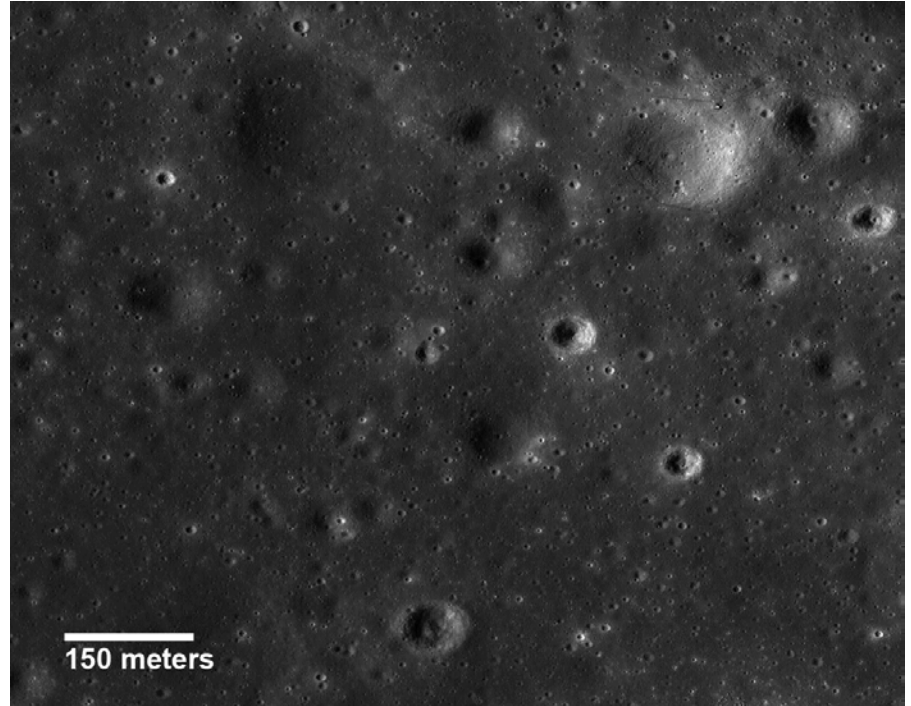


Moon 101

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Image One

Image one shows many impact craters



Crater Formation

Lunar Impact craters are formed when objects such as asteroids and meteors strike the surface of the moon

A large number of the impact craters on the moon were formed during the lunar cataclysm or late heavy bombardment period which occurred about 3.9 billion years ago

Craters are formed when kinetic energy is transferred from the object to the surface it is striking

More on Craters

Impact craters generally have a raised rim and a floor much lower than the surrounding surface

There are two types of craters: simple and complex

Simple Craters: smooth, bowl shaped structures with no interior features

Complex Craters: contain flat floors surrounding central peaks; in other words, not smooth

