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NEW YORK TIMES

Geoengineering Our Way Out of Global Warming
WASHINGTON POST

Technology Is the Answer to Climate Change
WALL STREET JOURNAL

WORLDWATCH INSTITUTE

Lubchenco Shifts U.S. Approach to Climate Science
by Ben Block on April 1, 2009

Jane Lubchenco co-chaired a 2005 Millennium Ecosystem Assessment report and served on the Pew Oceans Commission and the Joint Oceans Commission Initiative before her selection this month as NOAA's ninth administrator.

Exactly one year before his assassination, civil rights activist Martin Luther King, Jr. delivered a sermon in New York City's Riverside Church, preaching against racism in the Vietnam War.

Forty years later, his now-famous warning of "the fierce urgency of now" has found new meaning among the leaders of today's climate movement. Former U.S. Vice President Al Gore quoted the sermon in the introduction to his influential book *An Inconvenient Truth*. On Monday, the newly appointed administrator of the U.S. National Oceanic and Atmospheric Administration (NOAA), Jane Lubchenco, borrowed Reverend King's words as well.

"We may cry out desperately for time to pause in her passage, but time is adamant to every plea and rushes on," Lubchenco said at an event at the National Academies of Science (NAS) in Washington, D.C. "Over the bleached bones and jumbled residues of numerous civilizations are written the pathetic words: Too late."

After several years of the Bush administration stalling or obstructing federal climate scientists from fully reporting their findings, Lubchenco, a marine ecologist, brings a stark change in tone.

In statements to Congress and NOAA, the agency that forecasts weather, manages seafood industries, and studies climate, Lubchenco promised to expand regional and national climate forecasting to improve how the country can adapt to climate change and avoid contributing to disastrous levels of global warming. She also suggested a renewed focus on reversing fisheries decline.

During one of her first public appearances since Congress approved her nomination last month, Lubchenco addressed a collection of the nation's top climate scientists at the NAS on Monday. "Climate change is indeed one of the greatest challenges of our time. It will permeate every aspect of our lives," she said. "The time has come for our nation to act."

The event marked the launch of America's Climate Choices, a project tasked with forming recommendations for the United States to limit greenhouse gases, adapt to climate change, and improve future climate studies. Lubchenco noted in her address that she previously participated in several NAS studies focused on climate change, dating back to the first national climate assessment in 1979. Prior to her appointment, she taught at Oregon State University and Harvard University and once served as president of the American Association for the Advancement of Science.

As Lubchenco exited the building, she embraced several of the attending scientists. "They clearly feel like there was a war against climate science in the previous administration," said Rick Piltz, a former senior associate with the U.S. Climate Change Science Program whose 2005 resignation raised attention to government intervention in federal climate studies. "The door is open right now."

Lubchenco said the climate program will release a report this spring detailing the latest evidence of how climate change is affecting the United States. The Bush administration, in contrast,

delayed the program from publishing any comprehensive reports until 2008, the former president's final year in office.

"Climate changes are indeed noticeable in the United States including increased temperatures, rising sea levels, and changes in patterns of precipitation," Lubchenco said. "[The report] concludes that widespread impacts of these changes are under way and expected to increase, leading to adverse effects on human health, ecosystems, and industries."

Lubchenco reiterated on Monday that she will continue the work of her predecessor, retired Navy Vice Admiral Conrad Lautenbacher, in developing a National Climate Service. NOAA seeks to aggregate the most recent climate science, similar to how the National Weather Service combines nationwide weather forecasts.

"Improved climate forecasting... can serve as the backbone of new enterprises helping businessmen and public servants alike make better decisions about infrastructure, public safety, consumer needs and product research and development," she said in her testimony to Congress in February.

Raised in Colorado, Lubchenco said she "fell in love with the oceans" when she visited Woods Hole, Massachusetts, as a college student, according to a video prepared for NOAA employees. She has since become a leading proponent of sustainable fisheries and the establishment of marine protected areas.

With regard to fisheries, Lubchenco appears supportive of catch shares, policies that limit the amount of seafood that fishers are allowed to haul to shore, according to an interview with The New York Times. "In the end, fishing jobs depend on fish, and fish depend on healthy oceans," she said.

Lubchenco joins a growing cast of well-regarded scientists in the Obama administration. Nobel physicist Steven Chu leads the Department of Energy and Harvard environmental scientist John Holdren is Obama's chief science advisor. Both Lubchenco and Holdren are recipients of the MacArthur Foundation's "genius award."

Ben Block is a staff writer with the Worldwatch Institute. He can be reached at bblock@worldwatch.org.

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Lawmakers push to ease fishing rules

By Richard Gaines
Staff Writer

April 03, 2009 05:50 am

Along the Atlantic Coast all the way to Florida, complaints from fishing ports are the same even if the fish — and the fishing — are different.

Winter flounder here, summer flounder farther south and red snapper in Gulf waters — these are weak links, the distressed species, that are cited by the National Marine Fisheries Service as necessitating inflexible protective schemes to bring them back, to the exasperation of many who fish and who make laws.

The impasse in New England is more extreme but similar conflicts are occurring all along the East Coast. And now an Atlantic coalition in Congress has formed to put some flexibility into the Magnuson-Stevens Fishery Conservation and Management Act.

The rigid 10-year timetable allowed for the restoration of distressed stocks could be lifted if certain conditions are present, and regulators could allow fishing of weakened species so long as they were recovering.

In New England, to protect winter flounder and other stocks that have not rebounded as quickly as expected, NMFS' regional administrator Patricia Kurkul in January proposed the one-year Interim Rule that would bar virtually all commercial fishing in the waters off the region's south coast, run the fishing clock at double time throughout the Gulf of Maine and reduce allowable effort by an average of 18 percent.

Hinting of making changes in the scheme, newly installed national administrator of fisheries Jane Lubchenco is expected to announce the final Interim Rule any day.

Meanwhile, New England's fishery continues to function under a federal court order issued by Judge Edward Harrington in January. It overturned NMFS' regulatory scheme for the region because of its failure to consider a more flexible approach to revitalizing the fishery, one that might give commercial fishermen more access to fish, even if the weakest link in the system was not zealously protected.

The option at the core of the dispute is the "mixed stock exception," which gives regulators a way to increase the harvest of healthy stocks while restoring the weakest at a slower pace.

Shared and similar grievances from fishing ports farther south have encouraged the formation of a congressional coalition from fishing districts whose members including Barney Frank, D-Mass., and Patrick Kennedy, D-R.I., have filed a bill to instill some flexibility into the Magnuson-Stevens Fishery Conservation and Management Act.

Today, NMFS does not recognize the option for flexibility in Magnuson that the New England congressional delegation and many members of the New England Fishery Management Council believe is there.

"Timelines are a crucial part of the rebuilding process," said Kennedy, "but we can't allow them to be stringently dictated by government bureaucrats."

The dispute has produced deep divisions between the regulated and regulators.

The lead sponsor is Congressman Frank Pallone Jr., D-N.J., whose district runs along the coast from opposite Staten Island, N.Y., south past Asbury Park.

In his district the fishing is mostly recreational, based around summer flounder, but as the National Marine Fisheries Service, based here, has interpreted the mandate in Magnuson, the flounder fishery has been tightly constrained.

"This legislation is the best way to rebuild our fisheries without bankrupting the tackle shops, party boats and commercial fishermen," Pallone said in a press release.

"We should be using sound biology and science when deciding how best to rebuild fish stocks," he added. "Unfortunately, the current process of managing our nation's fisheries is based on arbitrary deadlines set by Congress, which has continued to negatively impact fishing communities."

A co-sponsor is Congressman John Adler, also a Democrat of New Jersey, from farther down the coast, who sounds like a New Englander, saying, "Fishing is a treasured family tradition for many residents of (my) district, and for others, it is a source of their livelihood."

Both representatives complain that NMFS (whose administrator for the Middle Atlantic states is Kurkul) has regulated summer flounder as if it had no choice, but to penalize New Jersey for overfishing in 2008 by cutting its total allowable catch (or catch quota) for the fourth time in four years.

Other sponsors of The Flexibility in Rebuilding American Fisheries Act of 2009 are Congressmen Walter Jones, a Republican of North Carolina's Outer Banks, Frank LoBiondo, a Republican of New Jersey's southernmost coastal district including Cape May, Ginny Brown-Waite, a Republican of Florida's Gulf coast, and Mike McIntyre, a Democrat of North Carolina's southern coast.

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PRESS OF ATLANTIC CITY

Lady Mary sought on ocean floor
NOAA vessel using sonar to try to locate wreck 180 feet down
By RICHARD DEGENER Staff Writer, 609-463-6711
(Published: Friday, April 03, 2009)

CAPE MAY - The search is on for a scallop boat that took the lives of six local fishermen as it sank last week off this seaside resort.

The Thomas Jefferson, a research vessel owned by the National Oceanic and Atmospheric Administration, or NOAA, usually maps the ocean floor. Sometimes it also helps find things that are missing.

The U.S. Coast Guard, which is investigating the sinking of the Lady Mary, asked NOAA to help find the shipwreck so it can learn more about why it sank about 60 nautical miles offshore March 24.

The goal is not to salvage the vessel, or even recover bodies if any are still in the boat, as four fishermen remain missing, but to learn why the Lady Mary went down.

"Hopefully, it will give us some answers. Once we get the video analyzed, we'll have some answers," Coast Guard Petty Officer Chris McLaughlin said.

The Thomas Jefferson left Norfolk, Va., on Wednesday and arrived at the last known position of the Lady Mary at 9:30 a.m. Thursday. The wreck had not been found as of Thursday evening as sonar equipment was being used to scan the sea floor about 180 feet down.

