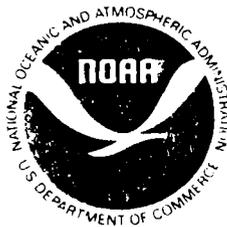


This Week In NOAA

Activities for the week ending

January 10, 1986



**U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

THIS WEEK IN NOAA

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January 10, 1986

NOAA OFFICE OF PUBLIC AFFAIRS

Lost In Space -- A NOAA press release has announced that NOAA-8, a polar-orbiting weather satellite launched Mar. 28, 1983, is apparently dead. It began tumbling out of control on Jan. 30, and the Air Force subsequently informed the National Environmental Satellite, Data, and Information Service that it had detected what may be pieces of the spacecraft in orbit close by. The satellite developed an oscillator problem and tumbled lifelessly in orbit from July 15, 1984 to May 10, 1985, when engineers from NOAA, NASA, and RCA regained control. It suffered further problems last Sept. 10 and since then has been used solely for search and rescue work. Its loss will have little or no effect on gathering polar-orbiting weather data, since sister satellites NOAA 6 and NOAA 9 are performing that function. The loss, however, does reduce U.S. capability for global search and rescue operations until a new spacecraft is launched in mid-March.

Administrator Calio Meets The Press -- The Navy's magazine, Sea Power, profiles Administrator Anthony J. Calio and explores his plans for the agency in the January issue. In conjunction with U.S.-Chinese ceremonies celebrating international research cooperation Jan. 3 in Honolulu, Dr. Calio gave the Associated Press an interview pledging more advanced satellite service for Hawaii in the near future.

Search/Rescue Session Slated -- A NOAA public affairs officer will participate in planning, in meetings Jan. 13-15 in Anchorage, for a campaign to reduce a false-alarm problem which has become epidemic in Alaska aviation. Emergency locator transmitters, mostly in light aircraft, alert the global satellite search-and-rescue system when they are inadvertently triggered. Fully 97 percent of all such signals received by the COSPAS/SARSAT system are false alarms, and a major awareness campaign will be staged by NOAA and other agencies to reverse the trend. The Alaska effort will be followed by another in Washington State.

School Bulletin Issued -- The January issue of NOAA's School Information Service has been distributed to educational journals and major school systems. This month's issue features articles on the weather satellites of the 1990's, U.S.-Chinese cooperation on climate research in the Pacific, winter hazards, tiny "magnets" that help yellowfin tuna migrate, NOAA careers, and the latest on data buoys.

Publications Issued -- The following publications have been received: a biography of Deputy Administrator Curtis Mack II, and reprints of Peary at the North Pole, The Wilkes Expedition, and A Capital Plan.

January 10, 1986

NATIONAL WEATHER SERVICE

1985 Tornado Statistics - There were 92 tornado related deaths in 1985. Pennsylvania led the Nation with 63 and Ohio was second with 11. All of these deaths occurred during the tragic Ohio/Pennsylvania tornado outbreak of May 31. (Dick Wood 427-8090)

Alpine Observation Network Demonstration - The National Weather Service (NWS) has entered into a cooperative agreement with the Winter Park Recreation Association (WPRA), for the purpose of demonstrating the workability of an operational weather observation station at the Winter Park Ski Resort in Winter Park, Colorado, for a period of at least 1 year. NOAA and the WPRA desire to make official weather observations from the mountainous areas of Colorado available to NOAA for use in mountain area forecasting and to the general public. NOAA is supplying some observational equipment and national dissemination of the observations, and WPRA is providing 3-hourly weather observations around the clock and some observing equipment. If the demonstration is successful and if resources permit, NWS and WPRA hope to expand the Alpine Observation Network to a total of approximately 20 ski area stations within the Colorado Ski Country USA network within the next few years. (Bill Proenza 8-758-5463)

World Meteorological Day - Press kits on World Meteorological Day supplied by the World Meteorological Organization (WMO) were widely distributed by the National Weather Service. The theme for World Meteorological Day in 1986 is "Climatic Variations, Drought, and Desertification." The celebration on March 23 each year commemorates the anniversary of the coming into force of the WMO Convention in 1950. The cover of a brochure in the press kit makes use of vivid NOAA satellite photographs to show the migration of the growing season in Africa. (Howard April 427-7645)

Flood Warning Cooperation - The city of St. Joseph, Missouri, spent about \$80,000 to install five precipitation gages and two stream gages and a base station for use by the National Weather Service in providing flash flood watches, warnings, and flood forecasts for the city. St. Joseph is also providing all installation and maintenance costs. (Bill Proenza 8-758-5463)

Florida Freeze - December 26-27, 1985 - Freezing temperatures were recorded over much of Florida on the mornings of December 26 and 27, 1985. Low to mid-20's occurred over the northern and central counties of Florida both days with frost as far south as Homestead (30 miles south of Miami) on Friday morning, December 27. Preliminary assessment indicates damage to the fruit crop was minor because of advance preparations by the growers. Forecasts for the post Christmas freeze were issued as early as Monday, December 23, well before the freeze began. (Jim Campbell 427-8090)

January 10, 1986

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

Landsat 5 Spacecraft. On January 1, 1986, the primary onboard computer (OBC) on Landsat 5 placed the spacecraft in a safhold state and halted. After an intensive investigation, a safhold startup procedure was initiated on January 2, 1986, and was completed on January 3, 1986. The spacecraft never appeared to be in any danger; however, the condition that caused the OBC to halt has not been determined. Imaging resumed as scheduled on January 3, 1986. (H. Phillips, 344-9437)

