

Local Planning for Climate Change



"MAYBE THIS WORLD IS ANOTHER PLANET'S
HELL"

-ALDOUS HUXLEY

Public Perception of Climate Change



Long, hot summer of fire and floods fits predictions of climate scientists

Some say the effects of global warming are already at work in catastrophes worldwide

By **CHARLES J. HANLEY**
AP Special Correspondent

New York — Floods, fires, melting ice and feverish heat: From smoke-choked Moscow to water-soaked Pakistan and the High Arctic, the planet seems to be having a midsummer breakdown. It's not just a

portent of things to come, scientists say, but a sign of troubling climate change already under way.

The weather-related cataclysms of July and August fit patterns predicted by climate scientists, the Geneva-based World Meteorological Organi-

zation says — although those scientists always shy from tying individual disasters directly to global warming.

The experts now see an urgent need for better ways to forecast extreme events like Russia's heat wave and wildfires and the record deluge devastating Pakistan. They'll discuss such tools in meetings

SEE SCIENTISTS' PAGE A3



A Russian firefighter takes a brief rest as flames from a forest fire approach the village of Murmino in the Ryazan region of Russia, about 110 miles southeast of Moscow, on Thursday.

ASSOCIATED PRESS



Comment from EdA

"My god, the sheeple are just going to line up for the slaughter, aren't they? Climate change, ohhhh the climate changed, lets raise taxes to lower everyone's standard of living and increase the government's control over our lives....sounds simply wonderful. I cannot believe that anyone could possibly fall for this hooey."





Comment from D-Man

"Hot weather in the summer?? Oh my goodness! Whoever heard of such a thing? If only we could give more money to the government, then we would have snow in the summer and we could all hold hands, sing Kumbaya, and save the unicorns and polar bears."

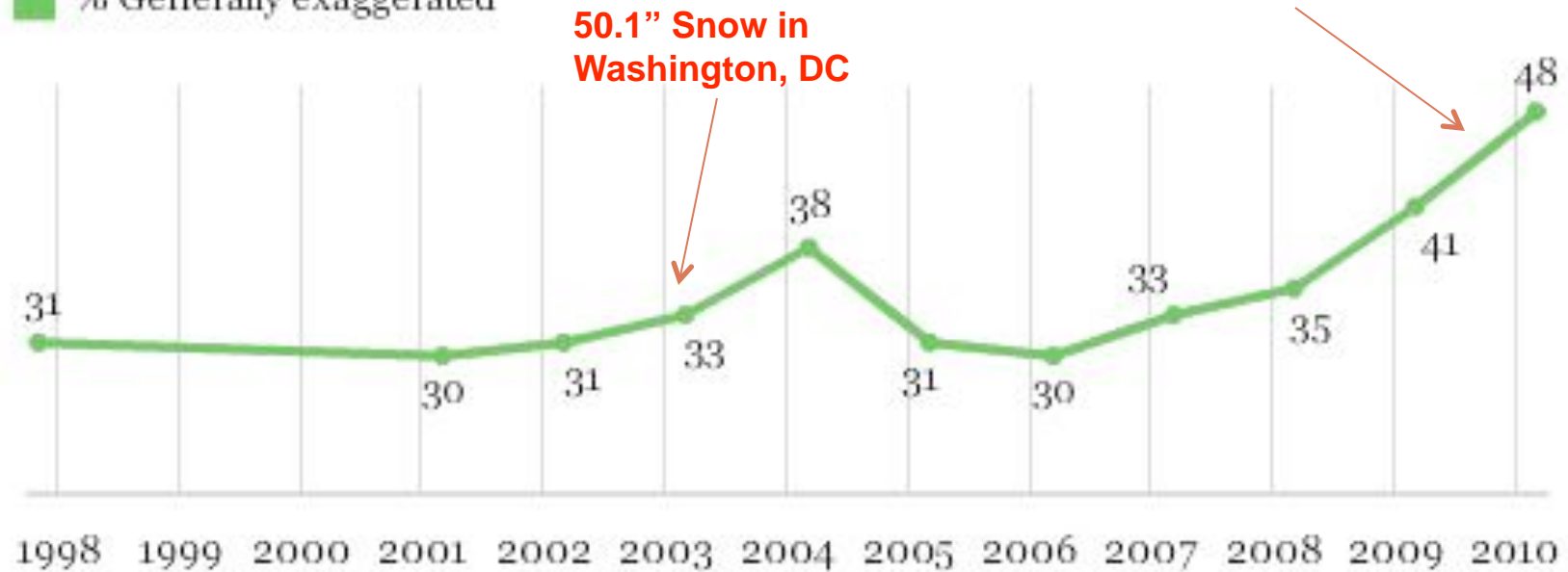


If there is such compelling scientific evidence for detection of climate change, why isn't that reflected in the polls?



Thinking about what is said in the news, in your view is the seriousness of global warming -- [ROTATED: generally exaggerated, generally correct, or is it generally underestimated]?

