

# Recurring Slope Lineae (RSL) in Equatorial Regions of Mars

A.S. McEwen et al. , Nature Geoscience, web release 12/10/13

- RSL are dark flows up to a few meters wide on steep, rocky slopes.
- They behave like salty water flows in terms of temperature dependence, seasonality, and growth patterns, but origin of water is not known.
- Previously reported in southern middle latitudes.
- Now known to be abundant in equatorial regions, especially deep in Valles Marineris.
- They follow the sun: active on N-facing slopes when subsolar latitude is to the north; active on S-facing slopes when sun is to the south.
- Shallow water may be surprisingly abundant near the surface in equatorial regions of Mars.
- Key issue to understand present-day Mars for future human explorers.

Right: Animation of 4 MRO/HiRISE images of RSL in crater on floor of central Valles Marineris; scene 193 m wide

