

ACT-REACT QuickMap



<http://mare.actgate.com/qmap2/qmap.html>

Projection:

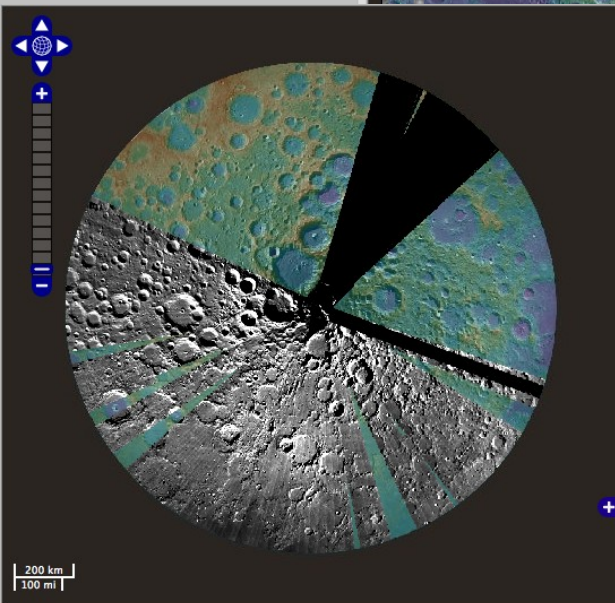
Map Path Search For: Probes

Layers

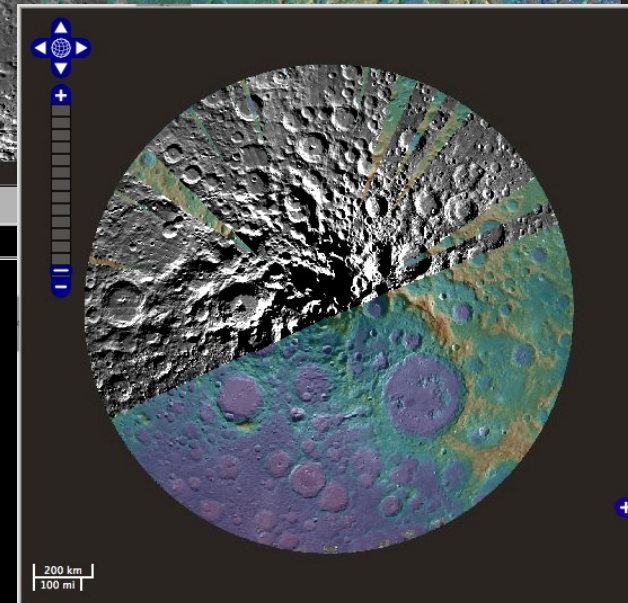
- Location Overlays
- Instrument Footprints
- M3 Global Mosaics
- M3 (Sph. Model) Global Mosaics
 - M3 1489nm Refl. (sph.model) - OP2C3
 - M3 1489nm Refl. (sph.model) - OP2C2
 - M3 1489nm Refl. (sph.model) - OP2C1
 - M3 1489nm Refl. (sph.model) - OP2B
 - M3 1489nm Refl. (sph.model) - OP2A
 - M3 1489nm Refl. (sph.model) - OP1B
 - M3 1489nm Refl. (sph.model) - OP1A
- Basemaps
 - LROC WAC Color Shaded Relief
 - LROC WAC + NAC Mosaic

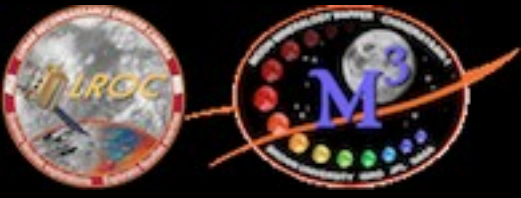
Lon: Recenter Resolution: 8 km/pixel - Lat, Lon: 74.07662, -119.05687

[[report issues/suggestions](#)] [[overview](#)]



Simple Access to
LROC and M³
data



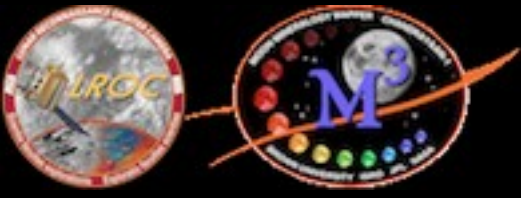


ACT-REACT QuickMap



Highlights:

- **M³ Mosaics for each OP sub-group:**
(OP1A, OP1B, OP2A, OP2B, OP2C1, OP2C2, OP2C3)
- **Display/validate/compare M³ spectra at any location**
- **Elevation profiles and 3D topography** (based on LROC WAC DTM, GLD100)



ACT-REACT QuickMap



Access mosaics by selecting the desired OP (Optical Period) sub-group

L2 reflectance using actual topography (based on LOLA)

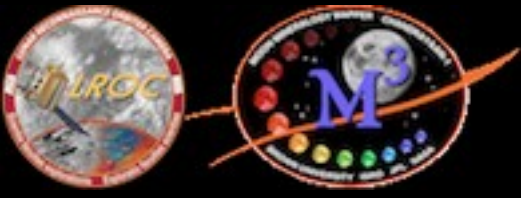
L2 reflectance using a sphere model (the local topography is not accounted)

ACT-REACT QuickMap

Projection: Equidistant Cylindrical map

Layers	
▶	Location Overlays
▶	Instrument Footprints
▼	M3 Global Mosaics
<input type="checkbox"/>	M3 1489nm Refl. - OP2C3 ▶
<input type="checkbox"/>	M3 1489nm Refl. - OP2C2 ▶
<input type="checkbox"/>	M3 1489nm Refl. - OP2C1 ▶
<input type="checkbox"/>	M3 1489nm Refl. - OP2B ▶
<input type="checkbox"/>	M3 1489nm Refl. - OP2A ▶
<input checked="" type="checkbox"/>	M3 1489nm Refl. - OP1B ▶
<input type="checkbox"/>	M3 1489nm Refl. - OP1A ▶
▼	M3 (Sph. Model) Global Mosaics
<input type="checkbox"/>	M3 1489nm Refl. (sph.model) - OP2C3 ▶
<input type="checkbox"/>	M3 1489nm Refl. (sph.model) - OP2C2 ▶
<input type="checkbox"/>	M3 1489nm Refl. (sph.model) - OP2C1 ▶
<input type="checkbox"/>	M3 1489nm Refl. (sph.model) - OP2B ▶
<input type="checkbox"/>	M3 1489nm Refl. (sph.model) - OP2A ▶
<input checked="" type="checkbox"/>	M3 1489nm Refl. (sph.model) - OP1B ▶
<input type="checkbox"/>	M3 1489nm Refl. (sph.model) - OP1A ▶
▼	Basemaps
<input checked="" type="checkbox"/>	LROC WAC Color Shaded Relief ▶
<input checked="" type="checkbox"/>	LROC WAC + NAC Mosaic ▶

