

Geography Colloquium Series

Tuesday, October 6th, 12:30 to 1:45 pm
via online presentation,
URL made available before presentation

Rob Jackson

Professor, Earth System Science, Stanford University

Restoring the Atmosphere

The drumbeat of doom marks today's climate news. It might track a Category 5 hurricane in Florida peeling roofs off houses like bananas, the latest California or Australian or British Columbian town incinerated in a fire fueled by record heat and drought—melted shoes and hubcaps puddled on driveways—or one more clip of the Great Barrier Reef bleached white and dying. Stabilizing the earth's temperature to some arbitrary value is no longer enough, rolling the dice on which catastrophes we'll avoid. We need to restore the atmosphere.



The Endangered Species Act doesn't stop at saving plants and animals from extinction. It mandates their recovery. When we see gray whales breaching on their way to Alaska each spring, grizzly bears ambling across a Yellowstone meadow, bald eagles and peregrine falcons riding updrafts, we celebrate life and a planet restored. Our goal for the atmosphere must be the same.

To do it, we'll need to squeeze greenhouse gas emissions like a vice. We'll need to provide more energy to at least a billion people laboring in energy poverty and injustice. We'll need to preserve species and habitats more actively than we've done to date, while expanding natural carbon solutions and improving working lands.

The path to restoring the atmosphere will be beautiful—and ugly. We'll save lives from cleaner water and air. We'll say goodbye to oil imports and cut trade deficits. We'll have more choices and control over local energy supply. We might even save money, depending on the path we choose. We'll also need to adopt technologies each of us won't like. ("Oh no, not that one.") And we'll need to hack the atmosphere, removing greenhouse gases from the air after their release.

We can restore the atmosphere in a lifetime. We have to.



Rob Jackson and his lab examine the many ways people affect the Earth. They seek basic scientific knowledge and use it to help shape policies and reduce the environmental footprint of global warming, energy extraction, and other issues. They're currently examining the effects of climate change and droughts on forest mortality and grassland ecosystems. They are also working to measure and reduce greenhouse gas emissions through the Global Carbon Project (globalcarbonproject.org), which Jackson chairs; examples of new research Rob leads include establishing a global network of methane tower measurements at more than 80 sites worldwide and measuring and reducing methane emissions from oil and gas wells, city streets, and homes and buildings.