

## Science Snap (#26): Angel Falls, Venezuela

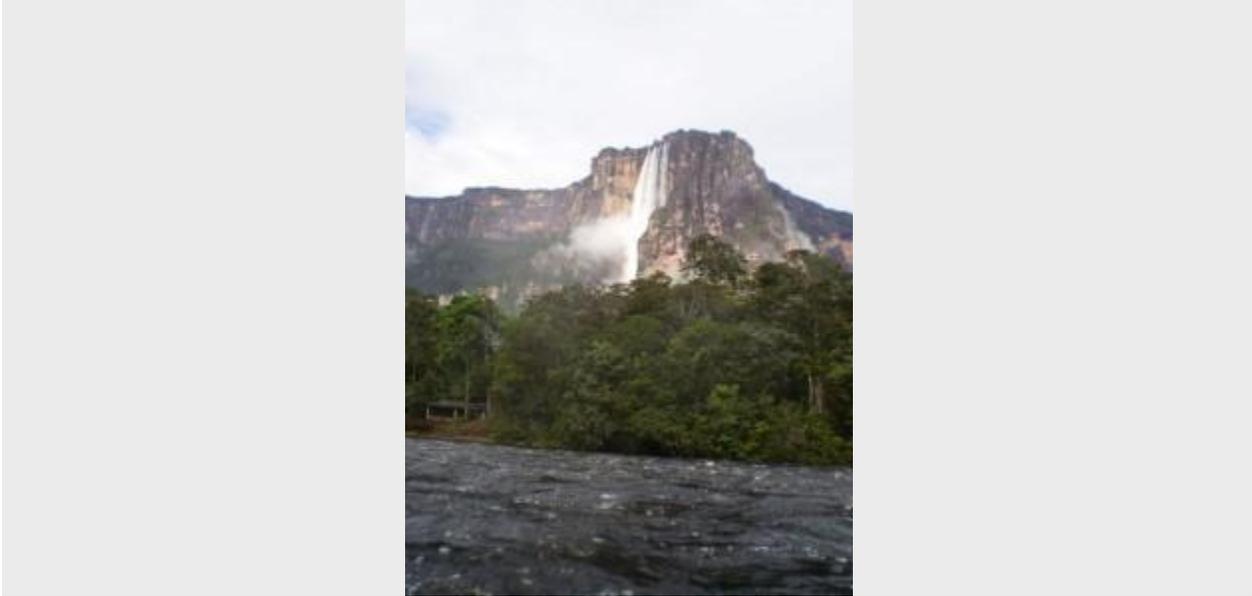
*Sorcha McMahon is a third year PhD student in the School of Earth Sciences at the University of Bristol. Sorcha is investigating how strange igneous rocks called **carbonatites** may have formed, using both natural samples and high-pressure experiments.*



Canaima National Park. Photo credit: Sorcha McMahon

Angel Falls is the world's highest uninterrupted waterfall in the Canaima National Park, a UNESCO World Heritage site in the Gran Sabana region of Bolívar State, in Venezuela. The waterfall drops from the summit of the largest tepui (table-top mountain) of the Guiana Highlands of South America, Auyantepui, from a height of 979 m.

Angel Falls is said to have inspired the setting of the Disney animated film *Up* (2009) where the location is called Paradise Falls. The nearby Mount Roraima inspired the Scottish author Arthur Conan Doyle to write his novel *The Lost World* about the discovery of a living prehistoric world full of dinosaurs and primeval plants. The borders of Venezuela, Brazil, and Guyana meet on the top of this tepui, which translates to "house of the gods" in the native tongue of the Pemon, the indigenous people who inhabit the Gran Sabana. Tepuis host a unique array of endemic plant and animal species, with ~1/3 of the plants found nowhere else on the planet.



Angel Falls, Venezuela. It is also known as “Kerepakupai Vená” in the original indigenous Pemon language, meaning “waterfall of the deepest place”. Photo credit: Sorcha McMahon

The extraordinary topography is part of the Guiana Shield, and began as the Great Plains; an igneous–metamorphic basement formed during the Precambrian as part of the supercontinent Gondwanaland (approx. 3.6 – 1.2 Ga). Subsequently, sedimentary layers were deposited between ~1.6 – 1 billion years ago; the characteristic purple quartzite and sandstone strata probably represent shallow seas or large inland lake facies. Doleritic and granitic magmas of Palaeozoic and Mesozoic times are observed to penetrate existing sediments in places.

The region has experienced great fluctuations in climate and several periods of uplift and subsidence over millions of years. The presence of isolated table–top mountains is due to relative differences in erosion, which has created such spectacular scenery.

Source: <http://blogs.egu.eu/bar/2014/05/01/science-snap-26-angel-falls-venezuela/>