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EARTH: Thinking Outside the Rocks in the Search for Ancient Earthquakes

Alexandria, VA – The eyewitness accounts, written in columns from right to left, top to bottom, testify that there was no warning of the tsunami, no shaking to drive villagers to high ground before the wave hit, drowning rice paddies and swamping a castle moat. The entries, written by merchants, peasants and samurai, all clearly mark the time and date: just after midnight on Wednesday, Jan. 27, 1700.

For centuries, it was unclear why no shaking preceded the Japanese tsunami of 1700. Now, researchers know that it's because the tsunami was set off by an earthquake clear across the Pacific. By noting the height of the waves described in the accounts and working backward from the moment the tsunami struck, modern-day researchers detailed the magnitude and timing of the causative event: a massive magnitude-9.0 earthquake that demolished villages along North America's Pacific Northwest coast about 9 p.m. on Tuesday, Jan. 26, 1700.

As EARTH details in its September feature, "Thinking Outside the Rocks in the Search for Ancient Earthquakes," modern-day scientists are getting creative in the search for information about past quakes. Read more about how researchers are turning to old newspaper articles and photographs, folklore, petroglyphs, crumpled buildings and toppled monuments — and how learning about past quakes can help seismologists to assess future seismic risk — and read other stories on topics such as what scientists are learning from the dust from the Twin Towers' collapse on 9/11 that might help them determine how it affects people's health; how clean rivers are actually creating a problem with "rock snot"; and how CAT scans may help us find oil and gas in the September issue. And be sure to check out the travelogue about Nova Scotia's ancient rocks.

These stories and many more can be found in the September issue of EARTH, now available digitally (<http://www.earthmagazine.org/digital>) or in print on your local newsstands.

For further information on the September featured article, go to

<http://www.earthmagazine.org/earth/article/476-7db-8-19>

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