

Ranger Minute Script

Grand Canyon Microclimates – David Smith

Good morning it's Ranger David Smith here at Grand Canyon National Park with another Ranger minute. I was walking along the rim trail this morning here on the South Rim of the Grand Canyon and I couldn't help but notice this Douglas fir that's right behind me right now. I was thinking to myself, that's an exciting tree. Do you know why it's an exciting tree? Because here in the south rim of the Grand Canyon at 7000 feet most of the trees we have are Utah junipers and pinion pines and the occasional Ponderosa pine. We don't have enough water to grow trees like Douglas Firs, which typically grow up here in the mountains.

Well, at Grand Canyon there is something special that happens just over the rim and that's where this Douglas fir tree is growing right now. What happens? Well, there's snow – just like there's snow on the ground right now - but there's a lot more of it. That's basically because, where the sun is right now, there's no sun down in the Canyon... and this goes on for about another 100 to 200' down into the Canyon, which creates a completely different life zone. It's much wetter there - as a result of all that snow and because of that, there is more soil and we have a diversity of plants that grow in this thin band just over the edge and occasionally you'll see a spruce or a Douglas Fir. Now what really excites me about this tree is it actually represents a legacy population of plants that used to be here about 10,000 years ago when this area was much cooler; when the climate was quite different than it is today. At that time, there was more moisture here on the top of the South rim and because of that we had trees like firs and blue Spruce and a variety of other conifers growing. Now, when the area began to get warmer, as the ice age receded and the climate in this area changed, those trees were naturally removed from this area and migrated to places like the San Francisco peaks outside of Flagstaff. The trees left this environment ...except for little pockets. These little pockets, these microclimates exist just over the rim of the Grand Canyon. Something else that excited me this morning as I was walking the rim was looking down at the bottom of the Canyon which is about 5000 feet lower than we are and as a result is about 25° warmer. Now at the bottom of the Canyon, right now I can see an entire canopy of Cottonwood trees and willows that are beginning to leaf out by the river which tells me that spring has officially arrived down at the bottom of the Canyon, not necessarily up here. I know the rangers at the bottom began are wearing shirt sleeves and shorts as opposed myself, who is up here in a fleece jacket. So, here's something to think about – microclimates, and life zones, the change in temperatures and the way things happen at the Grand Canyon. Something to think about on your ranger minute. Have a good day and enjoy your visit to the park. This has been ranger David Smith with another ranger minute.