Lunar QuickMap Draw&Search Tools

A user can draw point, lines, or polygons type objects. Once an object is drawn the user can perform a search action.
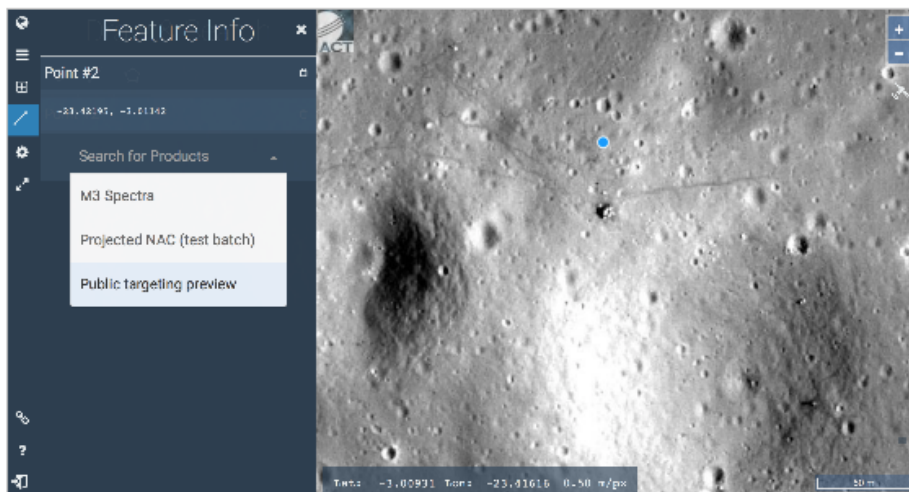
Summary of Actions for different Drawn Objects ⇒ 17 search/action types!		
Point items	**Line segment items**	**Close Polygon items**
1. M3 Spectra (at PDS) 2. Projected NAC 3. LROC Public Targeting	1. DEM Profiling 2. M3 L2 Cal Steps	1. 3D printing (of ROI) 2. ALL LROC products 3. Hiesinger Mare Age Units 4. M3 (list over ROI) 5. M3 observations (generate links to summary info) 6. NAC 7. NAC (unfiltered) 8. NAC DTMs 9. NAC Feature Mosaics 10. NAC Regional Mosaics 11. NAC Stereo 12. WAC

Note: More actions can be added based on community feedback.

Examples of QuickMap Search Tools

Point Based Search Tools

Points allow to search for products, using 3 different actions , as [shown below](#):

Point Query Option	Sample Output Screen
M3 Spectra *List of M3 images with regional previews radiance and apparent reflectance plots of chosen location.* *User can download a hyperspectral subcube* (stand alone [external resource](#))	
Projected NAC (test batch) *Zoom-out to Zoom-in context views of available NAC images at the chosen location* *100m==> 25m==> 5m==> 1m* (stand alone [external resource](#))	
Public targeting preview *LROC target submission interface for the general public* (stand alone [external resource](#))	

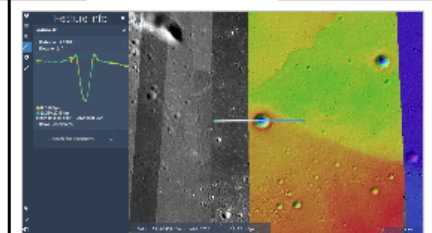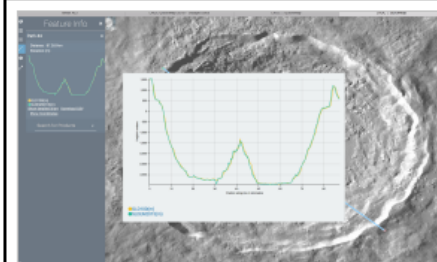# *Examples of QuickMap Search Tools*

Line Based Search Tools

Line based search tools allow to inspect line profiles using 2 different actions, i.e. DEMs and also access M3 calibration plots

