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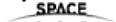
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Restored photos focus on moon's south pole

Lunar Orbiter imagery reveals prime target for NASA's latest lunar probes

By **Robert Goodier**



updated 6:09 p.m. MT, Wed., June 17, 2009

Newly restored photographs of the moon's dark south pole, taken by lunar orbiters in 1967, were released this week in anticipation of NASA's planned Thursday launch of two new probes that will investigate the region in search of underground ice.

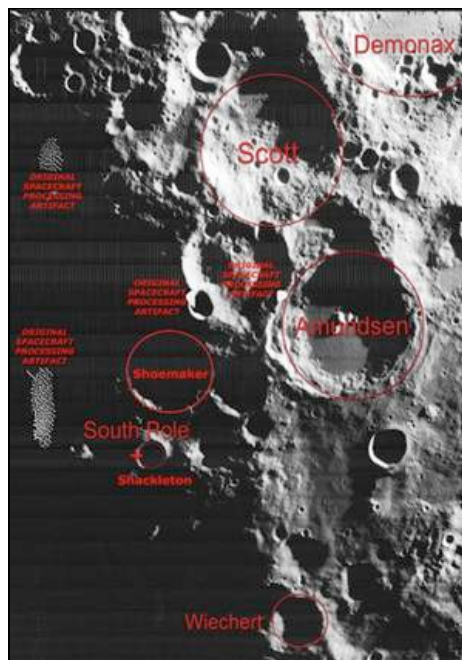
Through the Lunar Orbiter Image Recovery Project, or LOIRP, experts have scanned and **digitally refurbished** nearly 1,800 photographs of the moon that satellites snapped in 1966 and 1967. This week, the project released **new versions** of images showing permanently shadowed craters at the moon's south pole, a prime target for NASA's latest lunar scouts.

Dennis Wingo, who directs the project, was 6 years old when the first images were televised. "Even as a small child I was very much a follower of the space program," he told Space.com.

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The orbiters took photographs and developed the film onboard before scanning them and relaying them to stations around the world.



LOIRP

This 1967 image of the moon's south pole has been recovered in its original high resolution from old Lunar Orbiter project data tapes using restored tape drive hardware. Prominent features and processing artifacts are identified.

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NASA scientists used the images to plan the Apollo moon landings. They were recorded on 2-inch analog tape and stored for posterity. Now, more than 40 years later, Wingo is using the only remaining tape players capable of extracting those images for digitization. He publishes the restorations on the Web site [Moonviews.com](#).

A precursor of the project to restore the tapes began in the 1980s. That attempt stalled when funds dried up. Twenty years later, Wingo noticed a blog post that mentioned the tapes. Nancy Evans, co-founder of the NASA Planetary Data System, had the tape players **stored in a barn** and was looking for someone to finish the process she had started.

"We're converting them to digital, then processing them on the computer to show them in their original glory," Wingo said. NASA could later compare the 40-year-old images with those the new probes will gather, he added.

This week's release of images comes as NASA prepares for the Thursday launch of a new mission to investigate whether there is water ice on the moon's south pole.

The mission **involves two probes**, the Lunar Reconnaissance Orbiter and a pair of crash-landing impactors, which will be lifted to space by an unmanned Atlas 5

rocket from the Cape Canaveral Air Force Station in Florida. Liftoff is set for 5:12 p.m. ET.

The lunar orbiter will map the moon's surface from orbit in unsurpassed resolution, capturing even the tracks that lunar rovers left behind. Accompanying the orbiter, NASA's Lunar Crater Observation and Sensing Satellite will **drop two impactors** into the south pole of the moon.

Following up on data collected by past missions that revealed hydrogen at the poles — a sign of water — scientists will analyze the debris that explodes from the impact sites in its search for underground lunar ice.

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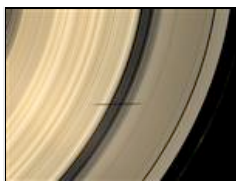
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