NOAA research vessels have been involved in many high-profile searches, finding John F. Kennedy Jr.'s plane off Martha's Vineyard in 1999, mapping debris of TWA Flight 800 off Long Island in 1996, and more recently finding an engine that came off a plane that landed in the Hudson River.

"The items that I know of that we went out and looked for, we found them all," NOAA Cmdr. Karl Mangels said.

NOAA's job is to find the Lady Mary and then provide a platform for the Coast Guard to do further research. The Thomas Jefferson would return to Cape May after finding the vessel to pick up a Coast Guard crew and equipment.

That equipment includes a submersible Remotely Operated Vehicle, or ROV. This machine, which is unmanned but connected to the Thomas Jefferson with a tether, could take video of the shipwreck.

The Lady Mary sank at about 5 a.m. in rough seas that included 30-knot wind gusts. The lone survivor on the seven-man crew, Jose Luis Arias, of Wildwood, said the vessel listed to port and then slid into the ocean. He was asleep when the boat first encountered trouble and had limited information on what happened.

The bodies of Middle Township residents Royal Smith Jr. and Timothy Smith, sons of Lady Mary owner Royal "Fuzzy" Smith Sr., were recovered by the Coast Guard the morning of the sinking. Still missing are: Frank Reyes of Middle Township; William Torres of Wildwood;

Frank Credle, who lived on the Lady Mary when it was docked at Lund's Fisheries in Lower Township; and Bernie Smith, the owner's brother, of Wildwood.

There has been speculation from Fuzzy Smith that the scallop dredge hit an obstruction, pulling the boat down. The investigation could determine if that happened.

The National Transportation Safety Board, or NTSB, is also investigating because understanding such accidents can be used to develop safer ways to operate commercial fishing vessels.

In related news, the Coast Guard announced formal hearings on the sinking scheduled to begin next week have been postponed so there is more time to review an expected ROV survey of the shipwreck. McLaughlin said the Marine Board of Investigation hearing would take place, at Coast Guard Training Center Cape May, at some point after that review.

The board, led by Coast Guard Cmdr. Kyle McAvoy, is expected to include testimony from Arias, Fuzzy Smith and others involved with the accident.

Cmdr. James Crocker, of NOAA's Hydrographic Survey Division, said the 208-foot Thomas Jefferson normally maps the sea floor. It has sonar equipment to find shipwrecks, since they are mapped on nautical charts when they become threats to navigation.

Crocker said the search began with side-scan sonar that uses sound to produce images of obstructions on the sea floor. It could reveal the Lady Mary as an "acoustic shadow" that fits known dimensions of the boat. While it could tell if the vessel is upright, Crocker said it would not provide the detail that would come from the next step, high-resolution multibeam echo sounding sonar.

Crocker said this system shoots out 240 sonar beams to create a three dimensional image and give the exact position of the vessel. Crocker said the sonar search should take two to three days.

"We have a pretty good track record finding objects on the ocean floor," Crocker said.

The sonar, however, could not read the name on the stern of the vessel. The ROV images would be needed for that. Images may also reveal damage to the vessel.

The ROV is not capable of recovering bodies, and McLaughlin stressed that this is not the goal of the mission, though he did not entirely rule it out.

"It all depends on what they find," he said.

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NEWARK STAR-LEDGER

Research ship will search for wreck of Lady Mary scallop boat off Cape May
Posted by pcox April 03, 2009 05:43AM

The U.S. Coast Guard has enlisted the help of a National Oceanic and Atmospheric Administration research vessel to try to find the scallop boat that sank off Cape May March 24 and took the lives of six fishermen, according to a report in The Press of Atlantic City.

The report said the Thomas Jefferson, a research vessel usually maps the ocean floor, but sometimes it also helps find things that are missing. The Coast Guard is seeking to learn why the Lady Mary went down., but the effort won't salvage the vessel or recover bodies if any are still in the boat.

U.S. Coast Guard Lady Mary, left, moored in Cape May Harbor in 2004

Previous Star-Ledger Coverage:

-- Coast Guard suspends Lady Mary crew member search

-- Lady Mary survivor recounts fishing boat's sinking off Cape May coast
Categories: Accident, Cape May County

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Ice-free Arctic possible in 32 years

Sea-ice-large Summer ice measures suggest that the Arctic may lose most of its ice cap within three decades -- three times faster than projected -- suggest federal scientists. Only coastal Greenland and Canada may then retain ice cover, suggest the study in the April 3 *Geophysical Research Letters*. "The Arctic is changing faster than anticipated," says author James Overland of the National Oceanographic and Atmospheric Administration (NOAA).

The 2007 Intergovernmental Panel on Climate Change had projected severe summer ice cap loss in the Arctic by the end of the century. But more recent ice declines, fed into six separate climate projections, suggest that 620,000 square miles of the Arctic will be ice-covered by the end of the summer in 2037, compared to 2.8 million miles today.

"Averaged together, the models point to a nearly ice-free Arctic in 32 years, with some of the models putting the event as early as 11 years from now," says a joint statement of the University of Washington, American Geophysical Union and NOAA.

By Dan Vergano

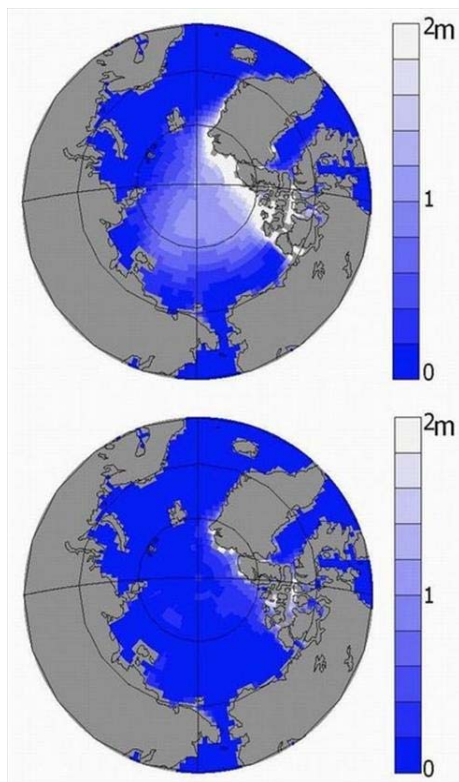


Photo: Ice thickness is shown for the Arctic in September (upper) compared with conditions of a nearly ice-free Arctic Ocean in 30 years (lower). (University of Washington/NOAA)

Posted at 03:03 PM/ET, April 02, 2009

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LOS ANGELES TIMES

Arctic sea ice gone in 30 years -- what will become of wildlife?

2:51 PM, April 2, 2009

We knew polar bears were in trouble, what with the Arctic ice they require for survival disappearing at an alarming rate.

But most of us did not know the extent of trouble facing these and other critters, such as walrus, Pacific gray whales, killer whales and fish stocks (not to mention humans, who will experience rising water levels).

Lead paragraph in an Associated Press story today out of Washington: "Arctic sea ice is melting so fast most of it could be gone in 30 years."

Because of recent ice loss, Arctic surface air temperatures are warmer than normal, and much warmer than scientists expected to find.

A report on the issue, by Muyin Wang of the Joint Institute for the Study of Atmosphere and Ocean and James E. Overland of the National Oceanic and Atmospheric Administration's Pacific Marine Environmental Laboratory, will appear in Friday's edition of the journal Geophysical Research Letters.

They expect the area covered by summer sea ice to decline from about 2.8 million square miles to 620,000 square miles within 30 years. That represents serious shrinkage, with frightening implications for wildlife and humans.

Said Wang in a statement: "The Arctic is often called the Earth's refrigerator because the sea ice helps cool the planet by reflecting the sun's radiation back into space. With less ice, the sun's warmth is instead absorbed by the open water, contributing to warmer temperatures in the water and the air."

-- Pete Thomas

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CLIMATE: Polar summers could be ice-free in 30 years -- study (04/02/2009)
Lauren Morello, E&E reporter

Arctic summers could be ice-free by 2037, according to a new federally funded study.

Researchers at NOAA and the University of Washington based their analysis on a comparison of climate models and observed ice levels in the Arctic.

Muyin Wang, the University of Washington scientist who co-wrote the paper, said scientists have been surprised at how quickly Arctic sea ice has declined in recent years. In 2007, Arctic sea ice dipped to its lowest level since satellite observations began in 1979 and came up just shy of that mark last year.

"Nobody expected the ice to reach this low this fast," she said. Most climate models had predicted summer sea-ice would persist until the end of the century.

Wang and her co-author, NOAA scientist James Overland, examined the projections of six climate models that most closely matched recent sea ice conditions. The models predict that when Arctic sea-ice cover dips to about 4.7 million square kilometers -- about the level it is now -- it will take about 30 years to reach ice-free summers.

As ice disappears, it creates a feedback loop that accelerates warming, Wang said.

"The ice is like a refrigerator for the climate system," she said. "If you have a lot of ice in the summer, that keeps things cool."

But when ice disappears, it is replaced by darker, less reflective water, which absorbs more heat from the sun. And the warmer the ocean water gets, the harder it is for new sea ice to form in the fall.

Mark Serreze, a research scientist at the National Snow and Ice Data Center in Boulder, Colo., called the new work a "useful attempt to refine when we might go to an essentially ice-free summer in the Arctic."

The study will be published in the journal *Geophysical Research Letters*.

For more, see tomorrow's *ClimateWire*.

NEW YORK TIMES/ AP ONLINE

April 3, 2009

Study: Arctic Sea Ice Melting Faster Than Expected

By THE ASSOCIATED PRESS

Filed at 1:18 a.m. ET

WASHINGTON (AP) -- Arctic sea ice is melting so fast most of it could be gone in 30 years. A new analysis of changing conditions in the region, using complex computer models of weather and climate, says conditions that had been forecast by the end of the century could occur much sooner.