500 km
200 mi



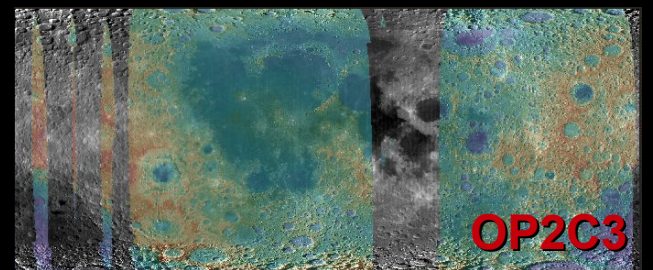
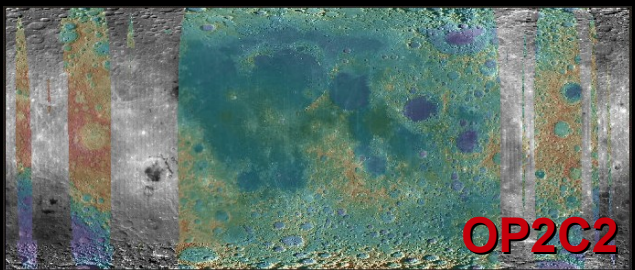
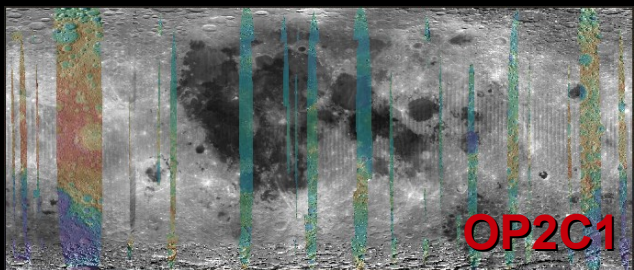
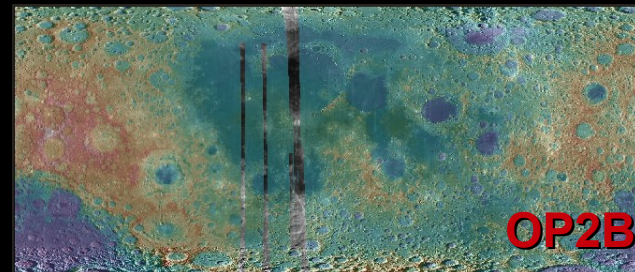
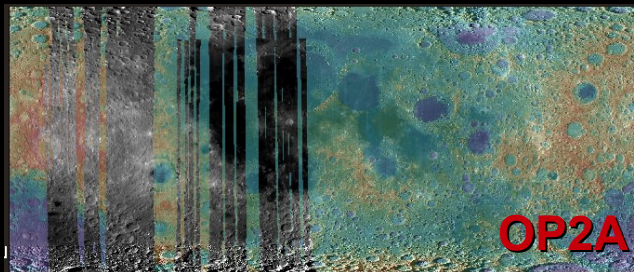
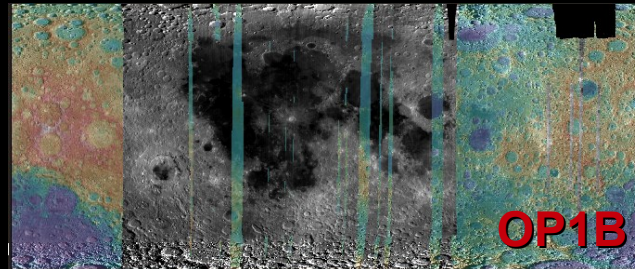
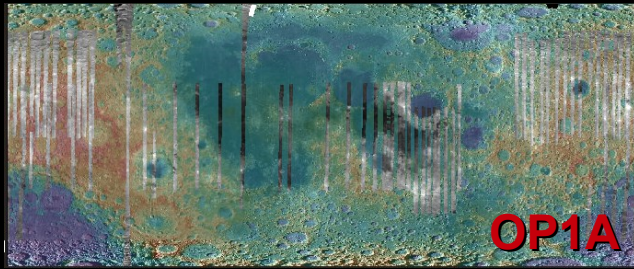
ACT-REACT QuickMap

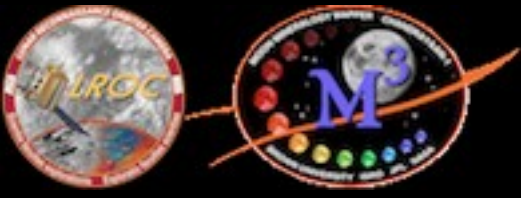


M3 Global Mosaics at 125 meters/pixel generated by ACT

The global mosaics of M3 observations (apparent reflectance at 1489 nm) easily show how the degraded pointing accuracy (due to multiple S/C failures) affects:

- Spatial registration relative to trusted base maps (LROC WAC mosaic)
- L2 processing: artefacts due to a poor estimation of the local topography