■ % Generally exaggerated



GALLUP®

Climate change factors impacting land use



- Sea Level Rise
- Coastal Land Loss
- Warmer Oceans
- Warmer Land Temperatures
- More Frequent and Severe Storms
- More Frequent and Severe Droughts
- Health Issues
- Other

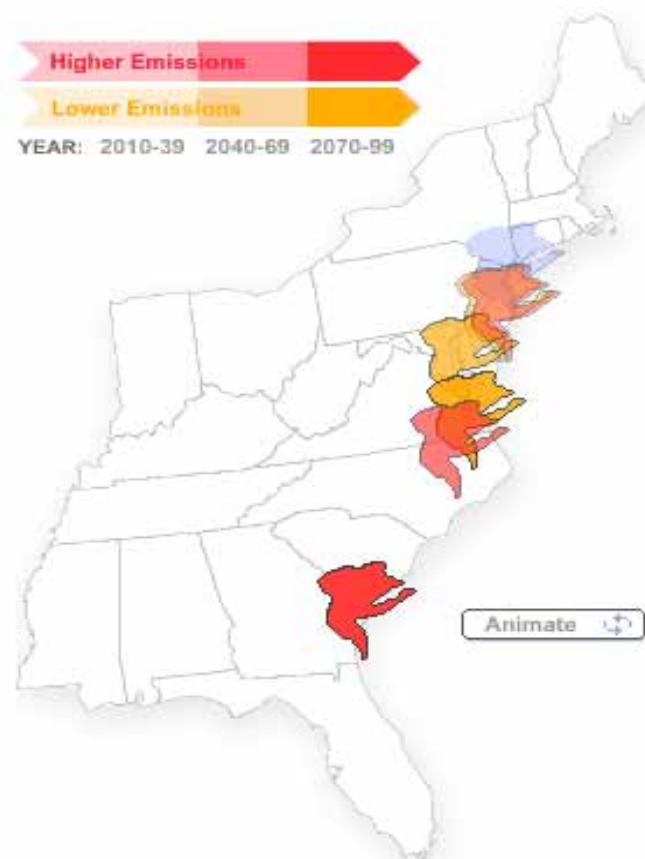
Transportation Infrastructure-Rail, Highway, Port Operations, Ferries, Airports, Bridges, Canals, Parking Garages



Evidence suggests that by 2090 the climate in the New York metro area will be closer to the climate of North Carolina today.



IMPACTS ▶ Dramatically Changing Climates



Summer in the Tri-state Region, which includes parts of New York, New Jersey and Connecticut, could feel like the typical summer in Savannah, Georgia by the end of the century unless we take action to reduce heat-trapping emissions today.

Lower-Emissions Scenarios: a shift away from fossil fuels in favor of clean energy technologies, causing heat-trapping emissions to decline by mid-century

Higher-Emissions Scenarios: continued heavy reliance on fossil fuels, causing heat-trapping emissions to rise rapidly over the century

Habitat--Will migration patterns be altered? What will the impacts be on reproduction, food supplies, etc.



A VARIETY OF RESPONSES



Shifting Habitats

The American pika, a small rodent that lives in California mountains, cannot tolerate temperatures much higher than 80 degrees. As temperatures have risen, some pika populations have moved more than 1,300 feet further up the slopes to find a cooler home.



Predators Decline as Prey Declines

On Isle Royale, Mich., higher temperatures mean that one species of tick is growing more numerous and becoming more troublesome for the island's moose. As the population of moose has declined, so has the population of wolves, which prey on the moose for food.



Shifting Migration Patterns

Many birds have begun making their annual migrations earlier — some British species have shifted by two to three weeks over the past 30 years. That can be a problem if the bird's main food source doesn't also shift its timing so it is available when the bird needs to eat.



Entire Ecosystem Changes

In the northern Bering Sea, near Alaska, warmer waters are causing an entire ecosystem shift. Native animals, such as walruses and gray whales, are finding less of the prey animals they rely on. At the same time, fish are moving in from less frigid areas.



Adaptation

Research on wood frogs in New England seems to show that they may be able to evolve and adapt to rising temperatures. That is good news, but scientists say that many animals will not be able to evolve in the same way.



CHANGES LOCAL AND BEYOND

Blackwater National Wildlife Refuge, Md.

Rising water levels threaten to turn most of this enormous swamp — which shelters baby fish and blue crabs along with migrating birds — into open water by 2030. A crucial habitat on the Eastern Shore could vanish.



Catoctin Mountain, Frederick County

The brook trout that live in mountain streams here cannot tolerate water much hotter than 68 degrees. As temperatures rise, the fish in central Maryland could be gone in a century.



Monteverde Cloud Forest, Costa Rica

Animals living in this forest depend on moisture from near-constant clouds of mist and fog. Climate change seems to be reducing this moisture. Two amphibian species have not been seen since the 1980s and are now presumed extinct.



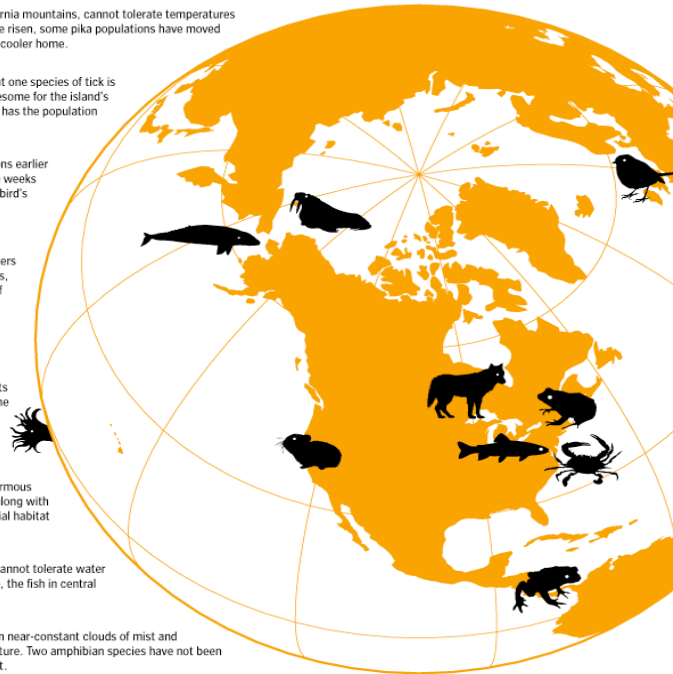
South Pacific Ocean

Warming waters have become too hot for coral reefs in some places, leading to so-called "bleachings" in which large amounts of coral die. During 1998, warm temperatures killed off about 16 percent of all the world's coral.



