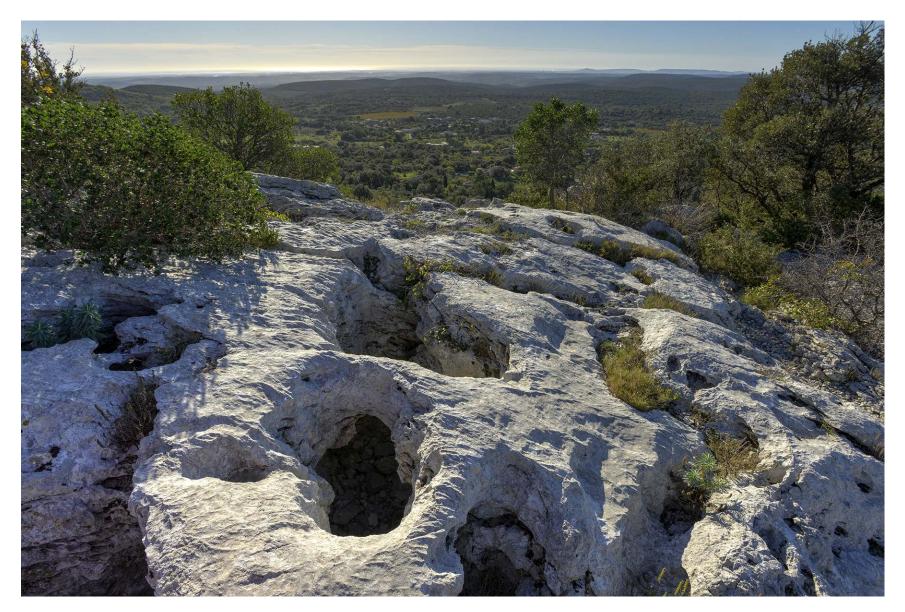
HID 362 MESLEKİ İNGİLİZCE 2

Hafta 7

Prof. Dr. N. Nur ÖZYURT 2020-2021 Bahar Dönemi #evdekal



http://www.philippe-crochet.com/galerie/karst/details/18/lapiaz-et-sites-ruiniformes/236104/rr-14-0032-pic-saint-loup-herault-figures-de-karstification-sur-la-crete-ouest

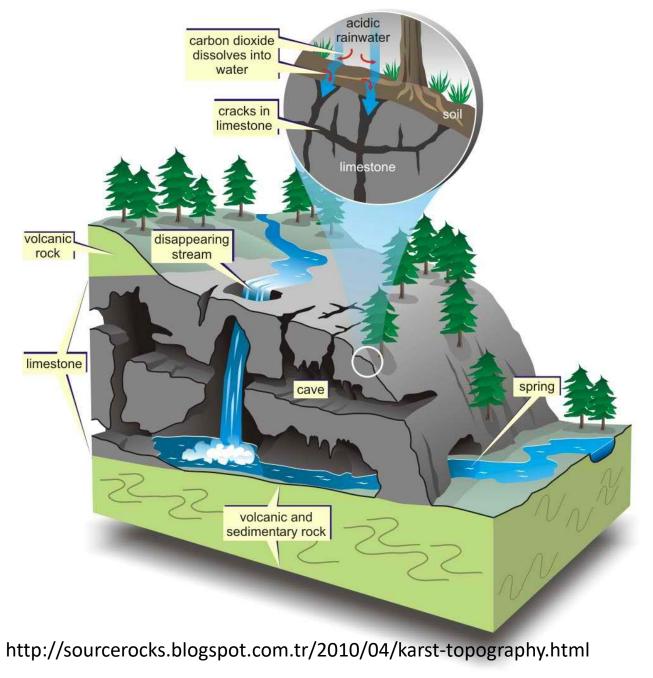
WHAT IS KARST?

karst - 1) a geologic terrain or surface landscape with distinctive characteristics of relief and drainage arising primarily from dissolution of rock (or soils) by natural waters;

2) sometimes applied loosely to any dissolution in a rock by flowing groundwater.

