

National Oceanic & Atmospheric Administration
U.S. Dept. of Commerce
El Niño Stagnant Jet Stream Also Factors

Winter Snow, Saturated Soil Lead to Midwest Floods

Excessive winter snowpack in the Rockies, saturated Midwest soil and dangerous runoff conditions in the region all contributed to this year's record-breaking Midwest floods, according to a report issued last month by NOAA.

The report, the third Special Climate Summary reviewing 1993's unusual weather and climate by the Climate Analysis Center of NOAA's National Weather Service, evaluates several factors that may have contributed to the devastating floods in the Midwest, the drought and heat wave in the east and the coldest summer on record in the Pacific Northwest.

According to the summary, conditions prior to the summer and heavy rainfall that occurred during

June and July reflected persistent and unusual atmospheric circulation features, including the jet stream that remained stationary over the region for a long time.

El Niño Impact Studied

Another possible contributing cause studied by Climate Analysis Center scientists is the relative impact of the current long-lived El Niño/Southern Oscillation (ENSO) event

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New N.E. Groundfish Plan Proposed:

The New England Fishery Management Council has submitted a plan, Amendment 5, to rebuild heavily exploited groundfish stocks such as cod, haddock and yellowtail flounder through a broad range of measures that include cutting the fishing harvest rate in half over the next five years.

The principal measures proposed in Amendment 5 include a moratorium on most new entrants into the fishery; a phased-in system to reduce fishing, in which owners of most vessels more than 45 feet long must choose between taking gradual reductions in fishing time based on their historical days at sea or a com-

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ination of reduced fishing time and increased time at the dock between fishing trips and a prohibition on pair trawling, a method where two boats pull a single net between them.

Martin Named DAS for International Interests:

Will Martin, a Nashville, Tenn. environmental activist and lawyer, has been appointed NOAA's Deputy Assistant Secretary of Commerce for International Interests.

Martin has pursued his environmental interests both professionally and personally for more than 20 years. He was a founder and senior partner of the Tennessee law firm Harwell Martin & Stegall and served as president of the Tennessee Environmental Action Fund. In his new appointment, Martin will coordinate international environmental policy at NOAA, including oceanic and coastal issues,

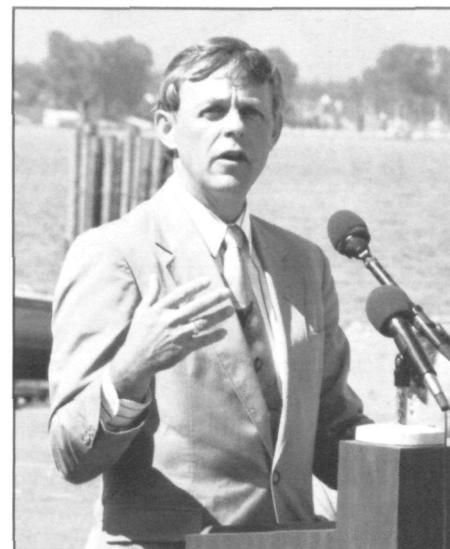
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Schmitt Named Fisheries Chief

President Clinton has announced the appointment of Rolland A. Schmitt as assistant administrator for the National Marine Fisheries Service.

Schmitt, who has served as director of NMFS's Northwest Regional Fisheries Office in Seattle for the past eight years, will oversee the management of marine fisheries and the protection of marine mammals, sea turtles, and coastal fisheries habitats throughout the United States. The agency's current budget is about \$223 million and employs more than 2,800 people in 15 states and the District of Columbia.

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Northwest Fisheries head Rolland A. Schmitt was named NMFS Assistant Administrator

TV Shares in Waterspout Expedition

For six days last August, a joint NOAA-National Geographic team of cinematographers and scientists flew low over the southern Florida Keys in a NOAA Bell 212 helicopter, spotting and photographing waterspouts for science—and for the Nation's television audience.

All the while, a second camera team in a Cessna two-seater airplane leased by National Geographic photographed the scientists in the Bell 212 who were photographing the waterspouts.

When the NOAA-National Geographic TV Waterspout Spotting Expedition was all over, the team led by expedition chief scientist Dr. Joe Golden had spotted and photographed 11 waterspouts, producing what Golden called "probably the most scientifically important photography of waterspouts ever taken."