A change in the amount of ice is important because the white surface reflects sunlight back into space. When ice is replaced by dark ocean water that sunlight can be absorbed, warming the water and increasing the warming of the planet.

The finding adds to concern about climate change caused by human activities such as burning fossil fuels, a problem that has begun receiving more attention in the Obama administration and is part of the G20 discussions under way in London.

"Due to the recent loss of sea ice, the 2005-2008 autumn central Arctic surface air temperatures were greater than 5 degrees Celsius (9 degrees Fahrenheit) above" what would be expected, the new study reports.

That amount of temperature increase had been expected by the year 2070.

The new report by Muyin Wang of the Joint Institute for the Study of Atmosphere and Ocean and James E. Overland of the National Oceanic and Atmospheric Administration's Pacific Marine Environmental Laboratory, appears in Friday's edition of the journal Geophysical Research Letters.

They expect the area covered by summer sea ice to decline from about 2.8 million square miles normally to 620,000 square miles within 30 years.

Last year's summer minimum was 1.8 million square miles in September, second lowest only to 2007 which had a minimum of 1.65 million square miles, according to the National Snow and Ice Data Center.

The Center said Arctic sea ice reached its winter maximum for this year at 5.8 million square miles on Feb. 28. That was 278,000 square miles below the 1979-2000 average making it the fifth lowest on record. The six lowest maximums since 1979 have all occurred in the last six years.

Overland and Wang combined sea-ice observations with six complex computer models used by the Intergovernmental Panel on Climate Change to reach their conclusions. Combining several computer models helps avoid uncertainties caused by natural variability.

Much of the remaining ice would be north of Canada and Greenland, with much less between Alaska and Russia in the Pacific Arctic.

"The Arctic is often called the Earth's refrigerator because the sea ice helps cool the planet by reflecting the sun's radiation back into space," Wang said in a statement. "With less ice, the sun's warmth is instead absorbed by the open water, contributing to warmer temperatures in the water and the air."

The study was supported by the NOAA Climate Change Program Office, the Institute for the Study of the Ocean and Atmosphere and the U.S. Department of Energy.

On the Net:

NOAA: <http://www.noaa.gov>

Joint Institute for the Study of Atmosphere and Ocean: <http://jisao.washington.edu/>

National Snow and Ice Data Center: <http://nsidc.org/>

Geophysical Research Letters: <http://www.agu.org/journals/gl/>

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MODESTO BEE/ ABOUT 100 AP STORIES NATIONWIDE

Posted on Thu, Apr. 02, 2009

Study: Arctic sea ice melting faster than expected

By RANDOLPH E. SCHMIDAP Science Writer

last updated: April 02, 2009 10:09:24 PM

WASHINGTON --]

In this July 11, 2008 photo, a giant glacier is seen making its way to the waters of Croaker Bay on Devon Island. Arctic sea ice is melting so fast most of it could be gone in 30 years, according to a new report to be released Friday, April 3, 2009. - AP Photo - The Canadian Press, Jonathan Hayward, File

In this July 11, 2008 photo, a giant glacier is seen making its way to the waters of Croaker Bay on Devon Island. Arctic sea ice is melting so fast most of it could be gone in 30 years, according to a new report to be released Friday, April 3, 2009. - AP Photo - The Canadian Press, Jonathan Hayward, File

Arctic sea ice is melting so fast most of it could be gone in 30 years. A new analysis of changing conditions in the region, using complex computer models of weather and climate, says conditions that had been forecast by the end of the century could occur much sooner.

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The study was supported by the NOAA Climate Change Program Office, the Institute for the Study of the Ocean and Atmosphere and the U.S. Department of Energy.

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AGENCE FRANCE-PRESSE

Arctic may be ice-free in 30 years: study

Friday, April 3, 2009 6:00 A.M.

WASHINGTON (AFP) — Some 80 percent of Arctic ice may disappear in 30 years, not 90 as scientists had previously estimated, according to a new study on the impact of global warming.

"The amount of the Arctic Ocean covered by ice at the end of summer by then could be only about 1 million square kilometers, or about 620,000 square miles," said US researchers who authored the study published Thursday.

"That's compared to today's ice extent of 4.6 million square kilometers, or 2.8 million square miles," they added, warning the development "raises the question of ecosystem upheaval."

The scientists made their projections based on models that took account for changes in Arctic ice, which saw "dramatic declines" at the end of summer in 2007 and 2008, when the ice surface dropped to 4.3 and 4.6 million square kilometers (1.7 and 1.8 million square miles), respectively.

The models pointed to a "nearly ice-free" Arctic in just 32 years, with some of the models making the same prediction for 11 years from now.

"In recent years, the combination of unusual warm temperatures from natural causes and the global warming signal have worked together to provide an earlier summer sea-ice loss than was predicted," said James Overland of the National Oceanic and Atmospheric Administration (NOAA).

Overland and co-author Muyin Wang of the University of Washington said earlier models had predicted the event would not take place before the end of the 21st century.

Maps illustrating Overland and Wang's models showed a nearly ice-free Arctic Ocean, although some ice would remain along northern Canada and Greenland, where powerful winds make for very thick layers of ice.

The researchers noted one benefit of less ice in the Arctic: "a boon for shipping and for extracting minerals and oil from the seabed."

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CANWEST NEWS SERVICES (Canada)

Arctic could go ice-free within decades: Study

By Margaret Munro, Canwest News Service April 2, 2009

The loss of summer ice could happen much sooner than previously estimated, according to the study's findings, to be published Friday in the *Geophysical Research Letters*. The American researchers echo Canadian scientists, who also have been predicting ice-free Arctic summers, perhaps as early as 2013.

The hot topic of when the planet will lose its icy cap will take another twist Friday, with the release of a study predicting the Arctic to be on a "fast track" to be nearly ice-free in 30 years.

The loss of summer ice could happen much sooner than previously estimated, according to the study's findings, to be published Friday in the *Geophysical Research Letters*. The American researchers echo Canadian scientists, who also have been predicting ice-free Arctic summers, perhaps as early as 2013.

Open water in the Arctic Ocean could be a boon for shipping and companies anxious to tap into the energy and mineral riches under the ice, but it would also create upheaval in an ecosystem that northern people depend on, and impact weather patterns far beyond the Arctic.

There is evidence the Arctic Ocean has had ice for a million years, though no one knows with certainty the last time it melted away.

The 2007 United Nations Intergovernmental Panel on Climate Change used 23 climate models to assess the impact of global warming, and projected that Arctic summer sea ice likely would persist until the end of this century.

The study reassessed the situation in light of the dramatic Arctic melting in the summers of 2007 and 2008, when the ice retreated to record lows. The six computerized climate models used for the analysis best match what actually has happened in recent years and reflects the difference between summer and winter ice packs, the researchers say.

"If a model can't do today's conditions well, how can you trust its future predictions?" asks Muyin Wang of the University of Washington, who co-authored the report with James Overland of the U.S. National Oceanographic and Atmospheric Administration.

The 2007 and 2008 record ice losses "are indeed evidence that the Arctic may be on a fast track for increased September sea-ice reduction over the next 30 years," Wang and Overland conclude.

Once the ice at the end of summer drops to 4.6 million square kilometres — it hit 4.3 million square kilometres in 2007 and 4.7 million in 2008 — all six models show rapid sea-ice declines, the researchers report. Averaged together, the models point to a nearly ice-free Arctic in 32 years, with some of the models suggesting it could be happen in just 11 years.

"The uncertainty in future timing for a September sea ice-free Arctic is strongly influenced by the chaotic nature of natural variability," the study says.

Overland says the changes unfolding in the Arctic are consistent with increased global greenhouse gas emissions, wind-driven variability in sea-ice circulation and a sequence of warm years beginning in the late 1990s.

"It's a combination of natural variability, along with warmer air and sea conditions caused by increased greenhouse gases," he said in a statement.

The researchers don't expect the Arctic to lose all its ice. An icy fringe is likely to persist along Canada's most northern Arctic islands and Greenland, where fierce winds sweep across the Arctic Ocean forcing ice to pile up.

Canadian researchers have been watching the meltdown in the Arctic with awe, and have said they wouldn't be surprised to soon see ice-free summers.

Warwick Vincent, director of the Centre for Northern Studies at the University of Laval in Quebec City, recently suggested the summer ice might be gone by 2013. While northern people will be most affected, the impact will extend far beyond the Arctic as the ice cover affects the jet stream and global climate circulation patterns.

"The effect of the missing ice, it will be felt all over the globe," according to David Barber at the University of Manitoba, who last fall said the Arctic appears to be on a trajectory towards an ice-free summer between 2013 and 2030.

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XINHUA (China)

U.S. study: Ice-free Arctic summers likely sooner than expected

WASHINGTON, April 2 (Xinhua) -- Summers in the Arctic may be ice-free in as few as 30 years, not at the end of the century as previously expected, according to a study released by U.S. National Oceanic and Atmospheric Administration (NOAA). The updated forecast is the result of a new analysis of computer models coupled with the most recent summer ice measurements.

"The Arctic is changing faster than anticipated," said James Overland, an oceanographer at NOAA's Pacific Marine Environmental Laboratory and co-author of the study, which will appear Friday in *Geophysical Research Letters*. "It's a combination of natural variability, along with warmer air and sea conditions caused by increased greenhouse gases."

Overland and his co-author, Muyin Wang, a University of Washington research scientist with the Joint Institute for the Study of the Atmosphere and Ocean in Seattle, analyzed projections from six computer models, including three with sophisticated sea ice physics capabilities. That data was then combined with observations of summer sea ice loss in 2007 and 2008.

The area covered by summer sea ice is expected to decline from its current 4.6 million square kilometers to about 1 million square kilometers. Much of the sea ice would remain in the area north of Canada and Greenland and decrease between Alaska and Russia in the Pacific Arctic.

