

Landforms: Hells Canyon; Steens Mountain



Hells Canyon

Along the state's eastern margin the sheer walls of Hells Canyon rise even higher than those of Arizona's Grand Canyon. West of the Snake River a level platform of 17-million-year-old Miocene lavas marks some of the earliest flows from the volcanic episode geologists call the Columbia River Basalt Group (for geologic time scale, see Geologic Ages, pages 144–145). In the southwestern corner of the region shown, granites of the Wallowa Mountains protrude like islands

above the basalt flows. The Wallowas were heavily eroded by ice during the Pleistocene epoch. One of the most striking glacial features of the area is Wallowa Lake just south of Joseph. This three-mile-long lake is trapped between steep mounds of glacial debris, called lateral moraines, left by northward-moving lobes of ice flowing down the valley from what is now the Eagle Cap Wilderness. (see Wallowa map on page 135).

Within Hells Canyon a rock "package" called the Wallowa Terrane is represented by

volcanic rocks of the Seven Devils Group that are up to 250 million years old. This peculiar and distinctive suite of rocks, which was annexed or "accreted" to North America some 140 million years ago, has been recognized on Vancouver Island, the Queen Charlotte Islands and well up into Southeast Alaska. These rocks represent some of the best evidence for the exotic nature of much of the Blue Mountains.