Beaufort and Chukchi seas, off Alaska

Walrus mothers in this area typically leave their young on the sea ice while they dive down to find food on the bottom. But now, sea ice is melting more rapidly than before, which can leave walrus calves floating helplessly in open water.



A Troubling Question



Will the Maine Lobster be replaced by the Maine Blue Crab?



Tourism/Vacation Destinations



**Somewhere on the
Maryland coast**

Residential and Industrial Uses- Will sea level rise force the abandonment of low lying structures? How will population relocations effect the economy?



Flooding in New Orleans



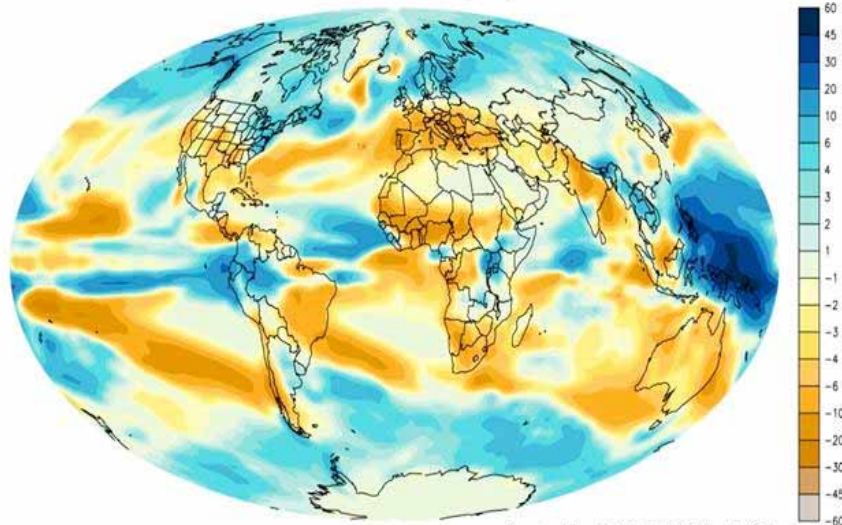
General Dynamics-Electric Boat

Agricultural Production



How will our food supply be affected?

CHANGE IN PRECIPITATION BY END OF 21st CENTURY
inches of liquid water per year



as projected by NOAA/GFDL CM2.1



Municipal Infrastructure-Sewage treatment plants, water supply, solid waste facilities



Who is responsible for the cost of future losses?



Can we institute a program similar to the federal flood insurance program that covers the costs of losses from future developments built on land predicted to flood?



Are regulatory options realistic?



Can we regulate/restrict building on vulnerable sites?
If we do, will this be considered a regulatory taking
and subject to a payment to the landowner?



Will structural solutions work?



Can we build/will environmental permitting allow structural solutions to protect ourselves from sea level rise?



What are our priorities?



Already Developed



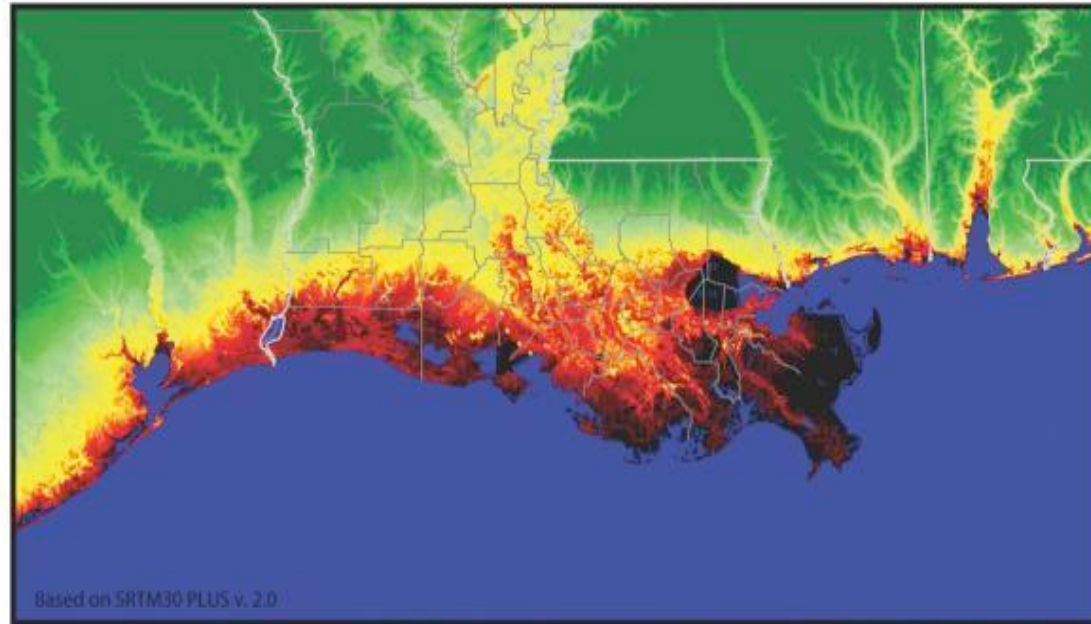
Undeveloped

The simple answer: “Don’t build below sea level”