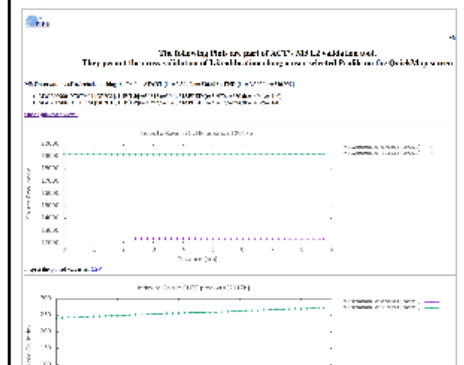| **DEM Profiling**	example: This link shows profiles of the different DEMs now in QuickMap. To see it, go to the draw/seach tool, and select Feature#1. Also note that in the layers tree, the SLDEM2015 is displayed using the same palette as GLD100. Zoomed-in on NAC DTM

If there is high resolution NAC based DTM it will be used!

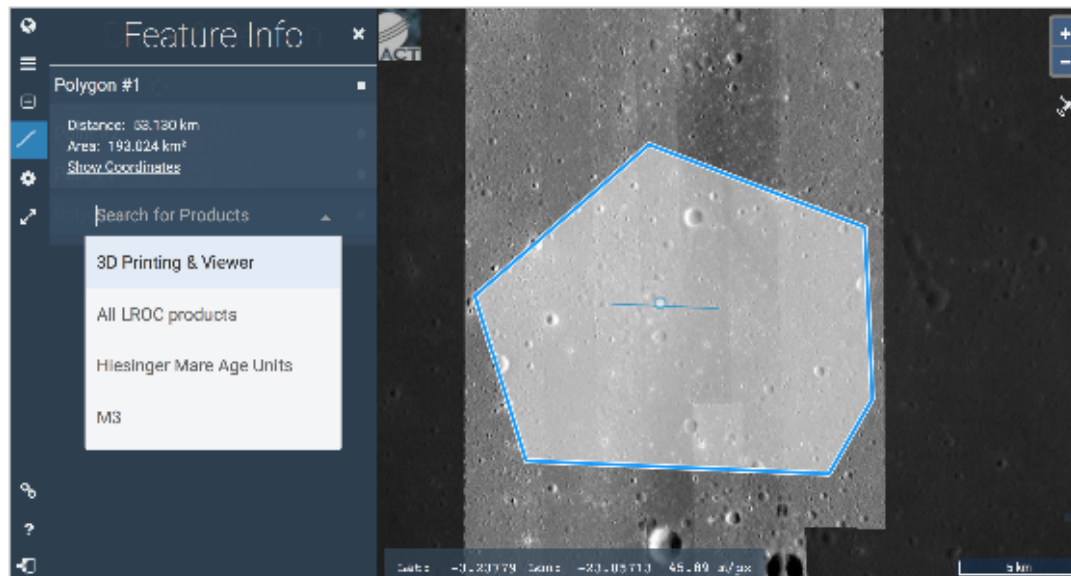| **M3 L2 Calibration Steps** *This tool provides detail information on all parameters used in the calibration of hyperspectral data for M3.*	

Examples of QuickMap Search Tools

Closed Polygon Based Search Tools

Closed Polygons allow to do search/act over an area of interest (AOI). Presently it allows for *12 different actions*!
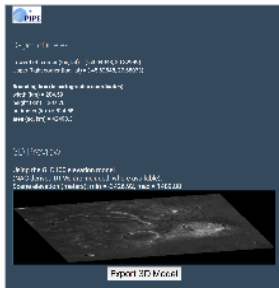

The different actions are :

3D printing (of ROI)
ALL LROC products
Hiesinger Mare Age Units
M3 (list over ROI)
M3 observations (generate links to summary info)
NAC
NAC (unfiltered)
NAC DTMs
NAC Feature Mosaics
NAC Regional Mosaics
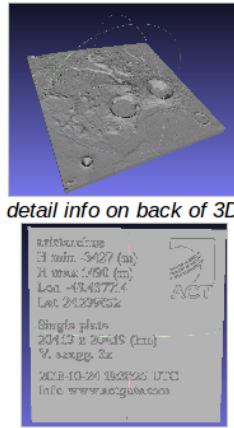**NAC Stereo**
WAC

