

Isis 3 "qmos" Demo

June 27th, 2012

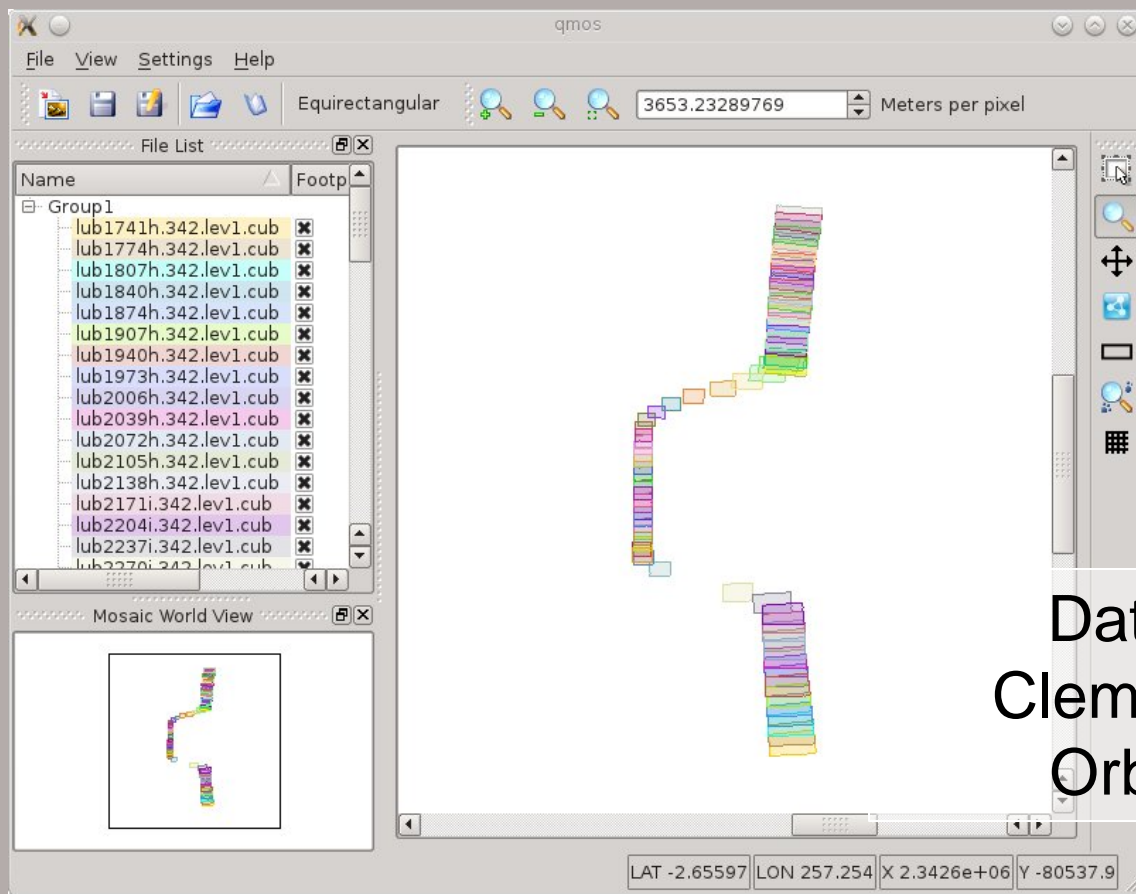
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Visualization

- Objective
 - Learn about the ISIS mosaic tool “qmos”
 - Introduction/Demo of available tools
 - Choosing a Projection
 - Help (“What’s This?”)
 - Tracking, Selecting, Zooming, Panning
 - Control Net
 - Area Tool
 - Find Tool
 - Grid Tool

