

Gods, floods – and global warming

The new science of geomythology links ancient legends and natural disasters - and supports climate change , writes Steve Jones.



Noah's Ark by Edward Hicks, 1846. 300 versions of the Flood myth are known in different cultures. Photo: WIKIMEDIA COMMONS

By [Steve Jones \(http://www.telegraph.co.uk/science/steve-jones/\)](http://www.telegraph.co.uk/science/steve-jones/)

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'Global warming (<http://www.telegraph.co.uk/earth/environment/climatechange/>) is a myth." Type that into a search engine and you get thousands of hits – but global warming is not a product of the human imagination; or no more so than any other scientific claims for – like them – it depends on its data, the accuracy of which has been affirmed by the inquiry into the leaked East Anglia documents. The subject has, alas, become the home of boring rants by obsessives.

More interesting is the notion that myths themselves may reflect real happenings of long ago. The new [science \(http://www.telegraph.co.uk/science/\)](http://www.telegraph.co.uk/science/) of geomythology sets out to tie such tales to ancient disasters. Often, geology and legend fit remarkably well.

The Greek fire-dragon the Chimaera was slain at her lair but – being immortal – her blazing breath lived on. It can be visited today, on the Turkish coast, where a jet of methane from underground has been burning for millennia. Nearby, are the ruins of Colossus. In AD60 a huge earthquake struck. Its Greek temple was directly over a rift in the Earth, where a stinking spring rose from Hades (the Oracle at Delphi was the same, and the best prophecies came after inhaling the gases). The event was remembered by the local pagans as a visitation from the murderous snake goddess Echidna, but as Christianity spread (helped by Paul's Epistles to the city) the tale grew up that the Archangel Michael had done the job instead, shaking the ground, raising thunderous voice in protest against heresy and opening a great canyon.

Volcanoes, too, tend to leave a lasting impression. The Hawaiians have suffered repeated – and well-dated – eruptions, each remembered as a battle of a chief with a demigod. They keep precise genealogies of their aristocracy, and each battling ruler did indeed reign at just the time of an explosion – the geological and family records of which date back to 700AD.

The greatest tale of all is that of the Flood. Noah finds his roots in older legends. Three hundred Flood narratives are known, from the Americas to Australia (from whence comes the tale of the frog that swallowed the world's water only to spew it out when the other animals made him laugh). A Babylonian version tells of a divine decision to destroy everyone, apart from a certain Atrahasis, who builds a boat for his family and escapes. A real Atrahasis ruled in Sumeria around 3000 BC and the ruins of his city reveal signs of a gigantic flood of the Euphrates at about that time.

[Climate Change report sets out impact on British seas \(http://www.telegraph.co.uk/earth/environment/climatechange/7891531/Climate-Change-report-sets-out-impact-on-British-seas.html\)](http://www.telegraph.co.uk/earth/environment/climatechange/7891531/Climate-Change-report-sets-out-impact-on-British-seas.html)

[Where have all the British botanists gone? \(http://www.telegraph.co.uk/science/steve-jones/8001565/Where-have-all-the-British-botanists-gone-just-when-we-need-them.html\)](http://www.telegraph.co.uk/science/steve-jones/8001565/Where-have-all-the-British-botanists-gone-just-when-we-need-them.html)

[Museums make an exhibition of themselves \(http://www.telegraph.co.uk/science/steve-jones/7860555/Arts-Fund-Prize-museums-making-an-exhibition-](http://www.telegraph.co.uk/science/steve-jones/7860555/Arts-Fund-Prize-museums-making-an-exhibition-)

[of-themselves.html](#))

[Phantom limbs and smoke and mirrors \(http://www.telegraph.co.uk/science/steve-jones/7829753/Phantom-limbs-and-smoke-and-mirrors.html\)](http://www.telegraph.co.uk/science/steve-jones/7829753/Phantom-limbs-and-smoke-and-mirrors.html)

[Wild coalitions \(http://www.telegraph.co.uk/science/7793602/View-from-the-lab-wild-coalitions.html\)](http://www.telegraph.co.uk/science/7793602/View-from-the-lab-wild-coalitions.html)

[How the world keeps turning \(http://www.telegraph.co.uk/science/steve-jones/7734055/Testing-the-spin-effect-how-far-the-the-world-turns-according-to-Einsteinian-physics.html\)](http://www.telegraph.co.uk/science/steve-jones/7734055/Testing-the-spin-effect-how-far-the-the-world-turns-according-to-Einsteinian-physics.html)

Enthusiasts hint that flood stories date back much further, to the end of the last Ice Age. Ice ages come in slowly, but go out with a bang. The last major event began around a hundred thousand years ago, with a gradual cooling that lasted for tens of millennia. It was interrupted by brief warmings – interstadials – none of which lasted more than a few thousand years. Then, quite suddenly, less than 20,000 years ago, an interstadial began to run away with itself and, quite soon, the icy shroud was almost gone.

The collapse came when climate reached a tipping point. As the edges of glaciers meet the seas they break off. Fleets of icebergs set out into the ocean. Again and again, though, the main ice age sheet recovered and the cold continued.

Then came the end. The evidence lies in ocean mud, in fossil pollen, and in changes in ratio of chemical isotopes that record shifts in temperature. The continental sheet sent out a vast – and final – armada of floating ice, which covered much of the northern seas. A slight increase in the Sun's output was matched by the disruption of deep ocean currents caused by cold fresh water sinking from the melting floes above. As the glaciers began to dissolve, their waters roared towards the sea. The Thames became a tributary of the Fleuve Manche, a river as huge and silt-laden as the Congo. It ran down what is now the English Channel. Probes into the sea floor far into the Atlantic reveal great beds of mud, the remains of a destroyed European landscape.

The deep seas are a vast reservoir of carbon dioxide, dissolved under pressure, but the chilly and hence heavy water from the disappearing bergs – helped by the Fleuve and its fellows – sank to the bottom and pushed that ancient reserve of trapped carbon towards the surface. Gas bubbled out and entered the air, pushing onwards the wave of warming. Within a couple of centuries the glaciers began their precipitate retreat, the oceans rose by tens of metres, and we were in the modern world.

Most of those ingredients are evident today, but millions insist that the warming story is made up. It's enough to make a frog laugh.

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