

Lunar Geology of the Apollo Seventeen Landing Site

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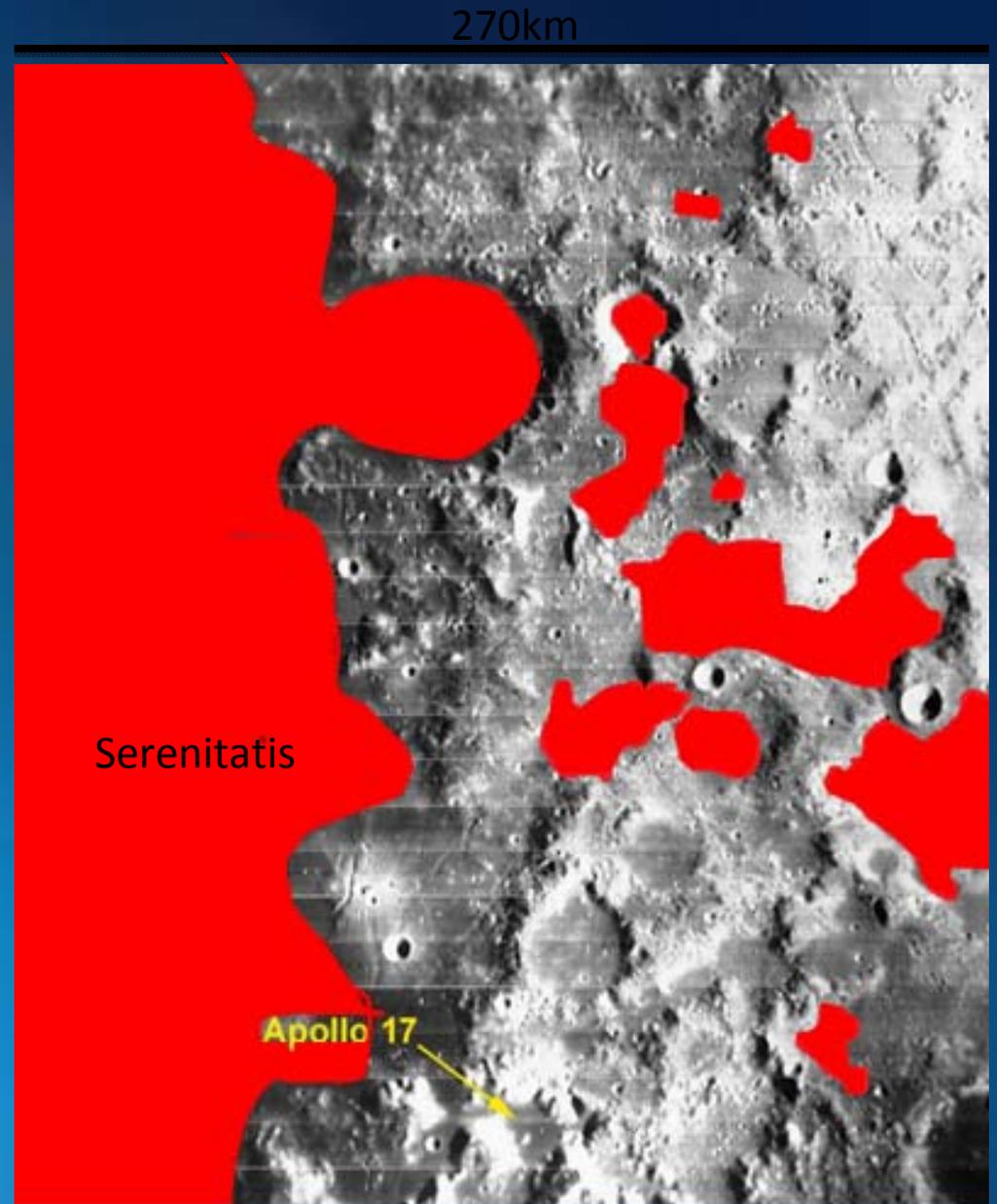
