

Un-Natural Disaster ??

Katrina & New Orleans ??

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Lyncean Society Meeting
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Un-Natural Disaster

Katrina & New Orleans

- Connecting the Dots to Environmental Change
 - Earth Warming
 - Ice melting sea level rising
 - Warm water = more frequent storms
 - Warm water = more violent storms
 - Gulf Coast Sinking
 - Sand compacting
 - No new mud from floods
 - Oil removal leads to subsidence
- This Catastrophe Was Predictable if Not Avoidable

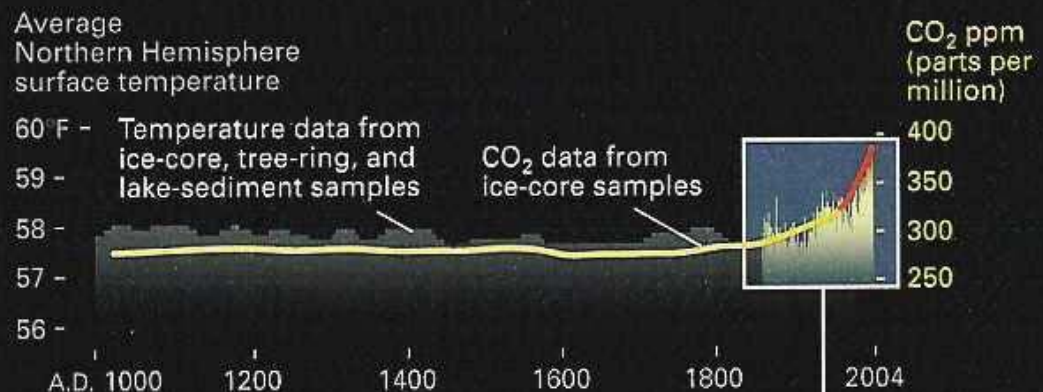
G E O S I G N

Temperature rising

Temperature
and CO₂ records >>>>>>

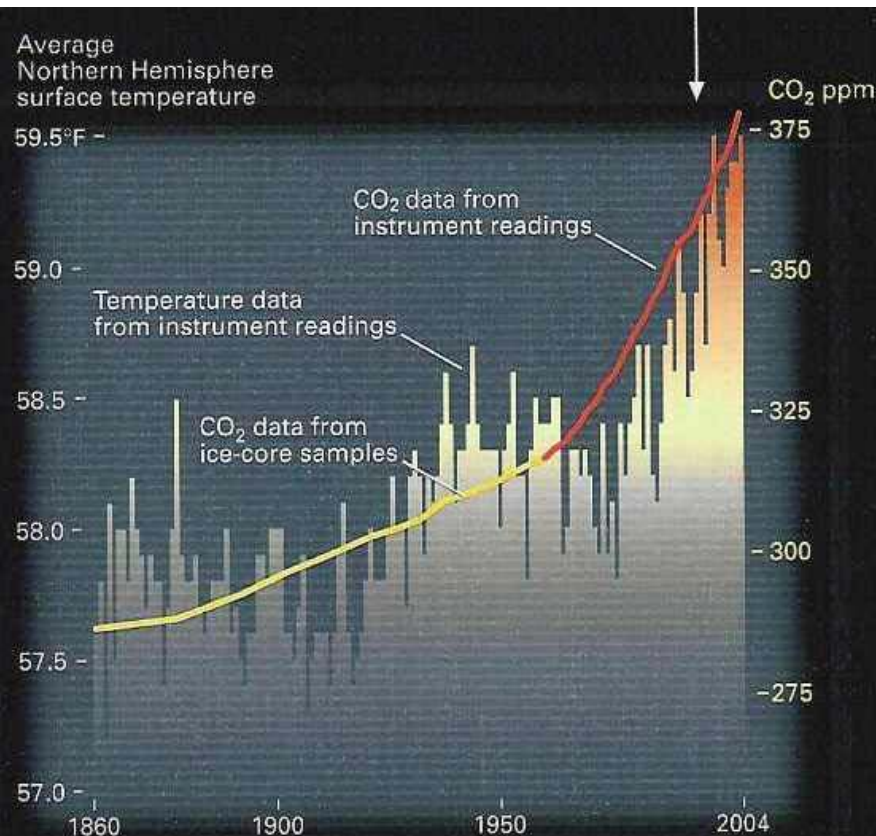
■ Warming trends

The concentration of carbon dioxide in the atmosphere helps determine Earth's surface temperature. Both CO₂ and temperature have risen sharply since 1950.



