

THE ENVIRONMENT



- A) Global Warming**
- B) Climate Change Deniers**
- C) Alternative Energies**
- D) Water Privatization**
- E) Doomsday Clock**
- F) Extinction Crisis**

At the end of this course you should be able to talk and write about these key issues with specific and adequate vocabulary.

You should be able to form an educated opinion on all these subjects and put those ideas on paper.

A) Global Warming – The Basics

Q: What is global warming?

A: Here's a simple definition of global warming. Over the past 50 years, the average global temperature has increased at the fastest rate in recorded history. And experts see the trend is accelerating: All but one of the 16 hottest years in NASA's 134-year record have occurred since 2000. NASA data show that average global temperatures in 2019 were 1.8 degrees F (0.98 degrees C) warmer than the 20th century average. In fact, the five warmest years in the 1880–2019 record have all occurred since 2015. Scientists say that unless we curb global-warming emissions, average U.S. temperatures could increase by up to 10 degrees Fahrenheit over the next century.

Q: What causes global warming?

A: Global warming occurs when carbon dioxide (CO₂) and other air pollutants and greenhouse gases collect in the atmosphere and absorb sunlight and solar radiation that have bounced off the earth's surface. Normally, this radiation would escape into space—but these pollutants, which can last for years to centuries in the atmosphere, trap the heat and cause the planet to get hotter. That's what's known as the greenhouse effect.

In the United States, the burning of fossil fuels to make electricity is the largest source of heat-trapping pollution, producing about two billion tons of CO₂ every year. Coal-burning power plants are by far the biggest polluters. The country's second-largest source of carbon pollution is the transportation sector, which generates about 1.7 billion tons of CO₂ emissions a year.

Curbing dangerous climate change requires very deep cuts in emissions, as well as the use of alternatives to fossil fuels worldwide. The good news is that we've started a turnaround: CO₂ emissions in the United States actually decreased from 2005 to 2014, thanks in part to new, energy-efficient technology and the use of cleaner fuels. And scientists continue to develop new ways to modernize power plants, generate cleaner electricity, and burn less gasoline while we drive. The challenge is to be sure these solutions are put to use and widely adopted.

Q: How is global warming linked to extreme weather?

A: Scientists agree that the earth's rising temperatures are fueling longer and hotter heat waves, more frequent droughts, heavier rainfall, and more powerful hurricanes. In 2015, for example, scientists said that an ongoing drought in California—the state's worst water shortage in 1,200 years—had been

intensified by 15 percent to 20 percent by global warming. They also said the odds of similar droughts happening in the future had roughly doubled over the past century. And in 2016, the National Academies of Science, Engineering, and Medicine announced that it's now possible to confidently attribute certain weather events, like some heat waves, directly to climate change.

The earth's ocean temperatures are getting warmer, too—which means that tropical storms can pick up more energy. So global warming could turn, say, a category 3 storm into a more dangerous category 4 storm. In fact, scientists have found that the frequency of North Atlantic hurricanes has increased since the early 1980s, as well as the number of storms that reach categories 4 and 5. In 2005, Hurricane Katrina—the costliest hurricane in U.S. history—struck New Orleans; the second-costliest, Hurricane Sandy, hit the East Coast in 2012.

The impacts of global warming are being felt across the globe. Extreme heat waves have caused tens of thousands of deaths around the world in recent years. And in an alarming sign of events to come, Antarctica has been losing about 134 billion metric tons of ice per year since 2002. This rate could speed up if we keep burning fossil fuels at our current pace, some experts say, causing sea levels to rise several meters over the next 50 to 150 years.

Q: What are the other effects of global warming?

A: Each year, scientists learn more about the consequences of global warming, and many agree that environmental, economic, and health consequences are likely to occur if current trends continue. Here's just a smattering of what we can look forward to:

- Melting glaciers, early snowmelt, and severe droughts will cause more dramatic water shortages and increase the risk of wildfires in the American West.
- Rising sea levels will lead to coastal flooding on the Eastern Seaboard, especially in Florida, and in other areas such as the Gulf of Mexico.
- Forests, farms, and cities will face troublesome new pests, heat waves, heavy downpours, and increased flooding. All those factors will damage or destroy agriculture and fisheries.
- Disruption of habitats such as coral reefs and Alpine meadows could drive many plant and animal species to extinction.
- Allergies, asthma, and infectious disease outbreaks will become more common due to increased growth of pollen-producing ragweed, higher levels of air pollution, and the spread of conditions favorable to pathogens and mosquitoes.