Transmission Adjustment on Landsat 5. The A-side Travelling Wave Tube (TWT), which amplifies the Ku-band signal in the TDRSS transmission subsystem, was automatically shut down after software detected an excess current usage. The B-side TWT was used to restore the high data rate capability via TDRSS. The life of the B-side TWT is expected to be greater than two years. Since the A-side TWT was shut down by software, it could be turned on, if necessary, by modifying the software threshold limits. However, if turned on, the life expectancy is unknown. (A. Werbowetzki, 344-9439)

NOAA-8 Update. An explosion may have occurred on NOAA-8. On January 3, 1986, the United States Air Force's North American Aerospace Defense Command (NORAD) notified NOAA that their space tracking instrumentation had detected what might be pieces of the spacecraft in orbit close to NOAA-8's main body. NOAA-8's loss reduces U.S. capability for the global COSPAS/SARSAT Search and Rescue system until a new polar orbiting spacecraft is launched in Mid-March 1986. The spacecraft had ceased other functions on December 30, 1985. (L. Heacock, 763-1610)

NAS studies STP needs. Professor G. Siscoe, UCLA, invited Joe Allen, Chief of NGDC's Solar-Terrestrial Physics Division, to meet with the new National Academy of Sciences Committee on Solar-Terrestrial Research, Panel on Solar-Terrestrial Monitoring. They plan to survey the U.S. scientific community to determine current and projected future needs for solar terrestrial monitoring data and products. Allen reported on the status of solar, magnetospheric, geomagnetic, and ionospheric monitoring programs in the U.S. and worldwide. A summary of questionnaire returns will be provided to NGDC/STPD. (J. H. Allen, FTS 320-6323)

Santa Fe Railroad. The Santa Fe Railroad ran fuel efficiency tests on their lines from Clovis to Albuquerque, New Mexico. Part of their lines were lubricated to get better mileage and part of the lines were not. Precipitation data was provided by NCDC to determine if any of the lines were wet during the test period. Water has similar effect on the rails as the lubricant that was used and must be considered in their final evaluations. (J. Hughes, FTS 672-0682)

January 10, 1986

OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH

Francis P. Shepard Medal Recipient - Dr. Peter A. Rona, AOML, has been selected the 1986 recipient of the Francis P. Shepard Medal for excellence in marine geology. The medal will be awarded by the Society of Economic Paleontologists and Mineralogists at its annual meeting in June. (Dr. Donald Atwood FTS: 350-1380)

Interdepartmental Hurricane Conference - AOML/HRD scientists participated in the 40th Annual Interdepartmental Hurricane Conference, January 7-10 at Homestead Air Force Base, Florida. Their presentations covered AOML/HRD's development of techniques for operational use of research aircraft, the use of reconnaissance flight-level wind measurements to reduce surface winds, and a comparison of research and near real-time analysis of wind fields in Hurricane Debbie. (Dr. Stanley Rosenthal FTS: 350-1400)

Manganese Nodules Economically Evaluated -- An economic analysis of manganese nodule mining was recently conducted by Texas Sea Grant researchers and the Office of Ocean and Coastal Resources Management. The internal rate of return (IROR) and funding requirements of a mining system were the primary criteria used to determine economic performance.

The analysis identified significant economies of scale when mining increased from 3 million dry tons per year to 4.5 million dry tons, but returns did begin to diminish when production levels passed this point. These variables were assigned in the analysis: throughput was 4.5 million dry tons, the inflation rate was 5% (for prices and costs), and the processing site was southern California. With these variables, the analysis model showed an after tax IROR of 25 percent on an initial investment of \$2.1 billion for a 4.5 million tons throughput plant.

A favorable combination of variables can produce higher returns, as high as 35%. But the importance of metal pricing on nodule mining economics was illustrated when the analysis assumed zero price inflation and 5% cost inflation. Under these circumstances the IROR was negative. (F. Schuler, FTS 443-8977)

Wave Forces On Ocean Platforms Can Be Measured -- The Southern California Sea Grant Program has developed an analytical method to define vertical wave forces acting on an ocean platform. In addition, Sea Grant researchers developed a new method of observing wave velocities that would confirm their force analysis. Using laser-doppler velocimeter (LDV) techniques, reliable even in periods of rapid velocity variation and impact, water particle velocities could be measured horizontally and vertically. These analysis results will be used in future platform designs to determine more accurately their capability to measure wave forces. (R. Kolf, FTS 443-8977)

New Navigation Marker Will Rally If Run Over -- Rigid wooden pilings used as markers by the Coast Guard are often snapped off by freight barges. Replacing these markers is expensive because, after a collision, there is generally nothing of the piling left above the water surface. It can take an entire day of diving to locate the broken off piling. The New Hampshire Sea Grant Program took on the challenge of designing a new marker that would survive boat collisions and result in a net savings relative to the inexpensive wooden pilings that were costly to replace. The researchers designed a Collision Tolerant Pile Structure (CTPS). It is a single pile, hinged at the mud line, on which a navigational marker can be mounted. Under actual field test conditions, the CTPS model withstood severe impacts with no physical damage and recovered to a vertical position. Friction forces did prevent full vertical recovery at times. Before design specifications are finalized, the friction problem will be evaluated further. (R. Kolf, FTS 443-8977)

National Oceanic and Atmospheric Administration

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