Earth 1.5°C Hotter

■ Over the past 140 years, forest clearing and fossil-fuel burning have pushed up the atmosphere's CO₂ level by nearly 100 parts per million. The average surface temperature of the Northern Hemisphere has mirrored the rise in CO₂. The 1990s was the warmest decade since the mid-1800s, and 1998 the warmest year.

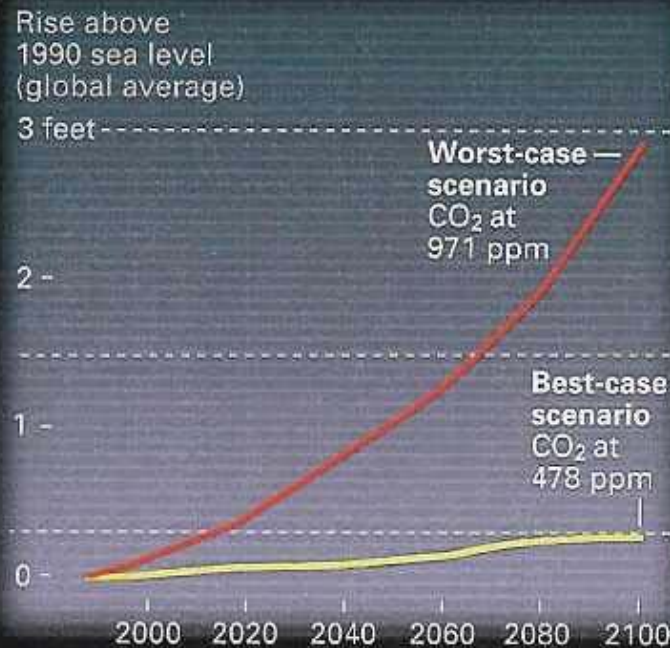


■ **One Degree of Change**

Sea level rising

projections >>>>>>>>>>

As ice melts and warmer seawater expands, the oceans will rise. How much depends largely on how much CO₂ and other greenhouse gases we continue to emit. This model projects rises of between a few inches and a few feet over the next century.



Many low-lying South Sea islands are at further risk of flooding at about 4 inches.

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G E O S I G N

Weather turning wild?

Projected weather and climate changes >>>>>>>

■ Storm warnings

Higher global temperatures could fuel extreme weather. At right are computer-model projections of the chance that various weather events will be more frequent in a warmer world.



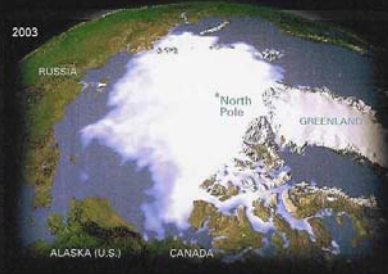
ART BY SW INFOGRAPHIC, JUAN VELASCO. TEMPERATURE DATA: MANN AND JONES, "GEOPHYSICAL RESEARCH LETTERS," VOL. 30, NO. 15 (FAR LEFT, TOP); PHIL JONES, CLIMATIC RESEARCH UNIT, UNIVERSITY OF EAST ANGLIA, U.K. (FAR LEFT, BOTTOM). CO₂ DATA: ETHERIDGE ET AL., COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION, AUSTRALIA, AND AUSTRALIAN ANTARCTIC DIVISION (FAR LEFT, TOP); C. D. KEELING, SCRIPPS INSTITUTION OF OCEANOGRAPHY (FAR LEFT, BOTTOM). ARCTIC SEA ICE DATA (MIDDLE, TOP AND BOTTOM): J. COMISO, NASA. PROJECTED SEA LEVEL CHANGE SCENARIOS (ABOVE, TOP); INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC). WEATHER PROJECTIONS (ABOVE, BOTTOM): IPCC. CO₂ PPM DATA (ABOVE): TOM WIGLEY, NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

Arctic sea ice coverage >>>

■ Shrinking sea ice
An image based on satellite data shows perennial ice cover in 1979, when the ice extended over the Arctic Ocean from edge to edge. Since then the area of coverage has decreased by 9 percent per decade.



■ A similar image from 2003 shows dramatically reduced perennial ice cover. Large areas of open ocean have appeared near Russia, Alaska, and Canada. Some climate models project that the ice will be gone in summer by the end of this century.