Q: Is global warming too big of a problem for me to help tackle?

A: Wondering how to stop global warming? Reduce your own carbon footprint by following a few easy steps. Make conserving energy a part of your daily routine and your decisions as a consumer. When you shop for new appliances like refrigerators, washers, and dryers, look for products with the government's Energy Star label; they meet a higher standard for energy efficiency than the minimum federal requirements. When you buy a car, look for one with the highest gas mileage and lowest emissions. You can also reduce your emissions by taking public transportation or carpooling when possible.

B) Who are the Climate Change Deniers?

If the experts agree on the existence and causes of climate change, why do some public opinion polls find that only about half or less than half of the American public is convinced that emissions from human activities bear responsibility?

A small but vocal group has aggressively spread misinformation about the science, aiming to cast doubt on well-established findings and conclusions. Their goal is to create confusion and uncertainty, thereby preventing meaningful action to remedy the problem. The same strategy was used cynically for decades by the tobacco industry after research showed that cigarettes caused cancer. In fact, some of the same individuals who have spoken out against climate science also claimed that cigarettes were safe. The term "denialism" ^[3] has been coined to describe them.

Many of the deniers share some traits:

- Many have little or no expertise in climate science. While some have some science background, their training often is unrelated to climate science and they have not published "peer-reviewed" scientific work in climate or atmospheric science.
- Many receive funding for their efforts from industries with a financial interest in ignoring climate change. Oil companies, coal-burning electric utilities, and other companies that make their profits from burning fossil fuels have funded denier organizations and scientists, just as tobacco companies funded people who claimed that second-hand smoke was safe.

A famous tobacco industry document from the late 1960s said, "Doubt is our product, since it is the best means of competing with the 'body of fact' that exists in the minds of the general public." [4] It is a strategy that has worked, at least for a while, in the past, and it is being repeated today.

Academic research shows that one significant factor that leads to misunderstanding about climate change is a “deliberate and organized effort to misdirect the public discussion and distort the public’s understanding...This literature has revealed a great deal about the nature of efforts to deny and/or distort climate science. It clearly shows that a number of conservative think tanks, trade associations, and advocacy organizations are the key organizational components of a well-organized climate change counter-movement.” [5]

There is a significant amount of funding used to perpetuate myths about climate change. Dr. Robert Brulle analyzed IRS data on philanthropic foundation funding between 2003 and 2010 to identify organizations involved in circulating denier arguments. The results show that there are over 90 climate change counter-movement organizations with an annual income of just over \$900 million, and over \$60 million in identified foundational support.[6] Because of the serious impacts of climate change, the delay and obfuscation tactics of the deniers are particularly concerning, which is why we present some responses to the denier arguments on this website.

<https://opr.ca.gov/facts/the-deniers.html>

C) The Challenges Renewable Energy Sources Face

Renewable energy is defined as energy that is collected from natural resources. Recently there has been growing interest in renewable energy and it has become one of the main sources of energy generation.

Most green energy sources depend on natural, uncontrolled resources such as the sun, wind, or ocean waves.

Availability of Power

One of the biggest concerns in the field of renewable energy is power generation depending on natural resources that are uncontrollable by humans. For example, solar powered electricity is generated only when sunshine is available and turns off at night; wind energy also depends on the availability of wind, so if the wind speed is very low, the turbine will not turn, and this result in zero power flow to the grid. On the other hand, too much wind can damage the

generator and therefore a delicate balance needs to be maintained in order to keep a consistent generation of energy. The uncertainty in energy production in renewable energy technologies is making integration more complex.

Power Quality Issues

Consistently high power quality is needed to ensure stability and high efficiency of the network. The quality of the power supply allows the system to work well with high reliability and lower costs. On the other hand, poor power quality can have major adverse effects on the power grid as well as industrial processes. It can lead to high costs and equipment failure. Power quality problems include frequency disorder, voltage/current harmonics, low power factor, voltage variation and transmission lines transits.

Resource Location

Most renewable energy plants that share their energy with the grid require large areas of space. In most cases, renewable energy sources are dictated by location which can be off-putting to users. Firstly, some renewable energy sources are simply not available in different regions. Secondly, the distance between the renewable energy source and the grid is a major aspect in term of cost and efficiency. In addition to this, renewable energy sources depend on weather, climate and geographical location, therefore meaning that one type of energy generation is not appropriate for the region.

