

Research team suggests European Little Ice Age came about due to reforestation in New World

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(PhysOrg.com) -- A team comprised of geological and environmental science researchers from Stanford University has been studying the impact that early European exploration had on the New World and have found evidence that they say suggests the European cold period from 1500 to 1750, commonly known as the Little Ice Age, was due to the rapid decline in native human populations shortly after early explorers arrived.

Following up on their <u>paper published in 2008</u>, the team has now brought their findings before the <u>Geological Society of America</u>. The researchers say that the population decrease, which came about due to the introduction of previously unknown diseases, led to the rapid <u>reforestation</u> of the Americas. This led to a sudden increase in the amount of carbon dioxide being pulled from the air, which meant the <u>atmosphere</u> wasn't able to hold as much heat, which led to colder air covering Europe.

The team, led by visiting scholar Richard Nevle, came to this conclusion after analyzing charcoal remnants in soil and lake sediments left behind by early American inhabitants as they burned forests to make room for farmland. They found that starting approximately 500 years ago, the charcoal accumulations came to a virtual standstill, coinciding with the death of native peoples.



Nevle et al then got out their calculators and crunched the numbers. They estimate that for a population of some 40 to 80 million indigenous people, the total amount of deforested land would likely have amounted to something the size of California. And since most estimates suggest that close to 90 percent of the native peoples died or were killed after the Europeans arrived, that meant most of that land returned to forest. That many trees, they say, all of a sudden appearing, almost as if out of nowhere, could have resulted in a loss of some 2 to 17 billion tons of carbon dioxide from the air.

To further bolster their argument, they say that core samples taken from the ice in Antarctica have air bubbles in them that show a reduction of <u>carbon dioxide</u> by 6 to 10 parts per million between 1525 and the early 1600s.

Of course this isn't concrete proof that humans caused the Little Ice Age, as others in the field point out. Events such as volcanic eruptions, solar flares or even colder ocean currents could also be at play. But so far, the evidence is certainly intriguing, pointing out that human activities, even those that are inadvertent, could be the cause of serious global climate changes.

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