Pilot Rock is part of the Cascade Range, a mountain range notable for its string of volcanic peaks stretching from British Columbia to northern California’s Lassen Peak. The monument’s proclamation refers to Pilot Rock as “a volcanic plug,” describing it as “a remnant of a feeder vent left after a volcano eroded away, leaving an outstanding example of the inside of a volcano.” Pilot Rock is composed mostly of volcanic andesite and has sheer, vertical faces with classic columnar jointing created by the cooling of its andesite composition.

Plug or a Neck or both?
Many geologists use the terms “neck” and “plug” interchangeably, while others believe the terms apply to different types of volcanic structures. Some geologists use the different definitions of lava and magma to make the distinction between a volcanic “neck” and a volcanic “plug.” Magma is molten or partially molten rock beneath the earth’s surface. Magma collects inside a volcano’s magma chamber before it erupts. When magma breaches the earth’s surface, the magma becomes lava and a volcano is formed.

Geologists who make the distinction between volcanic necks and plugs consider a volcanic “neck” indicative of an actual volcano – a column of igneous rock formed by congelation of lava in the conduit or vent of a volcano and later exposed by the erosion of surrounding rocks.

In contrast, these geologists consider a volcanic “plug” to be a structure formed by a body of magma that never reached the earth’s surface. Over time, the softer exterior rocks eroded away, leaving behind the now-cooled magma. Put simply, a “plug” is an intrusive body formed by magma which cooled underground and was later exposed by erosion.

Recent Research
Recent research regarding Pilot Rock suggests that 25 million years ago, magma oozed through a weak spot in the earth’s crust, but did not reach the surface. As a result, some geologists refer to Pilot Rock as technically a “volcanic plug,” but NOT as defined in the monument’s proclamation - the proclamation evidently uses “plug” and “neck” interchangeably. However, “plugs” and “necks” are defined, what they both have in common is erosion. After the softer rock is eroded, the remaining harder volcanic structure stands up in bold relief to the surrounding landscape as the blockish, irregular, columnar structure you see today.

Cousins
Ship Rock in New Mexico and Devil’s Tower in Wyoming are considered to be volcanic necks or plugs, which were exposed after the surrounding sedimentary rocks eroded and fell away.

Human History
The Takelma people called it Tan-ts’at-seniptha, “Stone Standing Up.” In 1841, an enterprising U.S. Navy lieutenant scouting a route from the Columbia River to San Francisco Bay named it for himself: Emmons’ Peak. We know it as Pilot Rock, a welcome landmark for weary migrants on the Applegate Trail in the 1850s and for travelers on I-5 today.

Taking care of your national monument
Please follow these simple steps and help us preserve and protect this special place. Leave what you find, practice leave no trace principles and honor private property boundaries. Harassing wildlife and cross country travel by bicycle or vehicle are prohibited.

Did you know?
According to local newspaper reports, nine aircraft have crashed into Pilot Rock since 1942, usually due to poor visibility and low clouds.
Be Prepared!
Don’t overestimate your capabilities. Wear good hiking shoes. Always carry water and food and be sure to drink and eat. Hike with a buddy, tell a friend, or leave a note with your hiking plans. Always bring a lightweight flashlight to give yourself the option of hiking out after dark in the event that illness, injury, or enjoyment should slow you down. Check the local weather and trail conditions before your hike. In cold and/or wet weather, avoid hypothermia by wearing layered clothing and being prepared for bad weather.

Drinking and Eating
Drink a minimum of 1 or more gallons (4 to 8 liters) of water per day. Do not wait until you are thirsty to start replacing fluids and electrolytes. By the time you feel thirsty, you are already dehydrated. Remember that it is important to eat as well as drink. Eat high-energy foods and salty snacks on the trail. Food is your most important defense against exhaustion and water intoxication (hyponatremia).

Wait for the Shade
Avoid hiking in direct sun. Temperatures in the sun may be 15 to 20 degrees higher than in the shade. Wear a hat and sunblock to protect yourself from sun exposure.

Be Kind to Yourself
Do not exceed your normal level of physical activity or training. Take breaks in the shade and avoid long hikes during the heat of the day. If you have asthma, diabetes, heart, knee, back or other medical problems, limit your exertion and exposure to heat. Altitude, strenuous climbing, dehydration and extreme temperatures can make medical problems worse.

Heat Kills! Hike Smart!
Don’t be fooled by Oregon’s stereotypical cool and cloudy weather. Summer time in the Rogue Valley sees little rain, with temperatures frequently reaching 100 degrees Fahrenheit. Heat exhaustion is the result of dehydration due to intense sweating. Drink water and electrolyte drinks and eat food before, during, and after your hike. If not treated, heat exhaustion can progress to heat stroke, a life-threatening emergency. Hyponatremia (water intoxication) is also a life-threatening emergency. To prevent: drink electrolyte drinks as well as water, and eat salty snacks during your hike.

Sources for this bulletin courtesy of the Medford Mail Tribune, Bureau of Land Management (BLM), United States Geological Survey (USGS), and the National Park Service (NPS). Update: 04.08.2013