Information Barrier

While this area is improving, there is a lack of information and awareness about the benefits and need of renewable energy. Investment and capital allowances have been made available for the implementation of renewable energies. There is a clear need for government agencies to assist and advice applicants and potential recipients how to go about applying for renewable energy incentives.

Cost Issue

The high initial cost of installation is one of the major hurdles in the development of renewable energy. Although the development of a coal plant requires about \$6 per megawatt, it is known that wind and solar power plants also required high investment. In addition to this, storage systems of the generated energy is expensive and represents a real challenge in terms of megawatt production.

D) Water Privatisation

Should water be treated as an economic good and managed accordingly?

Five arguments for the privatization of water:

1) Water is a resource subject to supply and demand, and so should be treated as an economic good. It may fall freely from the skies, but it has to be collected, managed, processed and supplied through an expensive system of reservoirs, channels, processing plants and pipes. Dirty water and human waste also have to be removed and treated in sanitation systems.

2) When water is not treated as an economic good, it is wasted. On a domestic level, unmetered access to water means that consumers do not pay according to the quantity they use and so they will use it wastefully. At a national level, subsidised water for farmers and industry encourages wasteful methods and inappropriate crops (e.g. growing water-hungry cotton in California or Central Asia, both naturally areas of semi-desert), often with a damaging impact upon the environment. Pricing water according to its true cost would promote more efficient and environmentally-friendly practices, e.g. the use of drip-irrigation or dry farming in agriculture.

3) Problems of water supply need to be addressed with huge investment, particularly in the developing world where many people have no access to decent fresh water. Even in the developed world, much water (up to 50% in Canada) is wasted through leaks in pipes and ageing infrastructure. The public sector has failed to provide the money for this investment so private involvement is essential. For this investment to be attractive to the private sector, water companies must be allowed to make a profit through realistic water charges that reflect the costs of supply. Issues of quality, equity and environmental standards can be handled through effective regulation.

4) Treating water as an economic good will be better for the poor. Current regimes in developing countries often provide a state subsidy to the rich, with water provided to middle-class areas and wealthy farmers at a fraction of its true cost, while poorer areas have no supply at all. It is misleading to argue that privatising the water supply is bad because it will force the poor to pay for their water. The poor are already paying for their water, either directly to

entrepreneurs who carry it in tubs and cans up to the shanty towns, or with their time as they spend a large proportion of the family's labour fetching poor quality water from miles away. The poor also pay through ill health caused by poor quality water and bad sanitation; this hits their ability to work and study, and so often keeps them in poverty.

5) Failing to price water economically is bad for the environment. Proper pricing of water would reflect all the costs of providing it, including the environmental ones. Water exchanges (such as Australia's one for the Murray-Darling basin) can start by taking account of the needs of the environment and then trading the remaining water efficiently through the actions of the market. Pricing water according to consumption, e.g. through domestic metering, also discourages wasteful use and so reduces the demands on natural water systems such as rivers and underground aquifers.

Five arguments against the privatization of water:

1) Water is a natural resource, God-given and free as it falls from the sky. It is also essential to all life, including humanity. Lack of good water is the biggest single factor in disease and ill health in the developing world, and without it people cannot grow crops to support themselves. Pollution of water sources or over-extraction has a very damaging environmental impact. For all these reasons water is special and should be seen as a common good, part of the responsibility of governments to their people. Access to clean water is a human right, not something to be traded away or withheld on grounds of cost.

2) Demand for water increases with population growth, so it does not respond to market signals in the way other resources do. Rich consumers in the developed world also waste water through extravagant use of luxuries such as garden sprinklers, swimming pools, lush golf courses, etc. – a problem which will get worse as income inequality increases, both between and within countries. Demand management is needed to prevent waste and to ensure access for all, including the poor, something which pricing water in a purely economic way will not achieve. This is a job for governments, accountable to their people, not for private companies.

3) Large sums are needed to meet global water targets, but the private sector will only provide these in return for a large commercial return, meaning that the true cost of the investment will eventually be much higher than if it were publicly funded. Investment from governments and donors is preferable to privatisation as they can target investment at the most needy, rather than focusing upon the most profitable opportunities. Water supply is also a natural monopoly, so private companies have no competitive pressures to drive up quality and drive down prices.

