Lecture 20: Intro to Literature & the Environment, *The Climate Crisis: What Each of Us Can Do About It*

#WeAreStillIn

Most Americans are aware of the fact that President Trump pulled us out of the Paris Agreement. But what is this accord?
In December of 2015, the COP 21 in Paris brought "all nations into a common cause to undertake take ambitious efforts to combat climate change and adapt to its effects... As such, it charts a new course in the global climate effort."
"The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius."

Most Americans are aware of the fact that the U.S. is the only nation on earth that has declared that it will pull out of the Paris Agreement.
However, most Americans are still committed to the Paris Agreement through the #WeAreStillIn movement.
"We, the undersigned mayors, county executives, governors, tribal leaders, college and university leaders, businesses, faith groups, and investors are joining forces for the first time to declare that we will continue to support climate action to meet the Paris Agreement."

Because Governor Brown signed it, California is in the #WeAreStillIn movement.
Here are other signatories relevant to us:
Janet Napolitano, President of the University of California
Henry Yang, Chancellor of UCSB
The cities of Goleta and Santa Barbara

In practice, the #WeAreStillIn movement can be seen in programs like California's commitment to renewable energy.
Over 30% of California's electricity comes from renewable sources, with even higher peaks.
On May 13, 2017, 80% of California's total electricity generation came from renewable sources.
California is on track to get 50% of our electricity from renewables by 2020 - a full decade ahead of schedule.
If California were a country, it would be the fifth-largest economy on the planet, surpassed only by the United States, China, Japan, and Germany.

The #WeAreStillIn movement can also be seen closer to home:

The University of California system has made a commitment, called the Carbon Neutrality Initiative (CNI), to be 100% (sort of) renewable by 2015.
UCSB will be one of the campuses to meet this goal.
UCSB has also made major commitments to climate-change education and coursework.

Cities, like Santa Barbara, are taking a number of steps in keeping with the #WeAreStillIn movement.
SB has committed to become 100% renewable by 2030.
SB is also spending over $50 million on a new Bicycle Master Plan in order to phase out cars powered by fossil fuels.

#WeAreStillIn makes clear that businesses and institutions (like the UC and UCSB) can take meaningful global action.
The #WeAreStillIn movement also underscores the importance of not just federal, but state and local political action even when it comes to global matters.
If you can spare just one hour per year to do something to help with climate change, vote.

Another way to be active (and even an activist) is to get involved in local eco-organizations. UCSB has over fifty, plus jobs, internships, etc.
Google "UCSB Sustainability get involved students."

A Few UCSB Eco-Organizations
Associated Students Bike Committee*
Associated Students Bike Shop
Associated Students Coastal Fund*
Associated Students Commission On Student Well-Being (COSWB)*
Associated Students Community Affairs Board (CAB)
Associated Students Department of Public Worms (DPW)*
Associated Students Environmental Affairs Board (EAB)*
Associated Students Food Bank*
Associated Students Human Rights Board (HRB)*
Associated Students Recycling*
Associated Students Zero Waste Committee*
CalPIRG – California Student Public Interest Research Group*
Climate Justice Hub*
Climate Reality Project Campus Corps at UCSB*
Ecological Coalition (ECOalition) at UCSB
Edible Campus Program*
Educating Leaders for the Future (ELF)*
Engineers Without Borders (EWB)*
FeelGood SB
Food, Nutrition, & Basic Skills Program (FNBS)

Fossil Free UCSB*
Greenhouse and Garden Project*
The Green Initiative Fund (TGIF)*
The Wildlife Society*
Health, Environment, & Animal Rights (HEAR)!*
Isla Vista Community Relations Commission (IVCRC)
Isla Vista Surfrider Foundation*
LabRATS (Laboratory Research and Technical Staff)*
Oxfam America Club at UCSB*
Program for the Assessment and Certification for the Environment and Sustainability (PACES)*
Plastic Solutions*
Refuse, Recycling, & Research Center (R3C)
Renewable Energy Initiative (REI)
Residence Hall Association (RHA)*
Santa Barbara Student Housing Co-op
UC Carbon Neutrality Initiative (CNI)*
UC Global Food Initiative (GFI)*
UCSB Sustainability Internship Program
Your Children's Trees at UCSB*

Personal Impact, Transportation

Transportation is the single largest source of CO_2 emissions for most people. For many people, driving a car accounts for a quarter of their carbon footprint.
Cars are also a huge financial burden for many people, as it costs $9000 per year to own and operate a car.
They are also deathtraps, as cars are responsible for around 50 million injuries worldwide each year. The WHO has called car use an epidemic.