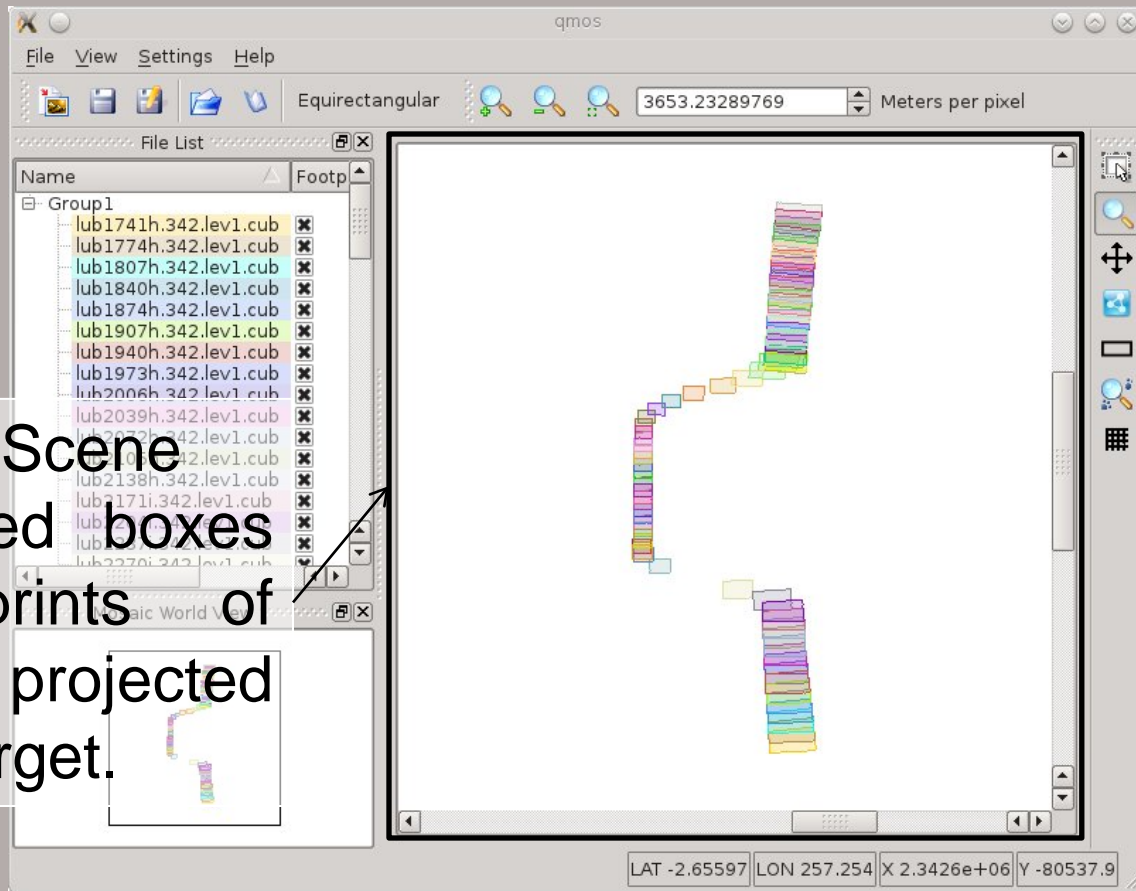
Interface Basics



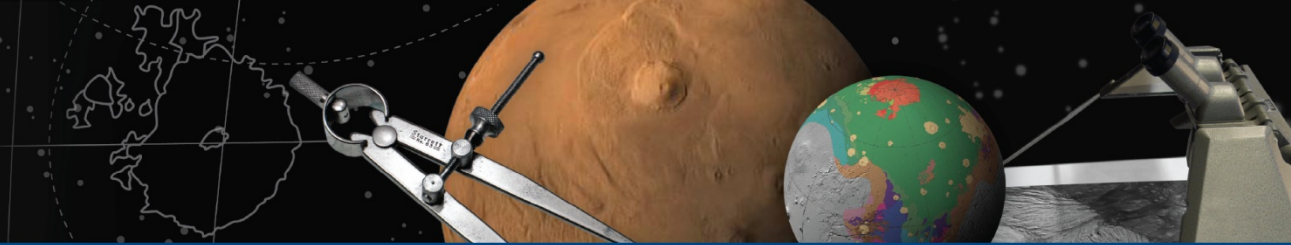
Data Set:
Clementine 1
Orbit 342



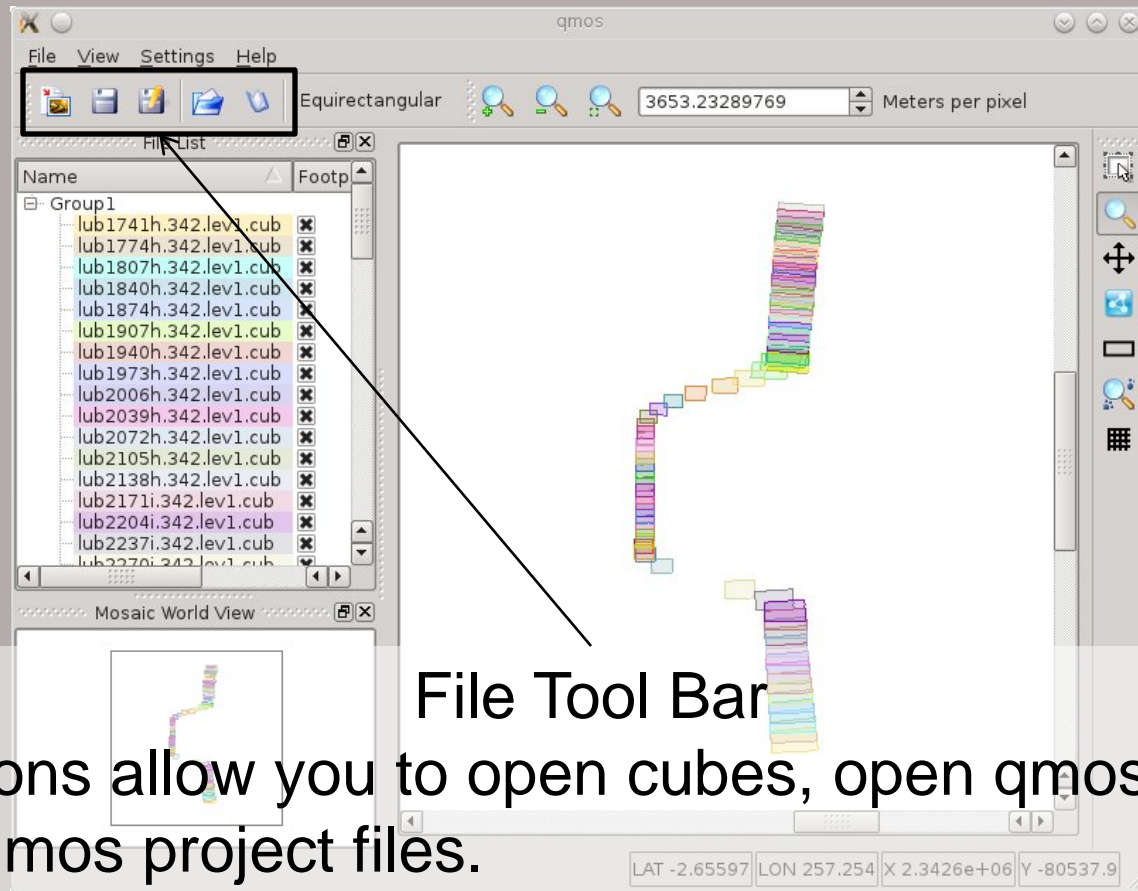
Interface Basics – Mosaic Scene



Mosaic Scene
The colored boxes
are footprints of
cubes projected
onto the target.