Golden, a research meteorologist for NOAA's Office of Oceanic and Atmospheric Research, is considered the world's foremost waterspout expert.

Waterspouts are cyclones over water. They are much smaller than their more destructive, land-based cousins—tornadoes—but easier to spot, chase, photograph and study.

A Perfect Match of Skills

The idea was to match up NOAA's scientific expertise with National Geographic's photographic expertise to learn more about cyclones.

Dr. Golden and other researchers will use the high-speed 16-mm film shot by National Geographic for scientific measurements of these little-understood phenomena to better understand how tornadoes develop.

National Geographic also shot extensive footage at the National Weather Service forecast office in Key West, where the expedition was based, at the Hurricane Research Division of the Atlantic Oceanographic and Meteorological Laboratory and at the National Hurricane Center.



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National Geographic Television crews (above) filmed NOAA researchers (below) on an expedition to photograph waterspouts over the southern Florida Keys.

The footage will be used for a National Geographic Television special tentatively entitled *Cyclones* and scheduled to air in 1995.

—Dane Konop ☺

El Niño May Be Root of Record-Breaking Midwest Floods

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on the atmospheric circulation leading up to the deluge.

Considering the magnitude of the flooding and the many factors contributing to it, however, NOAA's scientists predict a full explanation will take years of extensive research by the meteorological community, backed up with diagnostics and model-testing.

Pinatubo Investigated

Besides weighing potential impacts of El Niño conditions, Climate Analysis Center scientists

evaluated causal relationships of greenhouse gas-induced global warming and related circulation changes, as well as possible effects of Mount Pinatubo's eruption in 1991.

Scientists concluded that the ultimate cause of extreme and persistent precipitation in the central United States may be a combination of all factors in conjunction with natural variability in the climate system, although the sea surface temperature variation in the tropical Pacific Ocean associated with El Niño appears to have some correlation with

the extreme weather and climate events in the United States and other areas of the Northern Hemisphere.

Technical Meetings Set

NOAA's scientists will further explore the floods' genesis at a series of technical meetings during the next five months: a Climate Diagnostics Workshop, Nov. 1-5 at Boulder, Co.; the annual meeting of the American Geophysical Union, Dec. 6-10 at San Francisco; and the annual meeting of the American Meteorological Society, Jan. 23-28 at Nashville, Tenn. ☺

Talking With . . .

Douglas Hall NOAA Deputy Administrator

Douglas Hall, new NOAA deputy administrator, was most recently vice president of the Nature Conservancy and is a former aide to Vice President Albert Gore and Senator Jim Sasser (D-Tenn.). As director of communications for the Conservancy, a 670,000-member organization dedicated to preserving the world's biodiversity, Hall managed communications, public outreach, public relations and public policy issues for 50 state field offices and programs in Latin America and the Pacific.

Q: Your background is in journalism, politics. What led you into environmentalism and what led you to NOAA?

HALL: I've always been interested in the environment, and it's always been my interest in the policy arena. I've also worked prior to this at the Nature Conservancy, which is a conservation organization. I have known Al Gore for more than 20 years, and have worked with him in the Senate and during the campaign. I share his concern about the type of world we will leave our children.

But I think one of the critical challenges that we face is how to reconcile our economic and social needs with our environmental needs. And that's really the contribution I'd like to make. The Commerce Department, with its dual mission of promoting economic growth and protecting the environment, is uniquely positioned to confront this challenge.

Q: You've gone from what people think of as one side of the environmental movement--an advocacy group--to another, government. Are the agendas different? Do they coincide? And how do you adjust to that?

HALL: I think the approach is

somewhat different. But, I mean, one thing, first, is that the Nature Conservancy is not really an advocacy group. It rarely takes any public positions on legislation or other issues before the government. Instead, the Nature Conservancy buys land and conserves land. So it's unique in its approach to environmental issues and it really deals with site-specific situations.

But it is much different to be in a position of responsibility where you're having to meet various budget obligations to fund various programs rather than deciding on the outside that you only have three issues that you want to take on. And it's easier to prioritize in the private sector, because you don't have the statutory responsibilities and the organizational responsibilities that you have in government.

Q: Do you find that frustrating?