The problem with cars begins before you even drive them.
17 metric tons of CO_2 are released into the atmosphere during the manufacturing process of a typical car. Some luxury SUVs have a carbon footprint double that at 35 metric tons.
Consequently, even before you take your first ride, when you buy a new car you have already blown your entire carbon budget for the next 8 to 17 years.

It is, however, currently possible to transport a person 350, 500, even astonishing 750 miles on a single gallon of gasoline or its equivalent.
What are these wonder technologies? Buses, subways, and trains, respectively.
When compared to a 25mpg car with a single occupant, a bus is 14 times more efficient, a subway 20 times more so, and a passenger train 30 times more efficient.

There are international movements, from grassroots efforts to changes in the infrastructure of major cities, designed to remove cars from the landscape.

The fact is that cars are not even necessary.
In Manhattan, for example, over a third of commuters walk to work.
New Yorkers, incidentally, are eleven times more likely to take mass transit to work than the average American. As Edward Glaeser, David Owen, and many others have argued, cities are far more efficient than suburbs and rural locales. This is clearly the case with fossil fuel use and corresponding carbon footprints.
The example of Manhattan (and cities more generally) makes clear that is quite possible for modern human beings to live rich and diverse lives largely free of the automobile.

Air Transportation
If you fly three or more times per year, it can account for a third or more of your carbon footprint.
Flying coach from L.A. to Paris and back (which you could do in a 24 hour period) will blow your entire carbon allotment under COP21 for 1.5 years. If you fly first class, you will blow it for three years.
There is simply no faster way to contribute to climate change than flying.
Flying is also privilege of wealth, as 19 out of 20 people on the planet will never set foot into an airplane.
Flying is one of the reasons that Americans have put 25% of all anthropogenic CO_2 emissions into the atmosphere.

Personal Impact, Housing

Taken together, home heating, cooling, and other uses have a carbon footprint even greater than transportation. Roughly a third of our carbon footprints come from our homes.

In 1950, the average size of a single-family home in the U.S. was 983 square feet.
In 2015, the average size was over 2500 square feet.
In spite of the fact that the average U.S. family size dropped from 3.54 in 1950 to 2.54 in 2015, the average house is now two and a half times larger.
In contrast, a typical Japanese house for a family of 4+ was approx 400 square feet (the size of a modern two-car garage).

One in five new homes in the U.S. is 3,000 to 3,999 square feet. One in ten is more than 4,000 square feet.
The past three decades have seen the rise of the "McMansion."

Eighty metric tons of CO_2 is emitted to construct a modest two-bedroom house. That is an individual's carbon allotment (according to the Paris Agreement) for forty years.
Heating, cooling, and other domestic services for the average American home exceed the carbon allotment for the family dwelling there.
What is to be done? Three options are currently gaining momentium: tiny houses, micro apartments, and eco-villages / co-housing.

Tiny Houses
As noted earlier, the average American home is over 2500 sq ft.
Tiny homes, by contrast can literally be one tenth that size at around 250 sq ft.
Everything else being equal, this could reduce your carbon footprint for housing by a factor of ten (and well within your carbon allotment).

Micro-apartments
Because most people on the planet now live in cities, and 70% will by 2050, micro-apartments are a newly developing trend.
In 2012, New York City launched its adAPT NYC pilot housing program to encourage micro-apartments by fostering a competition for real-estate developers.
The winning design was announced, which consisted of a modular building with 55 units with floor plans between 250 and 370 square feet each.
New York is not alone as a test bed for this movement, as Boston, San Francisco, and other cities are adapting zoning for apartments as small as 220 square feet each.

Eco-villages / Co-housing
In contrast to living in a small isolated unit (either a tiny house or a micro-apartment), in co-housing a number of individuals and families live together in shared housing.
Because amenities like dining rooms, kitchens, gardens, and even bathrooms are shared, this results in a much smaller carbon footprint than if each of these is replicated for each dwelling unit:

Personal Impact, Stuff

In 1955, economist and retail analyst Victor Lebow published an article in the “Journal of Retailing” in which he said
"Our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfactions, our ego satisfactions, in consumption. The measure of social status, of social acceptance, of prestige, is now to be found in our consumptive patterns. The very meaning and significance of our lives today is expressed in consumptive terms. The greater the pressures upon the individual to conform to safe and accepted social standards, the more does he tend to express his

aspirations and his individuality in terms of what he wears, drives, eats, his home, his car, his pattern of food serving, his hobbies.
These commodities and services must be offered to the consumer with a special urgency. We require not only “forced draft” consumption, but “expensive” consumption as well. We need things consumed, burned up, worn out, replaced and discarded at an ever increasing pace. We need to have people eat, drink, dress, ride, live, with ever more complicated and, therefore, constantly more expensive consumption.”