Even in the developed world, the experience of water privatisation is not encouraging: in England shareholders cashed in and much of the industry ended up in foreign hands while prices went up, yet droughts in the 1990s still led to widespread rationing. Recent electricity supply crises in California have also shown how badly regulation of private utilities can fail. Meanwhile Australia has successfully reformed its water supply system while retaining it in public hands.

4) Treating water as a purely economic good will be bad for the poor. The rich may take advantage of badly targeted subsidies in some developing countries, but that does not mean that these subsidies are not essential to the poor. How would farmers in much of India cope without state-funded irrigation water? South African experience shows that when their village water supply was charged at even a low price, many women chose to fetch dirty river water from a long distance rather than pay the new cost. The Bolivian disaster of privatising water supply in Cochabamba shows the dangers: the American firm Bechtel doubled water tariffs so that some families paid a third of their whole income in water rates, mass protests led to army repression and even death before the scheme collapsed completely.

5) Private companies are unlikely to care for the environment. Their duties are to their shareholders, not to society at large and nature in general. They will seek to reduce costs and maximise profits, most likely at the expense of high environmental standards.

Attempting to use market mechanisms such as water exchanges to protect the environment is also a bad idea. The value of healthy ecosystems and biodiversity is impossible to calculate. Trying to do so makes the environment just another resource to be exploited, rather than protected for its own sake.

E) Doomsday clock lurches to 100 seconds to midnight

The risk of civil collapse from nuclear weapons and the climate crisis is at a record high, according to US scientists and former officials, calling the current environment “profoundly unstable”.

They said the rise of “cyber-enabled disinformation campaigns” compounds both threats by keeping the public from insisting on progress.

The Bulletin of the Atomic Scientists announced its symbolic “doomsday clock” has moved forward to 100 seconds to midnight, the closest to catastrophe that the scientists have judged the world to be at any point since its creation in 1947, at the outset of the cold war.

“The world needs to wake up. Our planet faces two simultaneous existential threats,” said Mary Robinson, chair of an independent group of global leaders called The Elders, and the former president of Ireland and former UN high commissioner of human rights.

Robinson said that countries that don’t aim to eliminate greenhouse gas emissions heating the planet and instead exploit fossil fuels are issuing “a death sentence for humanity”.

She said while public pressure presents a “sliver of hope” for the climate, there is no such pressure on leaders to avert nuclear threats.

As long as nuclear weapons are available it is inevitable they will one day be used, “by accident, miscalculation or design”, she said.

Robert Rosner, chair of the Bulletin’s science and security board, said society has normalized a very dangerous world, and that “information warfare” is undermining “the public’s ability to sort out what’s true and what’s patently false”.

Sharon Squassoni, a board member and research professor at George Washington University, noted the US withdrawal from the Iran nuclear agreement, which has resulted in Iran reducing compliance. And she said although some thought Donald Trump’s unique approach might bring North Korea to the negotiating table, no real progress has ensued.

The warning comes as nuclear arms control is in danger of dying out altogether. The Intermediate-range Nuclear Forces (INF) treaty lapsed in August after the US accused Russia of cheating and Donald Trump declared he would leave the 1987 treaty altogether. The US has begun testing medium-range missiles similar

to the new Russian weapon, although it is unclear where in Europe or Asia they would be based.

The death of the INF leaves the New Start treaty as the last remaining limit on the US and Russian deployed strategic arsenals. It was agreed in 2010 by the then Russian president, Dmitry Medvedev, and Barack Obama, and it expires in February 2021.

It can be extended for five years and Vladimir Putin has said he is willing to agree an extension, but the Trump administration has insisted that China be included. China, whose arsenal is a 20th of the two nuclear superpowers and not as aggressively deployed, has ruled out joining in.

The farthest the doomsday clock has ever been from midnight was 17 minutes at the end of the cold war.

While nuclear warfare remains a threat, the climate crisis continues to intensify, as the US federal government under Trump has withdrawn from international climate efforts.

Last year was the second hottest on record for the Earth's surface. The 2019 average temperature was 1.1C warmer than the average between 1850 and 1900, before the ramp-up of fossil fuel use. Greenhouse gas emissions from human activities are on track to push that warming to 3 or 4C. The disruptions are intensifying extreme weather and expected to exacerbate poverty and global unrest.