HALL: No. I think it's a challenge, particularly when we have limited budgets. It is a challenge to

identify the key areas where we can really have an impact and then bring resources to bear on those areas, particularly when the organization is underfunded in many areas and not able to adequately fund our basic responsibilities. Then it's very difficult to find the resources that we need to redirect them into the five or six key priorities that we really want to focus on and show some progress on.

Q: Aside from statutory things that you have to do, in terms of shifting priorities, is there one part of NOAA's mission that you're looking at a lot more closely than others?

HALL: Well, I think that across-the-board, we need to have more resources. If you look at the budget history of the last 12 years, we feel there has been an underinvestment in the natural resource management side. That's in terms of priorities, but

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Douglas Hall

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it's also in terms of meeting our basic responsibilities under the law. We have massive responsibilities under the Endangered Species Act that have profound impacts on the economy,

It's absolutely critical that we have a very close working relationship with the Secretary of Commerce and his office. And I think we've established that type of relationship early in the Administration.

hundreds of millions of dollars. And yet we have not provided enough funding to help insure that we make the right decisions, that we provide the best science that we can possibly bring to the table in those particular situations.

Q: What's happening to correct that?

HALL: I think if you look at our strategic plan, you'll see we've identified those areas that we think need to be addressed. And there are a number of areas--the natural resource side, the research side, the operational assessment and prediction side. And we plan to make progress in all of those areas over the next four years, eight years, you know, as long as we have an opportunity to try to influence the direction of the agency. And so some areas may be addressed first and others later. But we now have a road map that we've identified, and we have a consensus in terms of priorities that runs across the organization. The first step is to get the career people in the agency to identify and work together to come up with the list of priorities.

Q: How much does a lot of this rely on NOAA's working together

with the Department of Commerce?

HALL: I think it's absolutely critical that we have a very close working relationship with the Secretary of Commerce and his office. And I think we've established that type of relationship early in the administra-

tion. You know, this administration, perhaps unlike previous administrations, views economic growth and environmental planning as inseparable. You can't do one without the other. I think it is that recognition that will make Commerce a central focal point for environmental issues as we go through the next four years.

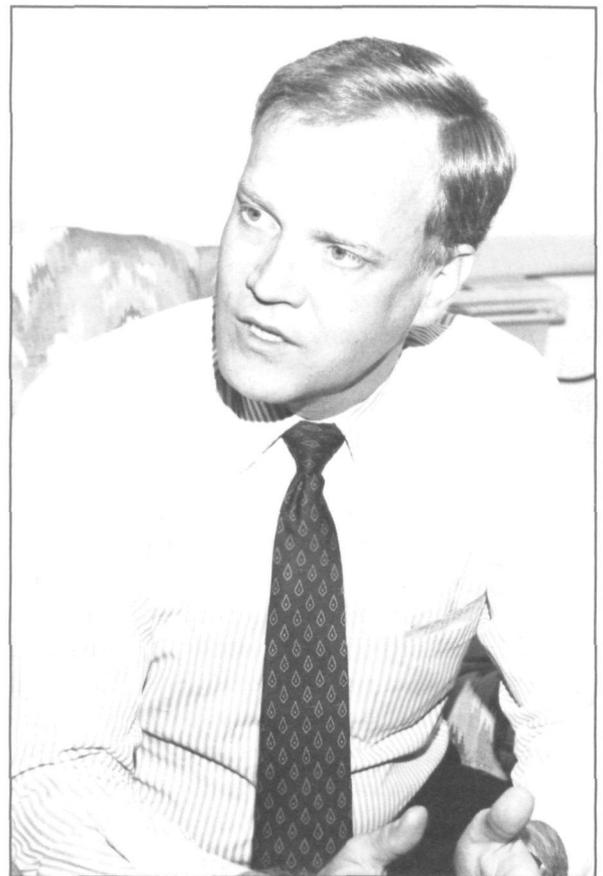
The Secretary has taken a lot of interest in our programs, and he's travelled to Tampa, Florida, to visit our facilities there. He travelled to the Stellwagen Bank National Marine Sanctuary dedication. He has taken a lot of personal interest in our work, and I think that's great for NOAA, but it's even more important for the Department of Commerce.

Q: Your job really has no defined function. You basically make of it whatever you want. And different assistant secretaries have made the job into

what they wanted. What do you see your role here as?