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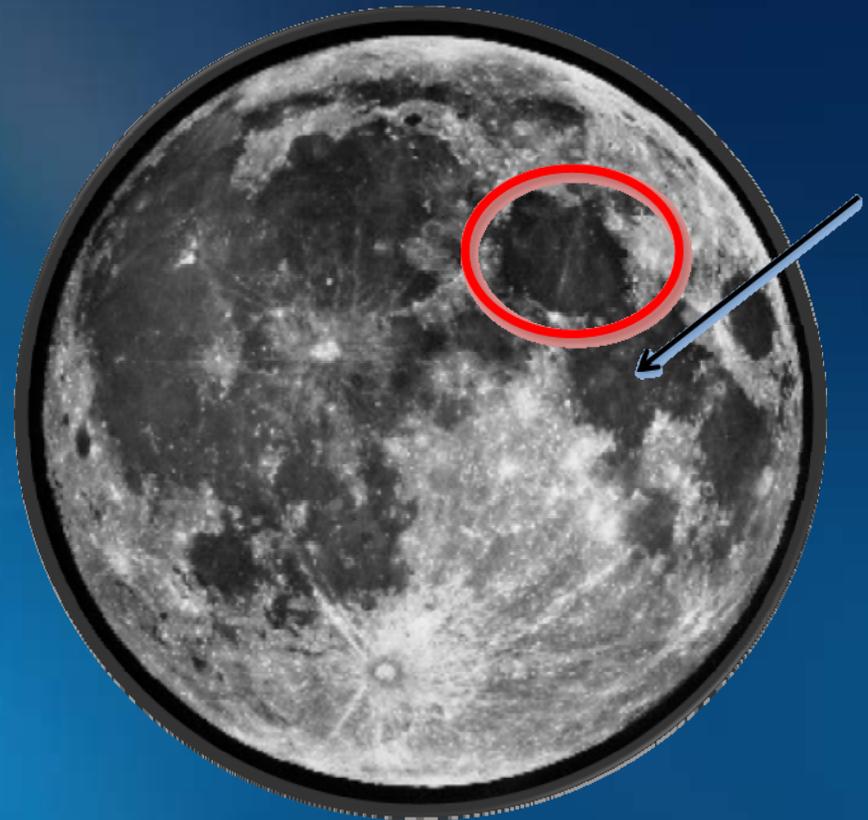
Lunar Maria