"The Arctic is often called the 'Earth's refrigerator' because the sea ice helps cool the planet by reflecting the sun's radiation back into space," said Wang. "With less ice, the sun's warmth is instead absorbed by the open water, contributing to warmer temperatures in the water and the air."

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THE HINDU

Friday, April 3, 2009 : 1215 Hrs

Arctic Ocean to lose ice cover in 30 years

Washington (IANS): Thanks to the acceleration in global warming, the Arctic Ocean will lose its ice cover in the next 30 years, says a new study, and not in 100 years as scientists had predicted earlier.

New research suggests the Arctic Ocean is already edging towards this grim reality, as the ice cover during summers could shrink to a mere million square km from the existing 4.6 million sq km.

So much more open water could be a boon for shipping and for oil and mineral extraction from the seabed. But the flip side is it could trigger upheaval of the ecosystem.

The Intergovernmental Panel on Climate Change in 2007 assessed the potential effect of global warming on the Arctic, based on results from more than a dozen global climate models.

Now two researchers have reasoned that dramatic declines in ice by the end of summer in 2007 and 2008 called for a different approach.

Out of the 23 models now available, Muyin Wang, University of Washington (UW) climate scientist, and James Overland, oceanographer at Pacific Marine Environmental Lab in Seattle, based their new projections on the six most suited for assessing sea ice to come up with the scary scenario.

Scientists reckon that ice will still be found along northern Canada and Greenland where powerful winds sweeping across the Arctic Ocean force ice layers to slide on top of each other, making for a very thick ice cover, said a UW release.

These findings were published in the Friday edition of the American Geophysical Union's Geophysical Research Letters.

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ASSOCIATED PRESS

Study: Arctic sea ice melting faster than expected

By RANDOLPH E. SCHMID – Thursday, April 2, 2009

WASHINGTON (AP) — Arctic sea ice is melting so fast most of it could be gone in 30 years.

A new analysis of changing conditions in the region, using complex computer models of weather and climate, says conditions that had been forecast by the end of the century could occur much sooner.

A change in the amount of ice is important because the white surface reflects sunlight back into space. When ice is replaced by dark ocean water that sunlight can be absorbed, warming the water and increasing the warming of the planet.

The finding adds to concern about climate change caused by human activities such as burning fossil fuels, a problem that has begun receiving more attention in the Obama administration and is part of the G20 discussions under way in London.

"Due to the recent loss of sea ice, the 2005-2008 autumn central Arctic surface air temperatures were greater than 5 degrees Celsius (9 degrees Fahrenheit) above" what would be expected, the new study reports.

That amount of temperature increase had been expected by the year 2070.

The new report by Muyin Wang of the Joint Institute for the Study of Atmosphere and Ocean and James E. Overland of the National Oceanic and Atmospheric Administration's Pacific Marine Environmental Laboratory, appears in Friday's edition of the journal *Geophysical Research Letters*.

They expect the area covered by summer sea ice to decline from about 2.8 million square miles normally to 620,000 square miles within 30 years.

Last year's summer minimum was 1.8 million square miles in September, second lowest only to 2007 which had a minimum of 1.65 million square miles, according to the National Snow and Ice Data Center.

The Center said Arctic sea ice reached its winter maximum for this year at 5.8 million square miles on Feb. 28. That was 278,000 square miles below the 1979-2000 average making it the fifth lowest on record. The six lowest maximums since 1979 have all occurred in the last six years.

Overland and Wang combined sea-ice observations with six complex computer models used by the Intergovernmental Panel on Climate Change to reach their conclusions. Combining several computer models helps avoid uncertainties caused by natural variability.

Much of the remaining ice would be north of Canada and Greenland, with much less between Alaska and Russia in the Pacific Arctic.

"The Arctic is often called the Earth's refrigerator because the sea ice helps cool the planet by reflecting the sun's radiation back into space," Wang said in a statement. "With less ice, the sun's

warmth is instead absorbed by the open water, contributing to warmer temperatures in the water and the air."

The study was supported by the NOAA Climate Change Program Office, the Institute for the Study of the Ocean and Atmosphere and the U.S. Department of Energy.

On the Net:

NOAA: <http://www.noaa.gov>

Joint Institute for the Study of Atmosphere and Ocean: <http://jisao.washington.edu/>

National Snow and Ice Data Center: <http://nsidc.org/>

Geophysical Research Letters: <http://www.agu.org/journals/gl/>

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ASSOCIATED PRESS

Sun has fewest sunspots since 1913, better GPS

By SETH BORENSTEIN – 12 hours ago

WASHINGTON (AP) — The sun has been unusually quiet lately, with fewer sunspots and weaker magnetic fields than in nearly a century. A quiet sun is good for Earth: GPS systems are more accurate, satellites stay in orbit longer; even the effects of manmade global warming are marginally reduced, though just by three-tenths of a degree at most.

It's all a normal part of the strange but regular cycles of the sun's activity. Scientists don't know why it happens, but "for humankind it's probably a good thing," said David Hathaway, chief solar physicist at NASA's Marshall Space Flight Center in Huntsville, Ala.

This lower activity is shrinking our atmosphere a bit, too. Again, not a problem. The sun isn't bombarding the Earth with the usual amount of short-wave radiation that expands the atmosphere. Researchers at the University of Texas in Dallas found the Earth's upper atmospheric boundary at the lowest in the history of the space age. It's about 125 miles lower than normal.

For centuries, people have been counting sunspots, which are cooler, darker areas of intense magnetic fields that form on the sun's surface. The number of sunspots in recent months has been the lowest since 1913, according to NASA. Scientists are looking as far back as the early 1800s for similar quiet periods. They generally last about five years. This quiet spell, which started in 2007, may follow suit.

Scientists last fall were fooled when sunspot activity briefly ramped up and experts figured the quiet cycle was over. They were wrong.

Marc Hairston, a space scientist at UT-Dallas, compared it to the stock market. Just when you think it can't sink anymore, it does.

"This is the lowest we've ever seen," Hairston said of the solar activity. "We thought we'd be out of it by now, but we're not."

Generally sunspots, the easiest measurement of solar activity, follow a predictable 11-year cycle of high, then low, activity.

During the last high solar period, there were sunspots each day — sometimes hundreds of them — from January 1998 to February 2004. So far this year, there have been only 14 days with sunspots. The sun is more spot-free now than it was last year when scientists thought solar action had hit bottom.

Thomas Bogdan, director of the National Oceanic and Atmospheric Administration's Space Weather Prediction Center in Boulder, Colo., said solar activity should be increasing "anytime now."

Others think this may be a replay of 1913 or the even deeper solar ditch of 200 years ago, the Dalton Minimum. The deepest ditch of all was in the 1600s.

A deep minimum probably drops global temperatures temporarily about two-tenths to three-tenths of a degree Fahrenheit, not nearly enough to make up for global warming, said Tom Woods of the University of Colorado's atmospheric and space physics lab.

Generally the heating effect from manmade greenhouse gases is 13 times greater than the variations from solar activity, said Ralph Cicerone, president of the National Academy of Sciences and an expert in atmospheric sciences.

Heavy solar radiation slows down electrons and creates radio waves that interfere with the frequencies used by GPS receivers. So during high solar activity peaks, GPS tracking can be off by nearly a football field because of the distortion from receivers to satellites, NOAA's Bogdan said. But during solar minimums like the current one, GPS is accurate to within a foot or so, he said.

The sun's shrinking of Earth's atmosphere reduces the physical drag on satellites and space junk, keeping both the good and the bad in orbit, Hathaway said.

On the Net

NASA's solar physics site: <http://solarscience.msfc.nasa.gov/>

Solar Influences Data Analysis Center: <http://sidc.oma.be/sunspot-data/dailysn.php>

NOAA's space weather prediction center: <http://www.swpc.noaa.gov/>

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DALLAS MORNING NEWS/ ABOUT 50 AP STORIES

Fewer sunspots detected, boosting GPS accuracy

12:00 AM CDT on Friday, April 3, 2009

Seth Borenstein, The Associated Press

WASHINGTON – The sun has been unusually quiet lately, with fewer sunspots and weaker magnetic fields than in nearly a century. And a quiet sun is good for Earth, scientists say.

Global positioning systems are more accurate and even the effects of manmade global warming are marginally reduced.

And researchers at the University of Texas at Dallas found evidence of another positive: The sun isn't bombarding the Earth with the usual amount of short-wave radiation that expands the atmosphere, which means satellites might stay in orbit longer.

The UTD researchers found the Earth's upper atmospheric boundary at the lowest in the history of the space age. It's about 125 miles lower than normal.

The sun's shrinking of Earth's atmosphere reduces the physical drag on satellites and space junk, keeping both the good and the bad in orbit, scientists said.

It's all a normal part of the strange but regular cycles of the sun's activity. Scientists don't know why it happens, but "for humankind it's probably a good thing," said David Hathaway, chief solar physicist at NASA's Marshall Space Flight Center in Huntsville, Ala.

For centuries, people have been counting sunspots, which are cooler, darker areas of intense magnetic fields that form on the sun's surface. The number of sunspots in recent months has been the lowest since 1913, according to NASA.

Scientists are looking as far back as the early 1800s for similar quiet periods. They generally last about five years. This quiet spell, which started in 2007, may follow suit.

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Seth Borenstein, The Associated Press

NEW YORK TIMES/ AP ONLINE

April 2, 2009

Sun Has Fewest Sunspots Since 1913, Better GPS

By THE ASSOCIATED PRESS

Filed at 7:28 p.m. ET

WASHINGTON (AP) -- The sun has been unusually quiet lately, with fewer sunspots and weaker magnetic fields than in nearly a century.