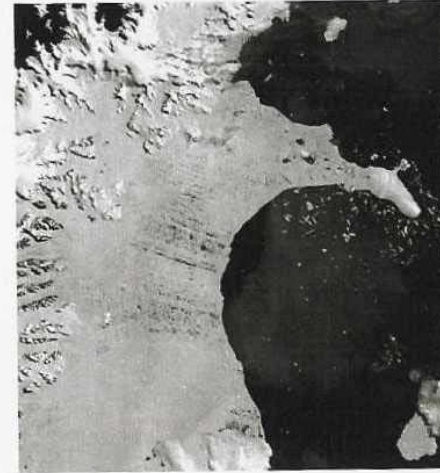


Hot zone The Arctic is warming several times faster than most of the planet; ice there is melting on land and at sea. The release of fresh water into the oceans could

change the course of currents that play a vital role in climate. Runoff from glaciers on land is already contributing to a global rise in sea level.

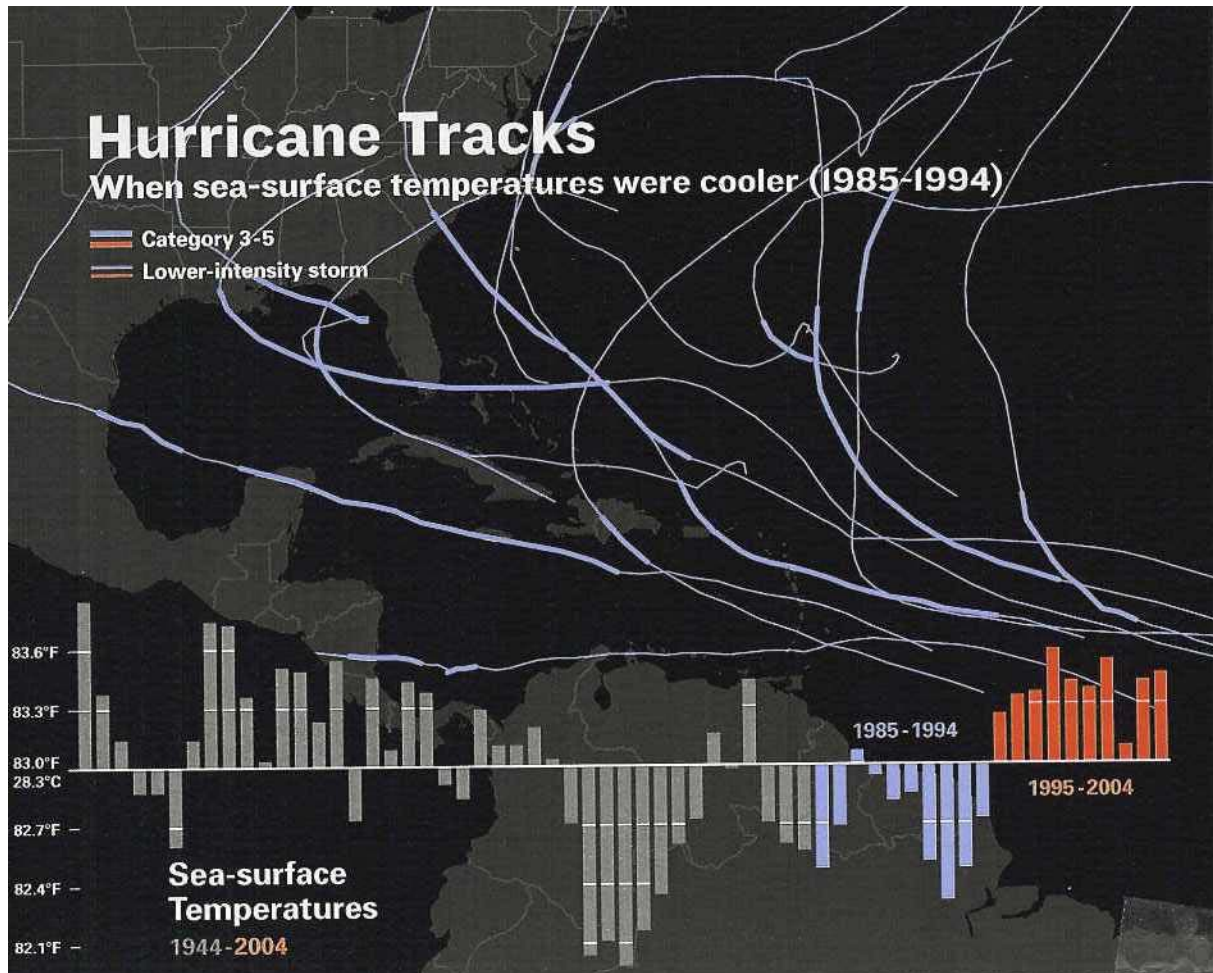
A Coastline Redrawn

The epic collapse of a 1,250-square-mile section of the Larsen Ice Shelf took just over a month in early 2002. Melt ponds—visible as dark striations on the floating ice shelf (right) presaged the impending breakup (below right). Scientists are monitoring what effect the further disintegration of Larsen—and of other Antarctic ice shelves—might have on the continent's glaciers. Without ice shelves to act as dams, those glaciers might migrate faster toward the coast, ultimately contributing to rising sea level.