HALL: Well, I think that there are some things that I bring that go across the board in terms of my experience on the Hill. I worked in the presidential campaign as Al Gore's political director. And so I hope that I bring some understanding of the political process, the congressional process that will help us succeed in the Washington policy arena.

The second area is really functional. You know, I have a strong interest in pushing NOAA forward in some of the resource management issues that we face. I believe that our marine sanctuaries, for example, should be advocates for protecting those resources and we should not just be managers of the resources. We have to be aggressive in dealing with other agencies in protecting the sanctuaries from environmental degradation. I think that is the type of role that I would view us having in a number of areas, being a more



aggressive advocate for the resources that we have under our trusteeship.

Q: We were talking about your time over at the Nature Conservancy. You had written an article about joint ventures with the private sector. Can we see more of those? Or should we look for more here?

HALL: I think that we have to see more. I don't think it's really a matter of choice. When you look at the total federal expenditures for the environment, we spend about \$20 billion across the government in all environmental agencies. When you look at the total that is spent by all private entities, business and also state governments, local governments, the total, according to the Carnegie Foundation, is more like \$140 billion a year. So if we limit ourselves only to those funds that are under our direct jurisdiction, we have limited ourselves and really inhibited our ability to have an impact on the environment.

So we have to look at leveraging outside resources. We can provide the science and the expertise and the understanding that is needed to make sure that those funds are spent in the right way and that we make the proper investments for the future. But we have to work with business to identify the right technologies for protecting the environment in the

certainly the use of certain chemicals. And we have already done that in modeling the impact of chemicals on the atmosphere. So that as we look for substitutes for CFCs, when we start trying to design the clean car of the 21st Century, NOAA can provide the scientific expertise and understanding and provide a road map on where we need to go. Then industry has to provide the massive investments and the industrial expertise to really get us there.

Q: You began quickly with what you might call trial by fire with George's Bank. What happened, and what did you come away from it with?

HALL: I think in that particular case, it's an example of a situation where we have to have an open process that has the confidence of the people that are being regulated and the people affected by our rules and regulations. In this particular case, for a lot of reasons that are really no fault of any individual, this regulation came out



communicate why we're doing things. We have to demonstrate that we understand that we have a responsibility and a trust that's been placed in us by the public. We have to make sure that our actions indicate that we're deserving of that trust. So I think that particular issue was a tough issue. But I think we learned a lot from it, and I think that the National Marine Fisheries Service agreed with the decision that we ultimately made there.

Q: A lot of those hearings, I gather from reading the press reports, were pretty stormy. How did you handle that?

HALL: Well, I think you just try to be open and try to listen and try to have some understanding of what the problems are that are faced by various individuals, what their point of view is.

Q: You once wrote that "Change requires both protestors and accommodators." How does NOAA fit in, and which one is it?

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future.

Q: Can you give me any hypothetical examples of what might be looked at, or what things might be considered?

HALL: Sure. I think that NOAA can play a big role in helping industry determine the environmental impacts of certain industrial processes and

late, and it also came out without the proper preparation or understanding of the public that it might be coming. And once that happens, the confidence that it's the correct regulation just evaporates. And it's very difficult to sustain a regulation under those circumstances.

We have to work very hard to

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HALL: I think that NOAA represents the government and has to represent diverse viewpoints. I think there are roles for the people who bring all those viewpoints forcefully to the table. And you know, you may

times you get bogged down in the Washington way of doing things. But if you go out into the field and meet the people out there doing the real work, it's refreshing, invigorating to hear them talk about what they're doing. I think we're really fortunate to have that level of quality of people.

NOAA is really fortunate to have people that are really world class in their fields. I'm always impressed with the extraordinary ability and intelligence and commitment of the people that I meet out in the field.

not agree with everybody, but it illuminates the issues, and it leads to better decisions if we have people who are pushing very hard for one point of view, and then people pushing very hard for the other point of view. You end up coming up with a much better understanding of what the problem is.

Q: You've been in your job for a while now, and you travelled to various NOAA outposts around the country. What concerns have employees brought to your attention, and what's been your impression of the state of the agency?

HALL: NOAA is really fortunate to have people that are world-class in their fields. I'm always impressed with the extraordinary ability and intelligence and commitment of the people that I meet out in the field. Some-

The concerns that they have brought up to me are no surprise. I think that funding is obviously a key concern. That is a problem throughout NOAA and is something we have to address. We think we're working hard to do that. But we're doing it under one of the most difficult budgetary situations in the last decade.