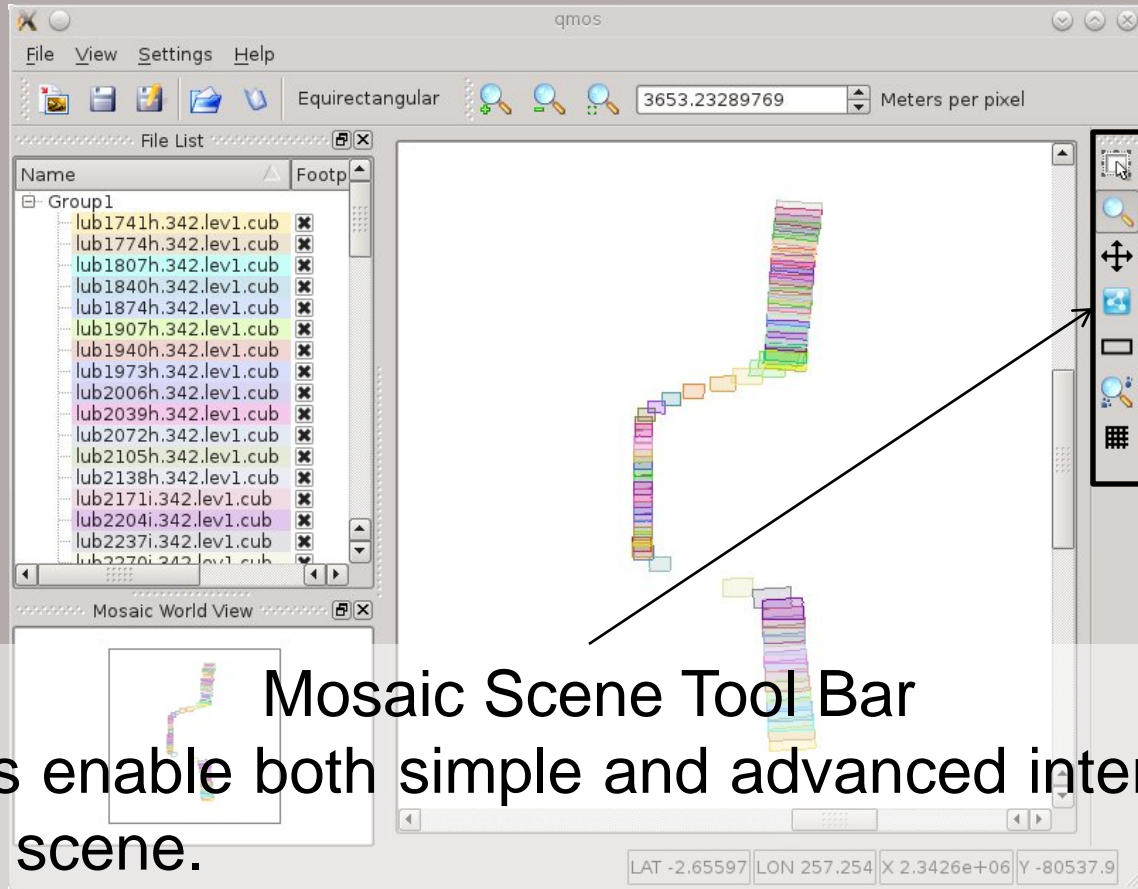
Interface Basics – File Tool Bar



These options allow you to open cubes, open qmos project files and save qmos project files.



Interface Basics - Tools



Mosaic Scene Tool Bar

These tools enable both simple and advanced interactions with the mosaic scene.

