

Wind may explain Red Sea parting

by [Leslie Katz](#)



Scientists from the National Center for Atmospheric Research and the University of Colorado used computer modeling to come up with a scenario for how the Red Sea could have parted to let people through.

(Credit: Illustration by Nicolle Rager Fuller)

Here's some fodder for discussion at the next Passover seder. Moses might have gotten some serious help from the wind when he parted the Red Sea as chronicled in the Old Testament. According to a new computer-modeling study, wind patterns at a bend where an ancient river is believed to have merged with a coastal lagoon along the Mediterranean Sea are such that they could have pushed the waters back and created a temporary land crossing.

The researchers at the National Center for Atmospheric Research and the University of Colorado at Boulder made their discovery as part of a larger study of wind's impact on water depths and



reported their findings in a recent issue of the online peer-review journal PLoS One. They used archaeological records, satellite measurements, and current maps to reconstruct the likely locations and depths of Nile delta waterways, which have shifted considerably since Moses' time more than 3,000 years ago.

Charlton Heston and Yul Brynner stand off in "The Ten Commandments." Was it Moses or the winds that parted the Red Sea? Some scientists are saying the latter.

(Credit: Paramount Pictures)

The biblical Exodus account, famously and dramatically presented in the 1956 movie "The Ten Commandments," describes Moses leading the Israelites from slavery in Egypt to eventual safety.

In what is often recounted as a divine miracle, an east wind blows the waters of the Red Sea back, creating a passageway that enables the fleeing Israelites to safely pass through to the other shore. Then, the story goes, the waters engulf and drown Pharaoh's pursuing army.

The researchers say this story can possibly be explained by "wind setdown," a phenomenon in which strong offshore winds can temporarily lower water levels in shallow coastal areas. Using 14 computer models, they found that 63mph winds, lasting for 12 hours, would have pushed back waters estimated to be 6 feet deep. This would have exposed mud flats for 4 hours, creating a dry passage about 2 to 2.5 miles long and 3 miles wide. The water would have been pushed back into a surrounding lake and river channel, creating water barriers on both sides of the exposed mud flats and thus creating a land bridge people could have possibly walked across. "The simulations match fairly closely with the account in Exodus," says Carl Drews of NCAR, lead author of the study. "The parting of the waters can be understood through fluid dynamics. The wind moves the water in a way that's in accordance with physical laws, creating a safe passage with water on two sides and then abruptly allowing the water to rush back in."

This is not, however, the first time scientists have studied natural phenomena in relation to the Exodus tale. For example, "The Parting of the Sea: How Volcanoes, Earthquakes, and Plagues Shaped the Story of Exodus," published by Princeton University Press, suggests that a series of natural events including tsunamis and volcanic eruptions explain the ancient tale.

In the book, author Barbara Sivertsen, a geologist, not only applies scientific explanations to the water's parting, but to the Ten Plagues (the Nile turning to blood, insects swarming the land, and a surplus of frogs...) that were said to have befallen Egyptians at the hand of God before Pharaoh finally allowed the Israelites to go free.

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