

# Hydrogen At the Lunar Poles: How Much Water Is There?

**Conversion of data from the Lunar Exploration Neutron Detector (LEND) instrument on the Lunar Reconnaissance Orbiter (LRO) to water equivalent hydrogen has been used to create maps of potential water the Moon's poles.**

- LEND measures the abundance and distribution of hydrogen within the upper ~1m of the lunar surface.
- The map of Water Equivalent Hydrogen (WEH, at right) shows variability with localized regions (marked by arrows) having significant enhancements. These occur near and in areas of permanent shadow, but there is a broader distribution of water that exists outside of permanent shadow. The broad distribution of enhanced water exists in areas outside of permanent shadow, but has abundances of less than ~0.30 wt% water.
- The area of highest water concentration (location 1S) is in Cabeus Crater, a small localized enhancement near the LCROSS impact site. This location, has as much as 0.54 wt% of water, assuming that the measured hydrogen is in water form and there is a uniform distribution over the 1 m depth.