A quiet sun is good for Earth: GPS systems are more accurate, satellites stay in orbit longer; even the effects of manmade global warming are marginally reduced, though just by three-tenths of a degree at most.

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On the Net

NASA's solar physics site: <http://solarscience.msfc.nasa.gov/>

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NOAA's space weather prediction center: <http://www.swpc.noaa.gov/>

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MIAMI HERALD — *From NOAA joint news conference*

Posted on Thu, Apr. 02, 2009

New weather satellite to help track hurricanes

BY EVAN S. BENN

A new satellite set to launch later this month from Cape Canaveral will help weather forecasters better predict hurricanes and will assist in pinpointing distress signals to trigger search-and-rescue operations.

The \$499 million GOES-O (geostationary operational environmental satellite) will orbit about 22,000 miles above the Earth, sending back high-resolution images for the next 10 years.

"This is really exciting. Hopefully, we'll see marked improvements in our ability to forecast," said Joe Schaefer, director of the National Oceanic and Atmospheric Administration's Storm Prediction Center. "It's going to guarantee the availability of state-of-the-art satellite data for the next decade."

The federal GOES program, which first launched a satellite in 1975, provides many of the weather images shown on television newscasts and piped into government forecasting offices like the National Hurricane Center in West Miami-Dade.

The 4,000-pound GOES-O will give forecasters details about atmospheric changes that will allow them to track hurricanes with more accuracy. It also will improve forecasting of all kinds of weather events, like tornadoes, ice storms and wildfires, said Tom Wrublewski, a NOAA acquisition manager.

"We used to be able to locate a fire within six kilometers; now we'll be able to get within three kilometers," Wrublewski said.

The satellite also will have the ability to pick up distress signals from aircraft, ships or individual emergency GPS beacons.

"That's an improvement on the ground side for search and rescue," Wrublewski said. "We're going to know where you are within meters."

Scientists at NOAA and NASA plan to launch the satellite from Cape Canaveral Air Force Station at 6:24 p.m. April 28.

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<http://www.miamiherald.com>

HAWAII REPORTER

NOAA Reports Papahānaumokuākea Marine National Monument Reef Ecosystems in Good Condition

By Keeley Belva, 4/2/2009 10:18:08 AM

Marine life and habitats at Papahānaumokuākea Marine National Monument are in good overall condition but face emerging threats, according to a new NOAA report on the monument's health.

Prepared by the NOAA Office of National Marine Sanctuaries, the peer-reviewed Papahānaumokuākea Marine National Monument Condition Report notes that due to the monument's remoteness, past management efforts, and regulations that limit access, impacts from local human uses are relatively few.

However, past activities have permanently altered some areas and in some cases resulted in degradation of habitats. Other concerns for the monument include climate change and coral bleaching, diseases affecting marine organisms, and marine alien species that can threaten native biodiversity and degrade habitats.

"Global issues of concern arising outside monument boundaries, such as marine debris, ocean acidification, and invasive species, degrade fragile monument living resources and habitats," said `Aulani Wilhelm, NOAA's monument superintendent.

The report highlights the need to address potential impacts to key habitats and declining conditions of some living resources (Hawaiian monk seals, resident seabirds and migratory shorebirds). It also states that a better understanding of the region's biodiversity and marine archaeological resources is key to protecting the monument.

In addition, the report emphasizes the monument's commitment to recognizing and perpetuating the unique relationship of native Hawaiians to the land, sea and their cultural traditions.

"Incorporating traditional values and ecological knowledge into the natural resource management of the Northwestern Hawaiian Islands will be an important part of all management initiatives in this region," said Wilhelm.

The report is the first of its kind about the monument and provides a baseline for monitoring changes to its resources and identifying research and management priorities. It also helps set the stage for the development of a natural resources science plan for the monument. Similar reports are being developed for the other sites in the National Marine Sanctuary System.

The full monument condition report is now available online at <http://sanctuaries.noaa.gov/science/condition>

Nominated for consideration as a UNESCO World Heritage Site honoring its natural and cultural heritage, Papahānaumokuākea Marine National Monument is administered jointly by three co-trustees – the Department of Commerce, Department of the Interior and the State of Hawai'i – and represents a cooperative conservation approach to protecting the entire ecosystem.

Co-trustee agencies, in cooperation with the Office of Hawaiian Affairs, manage the monument through the Monument Management Board. The Monument area includes the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, Midway Atoll National Wildlife Refuge/Battle of Midway National Memorial, Hawaiian Islands National Wildlife Refuge, Kure Atoll Seabird

Sanctuary, and Northwestern Hawaiian Islands State Marine Refuge. For more information, please go to <http://www.Papahanaumokuakea.gov>

NOAA works to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and conserves and manages our coastal and marine resources. Visit <http://www.noaa.gov>

On the Web: NOAA Office of National Marine Sanctuaries: <http://sanctuaries.noaa.gov>

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PACIFIC NEWS CENTER

NOAA To Assess Health Of Guam & Northern Marianas Reefs

Written by Josh Tyquiengco, Pacific News Center - Guam, Saipan, CNMI, Asia-Pacific
Friday, 03 April 2009 16:39

Guam

Guam- The National Oceanic and Atmospheric Administration will be conducting a comprehensive study to determine the health of reef ecosystems that are part of Guam and the Northern Marianas. We took a sneak peek inside the ship that is going to serve as the hub for all this vital information.

In the meantime, NOAA officials are still compiling data conducted in previous years on the coral reef ecosystems around the marianas. They also say this year's study will be interesting because much of this pacific region has new restrictions, mostly due to the declaration of the Marine National Monument by former President George W. Bush.

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Save the whales

By Judy Lowe | 04.02.09

Surely there's no environmental slogan that's been more parodied than Save the Whales. But the motto endures not only because whales continue to need help, but because there's something about whales that appeals to many ordinary people who don't necessarily think of themselves as environmentalists.

We've followed the issue of whales and sonar for some time (including here, here, and here). But it's worth bringing up again in connection with an opinion article in today's Monitor.

"Smarten up naval sonar to save the whales" is the message from Jean-Michel Cousteau, founder and president of Ocean Futures Society and son of the famed ocean explorer Jacques Cousteau, and Joel R. Reynolds, an attorney with the Natural Resources Defense Council, which has been in litigation against the US Navy, which uses sonar that affects marine mammals.

Although the US Supreme Court has ruled that national security couldn't be jeopardized in an effort to protect the environment, the estimated 300-350 remaining right whales off the East Coast are a special concern to environmentalists at the moment.

Protecting the whales from acoustic assault doesn't necessarily have to be an all-or-nothing proposition, say Cousteau and Reynolds. They suggest some uncomplicated sonar measures the Navy could take to make a big difference: "Simple steps such as avoiding sensitive areas like marine sanctuaries, critical habitats, and feeding or breeding grounds; adopting adequate monitoring and safety zones around the sonar device; powering down in ocean conditions of particular acoustic risk; and implementing ship based, aerial, and underwater techniques to monitor when marine mammals are present enable a protective response."

Since trying to remedy the problem through the courts hasn't been as effective as they might have wished, they're hoping that the Obama administration and NOAA (the National Oceanic and Atmospheric Administration) will be responsive to their plea.

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from the April 02, 2009 edition - <http://www.csmonitor.com/2009/0402/p09s02-coop.html>

Smarten up naval sonar to save the whales
Obama can silence harmful echoes from the Bush administration.
By Jean-Michel Cousteau and Joel R. Reynolds

Santa Barbara, Calif; and Los Angeles

The Bush administration may be gone, but whales and other marine life along our coasts will be hearing from it for years to come – literally.

On its way out of town, Bush's National Oceanic and Atmospheric Administration (NOAA) and the US Navy released a series of regulations that, during the next five years, could cause environmental harm on a staggering scale. But by acting decisively, the Obama administration can prevent it.

The regulations allow approximately 11.7 million instances of harassment, injury, or even death (the legal term is "take") to marine mammals by exposing them to high-intensity military sonar training in coastal waters around the United States. These estimates – the Navy's own – include 9.7 million takes along the Atlantic Coast and the Gulf of Mexico; 630,000 off the coast of southern California; 650,000 along the coast of Washington and Oregon; 140,000 in Hawaii; and another 500,000 off the coast of Florida.

Sonar exposure is not, as the Navy suggests, a mere matter of annoyance to whales and dolphins. In fact, the harm ranges from significant disturbance to important behaviors – feeding, breeding, migrating, communicating, finding mates – to hearing damage and even mass stranding and death.

At risk are not only some of the most vulnerable whale populations on Earth – including the last remaining 300 North Atlantic right whales and the 83 critically endangered southern resident killer whales off the Washington coast – but the very fabric of life among species that, over eons in the dark ocean, have evolved to depend on sound as we depend on sight. According to government scientists, the "loss of even a single individual right whale may contribute to the extinction of the species."

In recent decades, a growing number of mass whale mortalities around the world have occurred in the shadow of military sonar training, in coastal waters as diverse as the Bahamas, the Canary Islands, Greece, North Carolina, Hawaii, Washington State, and many others. According to scientists – including the Navy's own consultants – there is no longer any doubt that sonar kills whales, whether by stranding or massive internal hemorrhaging – akin to what human divers experience as the "bends."

Nor, as the Navy has argued, is sonar's impact a necessary consequence of securing our national defense. Most of the harm to marine mammals authorized by the Bush administration could be avoided by the use of common sense safeguards, many of which the Navy has used in past training exercises without apparent problem.

Simple steps such as avoiding sensitive areas like marine sanctuaries, critical habitats, and feeding or breeding grounds; adopting adequate monitoring and safety zones around the sonar device; powering down in ocean conditions of particular acoustic risk; and implementing ship

based, aerial, and underwater techniques to monitor when marine mammals are present enable a protective response.