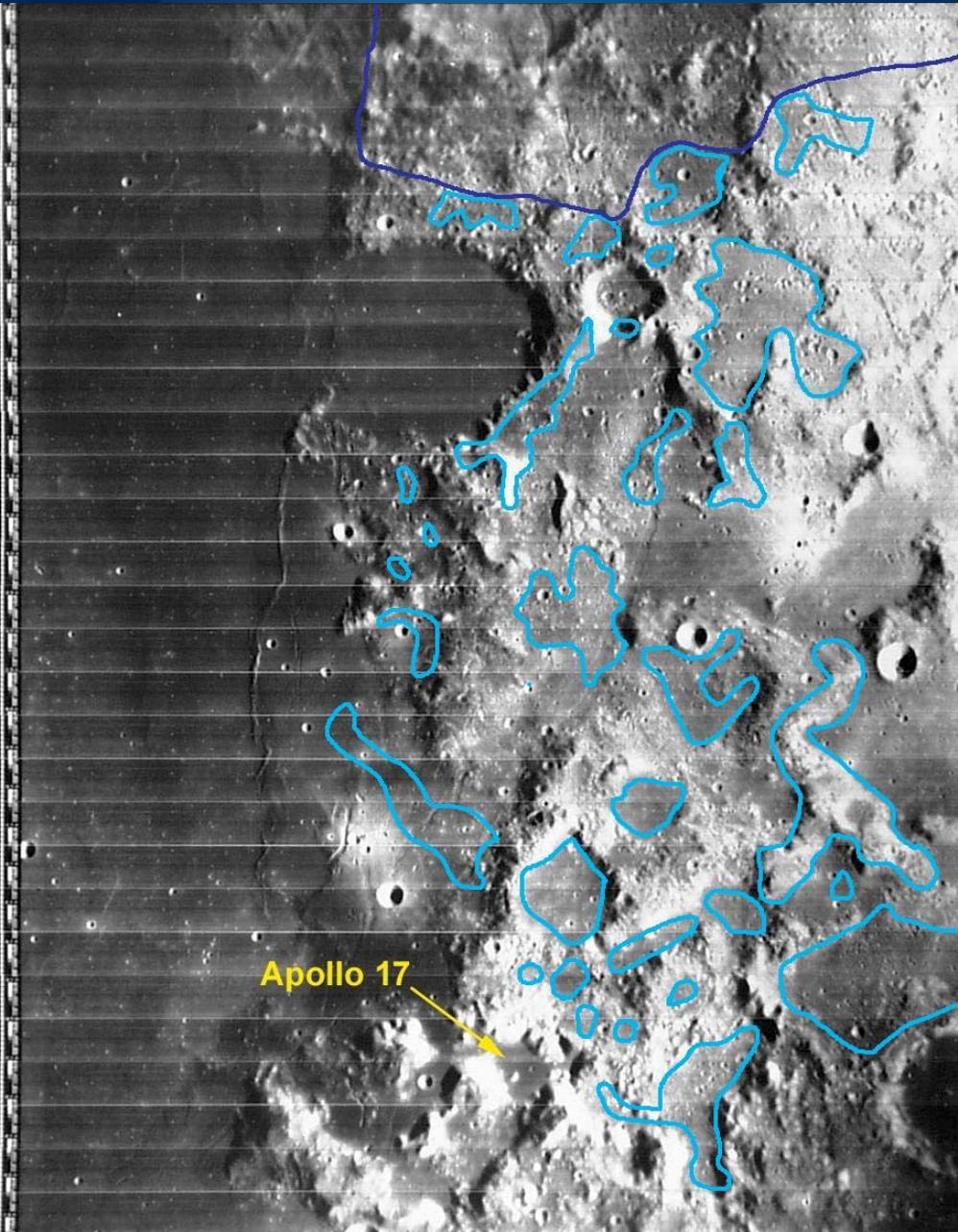
- The Lunar Maria are smooth level areas that were once deep basins. Today maria cover about 16% of the lunar surface area.
- At one point basins like Serenitatis were filled in basaltic lava flows, and this is what gives maria their distinctive low albedo.
- Since they're formed by volcanic activity, outlying flows, ash beds or any combination of these can be found in or around the mare.