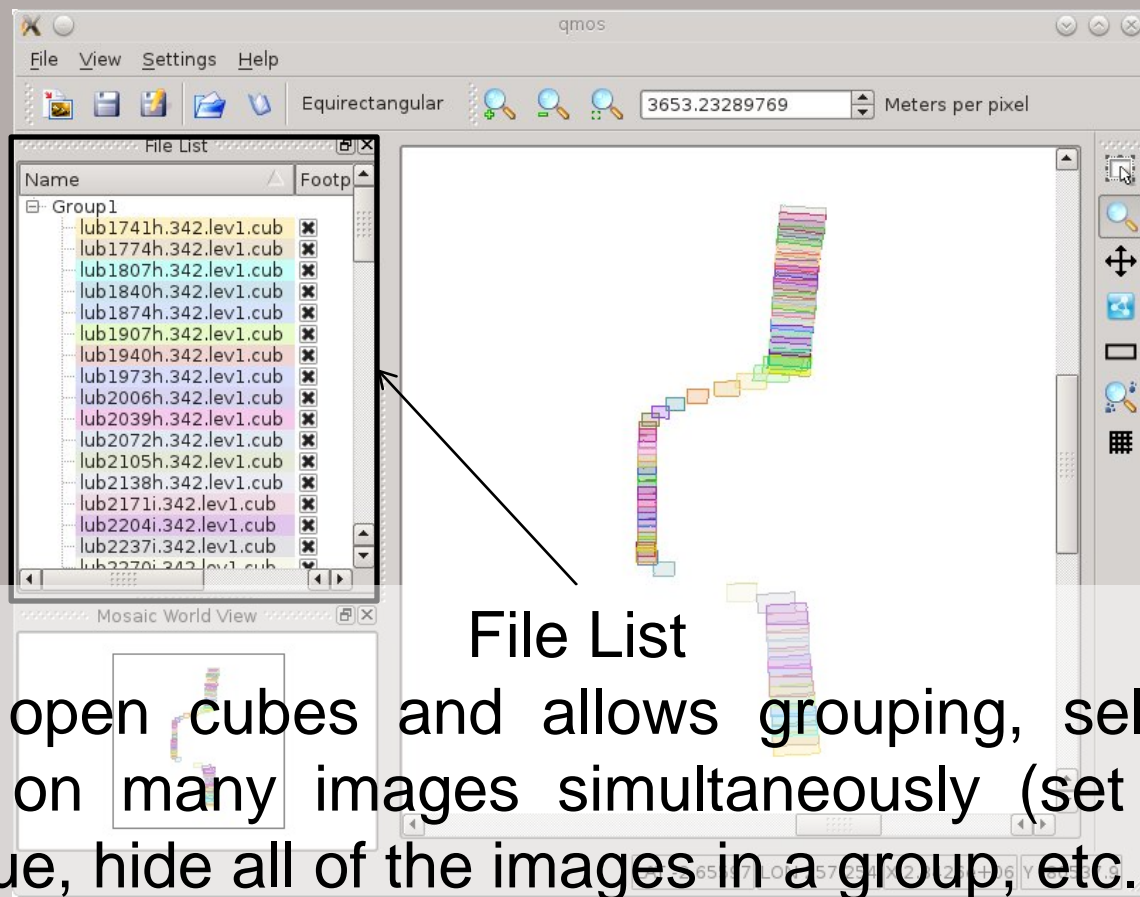


Interface Basics – Mosaic World View

The screenshot displays the qmos software interface. The main window shows a mosaic of satellite images arranged in a grid pattern. The interface includes a menu bar (File, View, Settings, Help), a toolbar with icons for file operations and navigation, and a File List panel on the left. The File List panel shows a group of files with names like 'lub1741h.342.lev1.cub'. The main window also displays a 'Meters per pixel' value of 3653.23289769. A smaller window titled 'Mosaic World View' is shown in the bottom left, displaying a smaller version of the mosaic. An arrow points from the text 'Shows the area of the target that the main window is displaying.' to the 'Mosaic World View' window.

Mosaic World View
Shows the area of the target
that the main window is
displaying.

Interface Basics – File List



The screenshot displays the qmos software interface. The main window shows a Mosaic World View with a grid of colored cubes representing data points. A File List window is open on the left, listing various files under a Group1 folder. The File List window has a header with 'Name' and 'Footp' columns. The list contains 18 files, each with a color-coded icon and a close button. An arrow points from the File List window to the Mosaic World View, indicating that the File List is used to manage the data shown in the main view.

File List

Shows all open cubes and allows grouping, selection, and operations on many images simultaneously (set all of their colors to blue, hide all of the images in a group, etc.). Sortable.



Interface Basics – Projection

The screenshot shows the qmos software interface. The main window has a menu bar with 'File', 'View', 'Settings', and 'Help'. Below the menu bar is a toolbar with icons for file operations and a 'Select Map File' button. A dropdown menu is open, showing 'Orthographic' as the current projection. Below the menu is a 'File List' panel with a table of map files. The main view area shows a 'Mosaic World View' of a map with a grid overlay. A text box labeled 'Projection' points to the 'Orthographic' option in the dropdown menu.

Name	Footpr
lub1147f.342.lev1.cub	X
lub1180f.342.lev1.cub	X
lub1213f.342.lev1.cub	X
lub1246f.342.lev1.cub	X
lub1280f.342.lev1.cub	X
lub1313g.342.lev1.cub	X
lub1346g.342.lev1.cub	X
lub1378g.342.lev1.cub	X
lub1411g.342.lev1.cub	X
lub1444g.342.lev1.cub	X
lub1477g.342.lev1.cub	X
lub1510g.342.lev1.cub	X
lub1543g.342.lev1.cub	X
lub1576g.342.lev1.cub	X
lub1609g.342.lev1.cub	X
lub1642g.342.lev1.cub	X
lub1675g.342.lev1.cub	X

Projection

This displays the name of the current projection on the Mosaic Scene. Click on it to change to another projection.



Interface Basics – Settings

The screenshot shows the qmos software interface. The 'Settings' menu is open, displaying the following options:

- Default Footprints Filled
- Safe File Open
- Set Default Transparency
- Set Thread Limit

The main window displays a list of files under 'Group1' and a 'Mosaic World View' pane. A callout box labeled 'Settings' points to the Settings menu.

Defaults and performance options are available here.

Interface Basics – qmos Help

The image displays the qmos software interface. The main window has a menu bar with 'File', 'View', 'Settings', and 'Help'. The 'Help' menu is open, showing 'What's This' (Shift+F1) and 'qmos Help'. A 'File List' panel on the left shows a list of image files under 'Group1'. The main workspace shows a 'Mosaic World View' with a grid of image footprints. A separate help window titled 'qmos <2>' is open on the right, containing the following text:

qmos
A tool for visualizing image footprints for a mosaic.

Overview | Preparing Input Cubes | File List | Mosaic Scene | Mosaic Wor

Purpose
qmos is designed specifically for visualizing large amounts of images, how images overlap, where control points lie on the images, and how jigsaw has moved control points.

Known Issues
The known shortcomings of qmos include:

- All input files are read-only, you cannot edit your input data
- Large control networks are slow and memory intensive
- Show cube DN data is extremely slow
- Warnings are not displayed graphically
- Zooming in too far causes you to pan off of your data

Close

Help

There are more qmos help pages than shown here. Where possible, the help pages have live screen shots to give context.

Interface Basics – What's This?