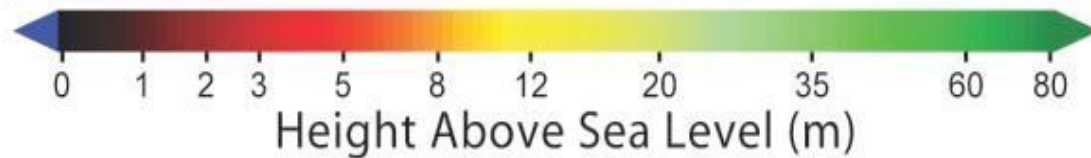


Where is sea level going to be?

Sea Level Risks - Louisiana



Based on SRTM30 PLUS v. 2.0



Planning to address the issue of climate change-Two avenues of attack



- Slow the rate of increase of global temperatures by planning efforts aimed at reducing the negative effects of development—smart growth (responsible growth), TOD, efforts aimed at reducing our carbon footprint, etc.
- Planning to reduce the impacts of climate change and resultant sea level rise on existing and future development, infrastructure, wildlife habitat, etc.

What can be done without clear policy direction from federal and state government?



State Government

Congressional Resolve to Address Climate Change Issues



Connecticut requires communities to incorporate six responsible growth principles in new POCDs



- Redevelop and Revitalize Regional Centers and areas with Existing or Currently Planned Physical Infrastructure
- Expand Housing Opportunities and Design Choices To Accommodate a Variety of Household Types and Needs
- Concentrate Development Around Transportation Nodes and Along Major Transportation Corridors to Support the Viability of Transportation Options
- Conserve and Restore the Natural Environment, Cultural and Historical Resources, and Traditional Rural Lands
- Protect and Ensure the Integrity of Environmental Assets Critical to Public Health and Safety
- Promote Integrated Planning Across All Levels of Government to Address Issues on a Statewide, Regional and Local Basis

Maine Planning Office Website



[Home](#) > [Programs](#) > [Land Use Planning](#) > [Technical Assistance](#) > [Climate Change](#)

Land Use Planning

Planning For Climate Change

The State Planning Office recognizes that climate change presents many challenges and opportunities at the local level. Fortunately, many Maine communities are taking action today to lessen the challenges and seize the opportunities of the future. The following is a brief list of resources to support both initial and ongoing climate change planning in your community.

EPA hosts the Local Climate and Energy Webcast Series to assist local government with climate change and clean energy efforts.

These regular webcasts highlight EPA resources available to local governments, and present examples of successful climate and energy programs and policies implemented locally. For more information or to view past webcasts, visit [EPA's State and Local Climate and Energy Program](#).

Existing action in Maine to address climate change

[Maine Climate Adaptation Plan Web Portal](#) In April, 2009, the Maine State Legislature passed a Resolve charging the Department of Environmental Protection (DEP) with establishing and convening a stakeholder group to evaluate the options and actions available to Maine's people and businesses to prepare for and adapt to the most likely impacts of climate change. This link contains more information about the workgroups, schedules, minutes, and documents used by the workgroups.

[Maine Cool Communities/Cities Campaign](#) empowers communities to reduce energy costs, save tax payer dollars, improve public health through cleaner air, and create good clean jobs in a clean energy economy. As of summer 2009, 29 communities in Maine had joined Cool Communities and signed the US Mayors Climate Protection Agreement, including: Biddeford, Belfast, Falmouth, Brunswick, Kennebunk, Kennebunkport, Saco, Yarmouth, Portland, Waterville, Lewiston, South Portland, Bath, Kittery, Auburn, Bangor, Bar Harbor, Bowdoinham, Cumberland, Cranberry Island, Ekt, Fairfield, Freeport, Montville, Orono, South Berwick, Topsham, Winslow, and York.

[Coastal Hazard Resiliency Tools in Saco Bay](#) The Maine Coastal Program, Maine Geological Survey, and Southern Maine Regional Planning Commission have been exploring strategies to help Saco Bay communities prepare for sea level rise. This website offers an overview of the possible policy and regulatory responses.



Guidance resources for local climate change planning

[Building a Resilient Coast: Maine Confronts Climate Change \(DVD\)](#) Hear and see what your neighbors, town officials, and scientists have to say about sea-level rise, coastal flooding, and erosion; what it means to you; and what you can do about it. The documentary is composed of five segments:

1. Introduction
2. Changing Climate, Changing Coast: Science & Economics
3. How Shoreline Property May Be Affected
4. How Coastal Communities May Be Affected
5. What Individuals & Communities Can Do To Protect Themselves

[View the video online](#), or contact the Maine Sea Grant office for a free copy.

[Climate Change Worksheet](#) This one-page worksheet was designed by the State Planning Office to support local planners and officials to brainstorm municipal responses to climate change. It identifies the likely climate change impacts, as well as the challenges and opportunities by sector (e.g., municipal services, natural resources, etc.). The back side offers real examples of municipal responses from around the country.