Mare Serenitatis

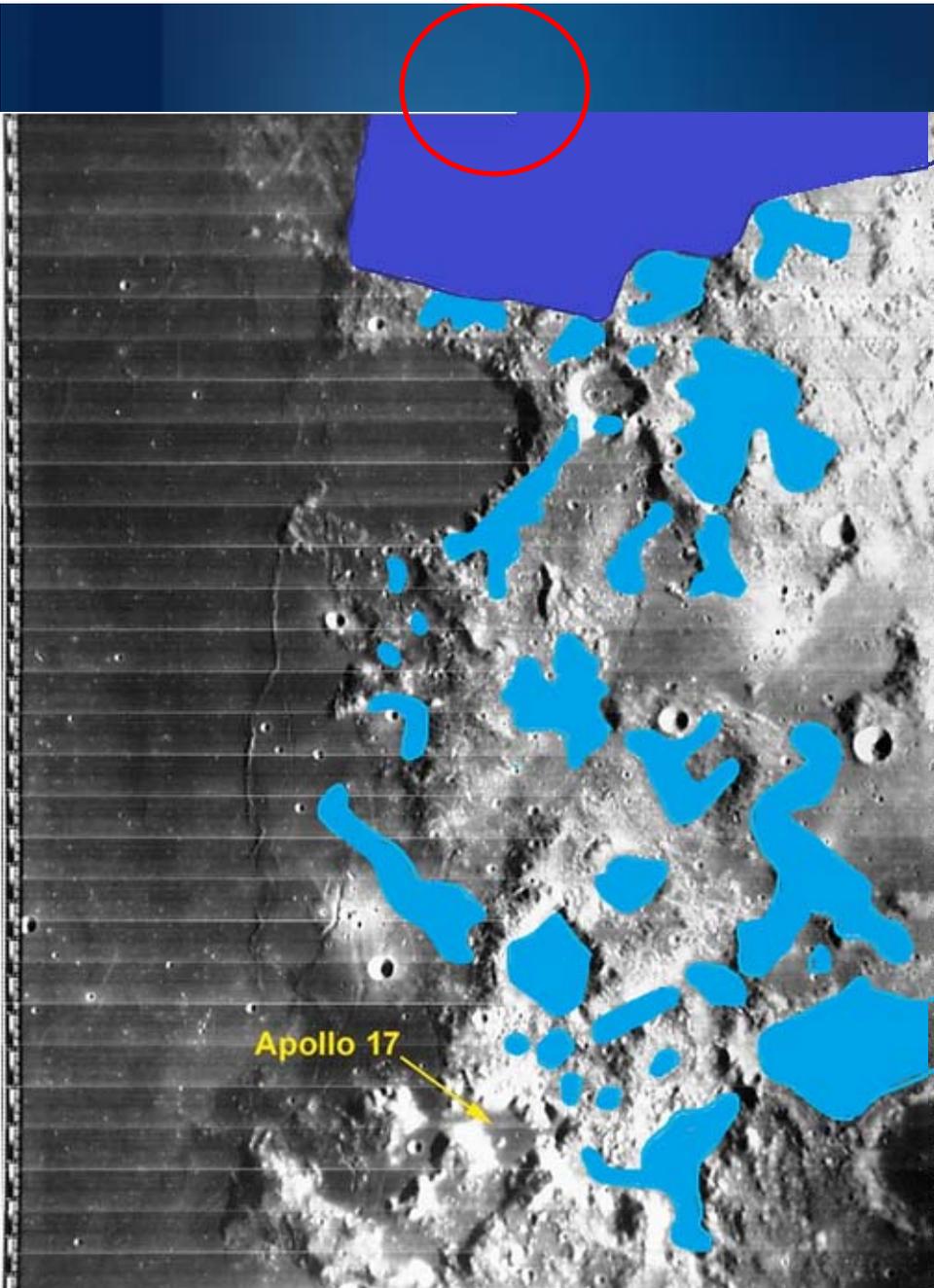
- Mare Serenitatis or the Sea of Serenity is 707km total in size.
- And eventually connects with Mare Tranquillitatis to the south.
- The mare material was made during the Upper Imbrian epoch, and its basin was most likely caused by a massive impactor.





Lunar Plains

- Plains are flat and low.
- Intermediate albedo.
- Underlying features are completely covered and there is no visible evidence of volcanism.