But for all of the recent proposed sonar training, the Navy has refused to implement any of this mitigation, instead proposing half-measures dismissed by the federal courts as "woefully inadequate and ineffectual."

During the past decade, the courts have been the only effective line of defense against the Navy's needlessly dangerous sonar training, but litigation is piecemeal.

A more effective, more comprehensive political response may now be possible. And given the geographic reach of the proposed sonar training and the Navy's own predictions of harm, such a response may be the only way to counter what amounts to an astonishing acoustic assault on marine life along all our coasts.

New leadership is already in place at NOAA. New leadership, we hope, will soon be coming to the US Navy. Instead of the Bush administration's last-minute attack on whales and other marine life, the new administration should require a uniform protocol of effective safeguards for all Navy sonar training that would prevent the needless infliction of harm.

We urge NOAA to move quickly and forcefully to exercise its authority – and fulfill its responsibility – to protect our oceans.

Jean-Michel Cousteau is founder and president of Ocean Futures Society in Santa Barbara, Calif. Joel R. Reynolds is a senior attorney with the Natural Resources Defense Council in Los Angeles. (NRDC has been involved with litigation against the Navy for a number of years.)

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INSCIENCES ORGANIZATION

Supreme Court Weighs in on Whales and Sonar

Published on 2 April 2009, 08:08 Last Update: 19 hour(s) ago by Insciences

Categories: Digital tags | Marine science | Sonar | Whales |

Arguments about the impact of Navy sonar on marine mammals rose to the highest court in the land last fall. But not every issue is best settled in court. One source of knowledge related to the case—marine mammal scientists—was essentially left out of the debate.

The U.S. Supreme Court weighed competing interests—“a balance of harms” in legal terms. On one hand is the potential threat to whales from sonar; on the other, the military risk posed by naval forces inadequately trained to use sonar to detect enemy submarines.

In November 2008, the justices cited the public’s overriding national security interests and ruled that, in the absence of direct evidence of sonar-related whale deaths in whale-inhabited waters off California, the Navy could continue sonar training exercises there. However, the justices also upheld arguments by the National Resources Defense Council (NRDC) and other environmental groups that the Navy should continue “monitoring and mitigation measures” to prevent harm to marine mammals.

“The ruling was procedural; the case did not hinge on science,” said Darlene Ketten, a biologist at Woods Hole Oceanographic Institution (WHOI) who specializes in marine mammal hearing.

“Neither side wanted to discuss research that has developed new methods to better protect whales that will still meet the Navy’s training requirements, and I’m not quite sure why,” said Peter Tyack, director of the Marine Mammal Center at WHOI, which has a mission to provide research in support of marine mammal conservation.

Heat, but no light

Richard Kendall, the lawyer representing the environmental groups, made claims about harm to whales caused by sonar, but in its decision, the court did not address whether those claims were valid. The Supreme Court justices seemed frustrated by the lack of concrete information about sonar and whales. At one point in the proceedings, Justice Stephen Breyer asked: “Why couldn’t you work this thing out? ... You are asking us, who know nothing about whales and less about the military ... to try to figure out who’s right in the case, where the other side says the other side is totally unreasonable.”

As a result, Tyack said, “The court cases are generating a lot of heat, but I don’t think the ruling moves us toward a better solution, where the animals are less at risk and the Navy is less encumbered.”

For example, he said, there was disagreement between the Navy, which turns off sonar when whales or dolphins are seen within 1,000 meters of a vessel, and the environmental groups, which argued that the shutdown range should be increased to 2,000 meters. But the whales that have most often beached and died during sonar exercises are beaked whales, which are elusive and difficult to see at the surface.

“The odds of sighting a beaked whale at the surface are close to zero, so visible monitoring is ineffective at either distance,” Tyack said. “We have new techniques to listen for the sounds beaked whales make when they are out of sight, foraging at great depth. Yet the inadequacy of

the current observation methods and the existence of better ones never came up in the court arguments.”

Research can help ‘balance the harms’

Environmental groups sometimes exaggerate sonar risks with emotional arguments that attract public attention but are scientifically inaccurate, Ketten and Tyack say. For example, Kendall asserted that marine mammals near a sonar source experience a sound equivalent to 2,000 jet engines, causing them to get decompression sickness, or “the bends,” if they surface too rapidly.

“What he did not mention is that whales are almost never going to be next to the sonar, but rather will experience much lower levels of sound at a distance,” Tyack said. “And comparing loudness for different species in air and in water is very controversial.”

Concerning decompression sickness in whales, Ketten said, “There has been a lot of speculation, but so far there is no proof it has occurred.” Tyack said, “Beaked whales that stranded during sonar exercises have been reported to have gas bubbles in their tissues that are consistent with decompression, but there is great scientific uncertainty about whether beaked whales could get the bends from one rapid surfacing.”

On the other side, analyses by federal regulators and the U.S. Navy may not fully account for all sonar risks, Tyack said. The Navy has agreed that sonar in some situations may cause beaked whales to strand on beaches and die. In current environmental impact statements, the U.S. Navy notes a link between sonar and 37 whale deaths in five stranding events worldwide since 1996. However given how little information is available, the problem may well extend beyond these 37 whales. Sonar may have a host of other effects on marine mammals, such as stress, disorientation, hearing loss, and disruption of feeding, that may have important impacts but would not be evident in the stranding record, he said.

Fishing gear a greater threat

Ironically, most scientists and U.S. fisheries managers agree that far more marine mammals are killed in fishing gear than by sonar. A study by Andrew Read, of Duke

University and colleagues presented to the Scientific Committee of the International Whaling Commission in 2003 estimated that 300,000 whales and dolphins are killed in fishing operations per year worldwide. By contrast, a 2004 paper by Barbara Taylor of the U.S. National Marine Fisheries Service and colleagues presented to the Scientific Committee of the International Whaling Commission, listed fewer than 200 whales stranded coincident with naval maneuvers in the last 40 years.

“When the courts and the public do not get an accurate picture of the threats posed by different human activities to marine mammals and other wildlife, it distorts conservation priorities and does not serve the interests of the animals,” Tyack said.

A recent technological invention—digital tags that can record whales’ behavior and the sounds in their environment—has vastly increased scientists’ ability to learn how whales respond to sonar, he said. The Navy funds much of this research (see *The Sound of Sonar and the Fury about Whale Strandings*).

“I am an optimist, but I believe it’s absolutely likely,” Tyack said, “that in five years, researchers will know enough about beaked whale behavior in response to sonar to allow the Navy to plan

missions that have minimum impact on whales, especially on Navy underwater ranges equipped with instruments that can listen for whale sounds.”

“We could solve the sonar problem,” Ketten said. “We are very close to answers on what animals like beaked whales hear and how they respond to sound. If all sides devoted their resources to research rather than to lawsuits, we could get some answers, but without them, the lawsuits will continue.”

“It’s ironic to think it’s the human squabbling that is preventing the science from informing the policy,” Tyack said.

—Kate Madin

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Source: Woods Hole Oceanographic Institution

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Guest column: Greener military needed to protect coastal resources

By Watt Childress
For The Daily Astorian

Thursday, April 02, 2009

Republicans balk at deficit spending on public services, yet they embraced off-balance-sheet budgeting to finance a misguided war.

Has the Party of Hatfield come to believe that swords are superior to ploughshares?

History shows how spending on war can revive a depressed economy. We don't have to look far into the past, however, to see that it can also make matters much worse.

Few people would claim that our economy has benefited from the war in Iraq, for example. I've heard total cost estimates of \$650 billion to 860 billion for that invasion and occupation of foreign soil. A GOP-controlled Congress readily spent those taxpayer dollars. They even saluted when a big no-bid contract went to Vice President Dick Cheney's alma mater - Halliburton - which has since relocated its corporate headquarters to the United Arab Emirates. When billions of dollars went missing in the Middle East, under Bush and Cheney's watch, few legislators seemed concerned.

Washington's fondness for military spending often borders on religious devotion. The U.S. defense budget, due in April, will provide a good measure of whether new leaders intend to change this habit of doling out money to the military regardless of need or performance.

"The defense budget historically has been where discipline goes to die," wrote the editorial board of *The Oregonian* March 15. They cited a report from the Government Accountability Office that found \$295 billion in cost overruns for military programs since 2000.

After eight years of shock-and-awe budgeting under Bush, such numbers shout the need for reform. Not just in terms of our expenditures overseas, either. The Bush Administration's rush to war in Iraq was mirrored by a push to grant military interests primacy over other needs here at home.

In this context I believe it would be wrong to pursue a Bush-era proposal to expand warfare training off the Northwest Coast. A written assessment of this proposal from the U.S. Navy can be read at www.nwtrangecomplexeis.com (public input is being accepted until April 13). A tiny section of the massive document offers reasons for the increase. Ten lines of general language failed to persuade me that existing levels of warfare training are not enough.

Does this mean citizens should be satisfied with the status quo? No. Feedback on the Navy's proposal identifies improvements that are necessary in order to adequately protect our coast. A checklist can be made from the input of the Natural Resources Defense Council and other stakeholders that have commented on the proposal.

Our last commander in chief pitted national defense against the protection of natural resources. Hopefully new leadership will pursue these two objectives as integral parts of a unified whole. Topping the list of necessary changes is a departure from Bush policies that allow the incidental

torture and killing of whales with sonar. America needs greener fleets with enhanced ability to monitor our marine environment for the good of all creatures that depend on our waters.

"Whole new methods of transmitting and receiving sonar signals are needed," says local conservationist Jerome Arnold, who served as a Navy submariner during the Vietnam War. "Measuring the effectiveness of sonar systems against that of whales reveals vast improvements are possible. Whales can communicate across oceans without blowing each other's acoustic sense organs to bits. Why can't we humans build sonar systems with similar sensitivity?"