Examples of QuickMap Search Tools

3D printing (of ROI)

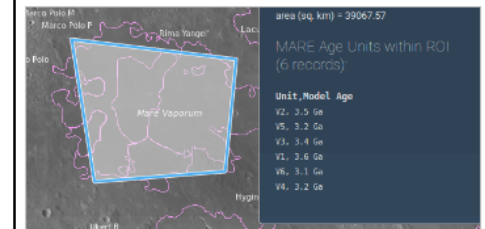Create a custom 3D model export (for 3D printing) and interactive visualization

Note: detail info on back of 3D model

ALL LROC products

List of NAC/WAC/Featured Images within ROI

The listing is **limited to 50 records,** contains key metadata and link to detailed page from ASU

LROC NAC images within ROI
(9 records):

image_id,orbit_no,start_time,i_angle,e_angle
M104570590LC, 569, 2009-08-10 19:08:43, 62.133, 1.707
M104570590RC, 569, 2009-08-10 19:08:43, 62.215, 1.140
M124632820LC, 3500, 2010-03-30 23:59:14, 44.234, 1.692
M176621020LC, 10278, 2011-09-14 06:29:13, 42.013, 1.691
M176621020RC, 10278, 2011-09-14 06:29:13, 42.032, 1.153
M181222452RC, 11820, 2012-01-14 23:19:45, 72.721, 1.148
M131908155LC, 18930, 2013-08-23 14:41:27, 43.797, 1.703
M182515316LC, 26046, 2015-04-01 08:14:08, 57.710, 1.707
M125437197LC, 36253, 2017-07-10 09:54:09, 42.374, 1.702

LROC WAC images within ROI
(limited to 50 records):

image_id,orbit_no,start_time,i_angle,e_angle
M114010498CC, 1935, 2009-11-28 01:20:30, 63.855, 1.141
M119902605MC, 2803, 2010-02-04 06:03:47, 65.125, 1.140
M119094990MC, 2804, 2010-02-04 07:57:02, 64.907, 1.142
M119916260MC, 2805, 2010-02-04 09:49:52, 65.312, 1.138
M119920852MC, 2807, 2010-02-04 13:36:24, 64.952, 5.333
M119936672MC, 2808, 2010-02-04 15:29:14, 65.719, 20.357
M122264196CC, 3151, 2010-03-03 14:02:08, 49.515, 1.140
M122270993CC, 3152, 2010-03-03 15:55:25, 49.088, 1.145
M122277762CC, 3153, 2010-03-03 17:48:14, 49.865, 1.146
M126081189CC, 3846, 2010-04-27 04:18:41, 50.245, 1.141
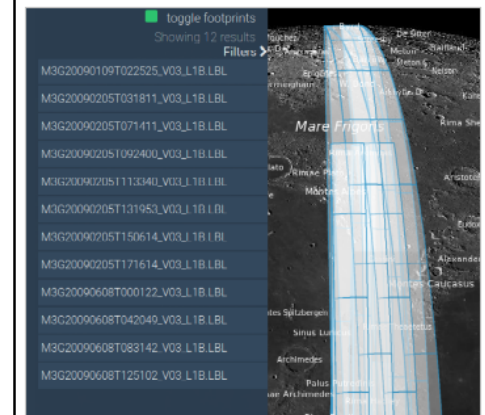
Hiesinger Mare Age Units

Mare Age (from crater counting)

M3 ⇒ *Moon Mineralogy Mapper Observations*

Interactive footprints and metadata for M3 observations within ROI

Note: each footprints is made out of multiple polygons .

M3 observations

Generates a list M3 observations within the AOI selected. The resulting list contains:
- *image ID*
- *OP*
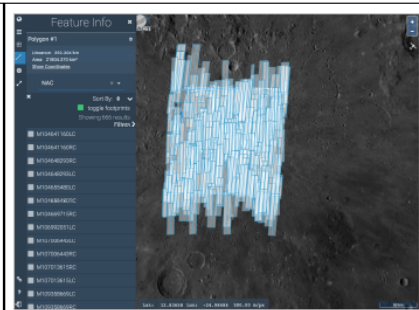- *links to metadata*

Examples of QuickMap Search Tools

NAC

Interactive list of NAC images in ROI.
Note: EXCLUDES dark or bad quality images.

