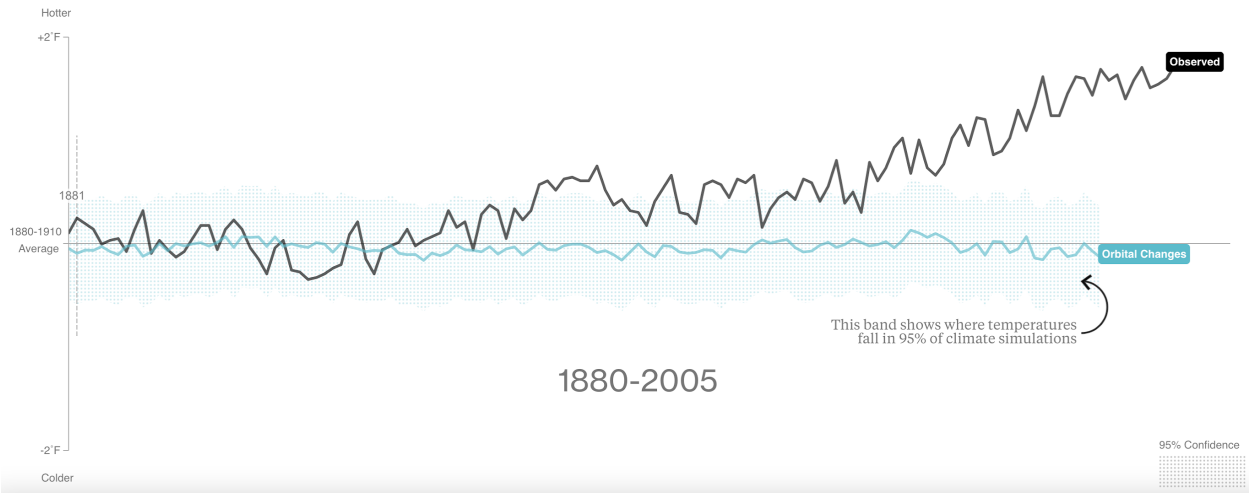
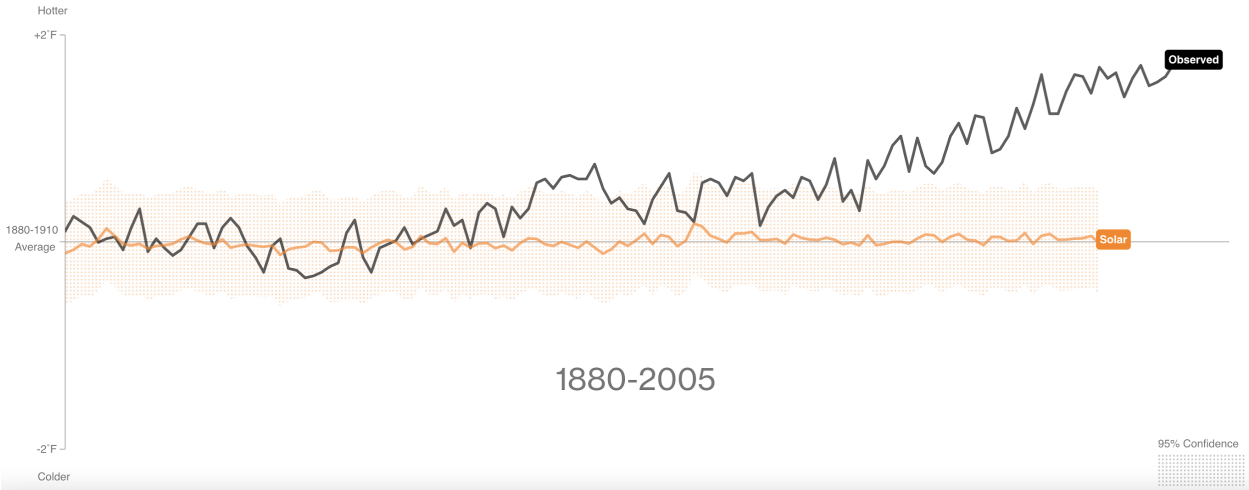
Is It the Earth's Orbit?

