

June 24, 1991

## NOAA Team Investigates Environmental Implications

# Mt. Pinatubo Explodes into Stratosphere

An integrated NOAA effort is currently underway to determine the environmental repercussions from volcanic ash reaching the stratosphere as a result of the eruption of Mt. Pinatubo in the Philippines.

The eruption of Mt. Pinatubo is the largest volcanic disruption in recorded history. It has already spewed out enough ash to cover 1% of the earth's surface and has reached heights well into the earth's stratosphere at 80,000 to 100,000 feet.

NOAA's offices of Oceans and Atmospheric Research (OAR), Climate Analysis Center, Air Resource Laboratory and National Environmental Satellite, Data, and Information Services (NESDIS) are currently combining their scientific expertise to create programs from which they can assess the likely results.

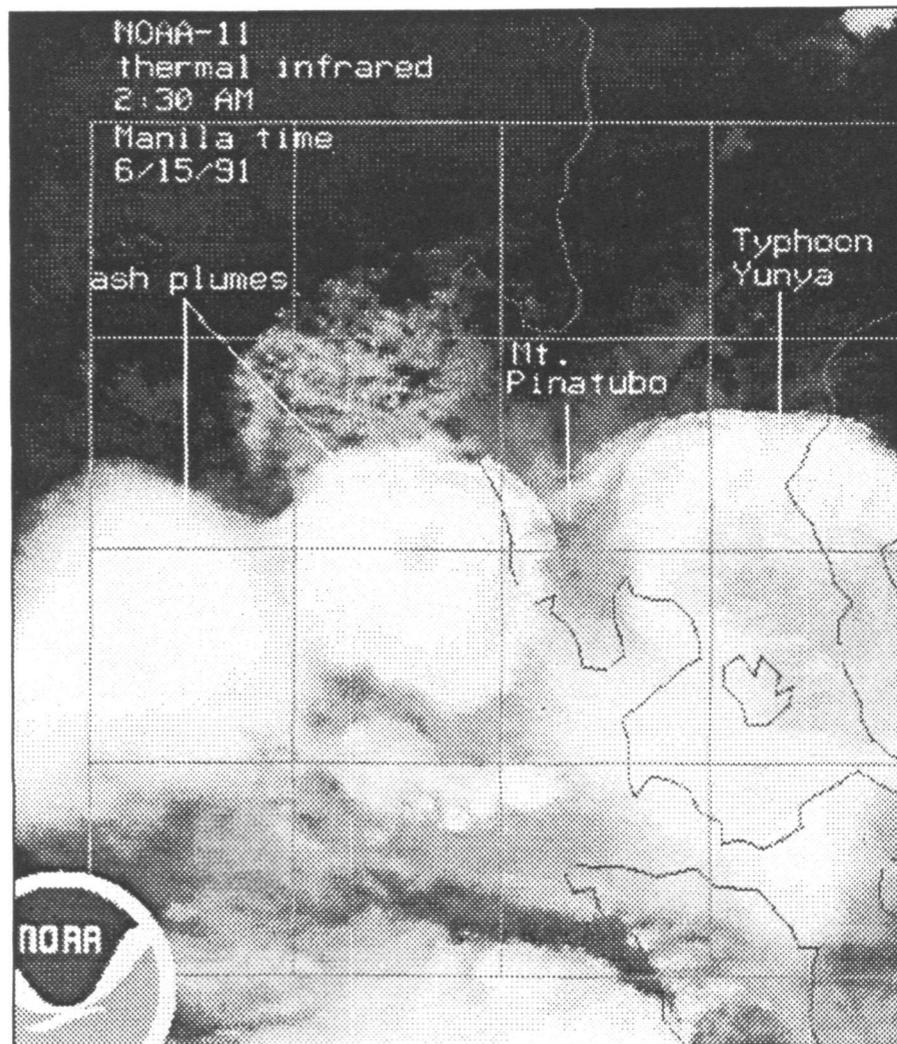
NESDIS issued its first volcanic hazard advisory shortly after the volcano's first major eruption, (plume height at over 100,000 ft.) June 12th at 9:05 pm. EDT. By Thursday evening, the plume from the first eruption had crossed Vietnam and Cambodia and was over the Gulf of Thailand. Satellite imagery currently shows the volcanic ash plumes from this eruption has reached North East Africa.