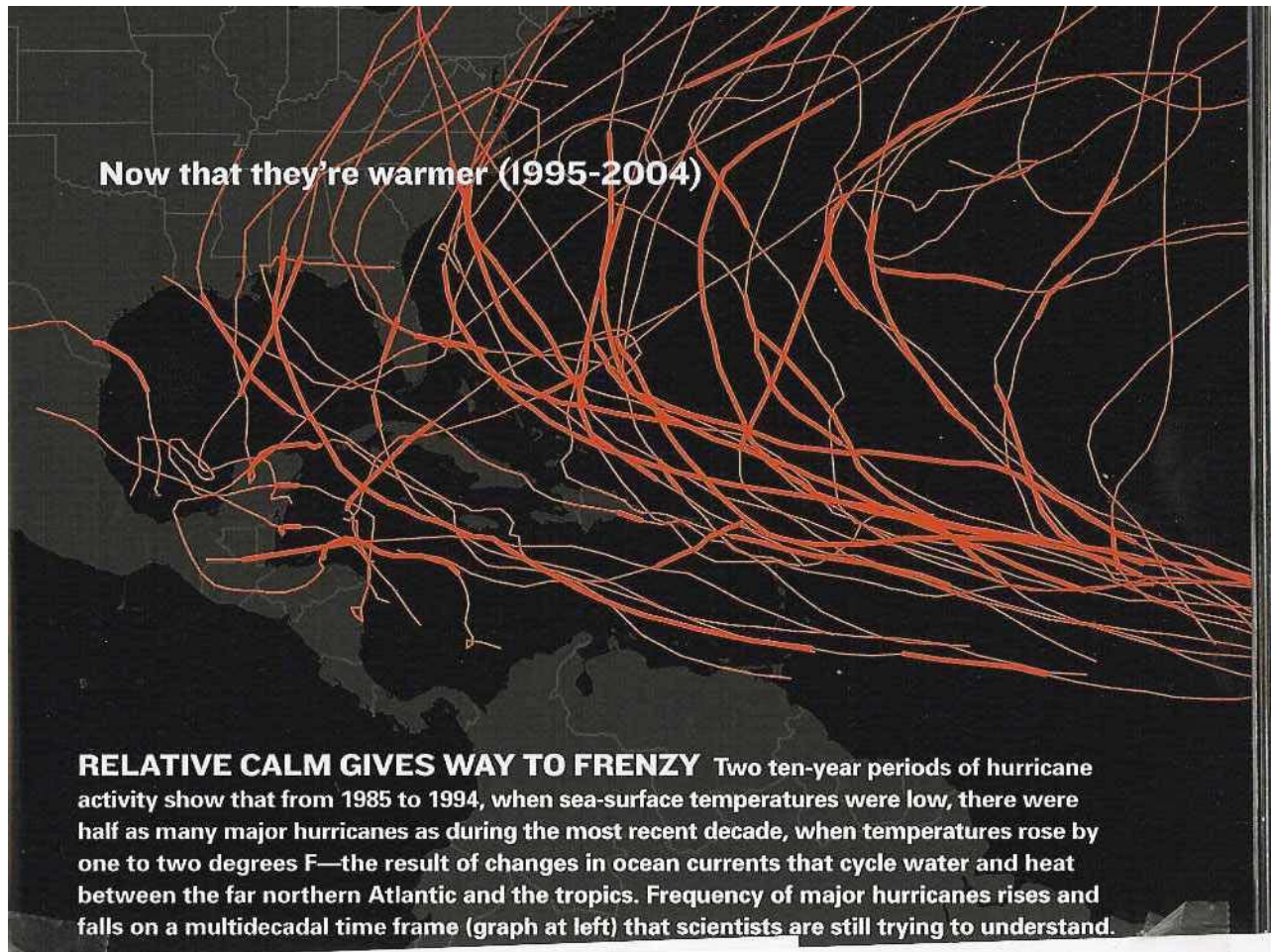




Guess What is Coming Ashore ???



