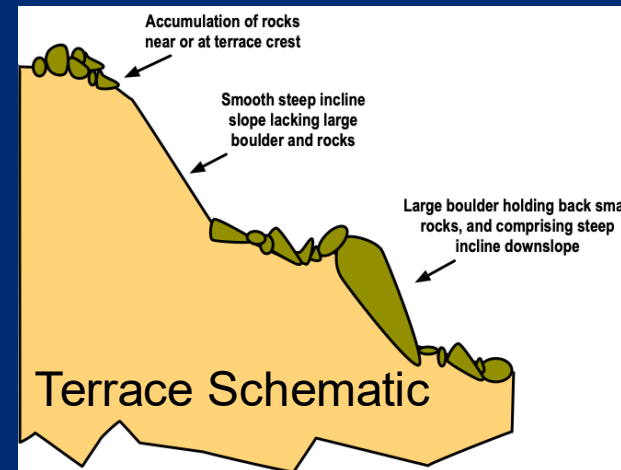
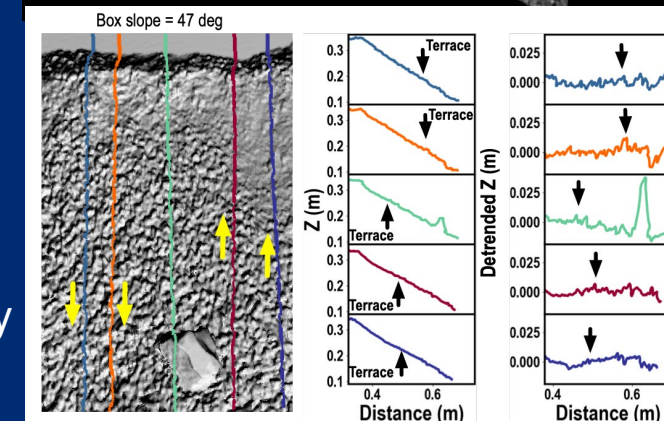
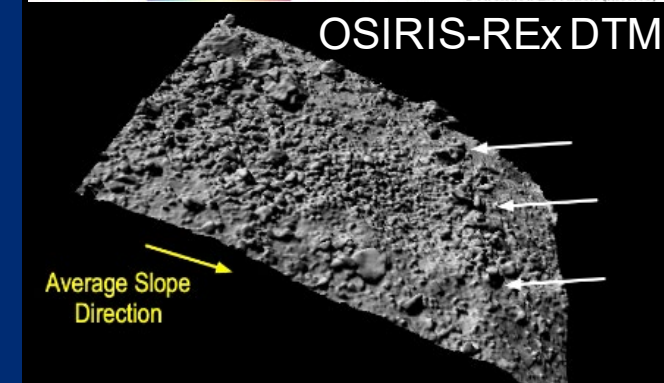
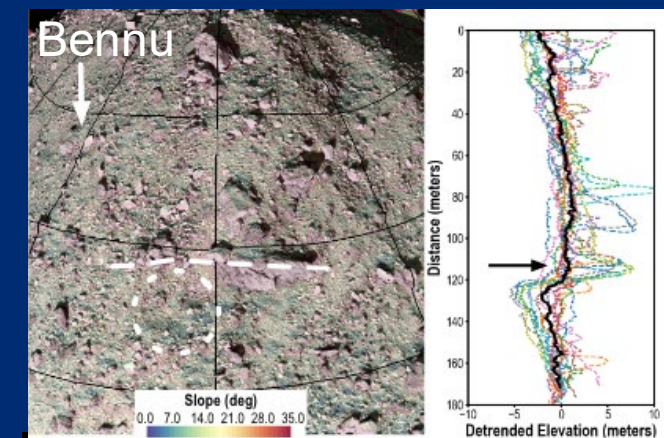


Terraces on asteroid Bennu

- Analyzing the landscape of a planetary body can shed light on the processes that shape its surface over time
- OSIRIS-REX data reveals the presence of subtle step-like features (terraces) with no more than ~5 m relief, that run approximately E-W and are located at mid-to-high latitudes on Bennu. These occur on steeper slopes, and are accompanied with evidence for both boulder re-orientation and mass movements.
- Laboratory experiments and numerical simulations show that the observed landscapes can form by surface creep for Bennu-like conditions when slope slowly increases due to asteroid spin-up and the surface becomes unstable.
- Observed terraces are only possible if the surface (top 5 to 10 m) is weak ($<0.6\text{Pa}$), resulting in ongoing "creep" of loose material on Bennu.



Laboratory terracing



Asteroid 101955 Bennu possesses a cohesionless surface actively creeping as the asteroid spins-up.