Protecting maritime life is a natural extension of the Navy's mission to maintain freedom of the seas, even if it departs from past practices. In the old days naval fleets cleared the way for trade in sea otter pelts and whale oil, just as they do for petrochemicals today. Private interests will always want the military to secure channels for whatever they're selling, be it liquefied natural gas or war equipment. That should not prevent us from being broader-minded.

People in uniform need the tools to defend our marine resources without harming them in the process. The U.S. Coast Guard appears to be making progress in this area. Other agencies charged with national security should follow suit.

Well-funded improvements of our military operations would help make peace with a planet we have plundered and polluted, often under the pretext of war. America's respect for ploughshares should not be overshadowed by a fixation on swords.

Watt Childress is a Cannon Beach merchant and freelance writer who lives on a small farm in the Nehalem Valley. His column appears twice a month in the Cannon Beach Citizen. E-mail him at wattchildress@yahoo.com

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SAN FRANCISCO CHRONICLE

Wipe out this year for big-wave contest

Bruce Jenkins

Friday, April 3, 2009

(04-03) 00:13 PDT -- The Maverick's big-wave surf contest, which had been gearing up for an extension through April, is now officially off for the year. It has been shut down by a loophole, but more realistically, it expired due to a lack of surf.

Although contest organizers got no resistance from the San Mateo Harbor District in their request for more time, they encountered a roadblock in the National Oceanic and Atmospheric Administration, a federal agency that governs activity within the California stretch of coastline known as the Monterey Bay National Marine Sanctuary.

The use of personal watercraft became a hotly debated issue when tow-in surfers, looking to ride the largest possible waves, filled the ocean with jet-skis during big swells. Environmental arguments raged back and forth, leading to a comprehensive personal watercraft ban within the sanctuary, but Maverick's was granted an annual three-month window - November through January - to allow for big-wave surfing and, ideally, the Maverick's contest.

The Maverick's event is strictly for paddle-in surfing, but contest days find the lineup filled with vessels of all sorts, raising environmental concerns. Although organizers were cleared by NOAA to keep March 31 as the closing date of their contest waiting period, they were not granted an extension through April.

This only makes it more imperative that the contest window opens Nov. 1 next year, instead of the first week of January, "and that is our intention," said Keir Beadling of Maverick's Surf Ventures. The bottom line is that the waves simply weren't happening this year, and it was highly unlikely that any significant swell would arrive this month. Meanwhile, there was a blockbuster item Tuesday on the Surfer Magazine Web site, noting that big-wave surfers Rusty Long and Grant "Twiggy" Baker (winner of the 2006 Maverick's contest) had "broken the 100-foot barrier, catching and surfing a skyscraper-size wave off the coast of Chile." The story was accompanied by a photo of two surfers cascading down a wave that, indeed, looked to be about 100 feet tall.

It ran April 1.

E-mail Bruce Jenkins at bjenkins@sfnchronicle.com.

<http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/04/03/SPNK16S074.DTL>

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SAN JOSE MERCURY NEWS

What to do with a dead whale? Santa Cruz wants to know

By Cathy Kelly MediaNews staff

Posted: 04/02/2009 06:07:07 PM PDT

SANTA CRUZ — It's tempting to call it a whale of a problem.

After a dead California gray whale washed back to shore Wednesday evening, just hours after wharf workers towed it about a mile out to sea, away from the wharf, city officials and marine mammal experts Thursday again began plotting a return to sea for the pungent yearling.

Marine biologists said there is no obvious sign of trauma on the 25-foot whale and they are not sure why the young female died. California gray whales are close to shore at this time of year, as they migrate from their winter home in the warm waters off Mexico to summer feeding grounds surrounding Alaska.

Thursday, the plan was to use the buoyancy of an early Friday high tide to tow the whale at least 10 miles offshore, said Dan Buecher, the city's wharf supervisor.

The tricky part will be the surf conditions in the rocky cove just west of Its Beach where the whale washed up, he said.

Later Thursday, when high surf predictions began rolling in, a back-up plan was hatched — to use a tow truck to haul the whale up the cliff to a low-boy trailer, and drive it out to the city landfill, Buecher said.

"It's an evolving plan," he said. "It's looking like the land way is safer, but we won't know until we are there."

A towing company the city has used to recover vehicles assessed the situation and said they could do it, he said.

That is, if the tide doesn't dislodge the whale and move it tonight.

Either way, city workers will be out whale-side about dawn Friday, assessing the conditions.

The whale was first sighted early Wednesday, on the east side of the Santa Cruz Municipal Wharf.

As marine mammal experts, federal fishery authorities, the Coast Guard and city officials discussed the best way to deal with it, the carcass drifted slowly toward Main Beach. Around noon, wharf workers in a small boat towed it a mile or so out to sea. But by Wednesday night, it was back.

Thursday morning, the tide was low and a UC Santa Cruz graduate student was studying the whale as best she could in the small cove, without the possibility of doing a complete necropsy due to the populated and small spot where the whale landed.

Robin McClenahan, who works with Long Marine Lab and the California Marine Mammal Stranding Network, said the blubber and blood samples she took from the yearling will probably not tell them how the whale died.

Gaining that information would necessitate cutting the whale up to examine its vital organs, she said.

"If it was a more remote area, we could do a full necropsy," McClenahan said. "But it makes a really big mess and parts wash up for a while afterward. We don't want to chum the surfing spot in Santa Cruz."

The 2-ton whale showed signs of a boat strike, which likely wasn't the cause of death. It was thin, not thin enough to lead her to believe it had starved to death, she said.

"Normally, in the last few years, whales we see have died from Orca predation, but not this whale," she said. "It could be cancer or anything; they die from all the same things people die of; you never know."

People gazed down at the whale from the West Cliff pathway and others walked down from Its Beach to get a closer look.

Antonella Gentile hurried down on her lunch hour to get a closer look, after reading a newspaper story about the whale. She snapped some photos with her cell phone and was sending them to her mom, she said.

She said the sight didn't sadden her, because it seemed that the whale had died of natural causes. The smell was pretty bad, she added.

"It's cool to see wildlife up close, even if it's dead," Gentile said. "The baleen was really neat."

It was unclear Thursday whether Long Marine Lab scientists could conduct a necropsy at a landfill, if the carcass ends up there, said Teri Sigler, the lab's stranding coordinator.

Soon, the whale will be too decomposed on the inside to get good pathology, Sigler said.

Either way, it needs to be moved, said Robert Yerena with the National Oceanic and Atmospheric Administration.

"For obvious health reasons, they need to get it off the beach," he said.

In some cases, whale carcasses can be deeply buried in the sand, he said, but the cove is too small for that.

The plan to hoist the whale onto a trailer is "very unusual," Yerena said, but possible.

"It could explode; due to expanding gases," he said. "I just advised them of that and told them to talk to (a Long Marine Lab veterinarian) about relieving the pressure before they move it."

Buecher, the wharf supervisor, said it was unfortunate that an unusual current and very high tide Wednesday landed the whale where it did.

"It lodged in a particularly difficult cove, with rocks and a shallow reef," he said. "There is no easy way to get it out of there."

LOS ANGELES TIMES

Saving the Pacific's leatherback turtles

2:23 PM, April 2, 2009

The leatherback turtle -- at 1,200 pounds, the world's heaviest reptile -- is in such severe decline that it could become extinct in the Pacific Ocean within a few decades, according to Oceana, an environmental group seeking emergency protections for it and the other five species of sea turtle.

Of particular concern is the plight of the leatherback, which grows to a length of 5 feet and migrates about 6,000 miles each year from nesting beaches in Papua New Guinea and other Pacific islands to the coastal waters of California and Oregon to feed on jellyfish.

"We are pushing Congress to enact comprehensive sea turtle legislation as soon as possible," said Elizabeth Griffin, Oceana's marine wildlife scientist and fisheries campaign manager. "One big problem is residential and commercial development of its nesting beaches. Another is that leatherbacks are getting caught in commercial fishing gear: nets, hooks and fishing line."

Oceana and other groups have already petitioned the National Marine Fisheries Service to designate certain stretches of ocean from Pt. Conception, Calif., north to Lincoln City, Ore., as critical migratory and foraging habitat for leatherbacks.

No one knows exactly how many leatherbacks dwell off the coasts of California and Oregon, but biologists estimate the number ranges from about 150 to 380.

A month ago, however, the groups filed a 60-day notice of intent to sue over violations of the federal Endangered Species Act because the service failed to meet the legal 12-month deadline for responding to the petition.

"We're trying to decide how to proceed," Griffin said.

In the meantime, here are some ways that summer beach goers can help sea turtles, which have been swimming in the world's oceans for 110 million years.

-- Recycle: Sea turtles often mistake plastic bags for food.

-- Pick up trash: Sea turtles can become entangled in debris and drown, or swallow it, fatally blocking their digestive systems.

-- Keep vehicles off beaches: Sea turtle nests are often hidden in the sand and easily crushed.

-- Louis Sahagun

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NEW YORK TIMES/ AP ONLINE

April 3, 2009

Study: False Killer Whales Declining Off Hawaii

By THE ASSOCIATED PRESS

Filed at 6:32 a.m. ET

HONOLULU (AP) -- The population of false killer whales in waters close to Hawaii appears to have dramatically declined over the past 20 years, a new study says.

It's not known for sure why the dolphin species is decreasing, but the academic paper says the reason likely has to do with declining food supplies and how the mammals are getting caught and injured on the longline fishing lines that stretch as many as 50 miles long from some commercial fishing vessels.

The report's publication in this month's edition of *Pacific Science* comes weeks after environmental activists sued the federal government for allegedly failing to prevent longline fishing fleets from accidentally capturing the animals off Hawaii.

False killer whales can grow as long as 16 feet and weigh over one ton. They look like killer whales, but they're almost completely black instead of black and white.