Special Features:
- for many images if there is data available it is possible to display the content of the NAC on-the-fly, not just the footprint, just by clicking on the image ID
- Another feature is that it is possible to change the stretching on-the-fly using the intensity slidebar
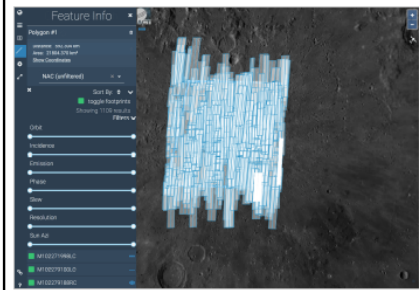- **Allows interactive filtering**

NAC (unfiltered)

Interactive list of NAC images unfiltered
Note: INCLUDES dark or bad quality images.

Same as above but shows ALL available footprints, **without any prefiltering for dark or bad quality images**
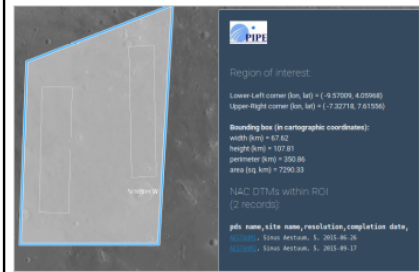
TBD: merge unfiltered and filtered into same source shapefile with a new attribute

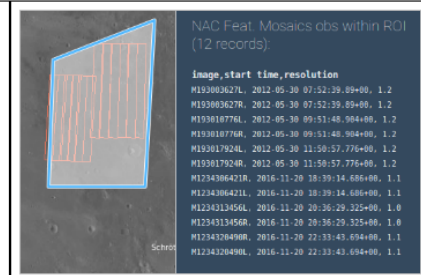## NAC DTMs

List of NAC DTMs within ROI

The listing is limited to 50 records, contains key metadata and link to detailed page from ASU

NAC Featured Mosaics

List of NAC images selected as part of a featured mosaic

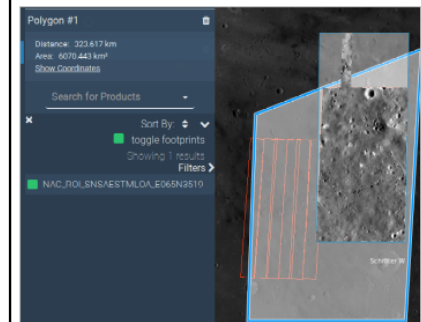The listing is limited to 50 records, contains key metadata

NAC Regional Mosaics

Interactive list of NAC Regional Mosaics within ROI.

NOTE: for many items if there is data available it is possible to display the content of the **Mosaic on-the-fly**, not just the footprint, just by clicking on the mosaic ID
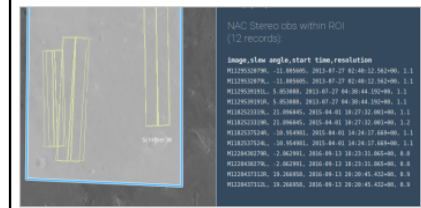
Another feature is that it is possible to change the **stretching on-the-fly** using the intensity slidebar

NAC Stereo

List of NAC images selected as part of a stereo pair

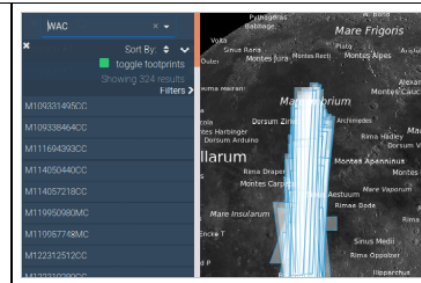The listing is limited to 50 records, contains key metadata

WAC

Interactive list of WAC images within ROI.

Special Features:
- User can sort using different criteria.

Examples of QuickMap Search Tools

NOTE: NAC Search allows to filter by sub Solar Lon & Lat.