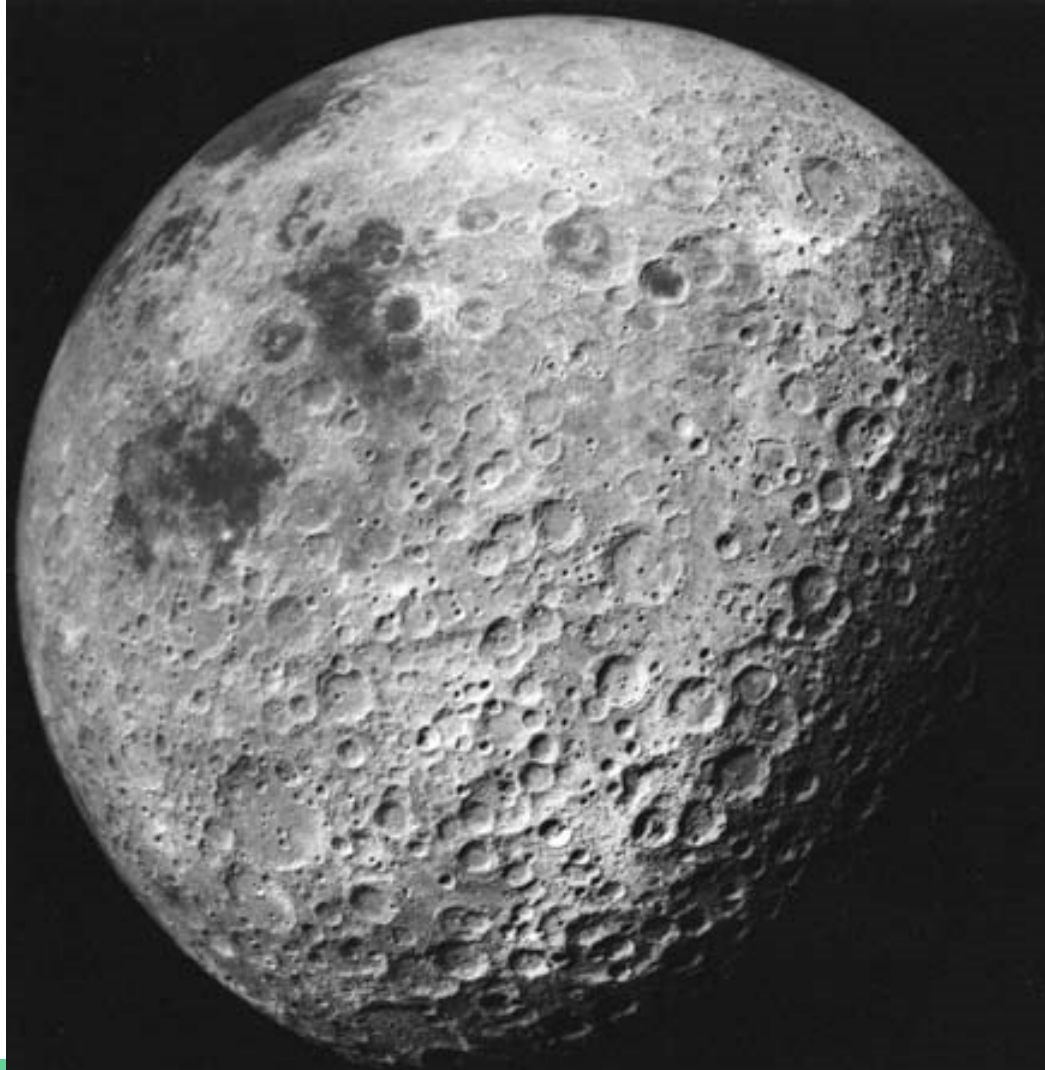
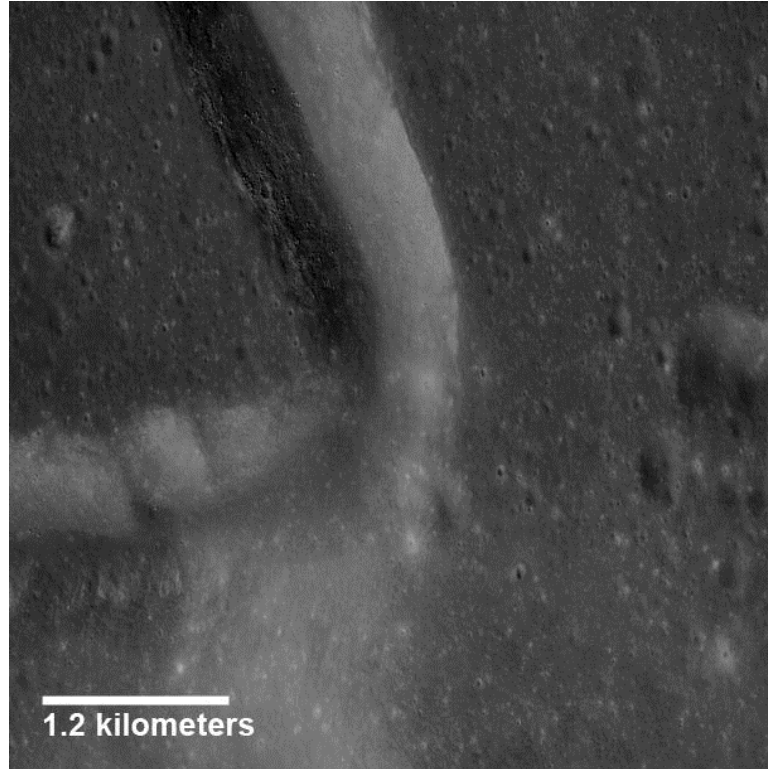






Image Two

Image two shows dorsum



Dorsum (wrinkle ridges)

Wrinkle ridges are tectonic features created when the basaltic lava cooled and contracted.

These features are low, sinuous ridges formed on the mare surface that can extend for up to several hundred kilometers.

Can be hundreds of kilometers long, tens of kilometers wide, and hundreds of meters high.