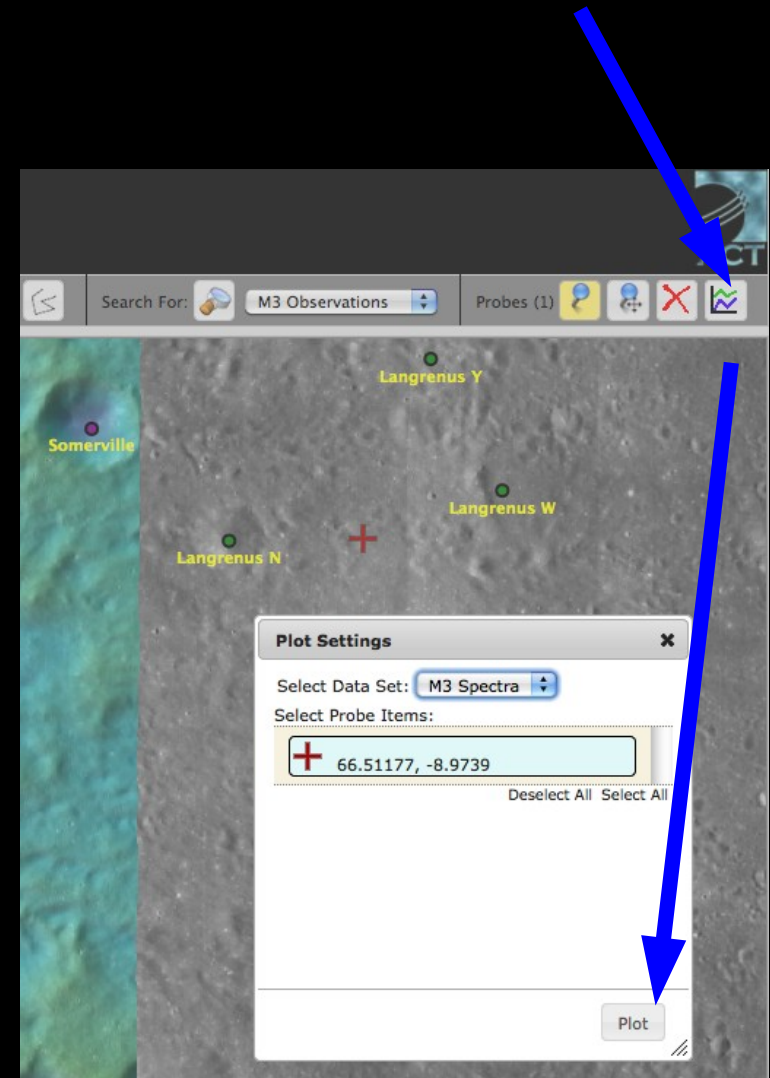
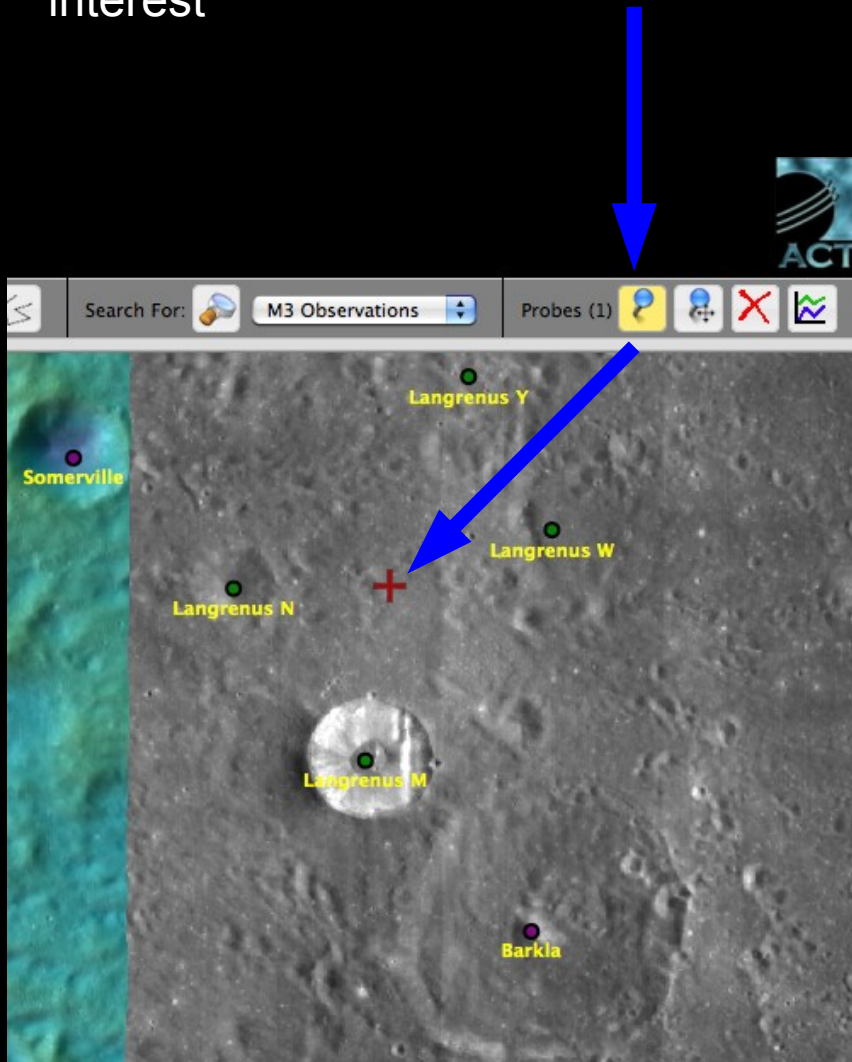


