3.2.7 Warning About Gridding Options

Be careful not to leave the Enable Custom Settings checked. Custom values for Pixel Size and Box Size may work well for one data set but can be inappropriate for another data set.

If these values are too small, this can result in very long data processing times. If these values are too large, the data will be coarsely sampled and the image will appear pixelated.

It is best to first generate a map image with the Enable Custom Settings unchecked, look at the **Statistics** to see the default values for the Pixel Size and Box Size and then check the Enable Custom Setting checkbox and adjust the values as desired.

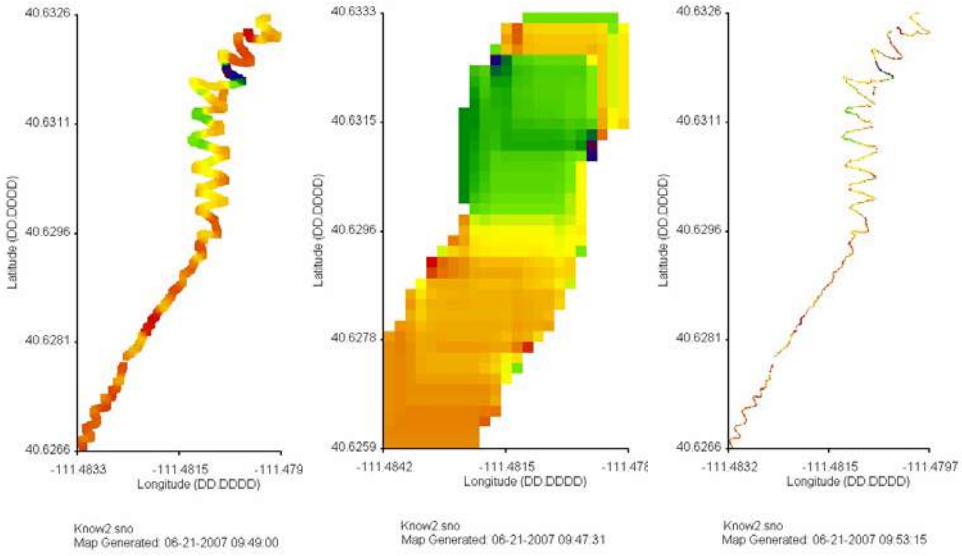

Figure 3-13: Be very careful when changing the Gridding Options. The default values use the average distance between data points to determine the Pixel Size and Box Size. The left figure was generated using default values. If the Box Size is too large (center image) the data values are interpolated over a large area and the map image gives a false impression of where data were actually collected. If the Box Size is too small (right image) data processing times can be quite long.

3.2.8 Map Size

The **Options > Map Size** menu item allows you to select one of the following two options for displaying the image:

3.2.8.1 Actual Size

The image is displayed in its actual size.

3.2.8.2 Fit to Screen

The image is resized to fit the screen. If it is smaller than the screen, the image will be enlarged to fit the screen. Similarly, if it is larger than the screen, it will be reduced to fit the screen.

Although the image appears to have changed size, the effect is strictly limited to the screen. The **Statistics** are not affected, and saving or printing the image is not affected by this setting. Use this option to make small or large images easier to see. To change the actual size of the image, use the **Resize Image** menu item.

3.2.9 Resize Image

The **Options > Resize Image** menu item allows you to resize the image. You can specify a value from 10% to 500%. The image is then resized by that amount relative to the actual size of the image based on all other options. The aspect ratio of the image does not change.

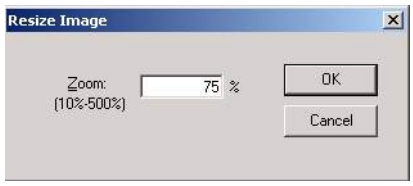

Figure 3-14: Resize image options.

Unlike the **Map Size** option, setting this value ***will*** affect how the image is drawn. Hence, the **Pixel Size** is affected, and when saving or printing the image, the map will be the size specified here. If you simply want to make a small or large image easier to see on the screen, use the **Options > Map Size** menu. Since the map does not need to be regenerated, that option is faster.

3.2.10 Set Max/Min Z Parameters

The **Options > Set Max/Min Z Parameters** menu item allows you to set a minimum and maximum Z value for the data.