The screenshot shows the qmos software window. The menu bar includes File, View, Settings, and Help. The Help menu is open, showing the option "What's This" with the keyboard shortcut Shift+F1. A mouse cursor is hovering over this option. Below the menu, a file list is visible with columns for Name and Footp. The main window area displays a control network visualization. A tooltip box is overlaid on the visualization, containing the following text:

Function: Display and analyze a control network

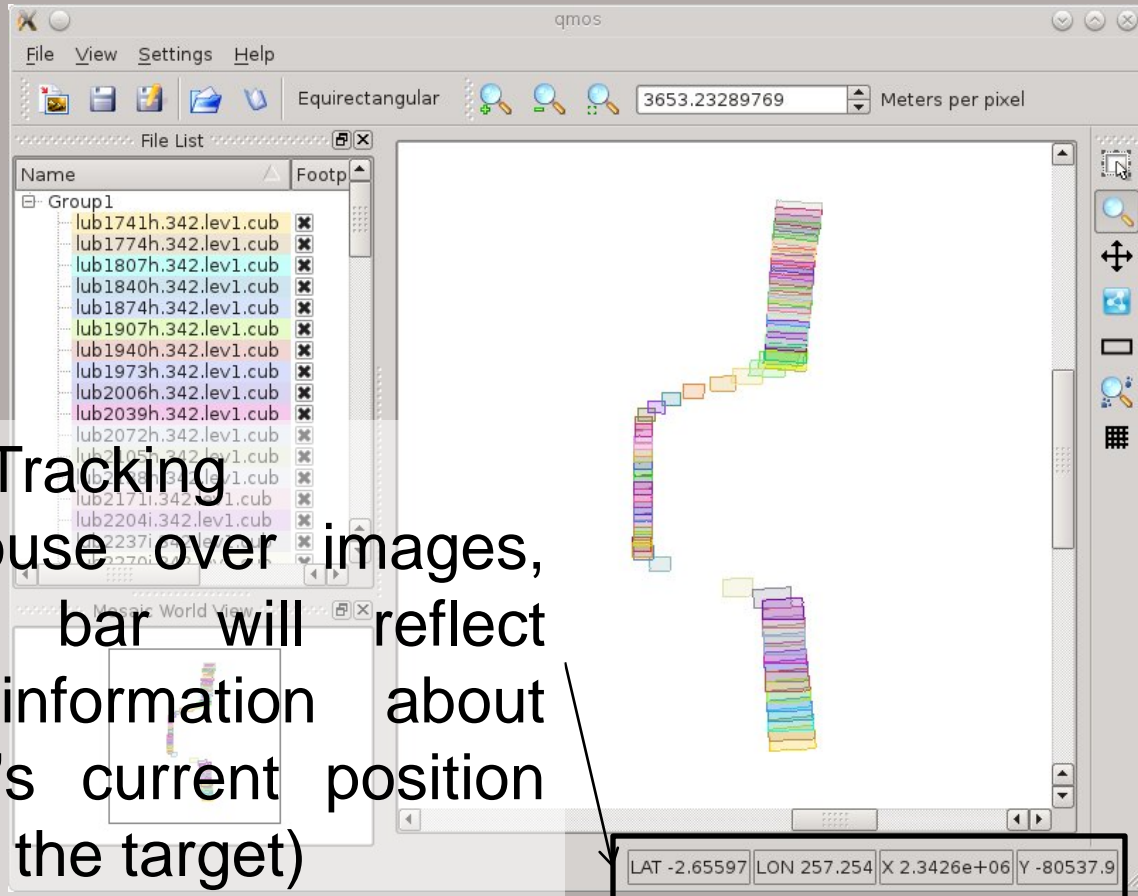
This tool shows you all of the control points in your network for which a latitude/longitude can be calculated. The control points are shown as color-coded '+' marks. The control points have a right-click menu and information about them can be seen just by hovering over them.

What's This?

The Help menu has an option "What's This?" To see help on any option, button or area press Shift+F1 or go to Help -> What's This?. The next thing you click on will pop up information about it.



