

The Ancient Oceans of Mars: My Five Decades of Mars Geological Research

Multiple spacecraft and landers are currently producing results related to the geological history of very ancient water-related activity on the surface of Mars. While I had not originally envisioned a career in planetary geology, that was all changed by the discovery of ancient megaflood channels on Mars made possible by NASA's *Mariner 9 Mission* of the early 1970s.. I recognized that these channels were caused by the same kinds of processes that formed the Channeled Scabland and other megaflood landscapes of the northwestern U.S. Later work revealed that the massive flooding on ancient Mars was associated with the formation of an immense ocean that episodically covered much of the northern hemisphere of that planet. This ocean was key part to the conditions that made the surface of Mars habitable prior to 3 billion years ago. Of course, there is continuing scientific controversy about why ancient Mars was so different from today and why it changed to its modern conditions. This talk will provide an overview of the topic in the light of current mission results.

