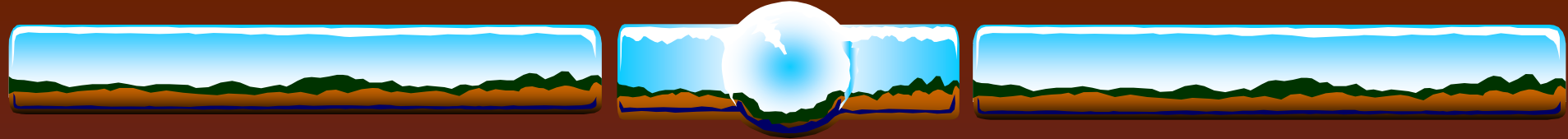
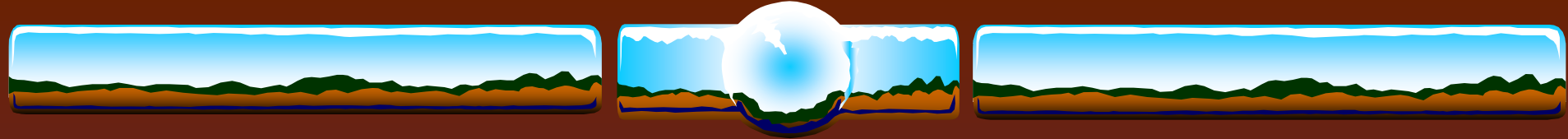
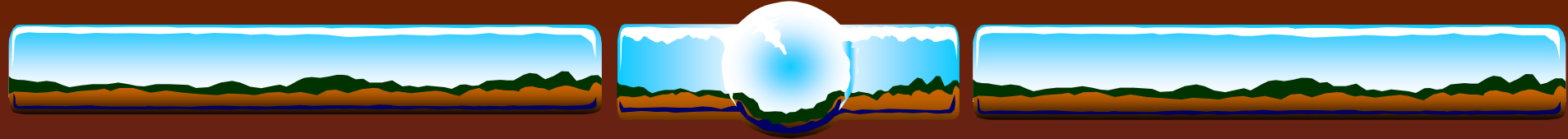


Volcanoes: Can they really impact me and my daily existence?











Mt. St. Helens Eruption

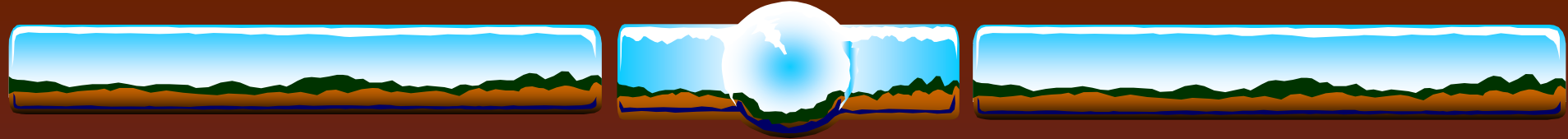


TABLE 5.1

Some Notable Volcanic Eruptions

Date	Volcano	Deaths
Apr. 10, 1815	Tambora, Indonesia	92,000; includes deaths from eruption and famine and disease
Oct. 8, 1822	Galunggung, Java	Pyroclastic flows and mudflows killed 4011
Mar. 2, 1856	Awu, Indonesia	2806 died in pyroclastic flows
Aug. 27, 1883	Krakatau, Indonesia	More than 36,000 died; most killed by tsunami
June 7, 1892	Awu, Indonesia	1532 died in pyroclastic flows
May 8, 1902	Mount Pelée, Martinique	Nuée ardente engulfed St. Pierre and killed 28,000
Oct. 24, 1902	Santa Maria, Guatemala	5000 died during eruption
May 19, 1919	Kelut, Java	Mudflows devastated 104 villages and killed 5110
Jan. 21, 1951	Lamington, New Guinea	Pyroclastic flows killed 2942
Mar. 17, 1963	Agung, Indonesia	1148 perished during eruption
May 18, 1980	Mount St. Helens, Washington	63 killed; 600 km ² of forest devastated
Mar. 28, 1982	El Chichón, Mexico	Pyroclastic flows killed 1877
Nov. 13, 1985	Nevado del Ruiz, Colombia	Minor eruption triggered mudflows that killed 23,000
Aug. 21, 1986	Oku volcanic field, Cameroon	Cloud of CO ₂ released from Lake Nyos killed 1746
June 15, 1991	Mount Pinatubo, Philippines	~ 281 killed during eruption; 83 died in later mudflows; 358 died of illness
July 1999	Soufrière Hills, Montserrat	19 killed; 12,000 evacuated
Jan. 17, 2002	Nyiragongo, Zaire	Lava flow killed 147 in Goma