"If the Earth warms by what we tend to think of as just a few degrees and human life pushes the planet into the opposite of an Ice Age ... or even pushes the climate halfway there, we have no reason to be confident that such a world will remain hospitable to human civilization," said Sivan Kartha, a board member, senior scientist at the Stockholm Environment Institute and author of the fifth and sixth assessment reports of the Intergovernmental Panel on Climate Change.

Robert Latiff, a board member and retired air force major general, said the Trump administration's "disdain for expert opinion" threatens action on climate change and a host of other science-based issues. New technologies and developments – from "deep fake" videos, to dangerous pathogens and artificial intelligence, all could threaten a fragile global peace.

F) The Extinction Crisis

A recent landmark United Nations report delivered an alarming assessment of the fate of animal life and biodiversity on Earth. According to the authors—145 experts from fifty countries—up to 1 million species are threatened with extinction, many within decades. They report how natural habitats are declining in rates “unprecedented in human history,” as species extinction is accelerating “with grave impacts on people around the world now likely.”

“The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever,” said Sir Robert Watson, chair of the United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), which issued the report. “We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide.”

Tufts Now reached out to Michael Reed, a professor of avian ecology and conservation biology, for his perspective on the report. His research has focused on identifying characteristics of species that put them at risk from human-caused threats; he is particularly interested in the effects of habitat loss and fragmentation on extinction risk and population viability. He has also studied the impact of grazing, logging, and suburban sprawl on biodiversity.

***Tufts Now:* The report documents trend lines that reveal how unrelenting human activity is accelerating biodiversity loss. As a biologist, is that loss playing out as you thought it would?**

Michael Reed: I would agree that the rate of extinction is accelerating due to human activity. That is because often the impact of human activity isn’t linear. If I destroy or disrupt a habitat by 10 percent, perhaps the animals can pack in a little more. If I disrupt another 10 percent, they’ll pack in a little more again. But at some point, I will cross a threshold after which they can no longer adapt and survive. After that point, there will be a sudden and rapid decline, and in many cases, extinction. There is no further chance for survival, because they no longer have the minimum amount of habitat they need to reproduce and survive.

Humans have pushed millions of species past that threshold of tolerance to the point where we now see unprecedented decline in biodiversity.

“Part of the problem with our relationship to nature is that people don’t see things that change slowly,” said Michael Reed. “If you walked outside one day and all the trees were gone, you’d notice. But if Norway maple trees start infiltrating and crowding out native species, you might not notice that for

decades.” To have a global acceleration of extinction means we’re crossing thresholds all around the world. It’s why we’re entering this phase called the Sixth mass extinction, or the Anthropocene extinction. The rate at which extinction would naturally occur is about one to five species per year. We’re now losing species at 1,000 to 10,000 times that background rate, which is scary.

The report estimates that dozens of species are going extinct every day, with as many as 30 to 50 percent of all species going extinct by 2050. Why is it important to protect planetary biodiversity?

Biodiversity is important for a lot of reasons. For one, it provides the raw resources that humans use to survive, from breeding new plants to finding new drugs. Mostly, we need biodiversity to sustain ecosystem systems; forests are essential to help clean the air, because trees are really good at carbon sequestration.

But I think biodiversity is also just good for human well-being. It makes you feel better about the world when nature is there, when you can see it and enjoy it. Some people only make economic arguments for biodiversity, and in the past ten years those arguments seem to have gotten very popular. But you don’t want people to start thinking that is the only value nature and other species have. I may never see a rhino in my life, but I value that they exist.

More than 40 percent of amphibian species are at risk, according to the report. In your work, you’ve already documented the impacts of industrial forestry practices on amphibian biodiversity, including how salamanders persist—or don’t—in areas fragmented by suburban sprawl. What makes amphibians so vulnerable?

Amphibians are highly vulnerable because they’re habitat specialists. They depend on water—clean water—and without that, they are great risk of extinction. In addition to habitat loss and pollution, population declines and extinctions are linked to a widespread fungus called the chytrid fungus, which infects the skin of amphibians. It was found to be present in amphibians native to wetlands in Africa, but those amphibians are resistant to it. But it spread around the globe as people sold these amphibians as pets. So, while habitat loss is still the biggest threat for amphibians, this pathogen is a really big problem.