Since June 12th, NESDIS has recorded through visible and infrared satellite imagery eight more major eruptions with ash plumes reaching heights between 60,000 and 80,000 ft. and one nearly

continuous eruption occurring between June 15-16 which again reached 100,000 ft.

The force and heat from these volcanic eruptions were

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Thermal infrared image of Mt. Pinatubo taken by the NOAA-11 polar orbiting satellite. The two light colored patches to the west of Mt. Pinatubo are ash plumes from 2 distinct explosive eruptions occurring on June 15. The light colored area to the east is Typhoon Yunya just making landfall. These two eruptions were followed by a continuous series of eruptions for the rest of the day.

## Recent Climate Change May Have Occurred in Antarctic

NOAA and university scientists have identified two atmospheric processes occurring in Antarctica which suggest that a major climate change may have happened there in the past 10 to 15 years.

Surface ozone at the South Pole during December through February (summer months south of the Equator), decreased 17% from 1986 to 1990, while cloudiness over the pole had increased approximately 25% since about 1980.

These occurrences are distinct from the seasonal ozone hole, which was first observed in the austral spring months (Sept. - Nov.) in about 1980. However, researchers consider it

significant that all occurred in a fairly short time frame 10 to 15 years ago.

Two factors appear to be influencing the surface ozone concentrations, according to Dr. Russel Schnell, study director. "Probably the most important, is the springtime ozone hole, which lets increased solar radiation reach the surface, where it destroys tropospheric ozone photochemically," he said.

In January and February, the height of the Antarctic

summer, significant amounts of ozone-poor marine air move from coastal areas to the South Pole, where they generate a further decrease in ozone. The marine air flux is also believed to cause the increased cloudiness over the South Pole. When warmer coastal air circulates over frozen Antarctic, it cools the atmosphere, creating clouds. "However, it is not known why the cloud cover has increased so substantially," said Schnell.

The researchers assisting this project are from NOAA's Aeronomy and Climate Monitoring and Diagnostics Laboratory, the Universities of Colorado, Wyoming, and the Cooperative Institute for Research in Environmental Sciences. ☺

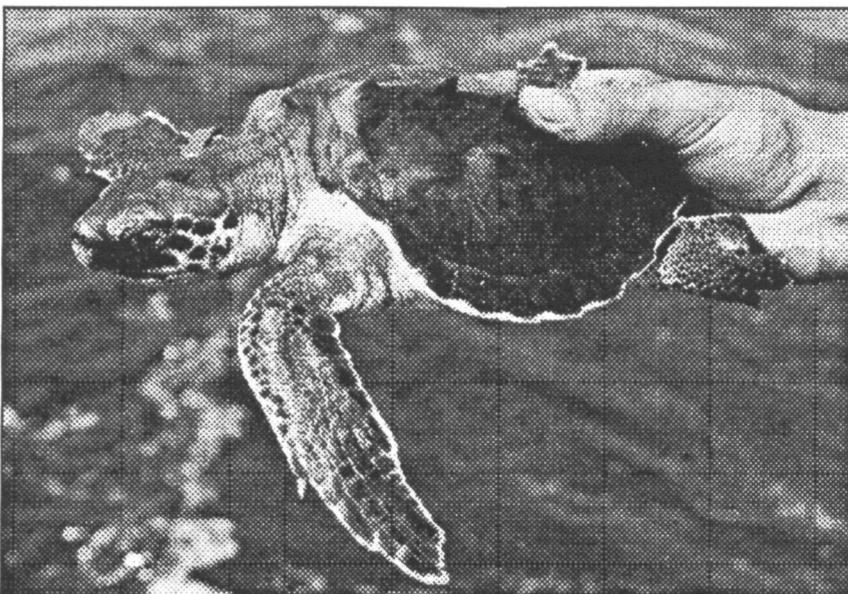
## Pinatubo

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so great, it diminished the effects of Typhoon "Yunya", which was approaching the Philippines with winds near 110 knots, to a rain storm.