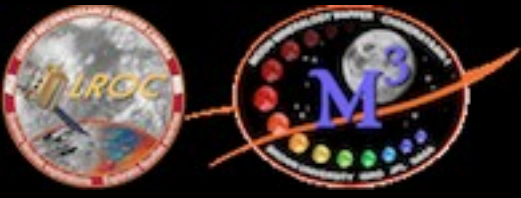
ACT-REACT QuickMap



1) Place a probe by selecting the probe icon and clicking on a point of interest

2) Click on the plot icon, and then on the 'Plot' button





ACT-REACT QuickMap



Results: all the Observations covering the point of interest are listed and can be explored separately or all in one page

Search For: M3 Observations Probes (1)

Langrenus Y
Langrenus W
Langrenus N
Somerville

Query Results

Observations under probes (time ordered)

+ p1 at (66.51177, -8.97390):

- M3G20090104T062425_V03_L1B.LBL
- M3G20090131T130631_V03_L1B.LBL
- M3G20090131T151551_V03_L1B.LBL
- M3G20090603T134223_V03_L1B.LBL
- all of the above

PIPE
V03 Observation tracking (lon, lat) = (66.51177, -8.97390)

PIPE Spec. ID	Time	U, E, R, P of L2 cube based on enhanced spec.	Distance to surface (average m)	L2 Observational map product & associated L2/PDS probe	L2 L1B cube product on 1.0deg tile	Distance from to 1.0deg tile	UTP	L2 L1B cube product on 1.0deg tile	Link to L2 cube product on 1.0deg tile
	18:002	8.075, 38.603	11212.800	M3G20090104T062425_V03_L2_M3PMS01 using M3P	189_0882 189_0882	183.93	0.014	0.076, 1.08	01_02011_18_01000
	07:401	34.088, 21.432	11203.800	M3G20090131T130631_V03_L2_M3PMS01 using M3P	189_2182 189_2182	158.40	0.014	1.008, 38	01_03011_18_01000
	08:401	7.433, 34.287	11218.800	M3G20090131T151551_V03_L2_M3PMS01 using M3P	112_0381 112_0381	158.40	0.014	1.000, 298	01_03011_18_01000
	10:001	8.075, 38.603	11212.800	M3G20090603T134223_V03_L2_M3PMS01 using M3P	219_2082 219_2082	183.93	0.014	1.000, 89	01_08011_18_01000

LRO/NAC Color wide angle atmospheric reference image

LRO/NAC Color wide angle atmospheric reference image

The following plots contain spectra from only the center pixel in the above thumbnail region.

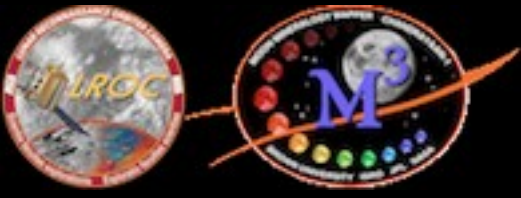
L1B/PDS v2) Radiance cube

Inspect the plotted values as: [CSV](#)

L2 Reflectance from L2/PDS v1) cube

Use of Level 2 calibration steps applied.
Inspect the plotted values as: [CSV](#)

Click [here](#) to have PIPE compare plots of the intermediate L2 calibration steps.