Outside of the budget issue, the issues become more localized, based on a particular facility. There is also a general sense that NOAA has an opportunity to have a major impact in a number of different areas. And there are people looking for leadership to assert our role in those areas. That's what we hope to be able to do.

Q: What are some of those areas that you're thinking about?

HALL: A couple of areas come to mind. One is we deal and we develop national policies to deal

with emissions of carbon dioxide and other greenhouse gases. We believe NOAA has the best science in the world to bring to the table to help figure out what we ought to be doing and what's appropriate. And I have worked on the staff of the Vice President. [NOAA Administrator] Jim Baker meets weekly with the Vice President. And we're trying very hard to make sure that we stay in a central role in that process.

The other area, and what I think may be one of the biggest natural resource issues of this decade, is non-source point pollution. It's a massive undertaking to really deal with this problem. We have reduced the amount of pollution caused by point sources, but the big problem and the one that we really have to deal with is non-point source pollution. And if we're really going to protect our coastal wetlands and our estuaries and our marine resources, we have to deal with this issue. This could have a larger impact than virtually anything

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Talking With . . . Who's Next?

NOAA Chief Scientist *Dr. Kathryn Sullivan* will be the subject of next month's *Talking With . . .* interview in **NOAA Report**.

Mobil Donates \$10K to Gulf Sanctuary

Mobil Oil will award \$10,000 to the Flower Gardens Fund for continued research and monitoring activities at the Flower Garden Banks National Marine Sanctuary.

"This check represents our continued commitment to work with sanctuary scientists and managers to ensure the protection of this fragile coral reef ecosystem," said Mike Kimmitt, a spokesperson for Mobil Oil. "I am delighted to present Flower Garden Banks Sanctuary manager Steve Gittings with this award and look forward to our continued partnership as stewards of this unique marine environment."

Forging Partnerships

"One of our most important accomplishments has been the partnerships we have forged among government, industry, academia and the public in an effort to protect and better understand this unique marine ecosystem," said Gittings. "It is a

testament to the rare beauty of this site and the principles of sustainable development that these diverse groups are working together to better manage and conserve the Sanctuary. Perhaps this approach can serve as a model for the management of other marine resources nationally and internationally."

500 Plant and Animal Species

Flower Garden Banks Sanctuary, located 100 miles off the Texas and Louisiana coasts, contains more than

350 acres of the nation's northernmost coral reefs and serves as a regional reservoir for over 500 known plant and animal species. The Sanctuary is managed by NOAA and is home to manta rays, sea turtles, whale sharks, dolphins, snapper and grouper. More than 2,000 recreational boaters and divers visit the reefs annually, generating a significant contribution to the local economy. Commercial activities near the Banks include oil and gas exploration and extraction, fishing and marine transit. ☺

Schmitt Named NMFS Head

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"Rollie is one of the nation's most talented natural resource managers," said Commerce Secretary Ronald H.

Brown. "He has successfully dealt with some of the most difficult fishery issues facing the United States, and we are fortunate he will join our leadership team at Commerce. He is committed to building our marine fisheries and working to restore the economic health of the fishing industry."

Former State Fisheries Director

Before coming to NOAA, Schmitt was director of the Washington State Department of Fisheries. He also served as Washington State's chief of policy for natural resources, and has been directly involved in fisheries management for the past 15 years.

He served in the U.S. Marine Corps from 1966-1969, including 13 months in Vietnam. He was honorably discharged as a captain.

Schmitt received his bachelor of science degree in forest management from Washington State University in 1966. In addition, he has received conservation awards from the American Fisheries Society and the Washington Salmon and Steelhead clubs. Most recently, he received the Commerce Department's Bronze Medal and the Presidential Meritorious Award. ☺

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else we can do in a coastal zone.

Q: How are you finding your introduction to the executive branch? Is it everything that you thought it would be? What's the most satisfying thing and the worst?

HALL: One of the things that strikes me is the commitment and the drive of people in the agencies to really make them work. There is a tendency among the public to view bureaucratic red tape as the fault of Federal employees. But a lot of times this is the result of structures and procedures that have been established over which people in the bureaucracy have no control, but, instead, have to deal with. A lot of times these procedures are very frustrating to me, too. But what I'm always impressed by is

how hard people work to make the system work, even when there are obstacles in the way.