Americans consume stuff at an alarming rate.
The average America buys 64 items of clothing per year, not including incidentals like socks and underwear.
See Overdressed: The Shockingly High Cost of Cheap Fashion by Elizabeth Cline.

This is a dramatic change from a generation or two ago.
Even incidentals are now consumed and discarded at an alarming rate. Americans annually send 1.6 billion disposable pens to landfills, as we go through over 300 pens in a lifetime. Not so long ago, people had just one or two refillable fountain pens for their entire lives.

Consumption is encouraged through "planned obsolescence," a phrase coined over fifty years ago by Vance Packard in his book The Waste Makers. Packard identified three types of planned obsolescence:
1) "Obsolescence of function. In this situation an existing product becomes outmoded when a product is introduced that performs the function better." Example: desktop computers.
2) "Obsolescence of quality. Here, when it is planned, a product breaks down or wears out at a given time, usually not too distant." Example: cars and appliances in Packard's era.
3) "Obsolescence of desirability. In this situation a product that is still sound in terms of quality or performance becomes 'worn out' in our minds because a styling or other change makes it seem less desirable." Example: smartphones.

Personal Impact, Food Systems

Food waste is a major issue for Americans.
As much as 40% of food is wasted in the U.S.
Over 30% of this is at the retail (markets & restaurants) and consumer levels.

As the documentary Cowspiracy makes clear, our food choices can impact our climate. The amount of protein in a kilogram of lamb, beef, peanut butter, or beans is about equal.

In recent years a whole new approach to eating has emerged. Not "vegan" or "vegetarian," but "climatarian"
(more commonly known as "flexitarian").
The idea is to make food choices based on their climate impact rather than other issues, such as animal rights (though these can, and often are, also taken into account)

Why are animal products so worrisome environmentally?
A third of all fossil fuels consumed in the U.S. go to animal production.
In terms of emissions, eating a hamburger is equal to driving 20 miles.
Nearly half of all the water used in the U.S. goes to raising livestock. The diet for the average meat eater requires over 4,000 gallons of water per day. An average vegan's diet requires 300. Taking short, low-flow showers saves 5500 gallons of water per year.

More reasons why animal products so worrisome environmentally.
Animal agriculture is responsible for about 15% total greenhouse gas emissions world-wide.
80% of the agricultural land in the U.S. is used to raise animals for food and grow grain to feed them.
In terms of calories, the world's cattle consume enough to feed 8.7 billion people. There are just under 7.5 billion people on earth.
In 2018, the average person in Bangladesh ate 8.8 pounds of meat. The average American ate 222.8 pounds (a record) - over 25 times more. (Maybe even more if you eat the Paleo or Atkins diets.) Recall that 40% of Bangladesh will be underwater with just 2ft of sea level rise. Perhaps surprisingly, meat eating is a climate justice issue.

Pulling it all together

"Be the change that you wish to see in the world."
Mahatma Gandhi

How can you fight climate change?
1) Vote (#WeAreStillIn) & become active (perhaps even an activist).
2) Eschew cars & planes, embrace bikes & mass transit.
3) Live in a small, shared, or urban space (or all three).
4) Minimize your stuff (perhaps become a minimalist).
5) Become a flexitarian / climatarian.
6) "Be the change that you wish to see in the world."

From a Nov. 1, 2018 interview with Dana Rohrabacher, the congressman from Orange County, California's 48th District:
Talk to me about climate change.

"There's many, many claims that have been made not just in the science community, but throughout, for everything, in order to justify global government. And that's what climate change is. Climate change is a maneuver by very powerful interest groups to create global government."
What do you mean? The science data? Or the movement to do something about it?
"The science is bogus, and the movement itself is financed and directed by leaders who are seeking global government."
When you say the science is bogus, do you really believe that 99.99 percent of climate scientists are in on something?
"Those scientists are looking for research grants....What I think is we may well be getting warmer. Or, we could be getting cooler. I don't know. We have these long-term trends throughout the history of this planet, which is over a million years old now."

After serving 15 consecutive terms in Congress (from 1988-2018), Dana Rohrabacher was voted out on November 6, 2018.