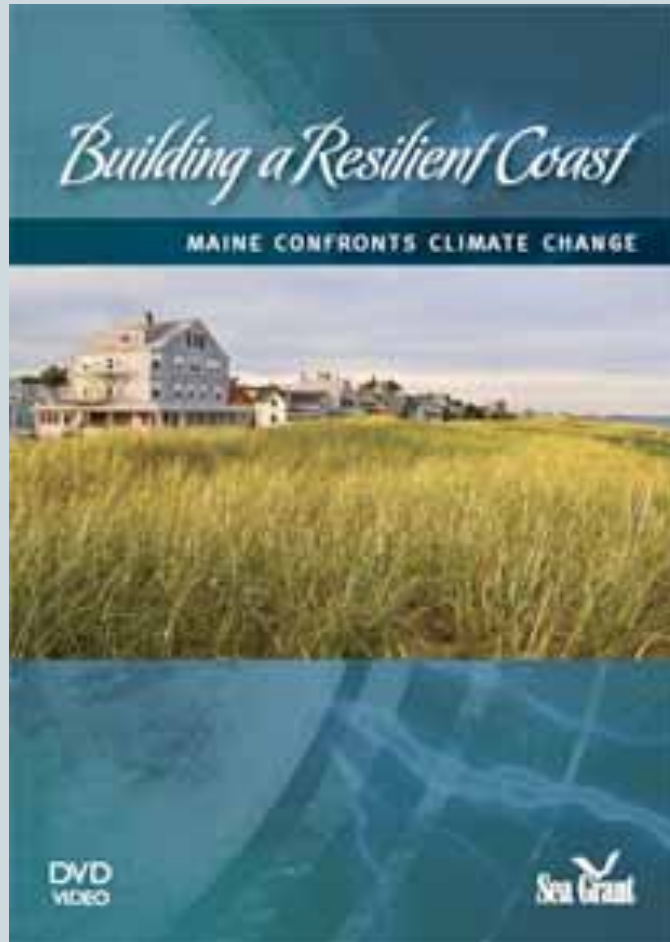
[Informal Guidance for Integrating Climate Change into a Comprehensive Plan](#) The State Planning Office has been exploring how to incorporate climate change into the comprehensive plan framework. It is our hope that providing this informal guidance will both streamline comprehensive planning for climate change, as well as provide the Office with insight to how communities choose to address climate change.



Maine State Planning Office



- [As seen on Maine Public Broadcasting Network!](#) The award-winning five-part documentary, *Building a Resilient Coast: Maine Confronts Climate Change*



Texas Position on Global Warming



Texas challenges EPA's global warming findings

By MATTHEW TRESAUGUE

Houston Chronicle February 10, 2010

Texas on Tuesday became the first state to challenge the Environmental Protection Agency's finding that gases blamed for global warming threaten public health.

Gov. Rick Perry and other Texas officials said the federal finding is based on flawed science and would harm the state's economy.

The EPA issued the finding two months ago in an attempt to regulate carbon dioxide and other heat-trapping gases as pollutants under the Clean Air Act.

Such rules would have a profound impact on Texas, which pumps more carbon dioxide into the air than any other state because of its scores of coal-fired power plants, refineries and other industrial facilities.

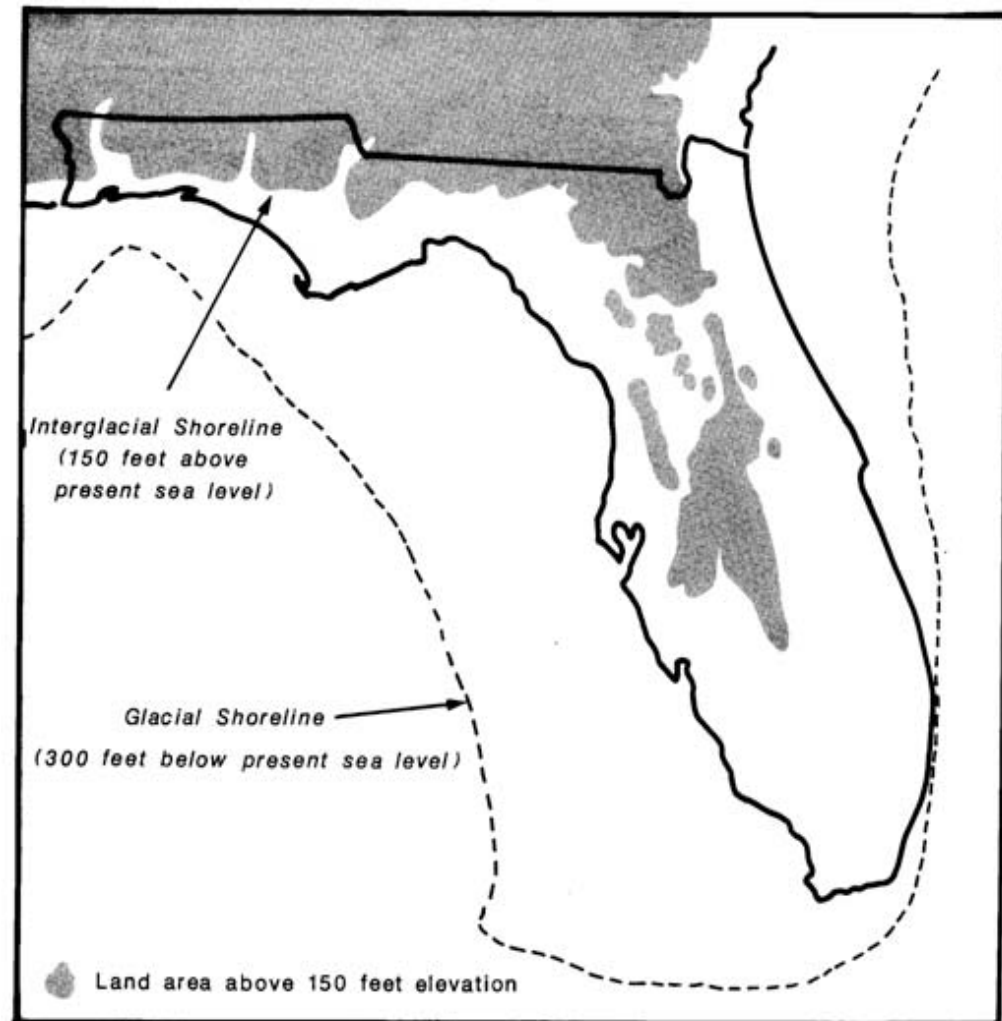
"The EPA's misguided plan paints a big target on the backs of Texas agriculture and energy producers and the hundreds of thousands of Texans they employ," Perry said in a statement. "This legal action is being taken to protect the Texas economy and the jobs that go with it, as well as defend Texas' freedom to continue our successful environmental strategies free from federal overreach."