Q: How is life here different from life on the Hill?

HALL: Well, life here—it is more structured, and you have more responsibility. On the Hill, you deal with general policy. You deal with pieces of legislation. But when it comes to actually making it work and implementing it on a day-to-day basis, your responsibility ends. I think that's the big difference. You end up having a lot more details to worry about here than you do up on the Hill. The details sometimes mean the difference between success and failure, although we try to maintain a level of involvement that really reflects more of a broad vision of where we want to go. ☺

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issues, global climate change, marine resource conservation and marine pollution.

Ozone Layer Thins Over U.S.: Total column ozone concentrations over the United States earlier this year were as much as 18 percent less than the 20-year average, an unprecedented decrease, according to a study conducted at NOAA's Climate Monitoring and Diagnostics Laboratory in Boulder, Colo. The study analyzed ozone data collected since the early 1960's by surface-based instruments and, more recently, by instrument packages borne aloft by balloons.

The study, to be published in "Geophysical Research Letters," supports, in part, observations reported earlier this year of unusually low

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ozone concentrations during 1992 over much of the globe.

Lack of Data Hampered Florida Tornado Warning: A review of National Weather Service warning systems in west-central Florida cites lack of timely weather data as a factor hampering forecasters during the deadly tornadoes that struck the Pinellas County area on Oct. 3-4, 1992.

Neither National Severe Storms Center forecasters in Kansas City nor local Florida forecasters in Miami and Tampa Bay expected tornadoes the morning of Oct. 3, 1992, because Tampa Bay's 1957-vintage radar did not reveal tornadoes were imminent. Also, a weather balloon iced up after launch and didn't reach proper altitude on schedule, delaying key measurements an hour and a half.

The report finds that lack of data and antiquated radar contributed to forecasters focusing on the threat of heavy rains and coastal flooding rather than tornadoes embedded in the same storm system. ☺

Review Begins as Landsat Falls Silent

Satellite controllers have been unable to establish contact with Landsat 6, an earth-resources satellite launched Oct. 5, and NOAA is convening a formal review board to investigate the problem.

The satellite was launched aboard a Titan II space launch vehicle from Vandenberg AFB, Calif. After launch, controllers did not receive signals from the satellite when it was expected to pass over a ground station at Kiruna, Sweden. It is not known if the spacecraft has achieved orbit.

An intensive analysis of this problem is underway by NOAA and the satellite's commercial operator, Earth Observation Satellite Company (EOSAT), and its contractors.

Thomas E. McGunigal, manager of NOAA's geostationary operational environmental satellite program, has been named to head a panel of experts that will investigate the failure of the spacecraft.

DC Staff Offices Realigned

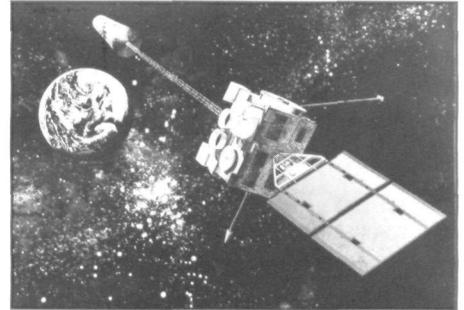
Staff offices at NOAA headquarters in Washington have been reorganized. Employees currently within the staff offices will be placed into the new organization as well as line office positions.

Also, one new office—the Office of Sustainable Development and Intergovernmental Affairs—was created.

The Office of Sustainable Development will be headed by John Bullard, formerly mayor of New Bedford, Mass., and a leading voice in New England fishery management.

NOAA's Office of Constituent Affairs was folded into the Office of Public Affairs, which also will now be responsible for public correspondence and exhibits, as well as media relations.

While some positions were cut in the reorganization, all employees affected will be placed either in other



Artist's rendition of Landsat 6 in orbit. The satellite has failed to respond to ground controllers.

McGunigal was named by NOAA administrator Dr. D. James Baker. Baker has asked McGunigal to investigate and, to the extent possible, determine the cause of the failure, and to recommend actions that will minimize or preclude the possibility of similar failures in the future. Other panel members will be named soon.

Plans call for the panel to consult with a similar board convened by the Martin Marietta Corporation. ☺

vacant staff positions, or with line offices. ☺

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