

A Big Picture View of Southwest Landscape Evolution

By Wayne Ranney

The science of geology may be daunting to learn but is much more difficult to talk about for those who may have no training in the subject. And no matter why people come on the river, they will definitely see world-class geology while on the river, expecting us perhaps to say something intelligent about it. What to do - just make something up? Not a good idea.

I have found some ways to take “short cuts” in speaking confidently and intelligently about geology. Just stick to the “big picture” view and use themes and subject matter that you already know about but might not realize are associated with geology. For example, flash floods and debris flows are geologic events that can easily be spoken about in a confident manner by nearly all guides. All you need to do is insert the word “geology” when speaking about them.

Other well-known topics where the word “geology” can be included in a talk include rockfalls, landslides, rapids formation, cliffs, slopes, the location of trails, etc. Everything in the Grand Canyon and the southwest has a geologic foundation and if you want to sound like an expert, just insert the word “geology” into your already well-known subject matter. I especially like to talk about formation of the rapids in Grand Canyon and I most always insert the word “geology” in their description. (You can describe rapids formation without using the word but you get geology-points by including it). I also like to talk about mega-landslides seen along the river corridor and the outburst flood deposits downstream from Lava Falls. In my talk, I will show examples of where you can point out these features.

I will also show new paleogeographic maps created by Dr. Ron Blakey that cover many time slices throughout the entire western part of North America. These maps are an additional way to engage your guests in the subject of geology. These maps can be found in our new book, “*Ancient Landscapes of Western North America.*” In developing additional skills in talking about geology, always go big!