

Not My Fault: Vacations are better when you know what makes the bedrock

Lori Dengler/For the Times-Standard

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I have a suggestion as we move into the peak summer holiday season. Include a little geology in your vacation plans. No, I don't mean heading to the geologically famous like the Grand Canyon, Yellowstone or Yosemite. If those places are already on your itinerary, that's great and you will definitely get a dose of geology. But every place has a geologic story and finding out a little about it will make your travels more interesting, even if it might not be so obvious.

I just returned from my big summer trip – 24 days in Botswana and Zambia. Most people wouldn't put Botswana and geology in the same sentence. Botswana is the fourth flattest country in the world and most of the country is blanketed by vast amounts of sand with nary a rock in sight. But it turns out the geology story of Southern Africa in general and Botswana in particular has a lot to do with the country today.

We visited six remote camps in the bush and learning a little about the geologic underpinnings made what we were looking at more interesting. The vast Kalahari Desert at first glance is monotonous – endless miles of sand and scrubby vegetation. But a closer look shows dunes and pans. The pans are the slightly lower areas between the dunes and in the wetter past were where water and finer sediments accumulated. In the current climate, the pans burst with grasses in the short rainy season and are the base of an ecosystem that can support vast herds of antelope and other grazers and the animals that prey on them.

The geologic story was particularly important in the Okavango Delta (technically an alluvial fan) in the northwestern part of the country. The supply of water from the Angolan highlands coupled with recent faulting associated with the rifting of the African continent have created a unique oasis with lagoons and waterways providing an Eden in an arid world. You want to see animals large and small? The Okavango is a sure place to see lions, hyenas, jackals, elephants, zebra, giraffe, more than a dozen antelope. We were lucky and saw two wild dog packs and a leopard. All made possible due to the auspicious alignment of geology and hydrology.

Name a vacation locale and there is a geologic story beneath it. Headed to New York City? You may have researched restaurants, museums and already reserved a Broadway show or two. Geology is probably not high on your list. But your stroll through Central Park, will mean more if you look for the Manhattan schist outcrops. These beautiful hard grey and black rocks date back to the Cambrian age. They provide great spots for energetic children to climb and tell the story of what happened to this spot in the past. Look closely and you will notice the banded texture with sparkly flakes of black mica. Many of the exposures preserve glacially-polished surfaces, striations, and grooves carved from rocks embedded in the base of a giant ice sheet as it moved southward during the last ice age. If you look hard, you can even find a few glacial erratics scattered in the undeveloped portions of the park. Erratics are large rock blocks that had floated in the glacial ice and abruptly dropped when the glaciers retreated. Geology has left other imprints on the city. Even the distribution of skyscrapers has a geologic underpinning.

Taking a road trip this summer? Get yourself a Roadside Geology book – 34 states are now covered in the series. The books are aimed towards a general audience and follow major highways. They will provide the general geologic history of the region and also specific spots to turnoff the road and view evidence of the rock past. Of course you can also Google "geology" and the name of the area you are headed to. You might be surprised by what you learn. Places are always more interesting when you learn what makes the bed rock.

Postscript: My last column (July 6) commented on the relative seismic quiescence of the first half of 2017. Six hours after I submitted the piece, a magnitude 5.8 earthquake occurred in Montana. The earthquake was felt in much of the western part of the state and also by some in Idaho, Washington and Wyoming. Fortunately, the epicentral area was rural and the only damage reported was items knocked from shelves. And last Monday, a magnitude 7.7 earthquake occurred in the remote western end of the Aleutian Islands. A tsunami advisory was briefly issued for the Aleutians, then cancelled when deep ocean sensors showed that no significant surges had been generated

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