ACT-REACT QuickMap



For each M³ observation, the result page shows:

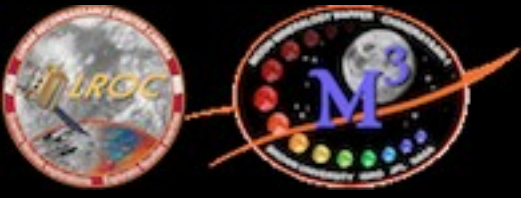
A 15km by 15km context preview for the selected region of interest

Links to additional visualization, validation and download options:

- Inspect and interact with the selected sub-region
- Validate the M3 ↔ LROC spatial registration
- Links to download data from PDS

Basic geometric (I, E, P) and other relevant parameters (e.g. detector temperature)

		<p>(19.982, 4.573, 18.663)</p>	<p>111062.859</p>	<p>M3G20090104T062425_V01_L2_MAP.IMG.vrt using as input M3G20090104T062425_V03_L1B.LBL [Preview/Download mapped sub-cube] [Check registration against LROC/WAC] [Download L2 cube from PDS]</p>	<p>(169, 4963) (169, 4963)</p>	<p>163.95</p>	<p>OP1A</p>	<p>(4775, 139)</p>	<p>(66.51297, -8.97942)</p>
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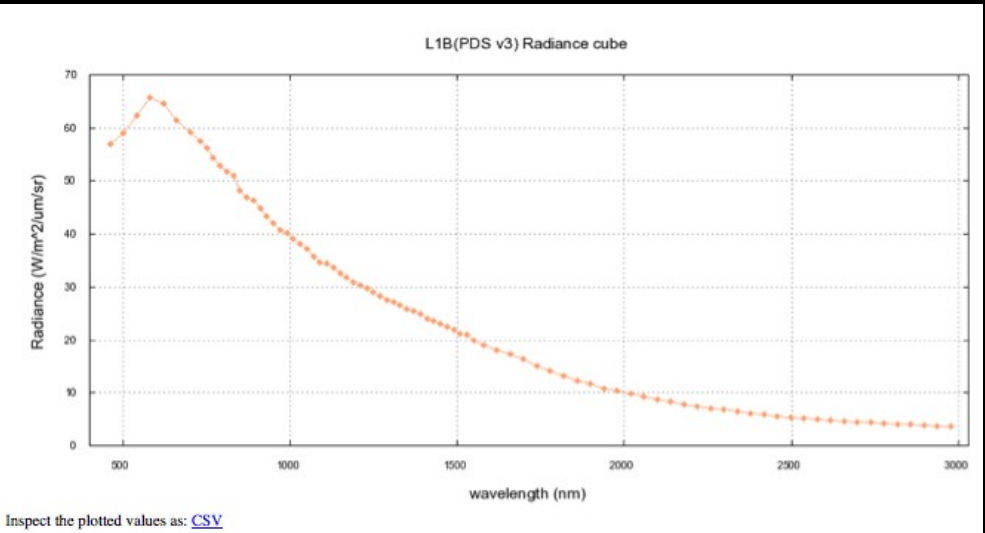


ACT-REACT QuickMap



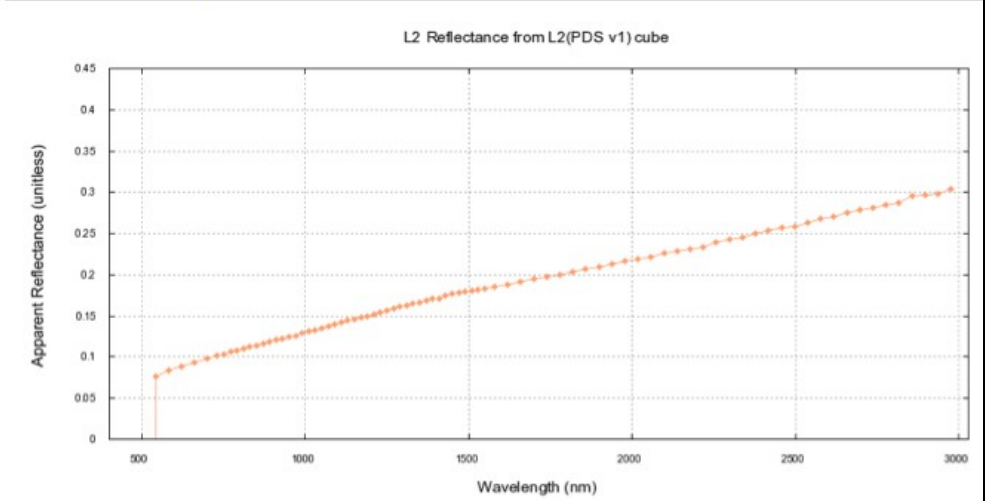
For each M³ observation, the result page shows:

L1B Radiance plot
(at probe location)



Inspect the plotted values as: [CSV](#)

L2 Reflectance plot
(at probe location)

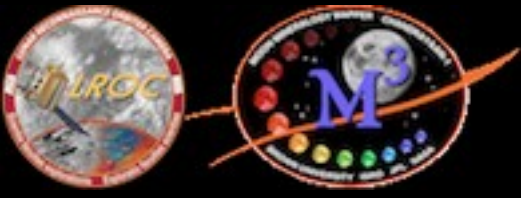


[List](#) of Level 2 calibration steps applied.
Inspect the plotted values as: [CSV](#)

Click [here](#) to have PIPE compute plots of the intermediate L2 calibration steps.

Option to generate additional plots to validate the L2 calibration steps





ACT-REACT QuickMap



Interactive access to M³ sub-cubes:

PIPE

Mapped observation: M3G20090131T130631_V01_L2_MAP.IMG.vrt
 Center point: (lon, lat) = (66.52826, -9.54276)
 Projection: **Orthographic**
 Resolution: **125 mpp**
 ROI extent: **40km x 40km**

Probes (2) Add Drag Spectra L2(U2) Apparent Reflectance

Showing L2 reflectance at: **1189.6 nm**

L2(U2) spectra all-steps (5x5)

Wavelength (nm)	Apparent Reflectance (p1)	Apparent Reflectance (p2)
1000	0.12	0.07
1500	0.22	0.15
2000	0.28	0.20
2500	0.30	0.25
3000	0.28	0.28

M3 spectral bands - 1189.6 nm
 (hold the pointer over the legend to select a different band)

Extract and download the above **40km x 40km region**

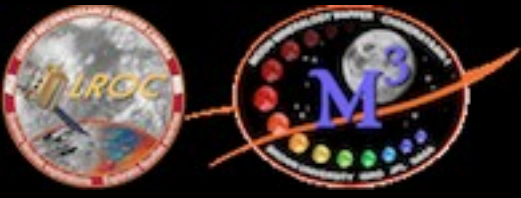
[Click here to extract and download the sub-cube \(zipped .img\)](#)
 (include additional backplanes)

NOTE: once clicked, the operation will take approx. **45 seconds** before the download starts