The Earth wobbles on its axis, and its tilt and orbit change over many thousands of years, pushing the climate into and out of ice ages. Yet the influence of orbital changes on the planet's temperature over 125 years has been negligible.



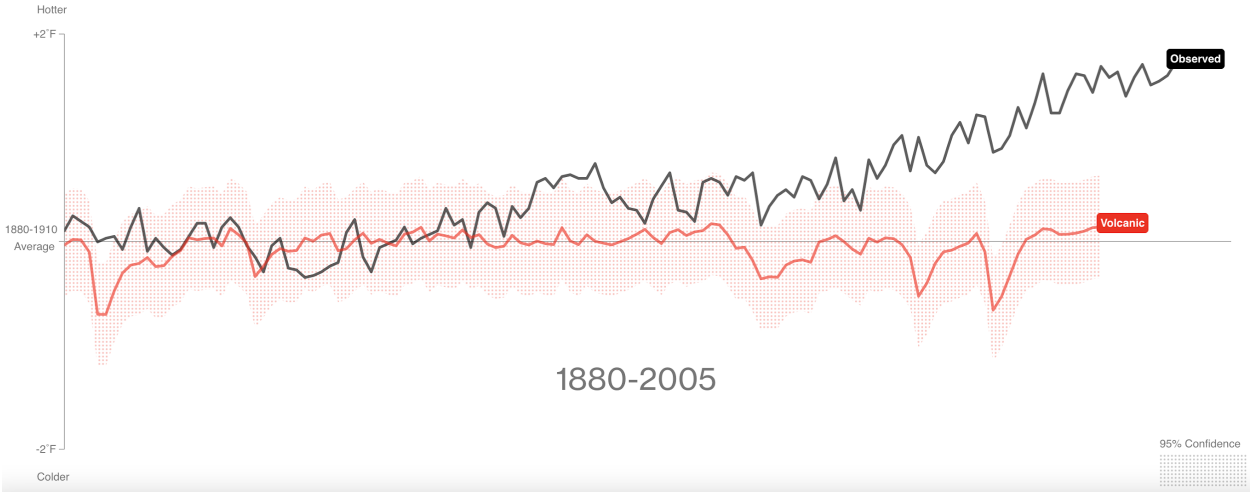
Is It the Sun?

The sun's temperature varies over decades and centuries. These changes have had little effect on the Earth's overall climate.



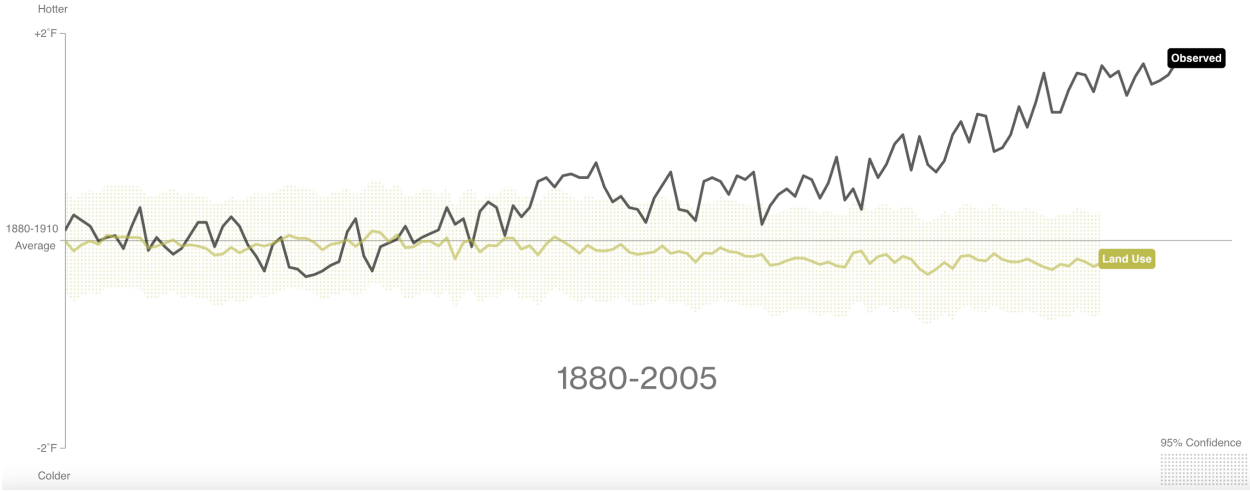
Is It Volcanoes?