Volcanic hazard alerts for inflating aircraft in the vicinity of the Philippines have been constant since June 12th. Volcanic ash turns into a glass like substance when sucked into jet engines and can be very dangerous. Glass coated turbine blades have caused engines to stall in the past. In recent years, at least four high flying 747's have encountered volcanic ash clouds with near disastrous results. One 747 plunged some 30,000 ft. before restarting two of its four engines. Volcano hazard warnings are issued by NOAA and the Federal Aviation Admin. ☺

## Bon Voyage!



One of 1850 'Headstart' Kemp's ridley sea turtles released into the Gulf of Mexico near Galveston, Tx., on June 5. NOAA scientists release the turtles in a yearly effort to restore their declining population

## Lieutenant Commander Tokar to Skipper NOAA Ship FERREL



Lieutenant Commander John. M. Tokar

John M. Tokar, former Liaison Officer for Oceanography Programs with NOAA Corps in Rockville, MD., received the appointment as Commanding Officer of the NOAA ship Ferrel. He has been with the Corps since 1975, serving additionally on the ships George E. Kelez and Researcher.

The 133-foot Ferrel is a coastal research vessel that carries a compliment of 16 officers and crew, and 6 scientists. This ship normally operates in coastal waters of the Atlantic and in the Gulf of Mexico conducting coastal and estuarine oceanographic studies. In coming months, the Ferrel will be conducting marine pollution studies in support of the National Status

and Trends Program.

Lieutenant Commander Tokar graduated from Jersey City State College in 1973 with a bachelor's degree in chemistry. In addition, he received his masters in Ocean Engineering/Engineering Management from The Catholic University of America in 1989.

He currently resides with his wife and two children in Monrovia, MD. ☺

## C & G S Returns 'Back to the Future'

It took 21 years, but the nations venerable Coast and Geodetic Survey, has its old name back.

As the oldest scientific agency in the United States, the Coast and Geodetic Survey has had many name changes in its history.

Thomas Jefferson created the "Survey of the Coast" in 1807 to make nautical charts to promote and protect the nation's growing marine commerce.

In 1836, the Survey of the Coast became the U.S. Coast Survey. Then, in 1878, when Congress gave the bureau the responsibility for creating a national network of reference points for mapping, charting, and surveying, it became the U.S. Coast and Geodetic Survey.

Nearly a century later, in 1970, the office was renamed the National Ocean Survey when NOAA, the National Oceanic and Atmospheric Administration, was created and became its parent agency.

In that year, the National Ocean Survey employed nearly 2500 persons and was responsible for producing the nation's nautical and aeronautical charts, forecasting ocean tides and currents, monitoring water levels in the Great Lakes, studying earthquakes and geomagnetism, and operating NOAA's fleet of research and survey ships.

By 1982 so many new elements of NOAA had been added to the National Ocean Survey that the office was divided and its charting and geodetic surveying activities

were renamed once more. This time it became the Office of Charting and Geodetic Services. And thus it stayed until now.

The new Coast and Geodetic Survey, like its 19th Century namesake, continues to produce nautical and aeronautical charts and other products of safe navigation as to do research to improve mapmaking and surveying. In addition, it is still responsible for the country's reference system that surveyors and mapmakers use.

The Coast and Geodetic Survey is run by Rear Admiral J. Austin Yeager, appointed director of the office last December, Yeager joined the NOAA Commissioned Corps in 1959. ☺

## NMFS Changes Broadcast Times

The NMFS will continue broadcasts biweekly on Tuesdays at 8:30 am on channel 6230 kHz and at 8:35 am on channel 8297; and on Thursdays at 2:30 and 2:35 pm using Tuesdays channel sequence.

Time critical fishery notices will be broadcast Monday through Friday on channel 2182 KHZ at 8:00 am. Fisherman will then be instructed to

turn to a working channel.

KMY operates from NMFS Northeast Regional office in Gloucester, Mass., and transmits from the Gulf of Maine to Cape Hateras. This service for fisherman supplies immediate information on fishery notices and broadcasts information on recent NMF regulatory actions. It also announces future hearings, as well as meetings of interest to the fishing industry. ☺

## Leadership Award

Captain Charles Y. Molyneaux, Jr. was awarded the NOAA Corps Commendation Medal for his outstanding leadership as Executive Officer, Office of Oceanography and Marine Assessment. ☺

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## Coming Events

## June 1991

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
23 NY Times cover story on Dr. Sylvia Earle, CS	24	25 Fed. Cmte for Meteo Services, Washington	26 North Pacific Anadromous Species Conservation meetings, Washington ◀ Begins June 25	27	28	29

## July 1991

30	1	2	3	4 Independence Day	5	6
7	8	9 Geographic Information and Spatial Data Exposition.	10	11	12	13

# **National Oceanic and Atmospheric Administration**

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July 23, 2010