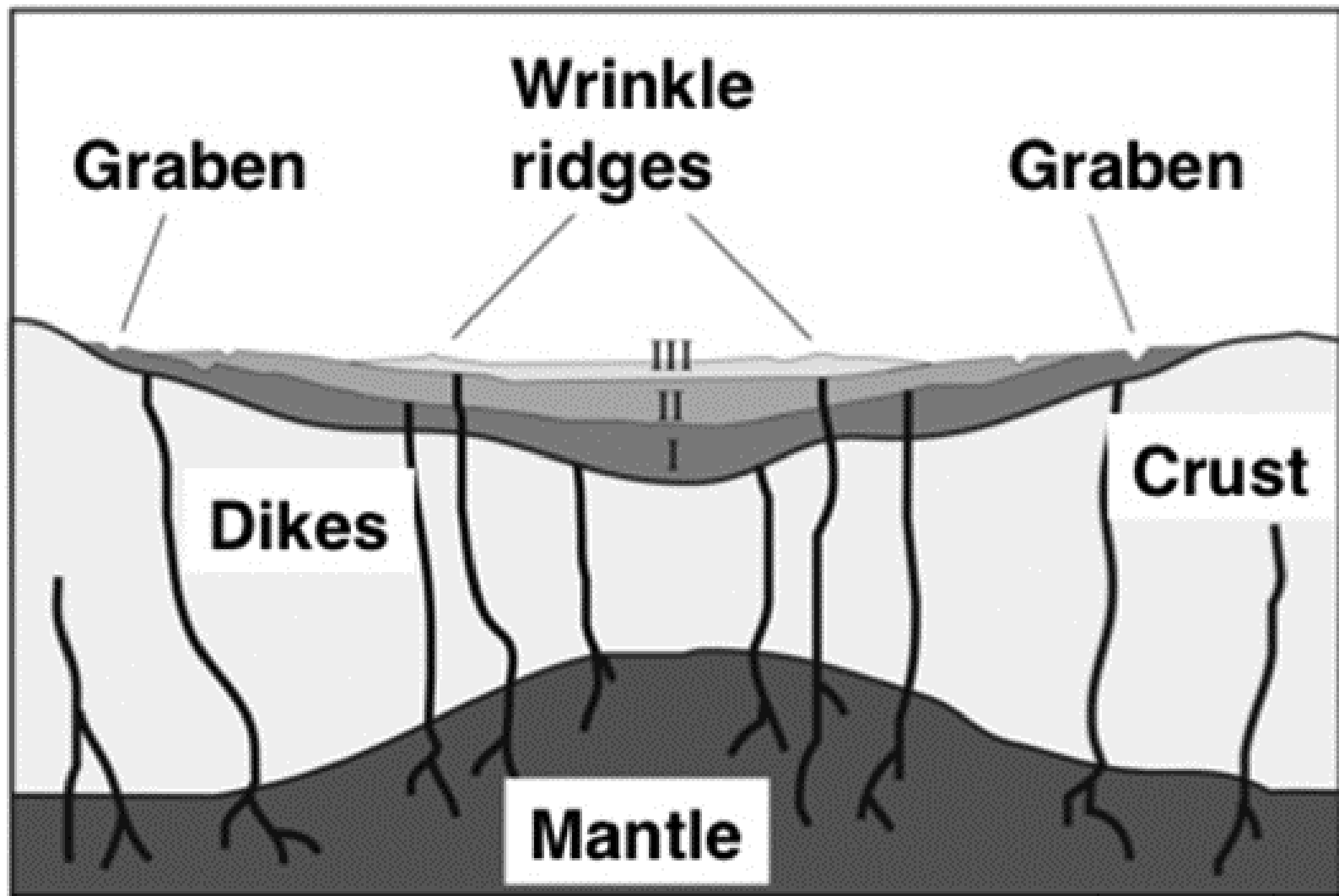






Image Three

Image three shows rilles and craters



Rilles

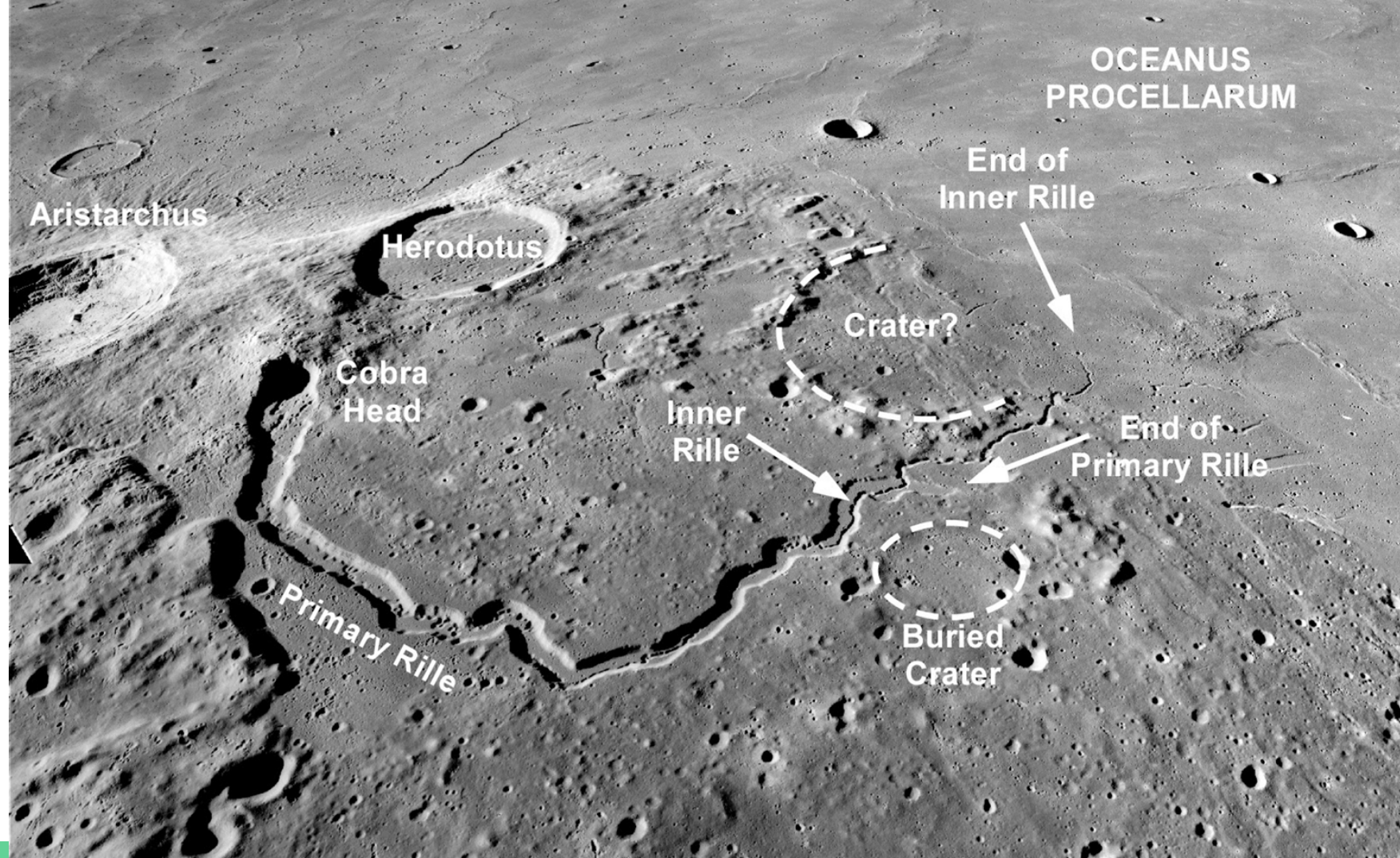
- Rille is German for “groove” and is the word used to describe long slim depressions in the surface of the Moon.
- Some theories on what causes the rilles are lava channels along the surface, and collapsed tubes that carried lava underneath the surface.
- Three types of rilles - Sinuous Rilles, Arcuate Rilles and Straight Rilles.
- **Sinuous Rilles** - Resembles a wandering river, follows a curved path, usually stems from a volcano.
- **Arcuate Rilles** - Have a smooth curve, found on the edge of the lunar maria.
- **Straight Rilles** - Long straight paths, hypothesized to be a section of crust that is sunken between two parallel faults.

Lunar Maria and Highlands

Maria: the lunar maria, which are basaltic plains that are iron rich and dark in appearance, were formed from ancient lunar volcanic eruptions

Highlands: the lunar highlands, which were formed before the maria, were formed when the lunar magma ocean cooled and the less dense materials floated to the surface while the more dense materials sank; the highlands are anorthositic in composition

Because the lunar highlands formed sooner than the maria, they are more heavily cratered









The relative ages of the features

Oldest:

The lunar highlands are the first feature that formed on the moon when the magma ocean began to cool approximately 7 million years after the solar system formed

Next, are a large majority of the impact craters, formed during the lunar cataclysm approx. 3.9 billion years ago

Next come the maria, most of which appear to be between 3 and 3.5 billion years ago. Wrinkle ridges are approximately the same ages as the maria, as they were both formed from cooled basaltic lava; sinuous rilles are also relatively close in age to both maria and wrinkle ridges

Some rilles have been dated as young as 2.5 billion years old, the youngest of

bibliography

Antonenko, Irene. "A Wrinkled Moon - Universe Today." *Universe Today*. N.p., 24 Dec. 2015. Web. 18 Oct. 2016.