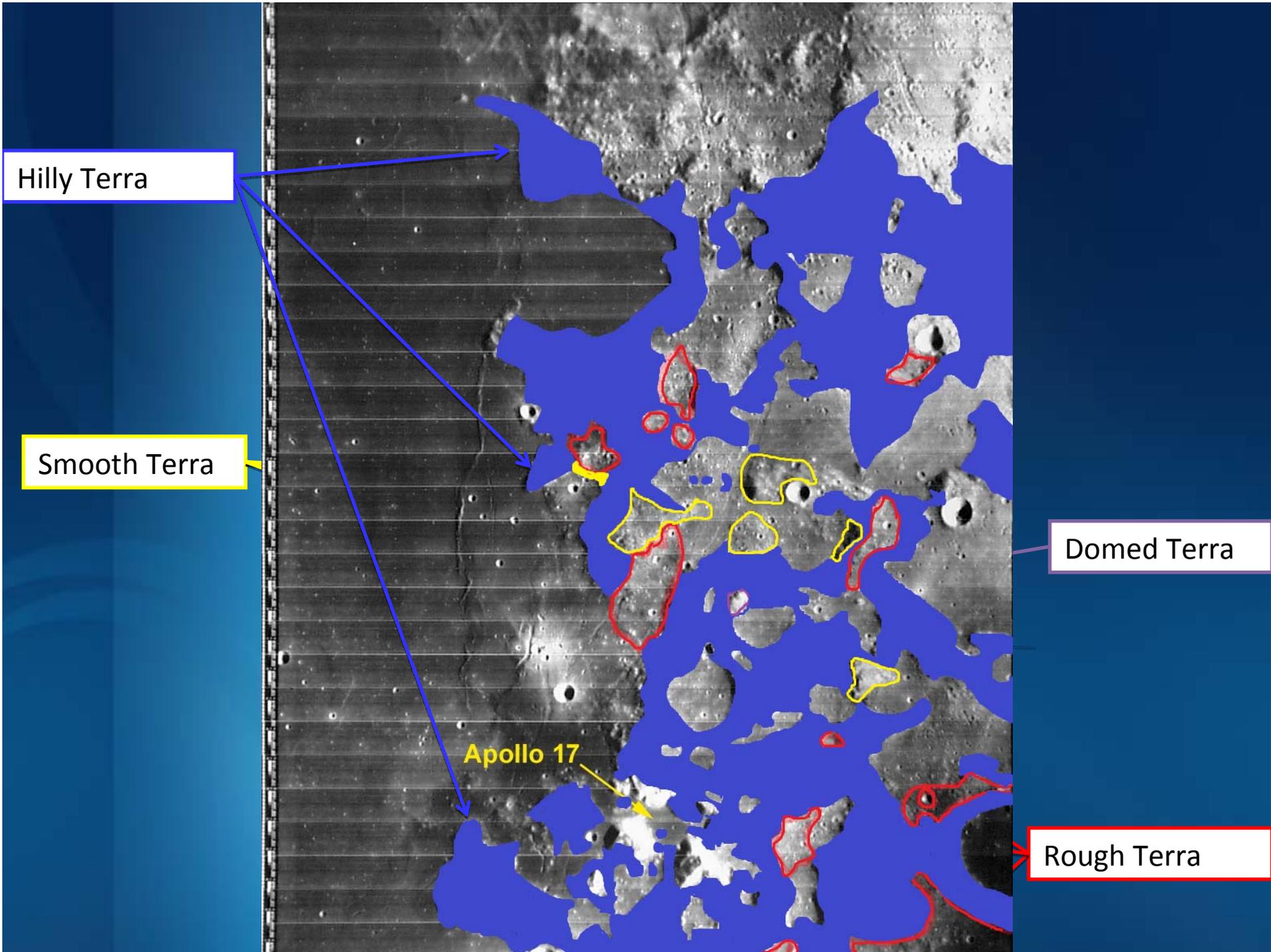


Lunar Plains Con't

- Similar to Mare materials but degraded and with a higher albedo.
- This possibly indicates that they are older lava flows.
- The lighter blue areas indicate undisturbed plains.
- While the Darker Blue area indicate plains that have been disturbed by the crater Chacornac.

Local Terra Types

- Dome Terra- A volcanic dome whose texture should reflect its composition.
- Regular Terra- Smooth rolling hills that intermingle with plains materials.
- Rugged Terra- Ranges from large mountains to rough hills, and are made of brecciated ejecta blankets of differing ages.
- Hilly Terra- Round smooth hills and hummocks, found mostly around basins and are usually closely clustered and has a similar make up and similarly built up over time.



Hilly Terra

Smooth Terra

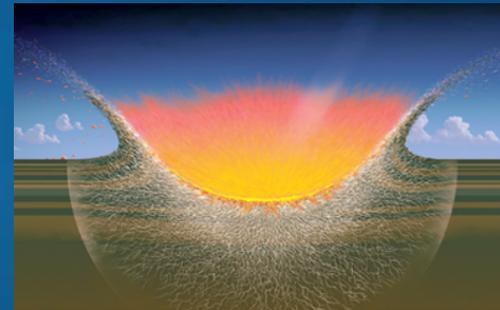
Apollo 17

Domed Terra

Rough Terra

Craters

- Simple:
 - Over time the ejecta and rays will become less discernable from and slowly merge with the surrounding mare. Also, its raised rim will become smoother
- Complex:
 - These differ from simple craters in that they have a central peak. Therefore the aging/erosion process are very similar, again differing only in the peak, that will also erode and become difficult to identify.
- Primary:
 - The primary crater is the parent crater, directly formed by an impact with a celestial object .
- Secondary, tertiary, etc :
 - Are formed by objects that were thrown back up and out of the crater by the force of the original impact and aloud to form another crater .