The data suggest no. Human industry emits about 100 times more CO_2 than volcanic activity, and eruptions release sulfate chemicals that can actually cool the atmosphere for a year or two.



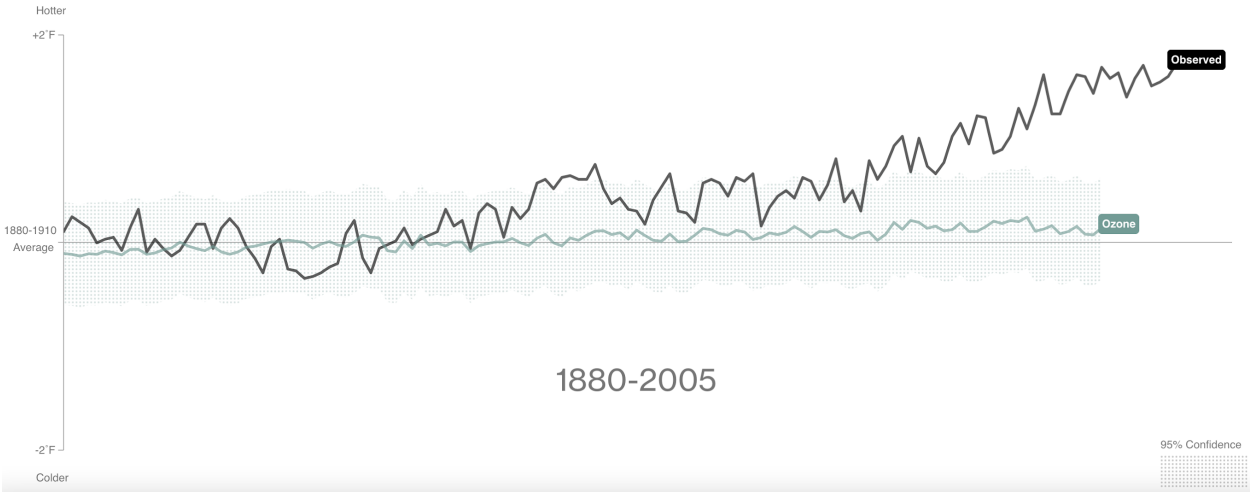
So If It's Not Nature, Is It Deforestation?

Humans have cut, plowed, and paved more than half the Earth's land surface. Dark forests are yielding to lighter patches, which reflect more sunlight—and have a slight cooling effect.