Interface Basics - Tracking

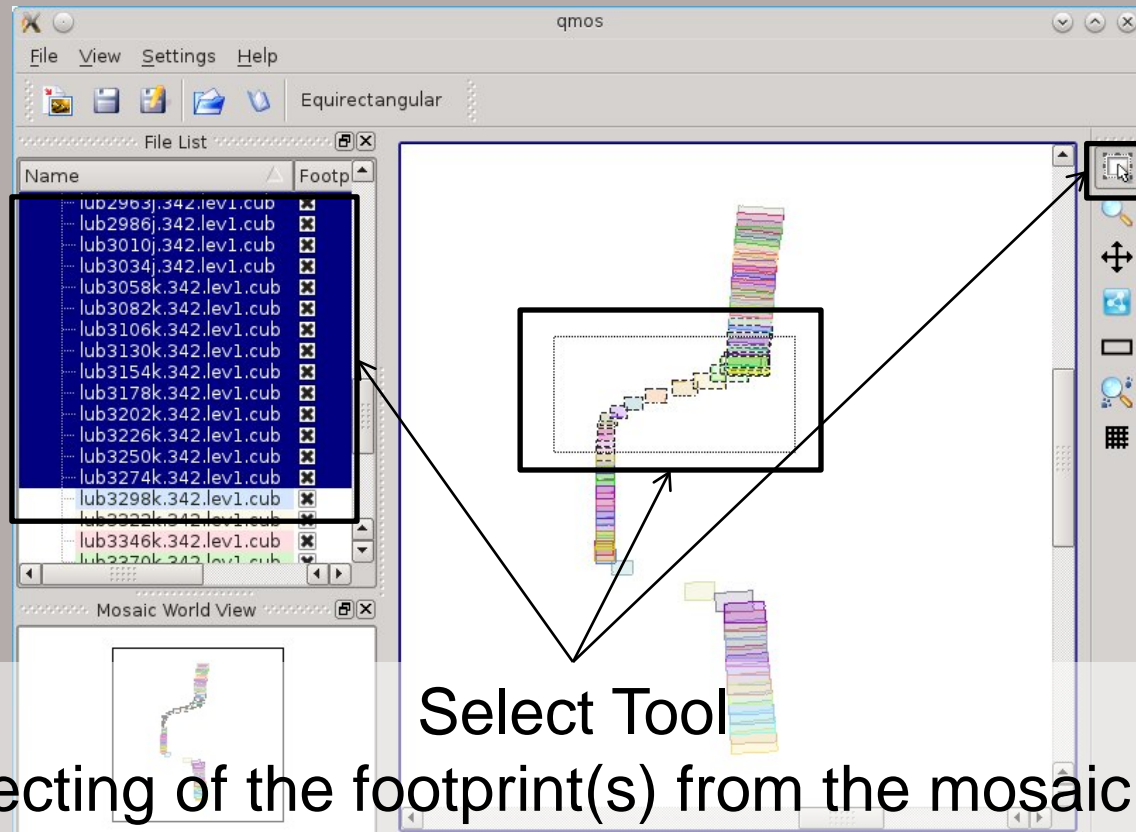


Tracking

As the mouse over images, the status bar will reflect important information about the mouse's current position (location on the target)