They're found in tropical and temperate waters worldwide, including Maryland, Japan, Australia and Scotland.

Robin Baird, one of the study's co-authors, estimates about 120 false killer whales currently live in waters up to 60 miles off Hawaii's coasts.

Researchers who conducted an aerial survey of waters up to 34 miles offshore in 1989 counted 470 individuals in one group of false killer whales. They also found groups of 380 and 460 individuals.

In contrast, researchers saw no false killer whales during aerial surveys of the same area in 2000 and 2003.

Baird, a marine biologist with Cascadia Research Collective in Olympia, Wash., said several surveys analyzed for the paper don't say much about the false killer whale population when viewed individually. But taken together the data make a convincing case, he said.

The data "came together to present really a much more alarming picture," he said.

Baird suspects a combination of longline fishing, declining prey, and environmental toxins are hurting the dolphins.

False killer whales tend to get caught by longline fishing because they eat the fish fishermen have snagged for human consumption: yellowfin tuna, mahimahi, and ono.

The dolphins also have less food to eat because heavy fishing by humans has depleted stocks of yellowfin tuna and other fish they like, including mongchong, albacore tuna and swordfish.

On the Net:

Pacific Science: <http://www.uhpress.hawaii.edu/journals/ps/>

Cascadia Research Collective: <http://www.cascadiaresearch.org/>

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WASHINGTON POST

The Capital Weather Gang
The Inside Scoop on DC, Maryland and Virginia Weather

Geoengineering Our Way Out of Global Warming

An increasing number of prominent climate scientists and environmentalists (e.g., [here](#) and [here](#)) are expressing concerns that the point of no return -- when even the most extreme measures to reduce greenhouse gas emissions will be inadequate to reverse many consequences of global warming -- is rapidly approaching.

Speculation on the exact nature of the consequences ranges from coastal cities being submerged under rising seas, more severe floods and droughts, longer and more extreme heat waves, food and water shortages that spark civil unrest, and the reversal of ocean currents leading (ironically) to an ice age, to name a few. Then there's the ultimate doomsday scenarios -- extinction of the human race, or merely the decline of civilization as we know it.

Some of the speculation is based on the latest peer-reviewed science and assessments by the Intergovernmental Panel on Climate Change. The more dramatic end-of-the-world predictions smell more of scaremongering to force policymakers to act, and act now, to reduce emissions of carbon dioxide and other greenhouse gases.

Some of those who believe the tipping point is near -- the point beyond which some impacts of climate change, be they catastrophic or less so, are inevitable -- are giving serious consideration to the idea of geoengineering, deliberate actions taken to slow or reverse global warming by either removing carbon dioxide from the atmosphere or by reducing the amount of sunlight reaching Earth. In other words, Plan B.

Keep reading for more on what geoengineering is all about...

The topic of geoengineering has gained enough traction that the U.S. National Academies is hosting a workshop on the subject this summer, and the UK's national academy of science is preparing a report on the feasibility of climate geoengineering. A recent article in the journal *Foreign Affairs* states that, "As climate change accelerates, policymakers may have to consider 'geoengineering' as an emergency strategy to cool the planet. Engineering the climate strikes most as a bad idea, but it is time to start taking it seriously." And an advisory group to the Defense Advanced Research Projects Agency recently convened a meeting to discuss geoengineering -- not withstanding concerns expressed by some that military involvement might lead to the use of climate geoengineering as a weapon.

Among the approaches being considered to reduce the solar radiation reaching the ground are firing plumes of fine dust or pumping sulfur dioxide into the atmosphere to deflect the sun's rays in a manner that mimics the cooling effects of volcanic eruptions, and deploying large arrays of land-based mirrors and/or launching mirrors into orbit around Earth (e.g., [see here](#)).

Among the schemes for removing carbon dioxide from the atmosphere is dumping tons of iron into the ocean. Iron is necessary for algae photosynthesis, a process that sucks carbon dioxide from the air but is relatively rare in the ocean. In principle, the iron would supercharge the growth of algae, which when it dies would sink to the ocean bottom carrying the carbon with it. A recent iron-fertilization experiment off the coast of Argentina indeed produced a massive algae bloom, but it turned out to be a different kind of algae than anticipated, and one that was quickly

devoured by tiny shrimp and other sea life, leaving experts scratching their heads on what the experiment's results mean for iron fertilization as a strategy to sequester carbon. Another approach being discussed is creating plantations of fast-growing trees, which absorb carbon dioxide from the air and convert it into wood, then converting the wood into charcoal (by burning it in the absence of oxygen) and burying the charcoal to prevent the carbon from ever returning to the air.

I've written previously of smaller-scale weather (as opposed to climate) modification programs, including China's efforts to avoid rain during the 2008 Olympics and to induce drought-relieving snowfall by seeding clouds with silver iodide. As I indicated in those posts, neither the Chinese nor anyone else has demonstrated that such weather modification programs produce meaningful changes in overall precipitation patterns. For one thing, it's not possible to know for sure what might have occurred in the absence of cloud seeding. Additionally, it's extremely difficult, maybe impossible, to anticipate unintended consequences -- for example, a seeding-induced increase in precipitation in one place could result in less precipitation somewhere else. In such situations, the legalese of responsibility and liability becomes a major concern.

This classic illustration of the law of unintended consequences -- solving one problem but inadvertently creating another -- is likewise a concern when it comes to geoengineering the climate, but on a much larger scale. This includes addressing questions such as which nation or nongovernmental entity should decide whether the potential benefits outweigh the risks, and who is responsible for correcting (if possible) unintended consequences?

Aside: To the best of my knowledge there's been very little coverage of climate geoengineering and its implications in mainstream newspapers and TV news broadcasts. There are obviously many important issues and events to cover these days, but I'm surprised that geoengineering has not been judged more newsworthy given what's currently happening in the field.

See also our previous post highlighting a new documentary on geoengineering.

By Steve Tracton | April 2, 2009; 11:00 AM ET Climate Change , Tracton

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WALL STREET JOURNAL

APRIL 3, 2009

Technology Is the Answer to Climate Change
Carbon caps or levies will throttle taxpayers.

By F. JAMES SENSENBRENNER JR.

Last summer, China and the developing world announced the price for their cooperation on a global-warming treaty: up to 1% of the developed world's gross domestic product. For the U.S., this would mean sending \$140 billion a year to China, Iran, North Korea and Cuba, among other countries. This is in addition to the \$28 billion we already distribute each year in foreign aid.

For a U.S. family of four, China's demand comes to nearly \$1,900 in yearly taxes. And that's just the beginning.

The tenor of international climate negotiations has emboldened the Indian government to claim in a February filing with the United Nations that the West owes it billions of dollars in compensation for climate change. These payments, it said, should be mandatory and not "subject to decisions of developed country governments and legislatures."

A November 2008 study by the MIT Joint Program on the Science and Policy of Global Change forecasts the international costs could be as much as \$3 trillion by 2050 for developing nations to make the significant reductions in greenhouse gas emissions that scientists say are necessary. The MIT report says that the U.S. share would total nearly \$1 trillion of these "international financial transfers of unprecedented scale."

President Barack Obama recently unveiled a budget blueprint that called for a \$646 billion climate tax through a carbon-trading system. Already, White House officials are saying this tax could be three times larger. That means a family of four could have to shell out nearly \$45,000 in climate taxes during the coming decade.

For beleaguered U.S. taxpayers in a troubled economy, these numbers are disastrous.

The U.S. cannot reduce the growth of greenhouse gases in the earth's atmosphere without the developing nations cutting their emissions as well. A 2007 study by the Battelle Memorial Institute found that if China, India and the other developing countries keep growing at current rates, they will emit nearly three times as much carbon dioxide as will the developed countries by the end of this century. But will China and India join in the effort to reduce CO2 emissions?

During December's U.N. climate-change conference in Poznan, Poland, I asked delegates from both of these nations if they would agree to cut their emissions. Both said, unequivocally, "no."

The Poznan conference wasn't my first experience with the developing world's refusal to sign up for the West's global-warming agenda. I led the congressional delegation to the infamous Kyoto, Japan, negotiations in 1997, and the story then was the same as now. Without China and India, there can be no deal.

It's understandable why the developing nations are reluctant to cut emissions -- it means higher energy costs and reduced growth. China and India are more concerned with growing their economy, expanding access to electricity, and reducing poverty. I don't blame them.

U.S. policy makers should remember the nation's experience with the financial bailout before sending blank checks abroad. Lawmakers will find themselves at a loss to explain to taxpayers how the U.S. paid billions of dollars to China and India only to fund the very coal-fired power plants that are among the worst emitters of greenhouse gases. Giving away money with the hope that it will be spent properly is wishful thinking. China has requested 1% of the developed world's GDP, but will it agree on how to spend it?

This week, negotiators are meeting in Bonn, Germany, for the next round of climate talks. The direction of these talks must change from the current path that is promising high costs and few guarantees.

Yvo de Boer, the United Nations climate chief, said last month that the developed world needs "to set out how it will meet its fair share of financial obligations and shed some light on how it will mobilize those resources." Before we ask how we will "mobilize resources," policy makers should know how these resources will be spent.

U.S. Energy Secretary Steven Chu told Congress on March 17 that researchers must make "breakthrough" technological advances if greenhouse-gas reduction goals are to be met. He is right. Global energy demands are going to rise. Development and implementation of new technologies are the only way to control emissions when they do.

Reducing greenhouse gas emissions isn't about massive federal spending and transfers of wealth to the developing nations. It's about developing cost-effective technologies that reduce emissions. Federal policy should focus on encouraging these technologies, not meeting demands for additional foreign aid.

Mr. Sensenbrenner (R., Wisc.), is the ranking minority member of the House Select Committee on Energy Independence and Global Warming.

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