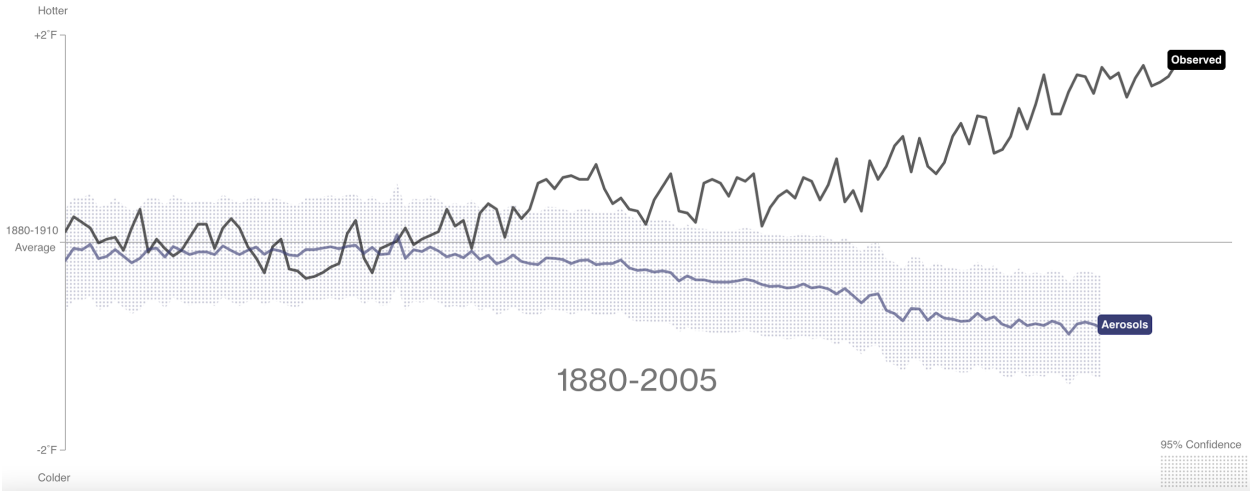
Or Ozone Pollution?

Natural ozone high in the atmosphere blocks harmful sunlight and cools things slightly. Closer to Earth, ozone is created by pollution and traps heat, making the climate a little bit hotter. What's the overall effect? Not much.



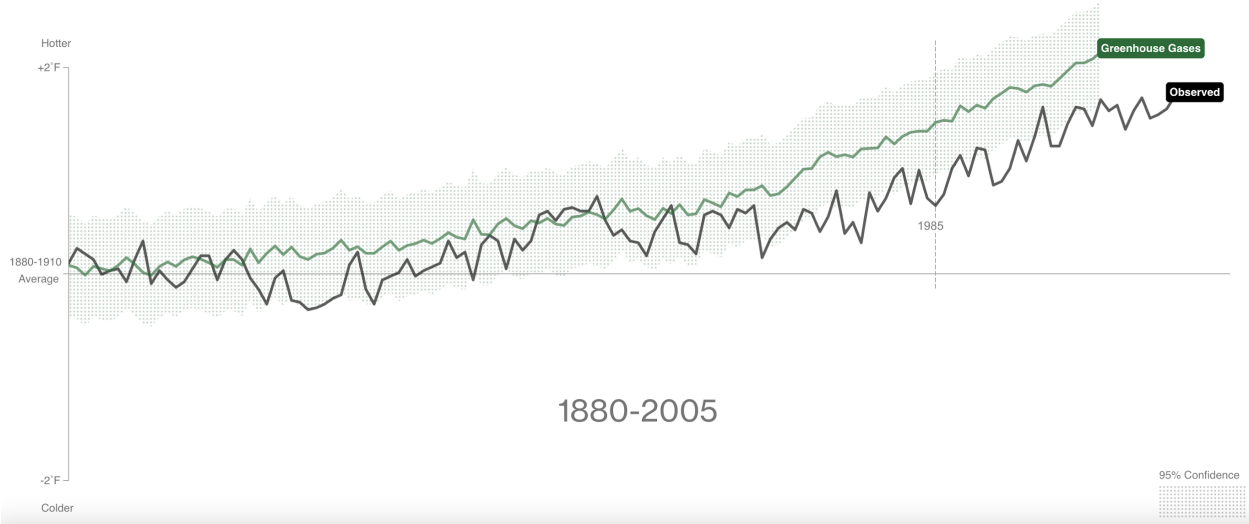
Or Aerosol Pollution?

Some pollutants cool the atmosphere, like sulfate aerosols from coal-burning. These aerosols offset some of the warming. (Unfortunately, they also cause acid rain.)



No, It Really Is Greenhouse Gases.

Atmospheric CO_2 levels are 40 percent higher than they were in 1750. The green line shows the influence of greenhouse gas emissions. It's no contest.



Compare and Contrast

Putting the possible natural and human causes of climate change alongside one another makes the dominant role of greenhouse gases even more plainly visible. The only real question is: What are we going to do about it?