Interactive spectra plots

Choose spectral bands

Sub-cube download



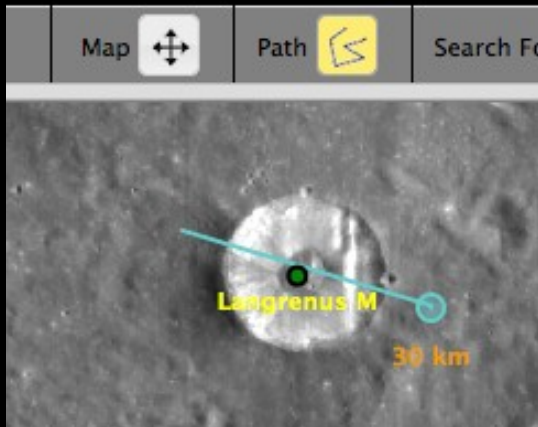
ACT-REACT QuickMap



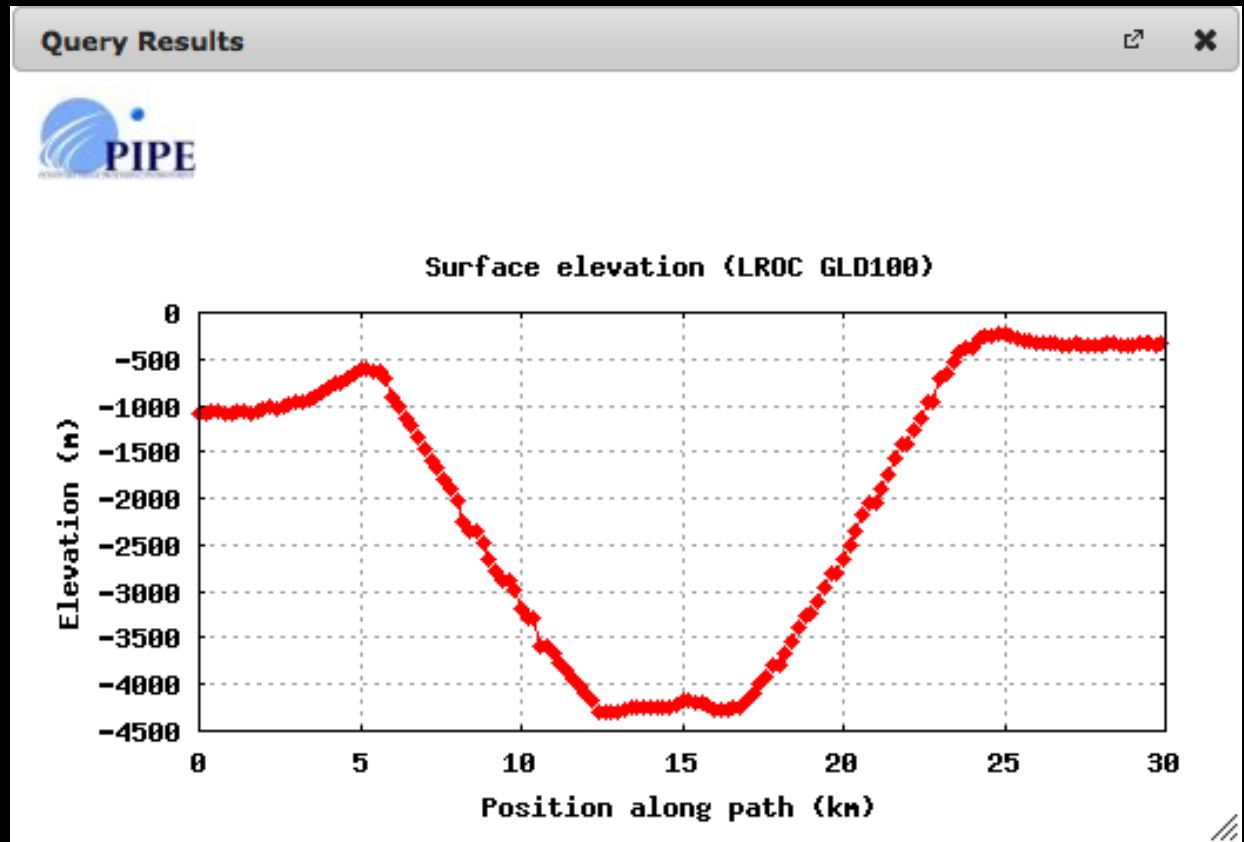
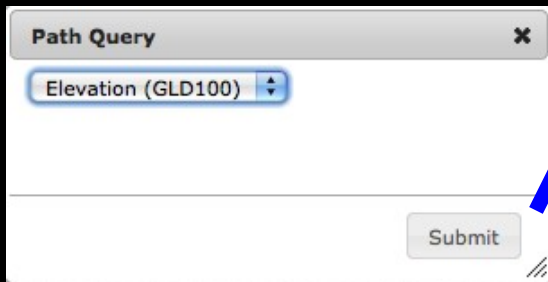
Interactive access to LROC WAC global DTM (GLD100)

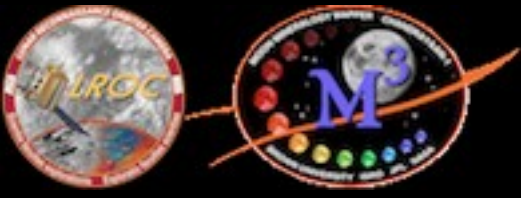
Elevation profiles along paths:

- 1) Click on the Path icon and draw a path



- 2) Click Submit





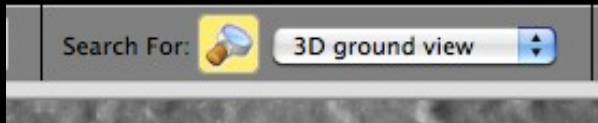
ACT-REACT QuickMap



Interactive access to LROC WAC global DTM
(GLD100)

3D grounds views:

- 1) Click on the lens icon and select '3D ground view'



- 2) draw a rectangle around a region of interest