New Orleans Says You Missed Me !!



Katrina & More Like Her are Brewing

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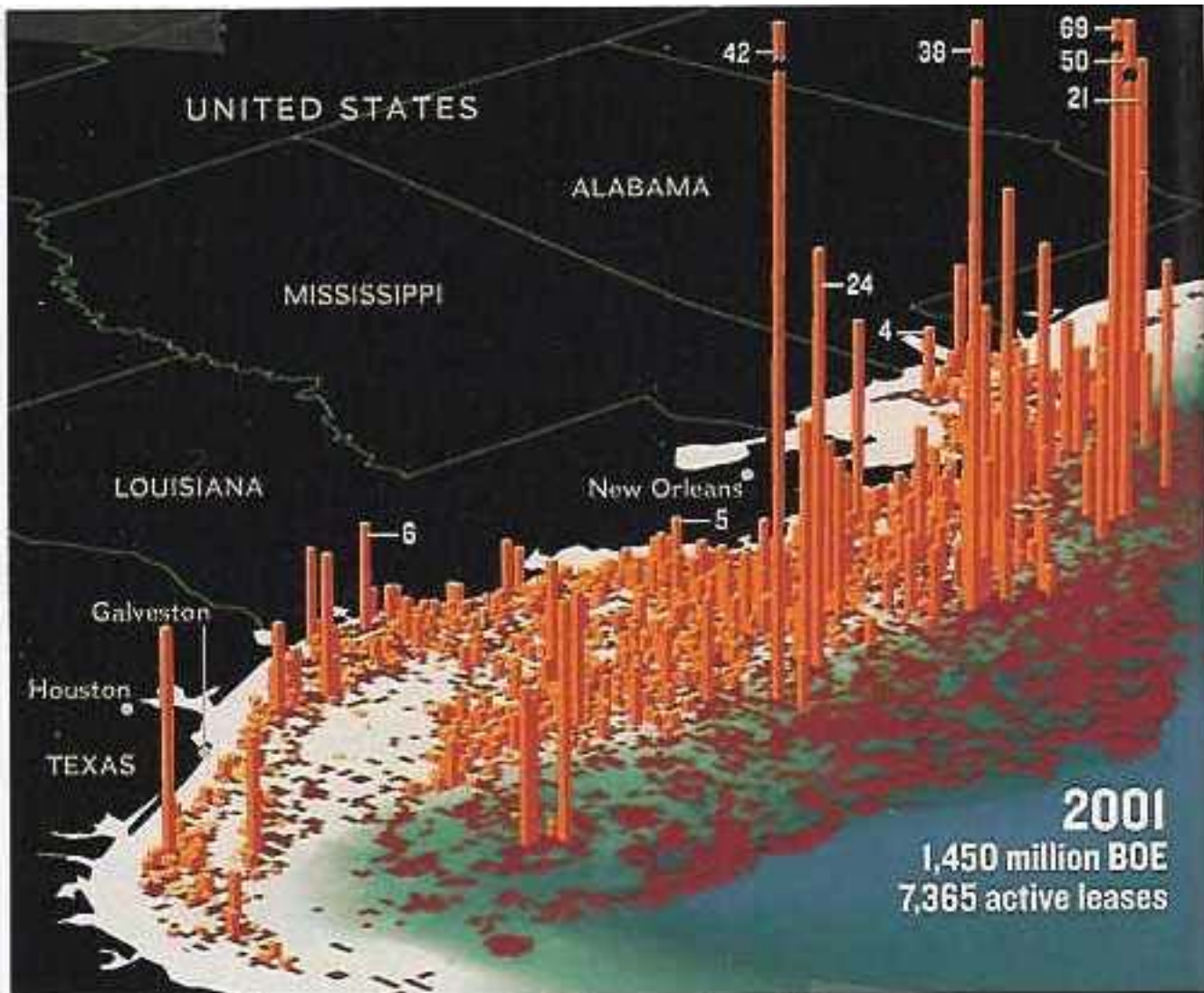
Barrels of oil equivalent (BOE) in millions, includes natural gas

Active lease

Scale varies in this perspective. Distance from Houston to New Orleans is 316 miles (509 kilometers).

SOURCE: NORMAN FROEMER, TARA MONTGOMERY, AND JAMES F. BENNETT,
U.S. DEPARTMENT OF THE INTERIOR/MINERALS MANAGEMENT SERVICE
NATIONAL GEOGRAPHIC MAPS





1,450 Cubic Meters of Oil are Pumped Out Daily, Gulf Coast is Subsiding