Toba Caldera



The caldera is 60 Km long and 25 Km wide



Types of eruptions:

- *Effusive*
- *Explosive*





Photograph by Carsten Peter



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Mt. Etna Eruption



Mt. Aconcagua





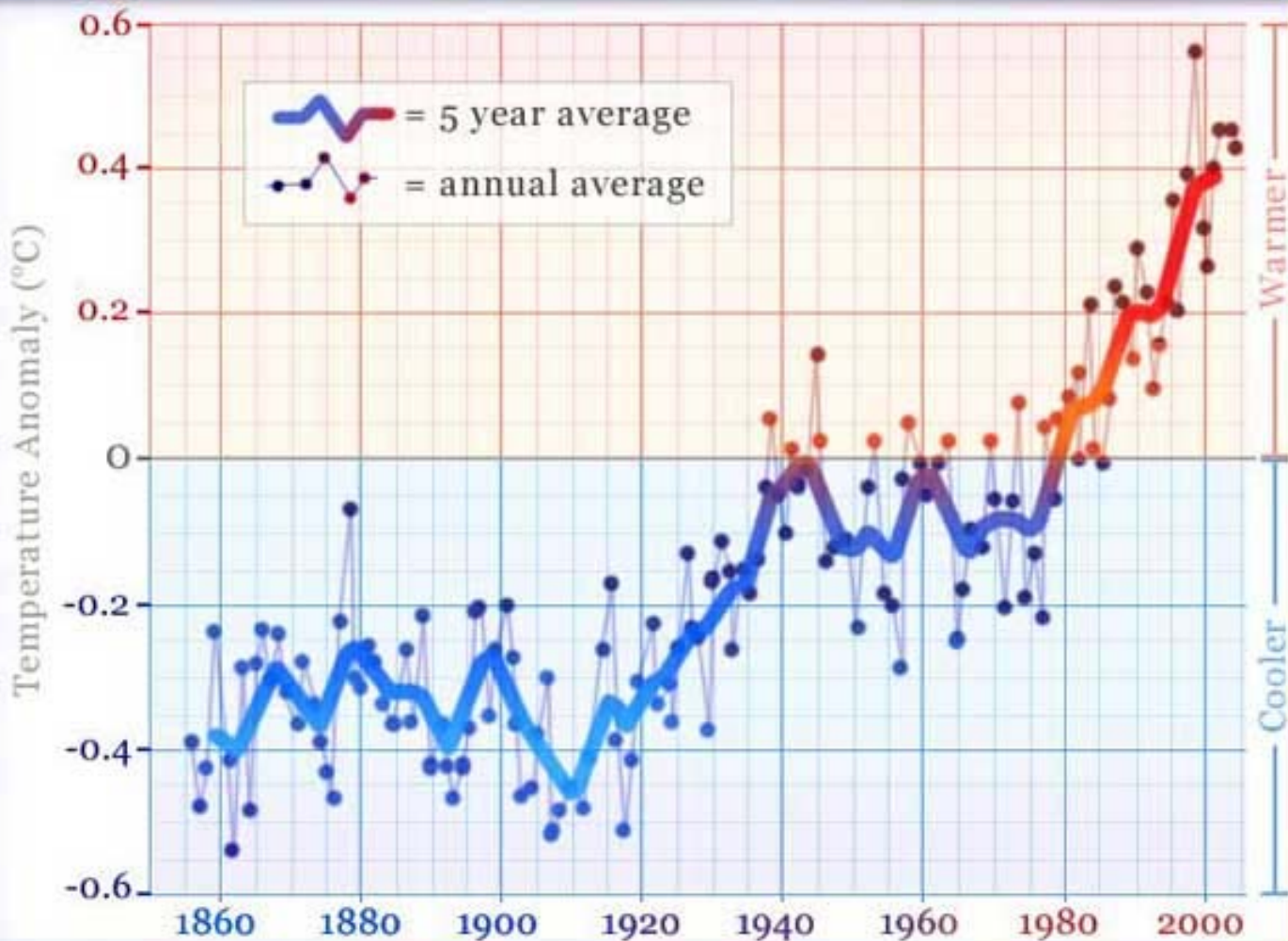
Pyroclastic Flows

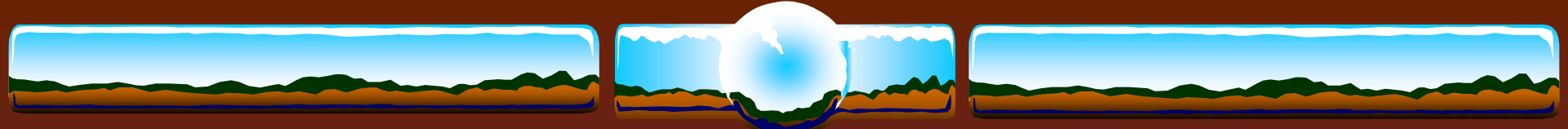


Examples of Explosive volcanic eruptions that have affected the world.

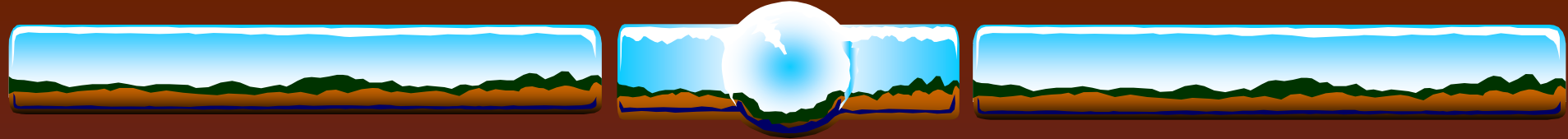
- Mt. Pinatubo (1991)
- Tombora Eruption (1815)
- Santorini Eruption (1600 BC)

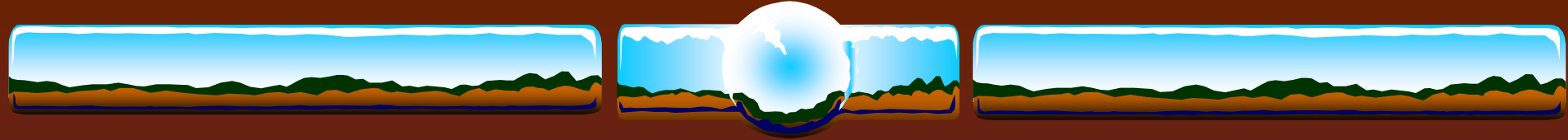
Global Temperatures



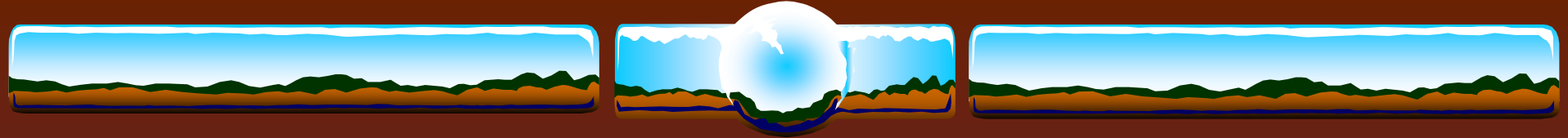
The header consists of three horizontal panels. The left and right panels show a stylized landscape with a blue sky, green hills, and brown ground. The middle panel features a white globe with blue oceans, positioned centrally between the two landscape panels.

Sleet fell in the Northeast United States, and snowdrifts remained 2 feet deep in late spring. In Franconia, New Hampshire, 88-year-old physician Edward Holyoke, an amateur astronomer and meteorologist who kept detailed weather records for 80 years, wrote on June 7: "exceeding[ly] cold. Ground frozen hard, and squalls of snow through the day. Icicles 12 inches long in the shade at noon day."

