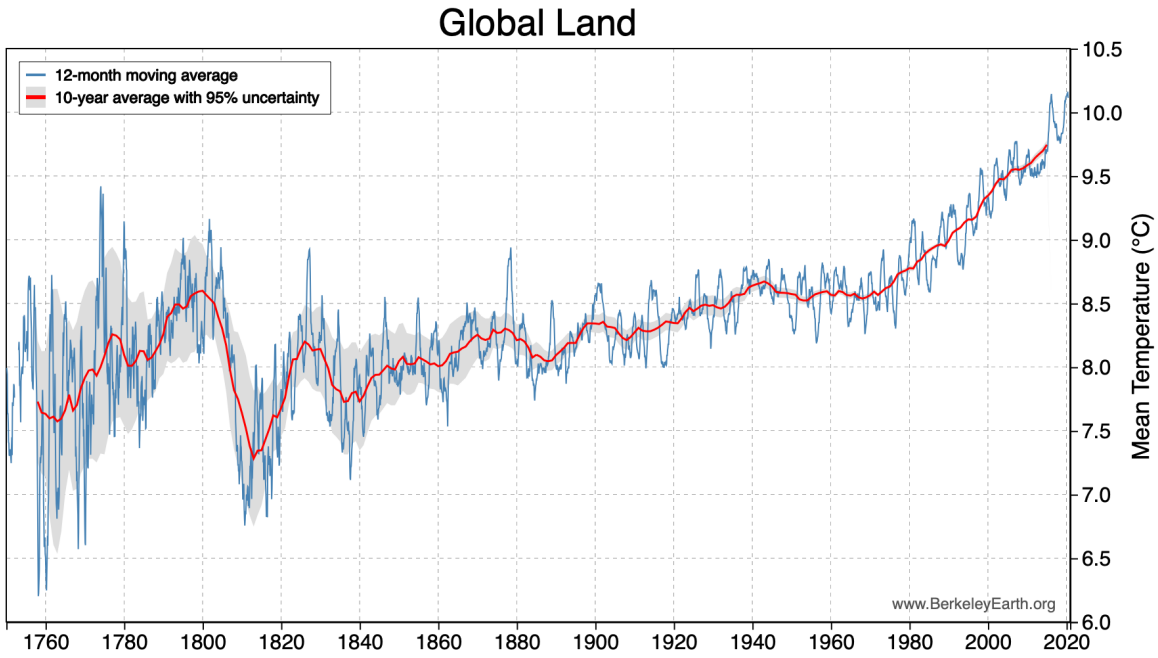
The Impacts of the International Climate Policies on Global Temperature

Kevin Wu and Matthew Chen



http://berkeleyearth.lbl.gov/regions/global-land

BREAKING NEWS

Trump to pull U.S. from historic Paris climate agreement

Move breaks ranks with more than 190 countries

President Trump will make good on a campaign promise to "cancel" the Paris climate agreement, officials say, breaking away from a global effort to reduce greenhouse gases. "The Paris Accord is a BAD deal for Americans," read a White House memo to supporters explaining the president's decision.

By Philip Rucker and Chris Mooney · 10 minutes ago

As U.S. backs away from climate pledges, India and China step up

But the world's two other biggest polluters — whose vast populations stand to lose dramatically from global warming — will not be able to replace the financial incentives the United States had on the table.

By Annie Gowen and Simon Denyer · 43 minutes ago

(Saul Loeb/Getty Images)

Analysis

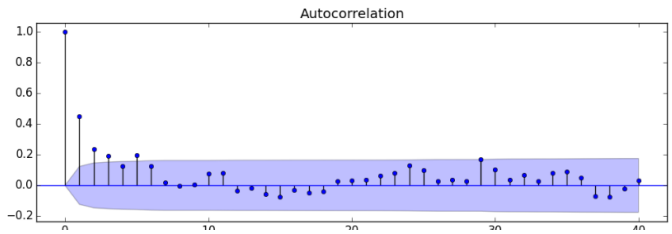
All but two countries are in the Paris climate agreement. The U.S. will be the third.

The United States will join two other nations — Syria and Nicaragua — in the U.N. climate group that do not participate in the accord.

By Kim Soffen

https://www.baltimoresun.com/sd-trump-exit-paris-climate-accord-told-by-world-headlines-20170601-htmlstory.html

$$\underline{\text{ARMA Model}}: \ \phi(B)y_t = \theta(B)w_t + \epsilon_t$$
$$\phi(B)y_t = a_0 y_t + a_1 y_{t-1} + a_2 y_{t-2} \cdots$$
$$\theta(B)w_t = a_0 w_t + a_1 w_{t-1} + a_2 w_{t-2} \cdots$$



THE EUROPEAN WEEKLY

New Europe

9th Year, Number 425 www.new-europe.com July 15 - 21, 2001

EU intensifies efforts for Kyoto Protocol triumph

- *Sans US: Japan, Australia vital players*
- *Global warming faster than thought - UN report*

LUKOIL

Russian oil major says it would make a bid during a planned auction for an 85.36 percent stake in the Norsi Oil company.

RYSZARD VARISELLA

ZETA COSMETICS

https://www.neweurope.eu/article/issue-0425-eu-intensifies-efforts-kyoto-protocol-triumph-print-edition/

Problem

1. Human-induced climate change, caused by the emission of greenhouse gasses from burning fossil fuels, dates back to the early 1800s, around the time of the first industrial revolution.
2. A spike in global temperatures has occurred in the last few decades, prompting two major global climate agreements.
3. The Kyoto Protocol went into effect in 2005 and required all developed countries to reduce emissions to 5% below 1990 levels. All developed countries besides the U.S. participated.
4. The Paris Agreement in 2015 required all countries to set targets for greenhouse gas emissions. The U.S. ceased participation in June 2017, and only recently rejoined in February 2021.
5. The effectiveness of Kyoto and Paris have been questioned. There have been several papers discussing the economic impact and historical significance of Kyoto and Paris, but we want to empirically test their effectiveness on decelerating global warming by comparing the rates of global temperature change before and after these agreements.
6. Global climate data comes from the Berkeley Earth dataset, which contains global and regional land and ocean temperature data dating back to 1750.
7. Studying whether current climate policies are effective could have an impact on future policy decisions that tackle the imminent global problem of climate change.

Methods

1. Due to year-to-year variations, correlated drift terms, and cyclical fluctuations in temperature, a linear model is practically useless for predicting temperature over long periods of time.
2. We will use a time-series model to help us determine rates of climate change. DV = temp, IV = time and other correlated factors like sunspots
3. The ARMA (auto-regressive moving average) model looks at the extent to which a data point *n* depends on its previous data points and calculates predictions accordingly.
4. Because the U.S. largely abstained from Kyoto and Paris, we will model the rate of U.S. temperature changes as a control.
5. To account for natural variations in climate, we will control for sunspot cycles and other climate oscillations (North Atlantic Oscillation, El Niño, La Niña).
6. Temperature records are monthly, so we can also account for seasonal variations
7. We will use the auto-correlation function to test whether our model exhibits significant differences over time, as well as a p-value test between coefficient in different hypotheses.
8. https://towardsdatascience.com/7-statistical-tests-to-validate-and-help-to-fit-arima-model-33c5853e2e93