Moses had help parting the Red Sea, study says

研究顯示　摩西靠自然風助力分海

US researchers think they have narrowed down where Moses parted the Red Sea 3,000 years ago, and also how he did it — with a little help from the wind.

"People have always been fascinated by this Exodus story, wondering if it comes from historical facts," Carl Drews of the National Center for Atmospheric Research, the lead author of the study, said.

"What this study shows is that the description of the waters parting indeed has a basis in physical laws," he said.

The Bible speaks of the Israelites going "into the midst of the sea on dry ground" with a wall of water on either side of them as a strong wind from the east blew through the night after Moses stretched his hand out over the sea.

The researchers couldn't simply refer to the Bible to pin down the geographical location of the crossing because "although the author of Exodus tried very hard to **pinpoint** where Moses crossed, unfortunately the three place names used are no longer recognized," Drews told AFP.

Drews and his co-author Weiqing Han, an oceanographer from the University of Colorado focused on a place with a bend in the water, reasoning that when the wind blows, the water would shift and split at the point of the bend, leaving water on both sides, Drews explained.

"A bunch of **refugees** can come running across, and when the wind stops, the water suddenly goes back together again, trapping anyone who's pursuing," he said.

The two researchers narrowed down their hunt to a place in the eastern Nile Delta at an archaeological site later called Tell Kedua, situated north of the Suez Canal on the Mediterranean coast.

At this site, an ancient branch of the Nile and a coastal **lagoon** are believed to have come together in a U-shape.

The researchers then made a computer **simulation** which demonstrated that with the right wind conditions, the waters would recede long enough for Moses and the Israelites to cross.

"The simulations match fairly closely with the account in Exodus," said Drews.

"So now there's a scientific basis for a 3,000-year-old story that we've seen movies of and read in books, and that's really exciting," Drews said.

The study is published online on the Public Library of Science site. (AFP)

美國研究員認為他們成功地縮小研究範圍，找出三千年前摩西分海的大概位置，也發現他當年如何辦到的—原來就是稍微借了點東風。

美國國家大氣研究中心研究員，也是帶頭進行這項研究的卡爾・德魯斯表示，「人們總是對聖經的出埃及記感到著迷，且懷疑是否有歷史根據。」

他說，「這項研究顯示，分海的描述顯然有其基本的物理原理。」

聖經描述當時以色列人「要下海中走乾地」，因此摩西向海伸出手杖後，向老天借東風、使海水一夜退去、水便分開、海就成了乾地，水則在他們的左右形成水牆。

德魯斯告訴法新社，研究員無法單靠著聖經就把摩西分海的地理位置找到，因為「雖然聖經出埃及記作者，很努力地標示摩西跨海的地方，但很不幸的上面三個地名都已經無法辨認了。」

德魯斯與合著者韓衛青（暫譯），一位來自科羅拉多大學的海洋學家，將重點放在河道的某個彎處。德魯斯解釋道，當風吹在河道該彎處時，水就會在那彎處的頂端移動並分開，使得河水分成兩邊。

他說，「此時逃難者可以跑過河。當強風停止時，河水突然回到正常的狀態，將緊追在後的人困住。」

這兩位研究員將範圍縮小到尼羅河三角洲東部，一個稱為Tell Kedua的考古遺址，位於蘇彝士運河北部，在地中海的那一岸上。

人們相信這遺址的一片靠海岸的內海，與尼羅河的一條老支流，曾經連在一塊呈英文U字型。

研究員於是以電腦模擬，顯示如果條件都恰當，風量也剛好，那麼海水就會退到足夠給摩西和以色列人跨海。

德魯斯表示，「電腦模擬的結果與出埃及記中的描述相當類似。」

他說，「所以我們曾於電影與書本中看到的這個三千年前的事件，終於有了科學基礎。這真的令人振奮。」

該研究發表於網路，在公共圖書館的科學網站上。

（法新社／翻譯：吳岱璟）

This image taken by a crew member on the International Space Station on April 10, 2010, shows the Red Sea, Sinai Peninsula and River Nile. PHOTO: AP/NASA

這張國際太空站成員之一於四月十日拍攝的照片中，顯示的是紅海，西奈半島與尼羅河。 照片：美聯社／美國太空總署

TODAY'S WORDS 今日單字

1. pinpoint /ˈpɪnˈpɔɪnt/ v.
明確指出 (ming2 que4 zhi3 chu1)
例: The engineers are struggling to pinpoint the source of the problem.
（工程師奮力地找出明確的問題來源。）

2. refugee /ˈrɛfjuˈdʒi/ n.
難民 (nan4 min2)
例: Hundreds of refugees have entered the country illegally.
（數以百計的難民非法進入該國。）

3. lagoon /ləˈgun/ n.
瀉湖 (xi4 hu2)
例: Before dinner, everyone went swimming in the lagoon.
（晚餐前大家都到瀉湖裡游泳。）

4. simulation /ˈsɪmjəˈleʃən/ n.
模擬 (mo2 ni3)
例: The computer simulation showed how the accident occurred.
（電腦模擬顯示出車禍是如何發生的。）