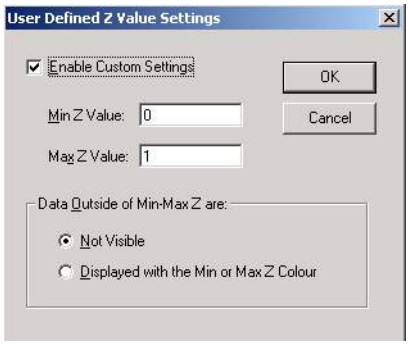

Figure 3-15: The User Defined Z Value Settings dialog box allows the user to specify what range of Z values to display and how to treat values that fall outside of this range.

The window has the following options:

Enable Custom Settings: Check this to allow editing the minimum and maximum Z value settings. If this option is not checked, the minimum and maximum Z values in the data set (see **Statistics**) are used to generate the map and will appear on the Legend.

Min Z Value: The minimum Z value that will appear on the Legend.

Max Z Value: The maximum Z value that will appear on the Legend.

Data Outside of Min-Max Z: These options allow you to specify how data outside of the minimum and maximum range is to be shown. There are two options available:

1) **Not Visible:** The data outside the minimum and maximum range is not visible.

2) **Displayed with the Min or Max Z color**: Data values greater than the maximum are colored the same color as the maximum and data values less than the minimum are colored the same color as the minimum.

If different maps are set to the same Max/Min Z value, this makes it possible to compare the colors of the maps directly.

3.2.11 Title

The **Options > Title** menu item allows you to set the title of the image. The title appears in the image above the map and within the border (**Figure 2-2**).

Figure 3-16: Image title options.

The window has the following options:

Enable Title Bar: This enables the title. The title will only appear if this option is checked.

Font: This button allows you to change the font of the title. After pressing this button, a window opens up allowing you to change the font, the size and style of the title.

Title: This is the title itself. What you type here will appear in the image.

3.2.12 XY Coordinates

The **Options > XY Coordinates** menu item allows you to select the type of XY coordinates that will be used to generate the map. The available options are:

Lat-Long Degrees Minutes (DDMM.MMMM): Latitude and Longitude, in degrees and minutes.

Lat-Long Decimal Degrees (DD.DDDD): Latitude and Longitude, in degrees only.

UTM Absolute: UTM (Universal Transverse Mercator). The UTM Zone is displayed with the map.

UTM Local – metres: UTM (Universal Transverse Mercator), relative to the XY position of lower left corner of the map.

Local – feet: Feet, relative to the XY position of the lower left corner of the map.

Not all data files support all options. If a file does not support an option, an error message will be written to the screen.

QuickMap does not accurately generate maps if the data were collected across two UTM zones. It is best to display the map in Lat-Long in this case.

3.2.13 Z Parameter to Plot

The Z Parameter to Plot menu item allows you to select the type of Z parameter that will be used to generate the map.

Not all data files support Fiducial and Fiducial Message. In these cases, the option will be disabled.

The available options are:

3.2.13.1 Amplitude

This displays the amplitude or signal strength for every data point on the map.

Amplitude maps are available for Slice (**Figure 3-4**) and Ice Profiling data files.

For slices, high amplitude values indicate a strongly contrasting interface in the subsurface. If it is an isolated feature, it may indicate the presence of a target. Areas with low amplitude values indicate homogeneous materials that do not create reflections or the point of maximum penetration of the GPR signal where all the signals have been absorbed.

For ice profiling, amplitude is an indicator of ice bottom reflection quality. High amplitude values indicate a strongly contrasting interface at the bottom of the ice. Areas with relatively low amplitude values may indicate areas of grounded ice (ice frozen to the bottom) or perhaps poor quality ice.

3.2.13.2 Data Location Points

This displays a single pixel for every Z data point on the map.

Data location point maps are available for all types of data files that QuickMap can open. See **Figure 3-5** for an example from a GPS file.

Unlike the map images, where the Z data values are interpolated over the **Box Size**, the Data Location Point shows the position of where the Z parameter was actually measured. It is important to understand where the Z data were actually collected and realize that the smoothed map image can sometimes imply a level of resolution that may not necessarily be true (see **Figure 3-13**).