Karst(ic) terrains are underlain by rocks that have undergone significant dissolution by groundwater flow and are characterized by:

- 1: closed depressions of various size and arrangement;
- 2: disrupted surface drainage; and
- 3: caves and underground drainage systems.



 $CO_2 + H_2O$ H_2CO_3 carbonic acid air water $CACO_3 + H_2CO_3$ $Ca(HCO_3)_2$ carbonic acid calcium bicarbonate limestone

https://people.uwec.edu/jolhm/cave2007/teamb/geology.html

The water becomes weakly acidic because it reacts chemically with carbon dioxide that occurs naturally in the atmosphere and the soil. Rainwater seeps downward through the soil and through fractures in the rock responding to the force of gravity. The carbonic acid in the moving ground water dissolves the bedrock along the surfaces of joints, fractures and bedding planes, eventually forming cave passages and caverns.

KARST

carbonate karst - karst developed in limestone or dolomitic rock

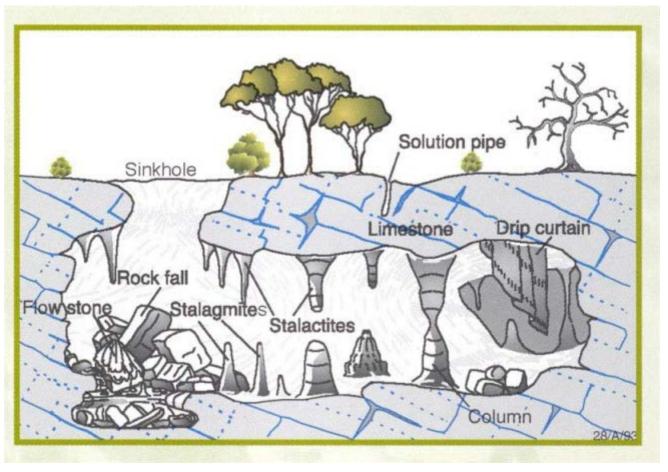
epigenic karst- karst that develops from acidic or undersaturated water rising flowing downwards from the Earth's surface.

evaporite karst- karst developed in evaporitic rock (e.g., gypsum, anhydrite, halite). No acid is involved in the genesis of evaporate karst.

hypogenic karst - karst that develops from acidic or undersaturated water rising from depths.

intrastratal karst - karst formed where solution processes take place beneath a layer of nonkarstic rock and where there may be very little or no surface expression.

KARST FEATURES



SURFACE LANDFORMS

- sinkholes (dolines)
- areas of subsidence
- sinking streams,
- springs
- cave entrances
- Travertine deposits

SUBSURFACE FEATURES

- tertiary porosity (enlarged fracture systems)
- open conduits some with flowing water
- large caverns as well as buried sinkholes

http://www.parijsmagazine.nl/de-ondergrond-van-parijs.html

KARST FEATURES_subsurface features

cave - (1) a natural opening in a geologic medium that is large enough for human entry;

(2) a solutional opening that is greater than 5-15 mm in diameter or width; this is considered the effective aperture necessary for turbulent flow. **cavern -** a large underground opening.

speleogenesis - cave formation

speleothem - a cave deposit formed by precipitation of minerals from groundwater.

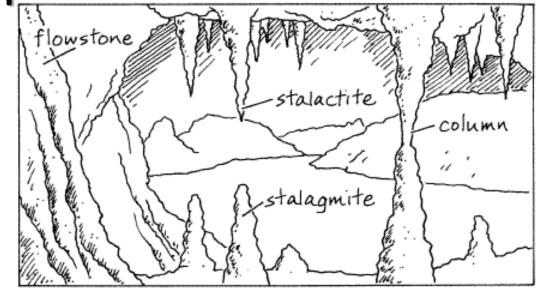
stalagmite - a columnar speleothem growing upwards from the floor of a cavity.

stalactite - a columnar speleothem growing downward from the roof of a cavity.



https://www.nationalgeographic.com/adventure/destinations/ europe/slovenia/photos-hidden-river-caves/

Speleothems







http://www.sydney.com.au/jenolan-caves.htm

Cave diving



https://www.scubadiving.com/what-its-like-to-cave-dive-in-budapest

KARST FEATURES_surface landforms

sinkhole - a closed topographic depression in a karstic landscape, in general varying in size from about 2-100 m in depth and 10-1000 m in diameter. Synonymous with doline.

doline - a closed topographic depression caused by dissolution or collapse of underlying rock or soil; synonymous with sinkhole.

karren - the dissolution on a rock surface.