For some people, species loss might seem remote—happening in a far-off wilderness areas. But it’s happening all around us, isn’t it? What’s at stake when we take over open spaces like fields, and turn them into condo developments or shopping malls?

Old fields, pastures, and grasslands in New England are rapidly disappearing. With widespread suburban and rural growth, we're losing those open spaces, and we're also losing the plants that sustain a very diverse populations of species. We're losing milkweeds, which is contributing to fewer and fewer monarch butterflies. We're seeing a decline in fireflies—that's habitat related, and also due to the fact that we spray for mosquitos. You can't spray for just mosquitos. Also, if you are a grassland bird, grasslands covered with solar panels are as bad as paving them over for a parking lot: you've still lost your habitat.

The report also states that the distributions of almost a quarter of threatened birds may already have been negatively affected by climate change.

Habitat loss is to me the biggest problem, but climate change is close behind; it's altering all sorts of habitats. One of the things that might be hard to think about is that climate change alters phenology, the timing of cycles in nature. You've got birds that eat caterpillars and caterpillars that eat leaves. Leaves come out when it gets warm. If the weather gets warm earlier, the caterpillars come out earlier. But birds migrating annually from Argentina don't know to come back earlier. They come back and they have missed the peak for caterpillars, their food source. There's a disconnect between the two cycles.

There are some birds that migrate to northern latitudes that want to show up just as the ice recedes, because that is when you get the first flush of plant growth, which causes a flush of insects. But if the plant growth happens earlier than normal, they miss the flush of insects. So there are direct impacts of climate change and then there are these cascading impacts on survival.

Do you see anything new in the IPBES report?

I'm glad the report is getting attention, because people need to know about extinction risk, but I didn't see anything in the report that people haven't been yelling about for years. I wonder if it is mostly preaching to the choir. If you are someone for whom this is not important on a daily basis, does this report affect you? I don't know the answer.

In some cases, maybe it does. I think of shark fin soup. People catch sharks, cut the fins off, and throw the sharks back in the water. That's pretty awful. China is the biggest market for shark fins. Some research has been done, though, that showed that most people there didn't even know they were shark fins, because they have a different name in China. And some thought the fins grew back. Concerned people started a campaign to raise awareness in China. They had NBA star player Yao Ming saying "don't do this."

In some areas, it has reduced shark fin consumption by 80 percent. It's been really effective. For some environmental problems, drawing attention to a problem has not been effective—and it's not because of a lack of education. Those people just don't value that particular wildlife. They're plenty educated. They've thought about it, and that is not what is important to them. Giving them more information is not going to change that behavior or that attitude.

Are there ways to change behavior?

I have a friend who works at the conservation organization, Manomet, and he is good at making people understand what is at stake. He is good at talking with people who have values different from his own. He can find common ground around things they both value. There are those people who already care, and those you are never going to convince. But there is a big mass in the middle that we have to reach.

Why do so many people not seem to care about what's happening to nature?

Part of the problem with our relationship to nature is that people don't see things that change slowly. If you walked outside one day and all the trees were gone, you'd notice. But if Norway maple trees start infiltrating and crowding out native species, you might not notice that for decades. I can remember as a kid my dad telling me how he was driving through Mississippi, and he'd have to pull the car over and scrape the bugs off the headlights because he couldn't see anymore. But you don't hear about that sort of thing anymore, because insect numbers are down globally. But again, if it's slow, you don't notice it.

What is the long-term outlook? Are we, by wiping out millions of species, also dooming the human race?

I don't see cataclysmic human disappearance—I just see a constant diminishing of the environment, so Earth will become a much less nice and interesting place for all of us. If we hit doom, I think it will be because we depleted our resources; the slow creep of using up resources will steadily reduce our standard of living. People will persist, but just in a more diminished world.

The report talks a lot about turning things around through “transformational change.” As much as I don't like the generic phrase, I don't disagree with it. I just don't know what it means specifically and how to do it. You can't easily make people do things that are good for people ten generations from now.

A lot of it comes down to political will. Do we have the will to do what needs to be done? Certainly, we have shown that across generations we are able to change, but time is running out. I am not sure that we can make the kind of change the report calls for in just a few decades.

<https://now.tufts.edu/articles/extinction-crisis>

ALSO VISIT OUR HOMEPAGE FOR VIDEOS ON THE SUBJECTS

<https://lce-english-department.yolasite.com/ENVIRONMENT.php>