3.2.13.3 Elevation – metres

This displays the GPS-measured elevation for each data point on the map in metres.

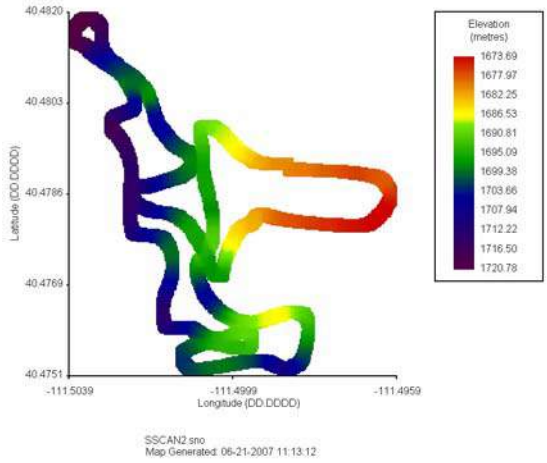

Figure 3-17: Elevation map from SnowScan data.

Elevation maps are available for all types of data files that QuickMap can open.

Note that a minimum of four satellites are required to measure elevation and, in general, GPS-measured elevation values are not usually as accurate as XY positions. See your GPS manual for the accuracy of your GPS unit.

3.2.13.4 Elevation – Feet

This displays the GPS-measured elevation for each data point on the map in feet. **Figure 3-17** shows an elevation map in metres. An elevation map in feet will look similar except the elevation units will be feet.

Elevation maps are available for all types of data files that QuickMap can open.

Note that a minimum of four satellites are required to measure elevation and, in general, GPS-measured elevation values are not usually as accurate as XY positions. See your GPS manual for the accuracy of your GPS unit.

3.2.13.5 Fiducial

During GPR data collection, it is possible to record significant positions called fiducial markers. This option displays the position of the fiducial markers.

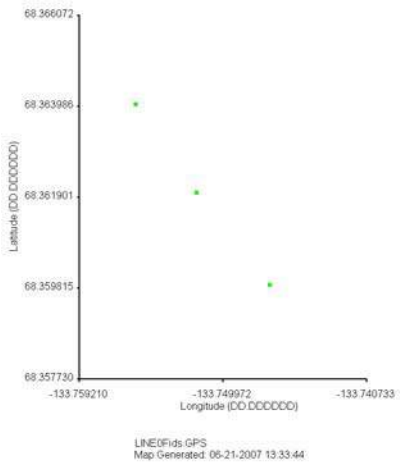

Figure 3-18: Map image with the location of fiducial markers plotted.

3.2.13.6 Fiducial Message

If data has fiducial markers, the text saved with that fiducial marker, called the Fiducial Message, can be displayed on any map image. **Plotting the Fiducial Message is the one item that can be selected with any map.** To turn these message off, simply uncheck the option.

Fiducial maps are available for all types of data files that QuickMap can open.

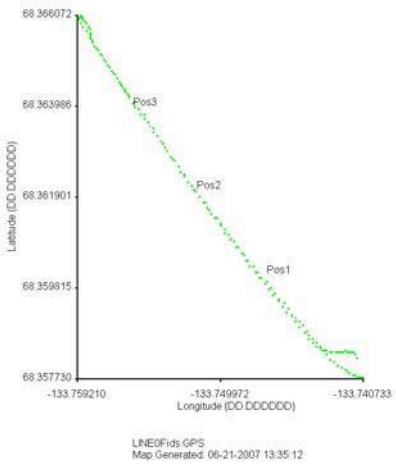

Figure 3-19: Map image of data locations and fiducial messages plotted. If fiducial markers are present in the data, fiducial messages can be plotted on any map image.