Texas asked the U.S. Court of Appeals in Washington, D.C., to review the finding, with its petition coming on the heels of similar filings by business and conservative groups.



THE GOOD NEWS

Not all skeptics about greenhouse gasses are also skeptics about climate change. They acknowledge climate change but say they don't want to "hamstring industry with excessive rules and regulations."



Examples of a local committee's recommendations to address climate change



- Make climate adaptation part of the Town's master planning process
- Provide energy savings checklist with all new building permits
- Adopt LID principles in land use regulations
- Promote smart growth in zoning regulations
- Design for extreme weather and sea level rise
- Develop regulations to influence development away from the coast
- Improve bicycle routes
- Mandate solar power for parking lot lights
- Mandate students use school busses not private cars
- Impose penalties/taxes on excessive lawns, pools, impervious surfaces

Who is the typical Planning Commissioner?

(Zoning Commission, Zoning Board of Appeals, Inland Wetlands, Conservation Commission, etc)



There is no "Typical" Planning Commissioner



- Elected or Appointed
- Has related technical/professional expertise or is totally clueless
- Has professional support staff
- Many wear more than one hat
- VOLUNTEER

Other Targets of Opportunity



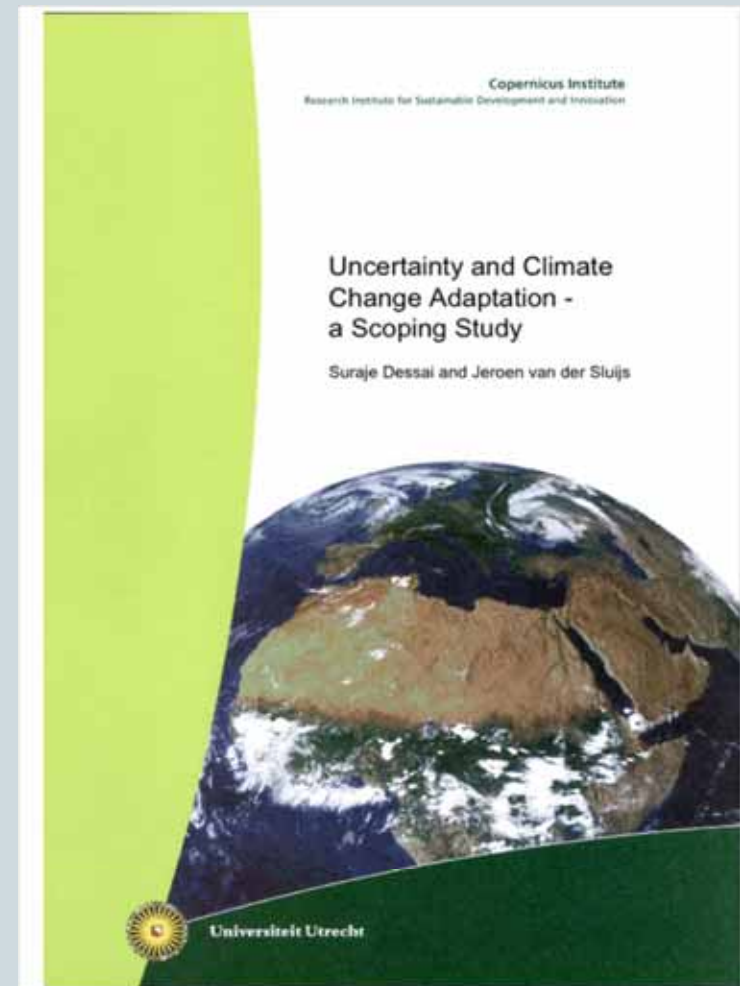
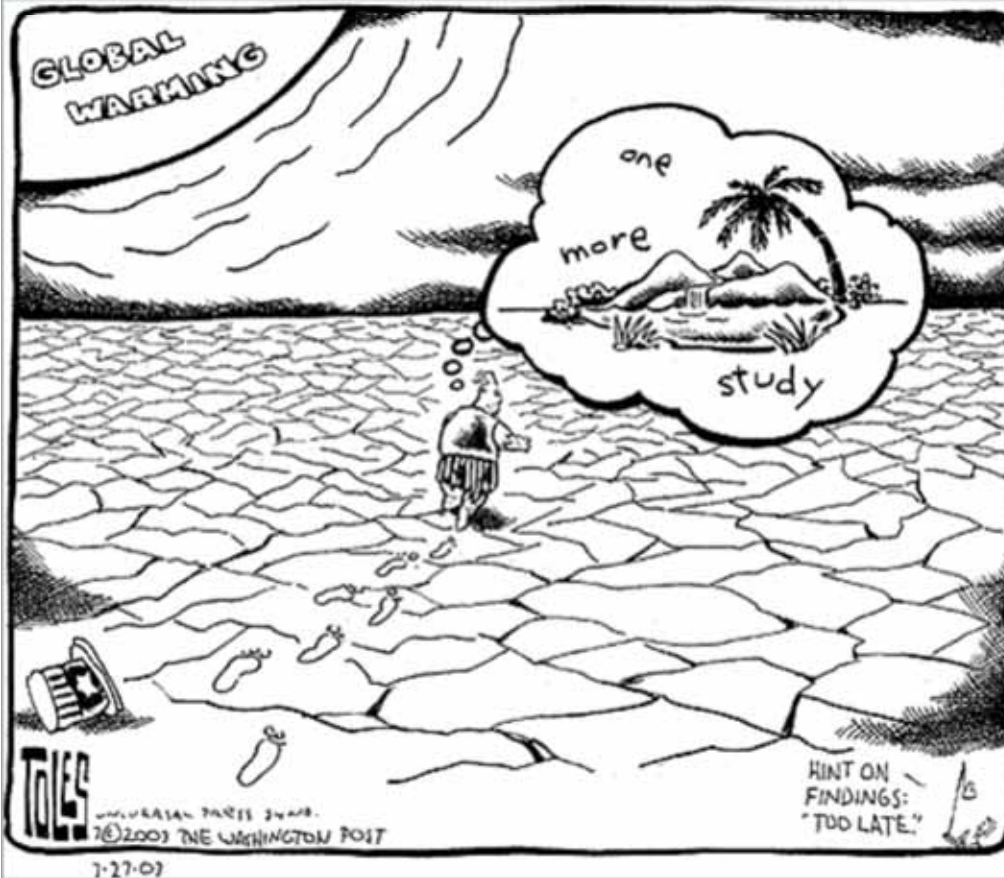
- Mayor/Chief Elected Official
- Public Works Director
- Finance Director
- Building Official
- Chamber of Commerce and other business organizations
- NGOs
- THE PUBLIC