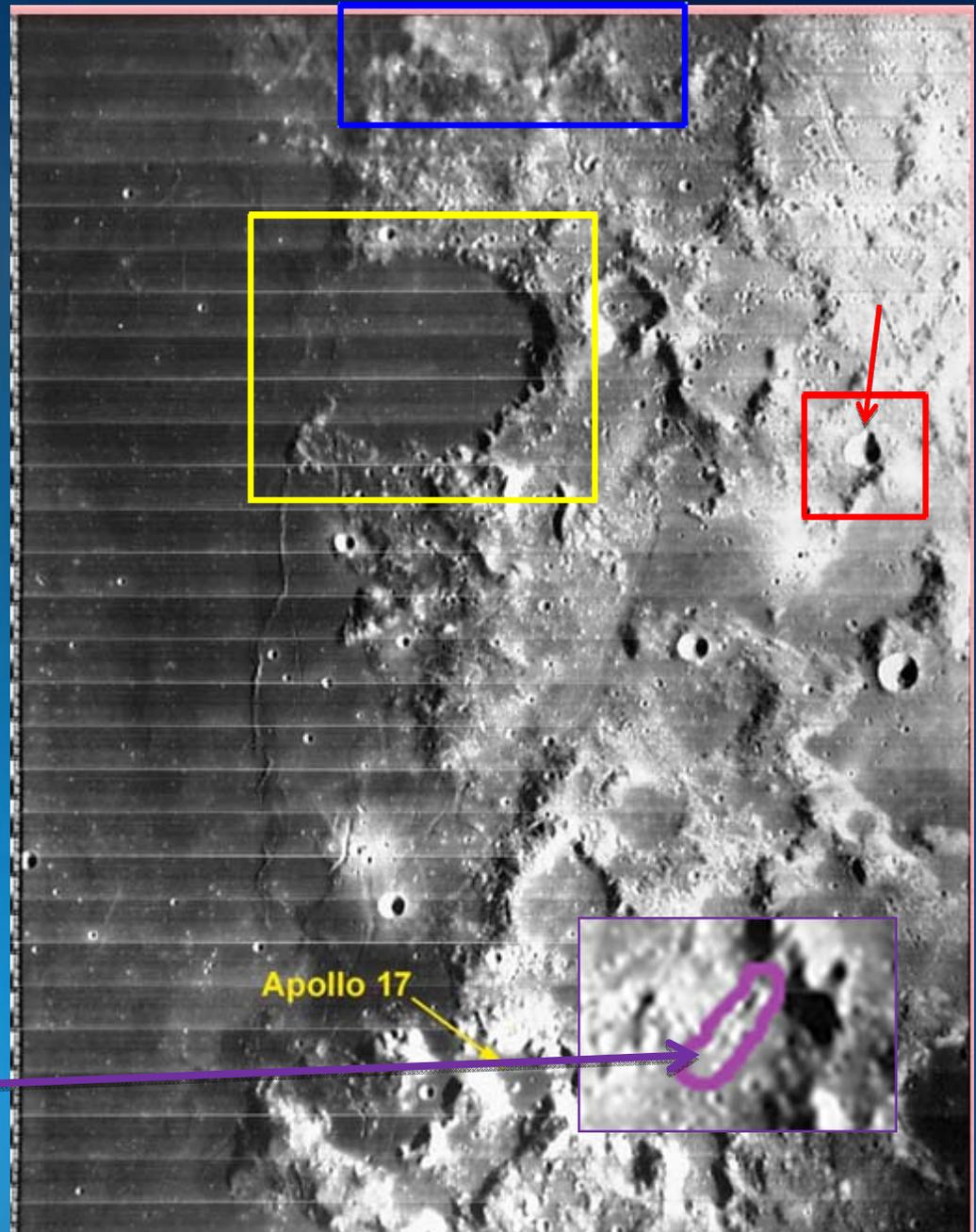
Crater Examples

The yellow box surrounds Le Monnier. This crater is now partially hidden by the intrusion of mare material caused by a volcanic eruption that filled the basin as well. (Diameter=61km)

The red box surrounds Romer M, a secondary crater of Romer. Also, this is an example of superposition in which an impact interrupts the rim of a crater. (Diameter= 10km)

The blue box surrounds the outer rim of the ejecta of Chacornac. This shows a relatively new impact. (Diameter = 51km)

Lastly the Purple Circle highlights a small crater chain. Crater chains are formed when an impactor breaks up before the actual impact.



Works Cited

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