

# Engineering Geology (6)

- Weathering: decay or breakdown of minerals in rock which occurs naturally, either in physical or in chemical process
- Weathering affects on engineering properties of rock and soil

- Physical weathering caused by
  - -high stress/ unloading
  - -Temperature changes
  - -Salt crystallization
  - -Frost/thawing
  - -Wetting and drying (as chemical too)
  - -Root action (as chemical too)

- Chemical weathering caused by
  - -solution
  - -hydrolysis
  - -oxidation
  - -leaching

- Biological weathering
- -combined both physical and chemical
- -root action on joint widening (physical)
- -root action by leaching (chemical)

- Weathering on vertical section
- -gradual weathering: typical, continuous
- -corestone weathering: unusual, abrupt changes in engineering properties

- Engineering classification of weathering grades
- -RS: Residual Soil
- -CW: Completely Weathered rock (=soil)
- -HW: Highly Weathered rock
- -MW: Moderately Weathered rock
- -SW: Slightly Weathered rock
- -F: Fresh rock