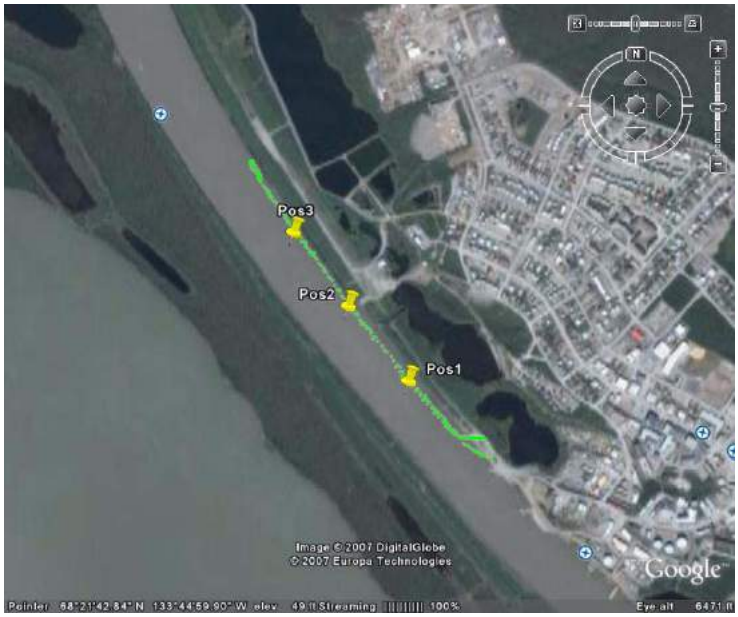

Figure 3-20: When a map image with Fiducial Messages is saved to a Google Earth image, the fiducial location is indicated by a thumb-tack and the fiducial messages are written beside them. This is the same data as Figure 3-19.

3.2.13.7 GPS Type

The GPS Type displays which data points were collected with GPS and which points were collected with DGPS (Differential GPS). Differential GPS is usually more accurate. As satellite conditions change during data collection, the GPS Type may change from DGPS to GPS and back again.

GPS Type maps are available for SnowScan data.

3.2.13.8 Ice Data Quality

This is a measure of the quality of the signal shape of the bottom of ice reflector. Ice Data Quality is expressed as a percentage. The higher the number the more confidence there is of the ice thickness value at that position. The ice thickness measurement from areas where the Ice Data Quality is significantly lower than other areas should be suspect. Areas with relatively low Ice Data Quality values may indicate areas of grounded ice (ice frozen to the bottom) or perhaps poor quality ice.

Ice Data Quality maps are available for Ice Profiling data.

3.2.13.9 Ice Thickness – metres

This displays the ice thickness for each data point on the map in metres (see **Figure 3-3**).

Ice Thickness maps are available for Ice Profiling data.

3.2.13.10 Ice Thickness – feet

This displays the ice thickness for each data point on the map in feet. **Figure 3-3** shows an Ice Thickness map in metres. An Ice Thickness map in feet will look similar.

Ice Thickness maps are available for Ice Profiling data.

3.2.13.11 PDOP

PDOP displays the **P**osition **D**ilution **o**f **P**recision for each data point on the map. PDOP is the strength of the satellite geometry for providing the most accurate results. A low PDOP value means the satellites are spread around the sky and the computed position is most accurate. A high value means the satellites are grouped close together and the position is less accurate. PDOP has no units.

PDOP maps are available for SnowScan data.

3.2.13.12 Snow Data Quality

Snow Data Quality is a measure of how well the SnowScan instrument feels it is tracking the ground surface so that it can measure the snow depth accurately. Snow Data Quality is expressed as a percentage. The higher the number the more confidence there is the snow depth value at that position. Snow depth values from areas with significantly lower relative Snow Data Quality should be suspect.

Snow Data Quality maps are available for SnowScan data.

3.2.13.13 Snow Thickness – metres

This displays the snow thickness for each data point on the map in metres (see **Figure 3-2**).

Snow Thickness maps are available for SnowScan data.

3.2.13.14 Snow Thickness – feet

This displays the snow thickness for each data point on the map in feet. **Figure 3-2** shows a Snow Thickness map in metres. A Snow Thickness map in feet will look similar.

Snow Thickness maps are available for SnowScan data.

3.3 Display Map

The Display Map menu item will generate and display the map.

While the map is being generated, a Progress Window with a progress bar appears showing you the status of the map. A Cancel button allows you to cancel the processing before it is complete.

Once the image is finished processing, it appears in the main window.

3.4 Help

3.4.1 Help Topics

The Help Topics option opens this document in PDF for viewing.

The Adobe Acrobat Reader program must be installed on the PC to open this document. If not, the user is prompted to download it from the Adobe website.

3.4.2 About QuickMap

This option displays a description, version number and product number of the QuickMap program currently in use.