Uncertainty about climate change



- In the sixties there was concern about global **COOLING**. There were proposals to spread ashes on the polar ice caps and shoot materials into the atmosphere to trap in heat.

The desire for scientific certainty and unanimity among “experts” is a barrier in decisions to mitigate or adapt to climate change



Uncertainty

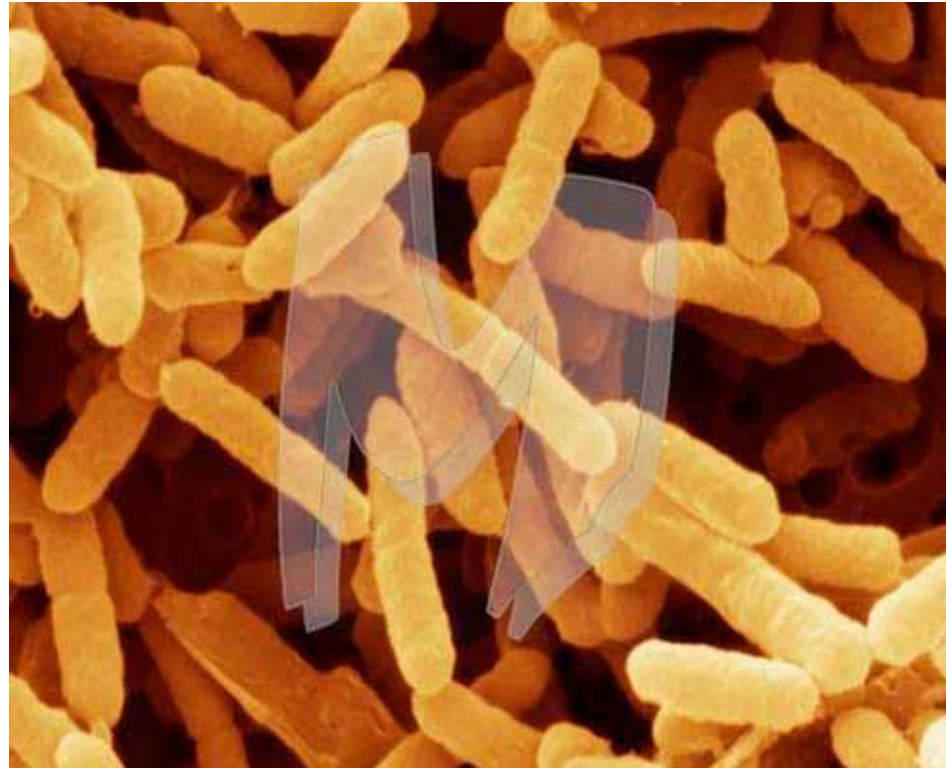


- **The Unknown** by Donald Rumsfeld
As we know,
There are known knowns.
There are things we know we know.
We also know
There are known unknowns.
That is to say
We know there are some things
We do not know.
But there are also unknown unknowns,
The ones we don't know
We don't know.



