# What is karst?

## What exactly *is* karst?

**Karst** is a landscape formed from the dissolution of soluble rocks including limestone, dolomite and gypsum. It is characterized by sinkholes, caves, and underground drainage systems (Fig. 1). Nearly

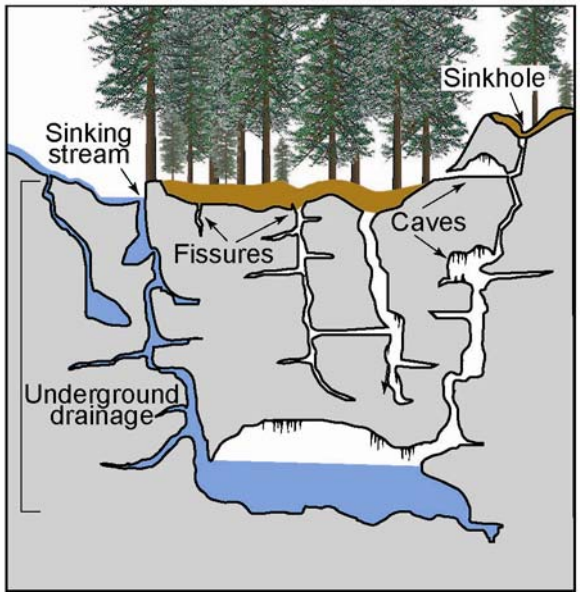


Fig. 1: The features of a karst system.

all surface karst features are formed by internal drainage, subsidence, and collapse triggered by the development of underlying caves (Palmer, 1991). Rainwater becomes acidic as it comes in contact with carbon dioxide in the atmosphere and the soil. As it drains into fractures in the rock, the water begins to dissolve away the rock creating a network of passages. Over time, water flowing through the network continues to erode and enlarge the passages; this allows the plumbing system to transport increasingly larger amounts of water (Gunn, 2004). This process of dissolution leads to the development of the caves, sinkholes, springs, and sinking streams typical of a karst landscape.

## Why is karst important?

Dissolution associated with karst development in central Texas limestone has created a complex underground water flow network that includes caves large enough for humans to access. Rainwater travels through the network, controlled by the Balcones fault system, until it reaches the water table (Ferrill et al., 2004). The karstified limestone acts as an aquifer where water can be stored and later extracted by humans.

Two million people in central Texas get their drinking water from the karst aquifer known as the Edwards Aquifer (Sharp and Banner, 1997). This resource is especially important for central Texas as the region becomes more urbanized. With a higher density of people, central Texas will face higher demand and increased pollution. Just like rainwater, pollutants can easily pass through the karstified limestone. Another difficulty is that streams and surface runoff entering the aquifer via sinkholes and caves bypass the natural filtration produced by seeping through soil and bedrock. This direct recharge quickly replenishes the water supply; however, it also leaves the aquifer particularly vulnerable to contamination (Drew and Hötzl, 1999).

**References:**

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