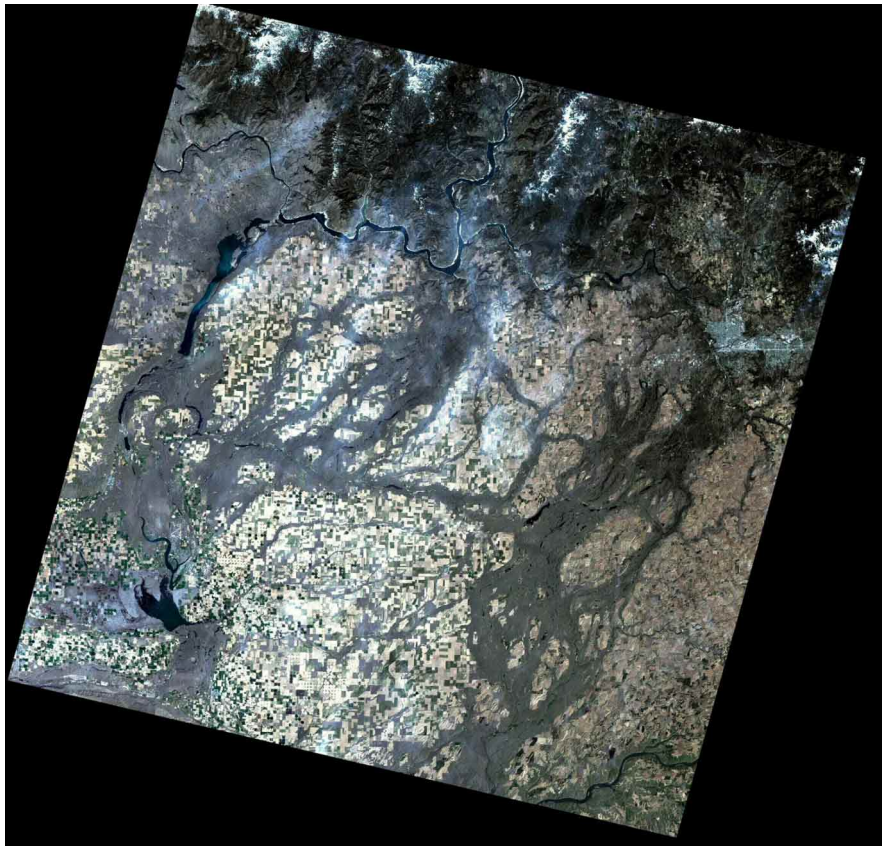
ISLANDS CARVED BY FLOODS

Channeled Scablands, Columbia Basin, USA, Earth



The Pacific Northwest was the stage for one of the world's greatest scientifically documented floods. Little more than 12,000 years ago during the last throes of the Ice Age, a "finger" of the continental ice sheet reached south into the Idaho panhandle, damming the mouth of the Clark Fork River and creating a monstrous lake known as Lake Missoula. Lake Missoula stretched for hundreds of miles across western Montana and contained more water than Lake Erie and Lake Ontario combined. The ice could only temporarily restrain such an immense volume of water. When the lake reached its maximum depth, water burst through the ice barrier, shooting out at a rate 10 times the combined flow of all the rivers in the world. At that rate the lake would have drained in as little as 48 hours!

In a scene belonging more to the realm of science fiction than to reality, this towering mass of water and ice, over 2,000 feet high at its source, literally shook the ground as it thundered toward the ocean at speeds approaching 65 miles per hour. The deluge quickly stripped away 200 feet of soil and cut deep canyons or "coulees" into the underlying bedrock, creating a vast maze-like network clearly visible from space. The torrent even widened and deepened the Columbia Gorge, baring the majestic cliffs seen today.

NASA Landsat Image

use 3-D glasses to view image

Streamlined Islands, Chryse Planitia, Mars

Streamlined landforms (or "islands") such as these are low hills with elongated tapered shapes. These examples formed at the mouth of Tiu Vallis. Similar landforms occur at the mouth of Ares Vallis and other outflows in this area of Mars. Most are oriented parallel to the direction of flow, and were most likely formed by flowing water during flood conditions. Streamlined landforms similar to these occur in central Washington state (see description of channeled scablands above).

Lunar and Planetary Institute
http://www.lpi.usra.edu