Comment from Gossip

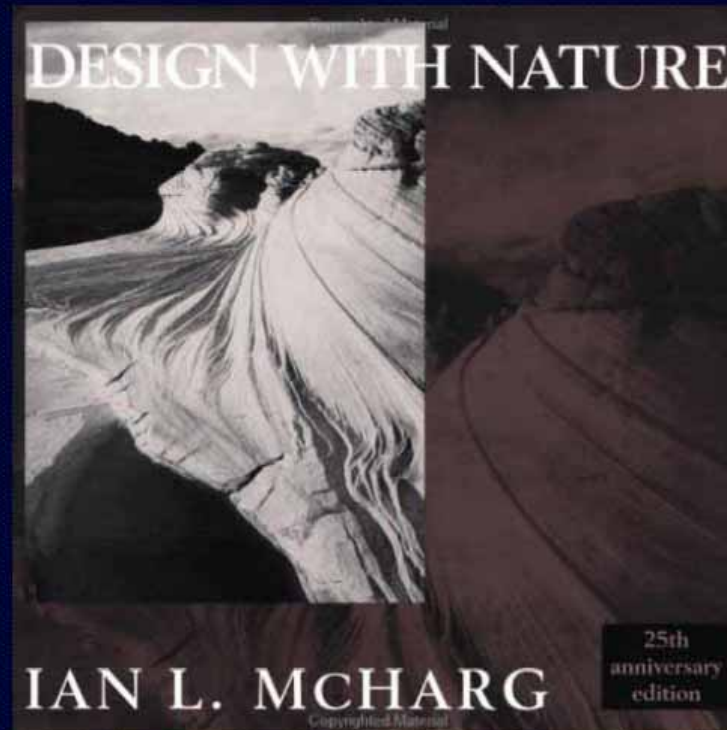
“I’m more worried about flesh eating bacteria for the time being, this climate change stuff takes too long.”



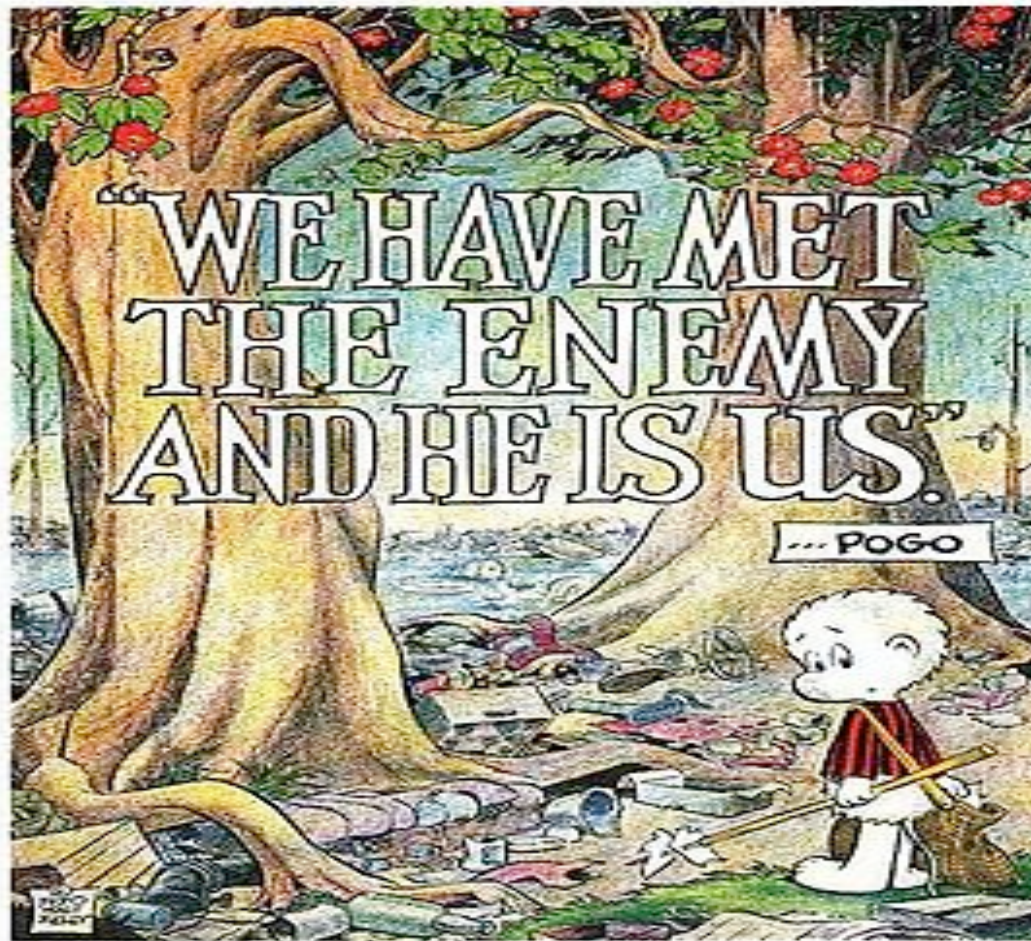
Everything that's old is new again



Ian McHarg: Design with Nature (1967)



SAME ENEMY 40 YEARS LATER



Walt Kelly's poster for the first Earth Day