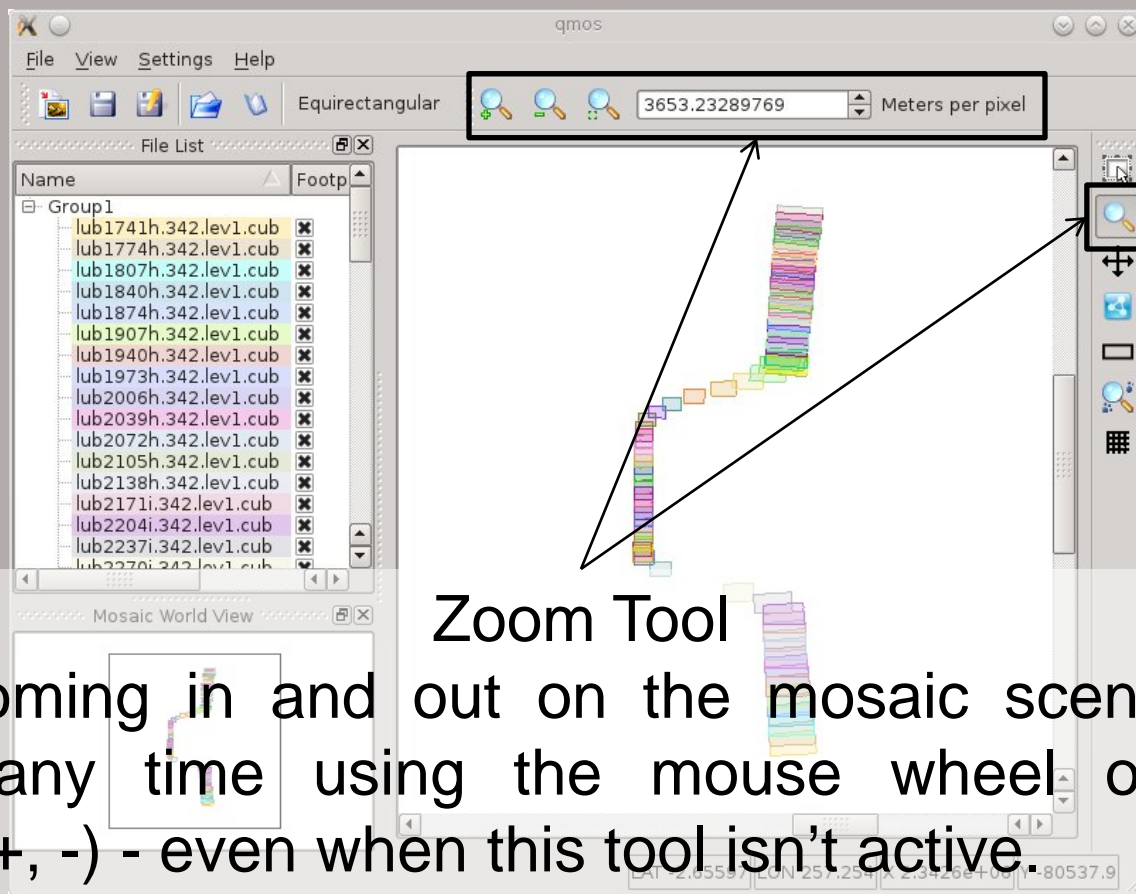


Interface Basics – Select



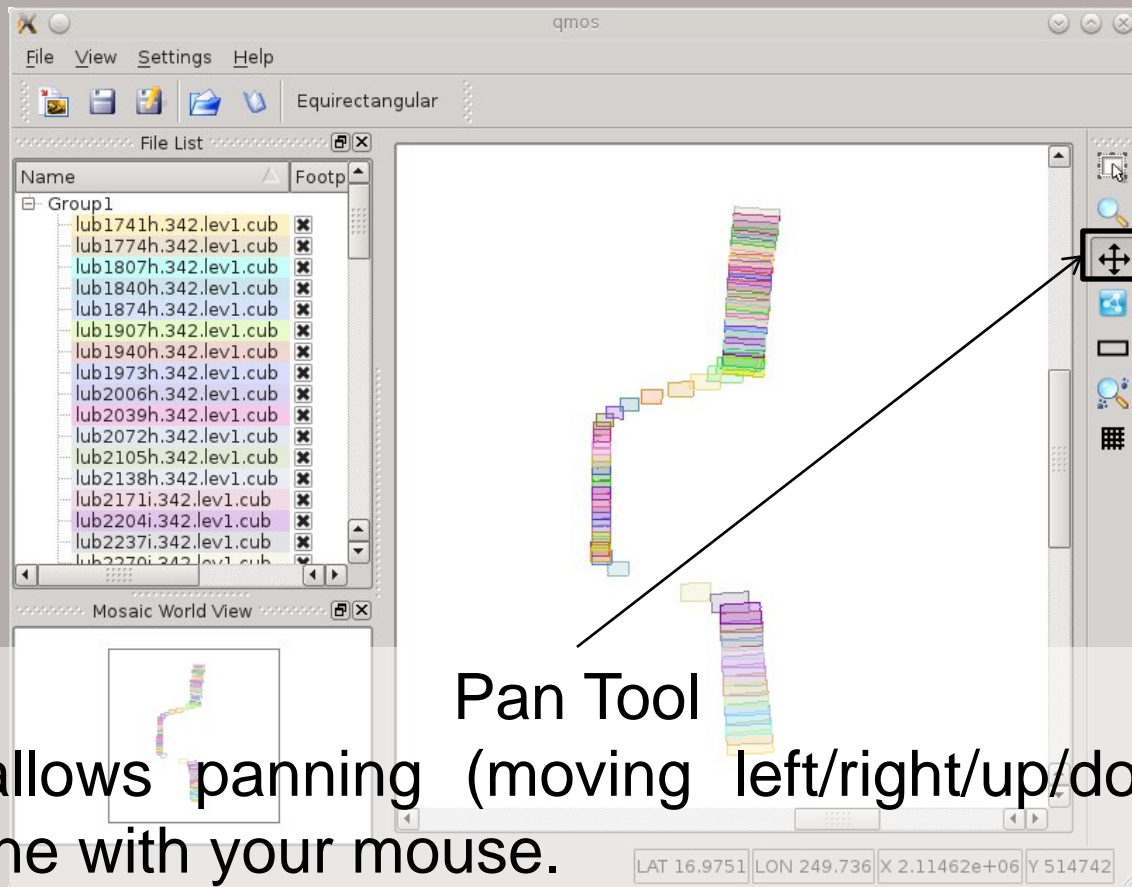
Allows selecting of the footprint(s) from the mosaic scene and shows the selected cubes in the cube list.

Interface Basics – Zoom



Allows zooming in and out on the mosaic scene. You can zoom at any time using the mouse wheel or keyboard shortcuts (+, -) - even when this tool isn't active.

Interface Basics – Pan



The screenshot shows the qmos software interface. The main window displays a mosaic of satellite imagery. On the left, there is a File List pane showing a group of files named 'Group1' with various file names ending in '.cub'. Below the File List is a Mosaic World View pane showing a small thumbnail of the mosaic. On the right side of the main window, there is a toolbar with several icons. The Pan Tool, represented by a four-way arrow icon, is highlighted with a black box and a white arrow pointing to it. The text 'Pan Tool' is written below the toolbar. At the bottom of the window, there are coordinate fields for LAT, LON, X, and Y.

qmos

File View Settings Help

Equirectangular

File List

Name Footp

Group1

- lub1741h.342.lev1.cub
- lub1774h.342.lev1.cub
- lub1807h.342.lev1.cub
- lub1840h.342.lev1.cub
- lub1874h.342.lev1.cub
- lub1907h.342.lev1.cub
- lub1940h.342.lev1.cub
- lub1973h.342.lev1.cub
- lub2006h.342.lev1.cub
- lub2039h.342.lev1.cub
- lub2072h.342.lev1.cub
- lub2105h.342.lev1.cub
- lub2138h.342.lev1.cub
- lub2171i.342.lev1.cub
- lub2204i.342.lev1.cub
- lub2237i.342.lev1.cub
- lub2270i.342.lev1.cub

Mosaic World View

Pan Tool

LAT 16.9751 LON 249.736 X 2.11462e+06 Y 514742

This tool allows panning (moving left/right/up/down) on the mosaic scene with your mouse.