Doline / Düden veya dolin



Varsak Doline_Antalya



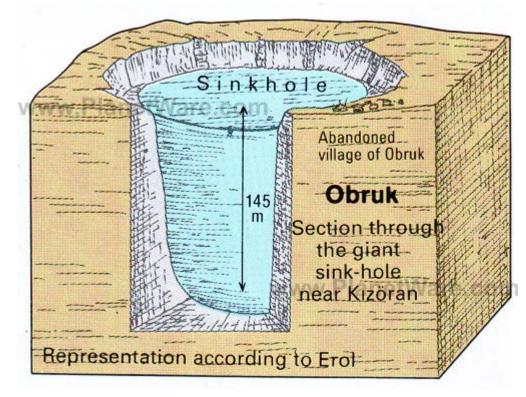
https://photoseek.photoshelter.com/image/I0000j8RvzIsYcqs



https://commons.wikimedia.org/wiki/File:Causse_de_Sauveterre_doline.jpg

Sinkhole / Obruk veya dolin





http://www.toplumdusmani.net/modules/wor dbook/entry.php?entryID=2749/obruknedir+obruk-ne-demek

Kızören Obruk ~150m radius and depth

Geohazard



http://www.amightywind.com/prophecyp/giantsinkholenews.html



https://www.youtube.com/watch?v=CidQ9xyaebc

Karren/Karen





Travertine/Traverten

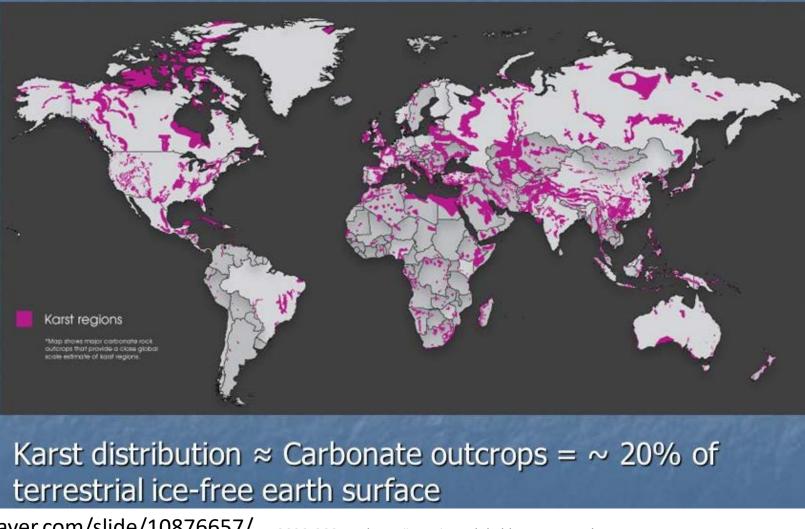
A light-colored porous calcite, CaCO₃, deposited from solution in ground or surface waters and forming, among other deposits, stalactites and stalagmites.
A compact calcium carbonate used as a facing material in construction.



Antalya Travertine Plateau is the world largest fresh water travertine deposit (covers ~650km²).

https://www.antalya.bel.tr/

Karst landscapes cover some 15 percent of the Earth's land mass. Scientists estimate that these areas of porous bedrock are home to as many as 1.5 billion people, a quarter of the global population.



http://slideplayer.com/slide/10876657/ 2020-2021 Bahar Dönemi #evdekal.hacettepe.edu.tr