

## The Fall of the Maya: 'They Did it to Themselves'

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Source: [https://science.nasa.gov/science-news/science-at-nasa/2009/06oct\\_maya](https://science.nasa.gov/science-news/science-at-nasa/2009/06oct_maya)

1. For 1200 years, the Maya dominated Central America. At their peak around 900 A.D., Maya cities teemed with more than 2,000 people per square mile -- comparable to modern Los Angeles County. Even in rural areas the Maya numbered 200 to 400 people per square mile. But suddenly, all was quiet. And the profound silence testified to one of the **greatest demographic disasters** in human prehistory -- the demise of the once vibrant Maya society.

"They did it to themselves," says veteran archeologist Tom Sever.

2."The Maya are often depicted as people who lived in complete **harmony with their environment,**' says PhD student Robert Griffin. "But like many other cultures before and after them, they ended up **deforesting and destroying** their landscape in efforts to eke out a living in hard times."

A major **drought** occurred about the time the Maya began to disappear. And at the time of their collapse, the Maya **had cut** down most of the trees across **large swaths** of the land to clear fields for growing corn to feed their burgeoning population. They also cut trees for firewood and for making building materials.

"They had to burn 20 trees to heat the limestone for making just 1 square meter of the lime plaster they used to build their tremendous temples, reservoirs, and monuments," explains Sever.

3. He and his team used computer simulations to reconstruct how the deforestation could have played a role in worsening the drought. They isolated the effects of deforestation using a pair of proven computer climate models: the PSU/NCAR mesoscale atmospheric circulation model, known as MM5, and the Community Climate System Model, or CCSM.

"We modeled the worst and best case scenarios: 100 percent deforestation in the Maya area and no deforestation," says Sever. "The results were eye opening. Loss of all the trees caused a 3-5 degree rise in temperature and a 20-30 percent decrease in rainfall."

The results are telling, but more research is needed to completely explain the mechanisms of Mayan decline. Archeological records reveal that while some Maya city-states did fall during drought periods, some survived and even thrived.

4."We believe that drought was realized differently in different areas," explains Griffin. "We propose that increases in temperature and decreases in rainfall **brought on by localized deforestation** caused serious enough problems **to push** some but not all city-states **over the edge.**"

The Maya deforested through the use of **slash-and-burn agriculture** – a method still used in their old stomping grounds today, so the researchers understand how it works.

"We know that for every 1 to 3 years you farm a piece of land, you need to let it lay fallow for 15 years **to recover**. In that time, trees and vegetation can grow back there while you slash and burn another area to plant in."

5. But what if you don't let the land lay fallow long enough **to replenish itself**? And what if you clear more and more fields to meet growing demands for food?

### INTRODUCTION:

What is sustainable development? What do you think can be described as ecological suicide?

Can you think of examples of societies that collapsed because they had damaged their natural environment?

### READING:

**BEFORE READING. THE MAYA- work in groups. What do you know about the Maya?**

**What you are not sure of?**

Read the text and answer the questions.

1. Who were the Maya?- group work
2. Describe the life of the Maya society at the peak of their power. How did they use their natural resources?
3. What is the hypothesis concerning the causes of the fall of their empire? What is it based on?
4. What is the lesson to be learned from the case of the Maya for the future generations?
5. Can you think of any examples of great civilizations that were damaged due to overexploitation of natural resources?

**VOCABULARY: Find the words in the text that mean the same as the words given below. Which adjectives refer to the peak of the power of the empire? Which ones describe its fall?**

	obfitowac		duży obszar
	wiejski obszar		kwitnący
	głęboki		wapień
	upadek		wymowny
	tętniący życiem		schyłek
	przedstawić		prosperować
	krajobraz		ciąć i palić
	przetrwąć		odnawiać się

**Find the words/ phrases in the text that can be used to describe ecological damage done to the environment and its results.**

**VIDEO: Why did the Maya civilization collapse? (2-6 min)**

<https://www.youtube.com/watch?v=SxwxTgFVUDE>

**Watch the video and answer the questions:**

1. What new information about the Maya empire did you learn from the film?
2. What are 3 hypotheses concerning the causes of the collapse of their empire?
3. How long did the drought last?

**The expressions below appear in the film. Do you know what they mean?**

1. this was **compounded by** environmental issues
2. their **population has skyrocketed** / ingenious and costly method
3. Jukatan is a **hostile** environment
4. the Maya had to develop costly methods to **thrive within**
5. in order **to fuel their growing cities** and to make the plaster that covered the massive temples
6. swathes of forest had to be cleared.
7. this deforestation increased **the soil erosion** in an environment where the soil was already thin
8. The success of the Maya city states was **sowing the seeds of their destruction.**
9. the final **fatal factor** was drought.
10. the **sheer scale** of the drought was **apocalyptic**

**WRITING**

**Write a summary of the text.**