



Goddard Institute for Space Studies
New York, N.Y.

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RESEARCH

Research at the Goddard Institute for Space Studies emphasizes a broad study of global change, an interdisciplinary research initiative addressing natural and man-made changes in our environment which occur on various time scales from decades to millennia and which affect the habitability of our planet. The research combines analysis of comprehensive global datasets with global models of atmospheric, land surface, and oceanic processes and includes study of past events on Earth such as paleoclimate change and the study of other planets as an aid to prediction of future evolution of Earth on a planetary scale.

Recent News Releases and Science Briefs



Volcanic Blast Location Influences Climate Reaction

A new study using the GISS climate model demonstrates that the climatic effects of a volcanic explosion depend not only on the size of the blast but also on its latitude. (Aug. '05)

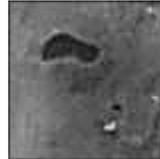
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Methane's Climate Impact May Be Twice Previous Estimates

According to new calculations examining the role of chemically reactive greenhouse gases, methane's effect on warming the world's climate may be double what is currently thought. (July '05)

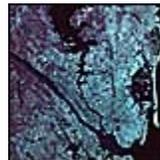
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Titan: Land of Lakes?

Scientists are fascinated by a dark, lake-like feature recently observed on Saturn's moon Titan. NASA's Cassini spacecraft captured a series of images showing a marking, darker than anything else around it. (June '05)

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Climate Change Impacts on the NYC Region

With over half the world's people living in cities, it's important to understand how climate change might affect urban areas. A new web site answers basic questions about climate change and how it might affect New York City. (May '05)

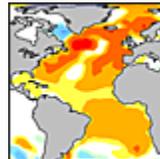
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Marshes Reveal Climate History Near NYC

Marshes in the lower Hudson Valley near New York City offer an amazingly detailed history of the area's climate, including a 500-year drought from 800 to 1300 A.D., the Little Ice Age, and the impacts of European settlers. (May '05)

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Earth's Energy Out of Balance

Earth is absorbing about 0.85 Watts of energy per square meter more than it radiates back to space, and a sizable chunk of that excess energy is "hiding" in the oceans. (Apr. '05)

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Black and White: Soot on Ice

New findings show soot may be contributing to changes near the North Pole, including increased melting of sea

PROJECTS

GACP: Global Ae
Project

GISTEMP: GISS :
Temperature Anal

Glory Mission Sci

ISCCP: Internatio
Climatology Proje

RESEARCH THEM

Global Climate M

GISS is a world le
three-dimensional
circulation models
Earth's climate, bc
development of ac
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human-climate int
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Earth Observatic

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Climate Impacts

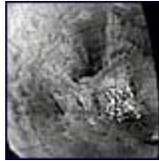
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Planetary Atmos

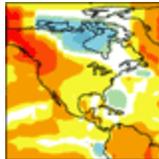
Our understanding
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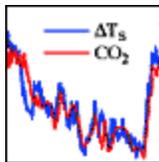
ice and snow and warmer atmospheric temperatures. (Mar. '05)
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Cassini Reveals Titan as Active, Earth-like World
 Cassini flyby images are revealing Saturn's moon Titan has a surface shaped largely by Earth-like processes of tectonics, erosion, winds, and perhaps volcanism. (Mar. '05)
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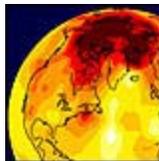
Earth Gets a Warm Feeling All Over
 Although natural variability resulted in a cool summer in the United States, the average global surface temperatures for climatological 2004 turned out the fourth warmest. (Feb. '05)
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Trial of the Century: Co-Conspirators Convicted
 They haven't been caught "red handed", but evidence is overwhelming that carbon dioxide and co-conspirators methane and nitrous oxide are creating a predicament for Earth's climate. (Feb. '05)
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NASA Scientist Wins AMS Award
 GISS scientist William B. Rossow has won the 2005 Verner E. Suomi Award given by the American Meteorological Society, the nation's leading professional society for atmospheric sciences. (Jan. '05)
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Watching Earth's Climate Change in the Classroom
 A new NASA computer model allows educators and students to simulate the global climate and study climate change in the classroom. (Jan. '05)
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Paleoclimate

Simulating past climate much about the earth and its atmosphere to better understand models upon which projections of future climate.
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Radiation

Atmospheric processes ultimately driven by energy, as solar radiation with the surface, and various gases heat emitted by Earth trapped by clouds and gases.
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Atmospheric Chemistry

Reactions in Earth's atmosphere between natural and man-made chemicals, and how the atmosphere's chemistry may affect human health and the environment.
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