Recent data from LRO, analyses of Apollo seismic data, and tectonic modeling indicate that tidal stresses may actively trigger moonquakes.

- Apollo seismometers recorded 28 shallow moonquakes between 1969 and 1977. Recent modeling of these events suggest that eight of the moonquakes occurred near fault scarps. Seven of these events occurred when the Moon was near perigee, the time of maximum stresses within the lunar crust.

- Lunar Reconnaissance Orbiter camera images from the of thrust faults (right) reveal boulder fields on the face of these scarps. The presence of small boulders suggests that seismic events that exposed them must have been geologically recent and may be active today.

Left: Digital Terrain Model (DTM) of the Mandel'shtam scarp, located on the farside. The scarp (marked with white arrows) has a maximum relief of ~70 meters. Right: A scarp in Vitello crater on the nearside has prominent boulder fields characterized by small areas of bright surfaces (marked by arrows) on the scarp face, such bright regions have abundant small boulders.

Watters, T., et al. (2018), Nature Geoscience,