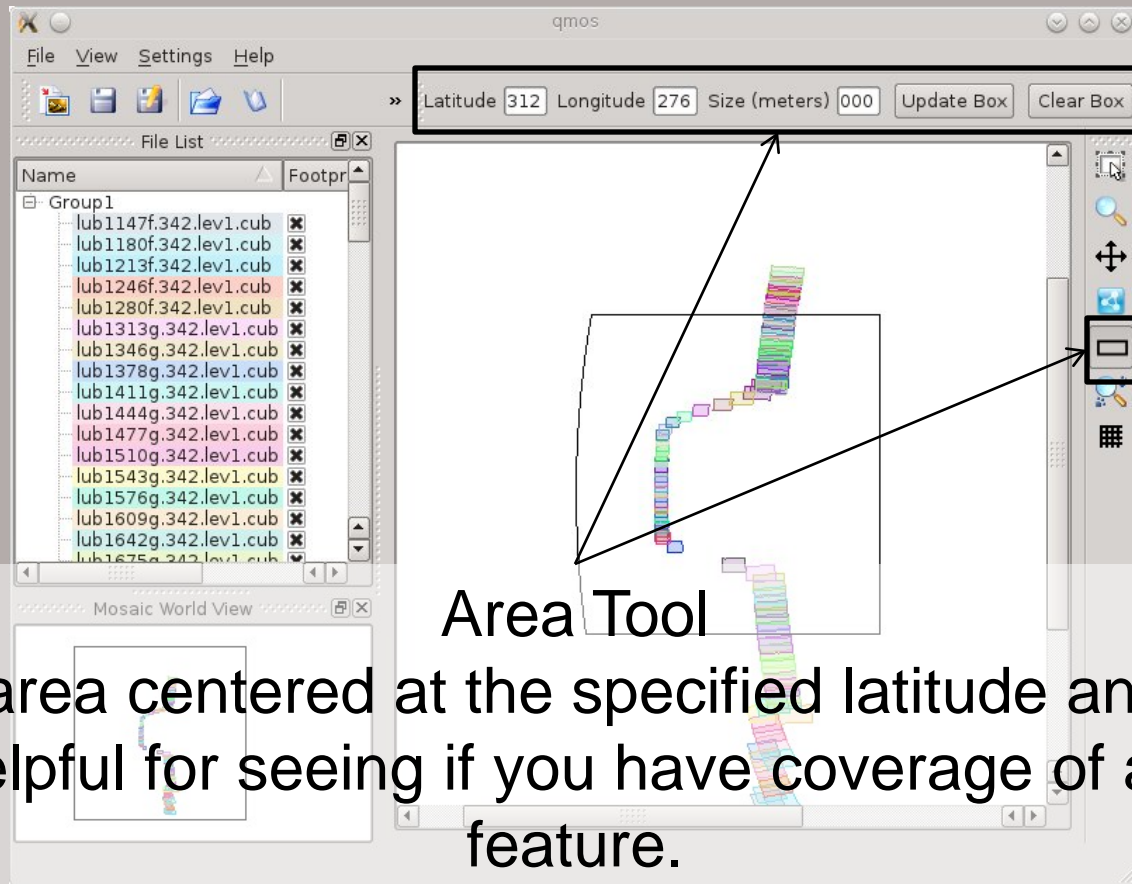
Advanced Tools – Control Net

The screenshot shows the qmos software interface. The main window displays a mosaic scene with a control net overlaid. A 'Control Point Information' dialog box is open, showing details for a specific point. The text overlay explains the tool's function.

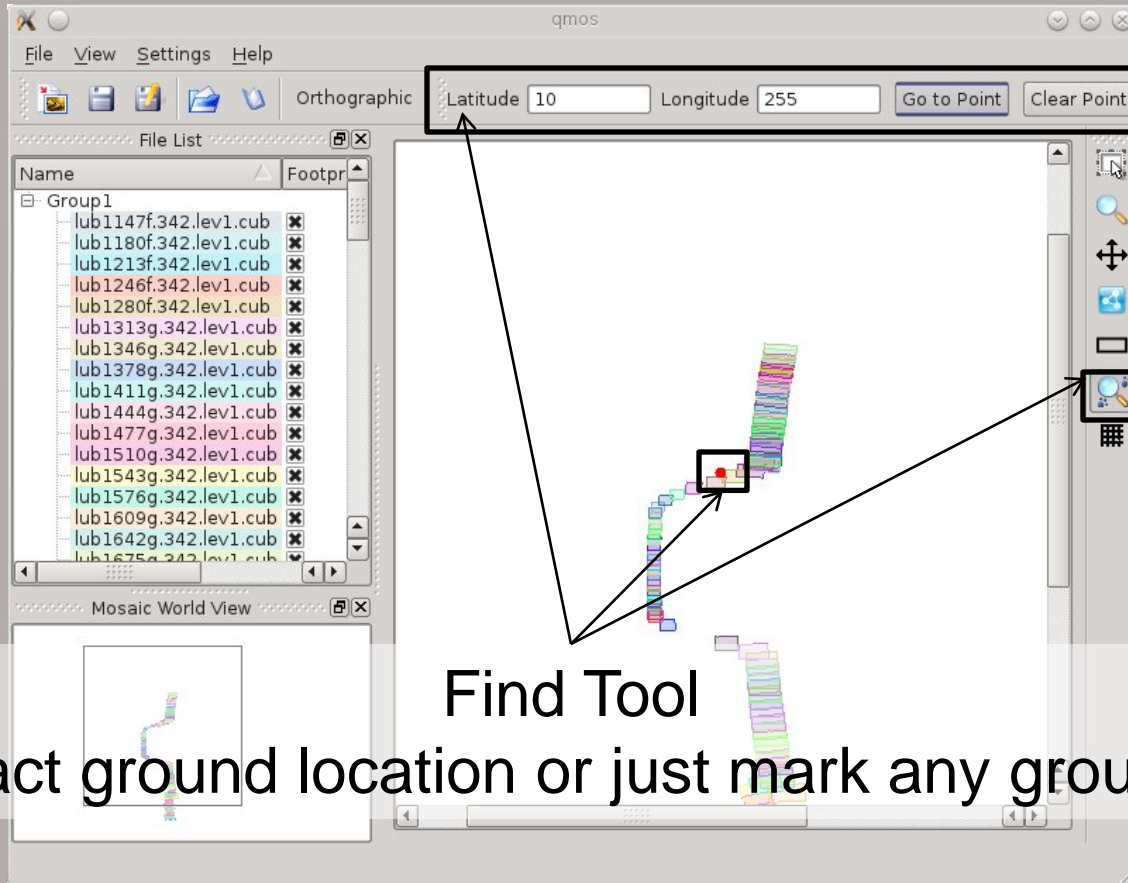
Control Net Tool

Shows a network on the mosaic scene. The Show Movement option shows how jigsaw has adjusted control point locations (ground locations) from a priori to adjusted. Right click on a point (or hover over it) to get its information.

Advanced Tools – Area Tool



Advanced Tools – Find



Find Tool

Find an exact ground location or just mark any ground location.

Advanced Tools – Grid