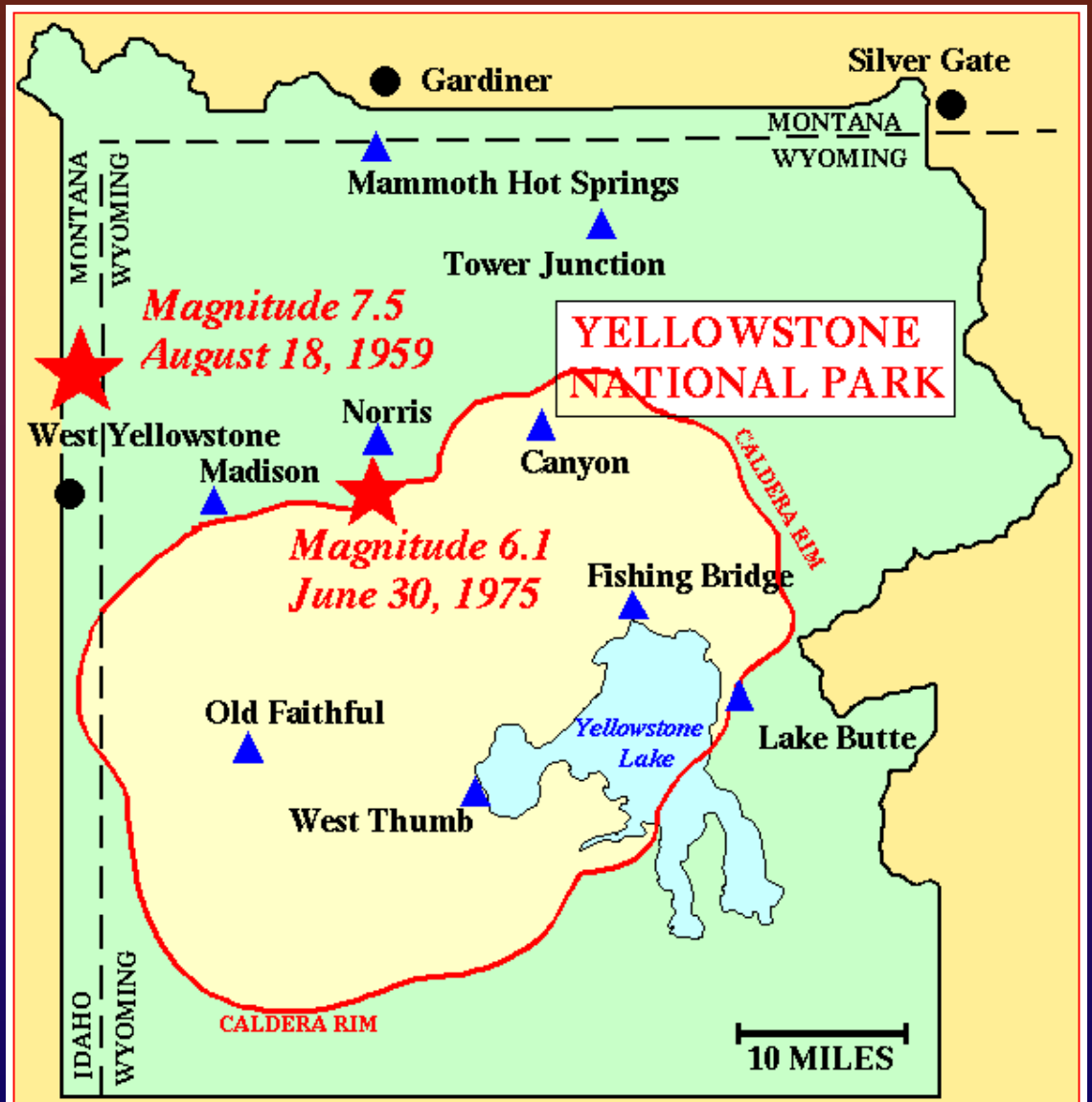




Are there volcanoes today that can cause world wide temperature change and climate change?



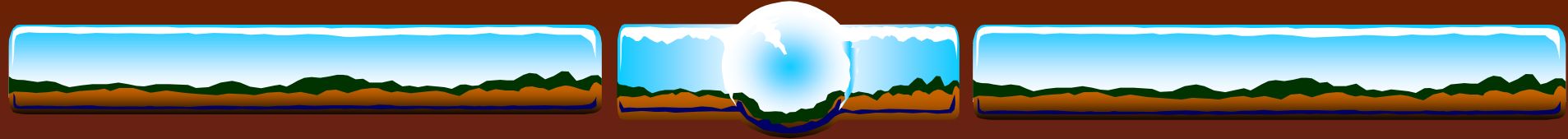
Yellowstone Caldera



Topinka, USGSICVD, 1997, Modified from: Dzurisin, Christensen, and Pierce, 1995

Which volcano will be next?





Thank You!