

May 20, 1991

NOAA-D Sends Back First Pictures

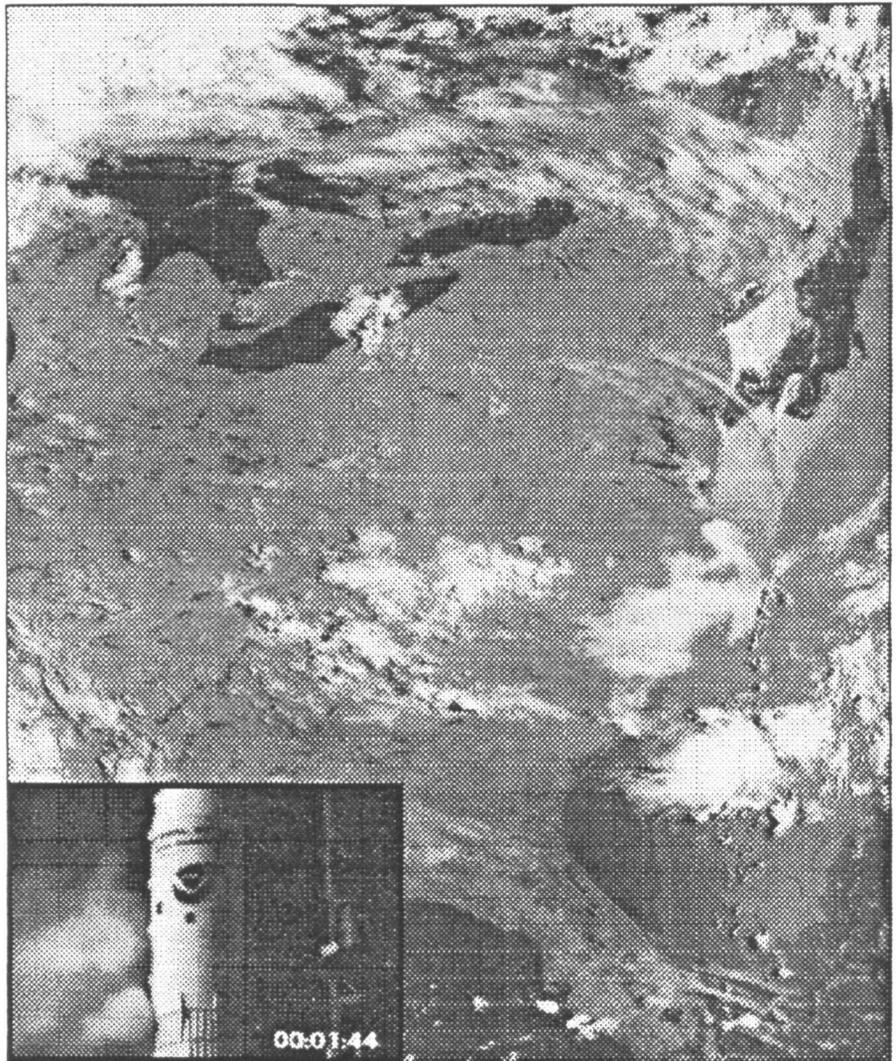
Weather Satellite Launched Into Polar Orbit

NOAA-D, a polar operational environmental satellite which will gather weather and environmental data from 450 miles above the earth, was successfully launched last week from Vandenberg Air Force Base in California.

The satellite was launched into a circular, near polar, sun synchronous orbit precisely on schedule at 8:52 a.m. Eastern time on Tuesday, May 14.

The satellite, to be redesignated NOAA-12 when placed in operation, is one of a series of another in the TIROS (Television Infrared Observation Satellites) built by General Electric Astro Space Division and first launched in 1978. The U.S. Air Force Atlas expendable launch vehicle used to lift the 3,127 pound spacecraft into orbit was manufactured by General Dynamics. The National Aeronautics and Space Administration's Goddard Space Flight Center managed the spacecraft production and launch for NOAA.

The sun synchronous polar orbit selected for NOAA-12 allows the satellite to view the earth's entire surface and cloud cover every 12 hours. NOAA-12 joins NOAA-10 and NOAA-11 in the collection of meteorological and environmental data and will eventually replace NOAA-10, launched in September 1986 and now



The NOAA-D satellite, launched last week, sent back one of its first pictures of the eastern U.S. the same day. Three of the Great Lakes, much of the east coast and midwest, and the Florida peninsula are clearly visible. The satellite was sent into a polar orbit by an Atlas rocket (*inset*), similar to those used in the manned space program.

nearing the end of its useful life.

NOAA-12 will collect weather and environmental data and transmit it automatically to the ground for use in 122 countries. NOAA satellite weather

images are the only source of forecasting data for many areas of the world.

NOAA-12's data will help scientists to continue explora-

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Snowmelt to Flood Alaska This Spring

Extremely heavy winter snows over much of Alaska, followed by warm weather and a record snowmelt, will combine to produce periodic spring flooding which NOAA's National Weather Service (NWS) predicts will continue through May.

The snows and snowmelts have produced serious flooding along sections of numerous rivers, many of which had been covered by four feet of ice, NWS's Office of Hydrology said.

The rising water causes the river ice to break up. It then becomes clogged at bends, constrictions, or bridges along the river, and forms an ice jam. Ice jams restrict the flow of water and result in flooding.

The city of Fairbanks has been hardest hit by the ice jam



A chart from NOAA's National Weather Service shows the potential flood areas in Alaska this spring.

flooding so far, according to NOAA's National Weather Service office in Anchorage. Flooding there has been the worst since 1967, due to ice jams on the Tanana River and its tributaries.

Also hard hit were several smaller towns along the Kuskokwim River in southwest-

ern Alaska, including Bethel, Aniak and McGrath. Additional flooding has been observed along portions of the Kobuk and Koyukuk Rivers in northwest Alaska, and along portions of the Yukon River in east-central Alaska. There is a high potential for flooding next week in the Yukon River Delta. ☺

CFC Substitute May Also Harm Ozone Layer: NOAA Study

A man-made chemical intended to replace ozone-destroying chlorofluorocarbons (CFCs) may harm the ozone layer more than previously recognized, a NOAA research team has reported.

The hydrochlorofluorocarbon HCFC-141b, used for such tasks as computer chip cleansing and insulation blowing, has an ozone depletion potential about 50 per cent larger than previously believed because its atmospheric lifetime is approximately 50 per cent longer than previously accepted, according to a paper to be published in the *Journal of Physical Chemistry*.

This happens because the chemical process that removes HCFC-141b from the atmosphere—interaction with the naturally-occurring, highly reactive hydroxyl radical—is slower than previously reported, Dr. Ravishankara of NOAA's Aeronomy Laboratory in Boulder, Colo., explained.

The production of chlorofluorocarbons such as CFC-11, CFC-12 and CFC-113 is

being phased out by international agreement since the man-made chemicals have been found to be a major factor in destruction of ozone in the stratosphere.

The HCFC-141b has an annually averaged atmospheric lifetime of 13 years, compared to 50 to 100 years for CFC 11, 12, and 113. However, earlier calculations set the HCFC-141b lifetime at approximately eight years. The error may have been caused by slight impurities in the compounds analyzed at NOAA

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NOAA's Baldrige, Soviet Research Ship To Hold Open House in Alexandria

The NOAA Ship Malcolm Baldrige, a 278-foot scientific research vessel, will come steaming into Alexandria, Va. harbor next month for an open house to help celebrate the Red Cross Waterfront Festival.

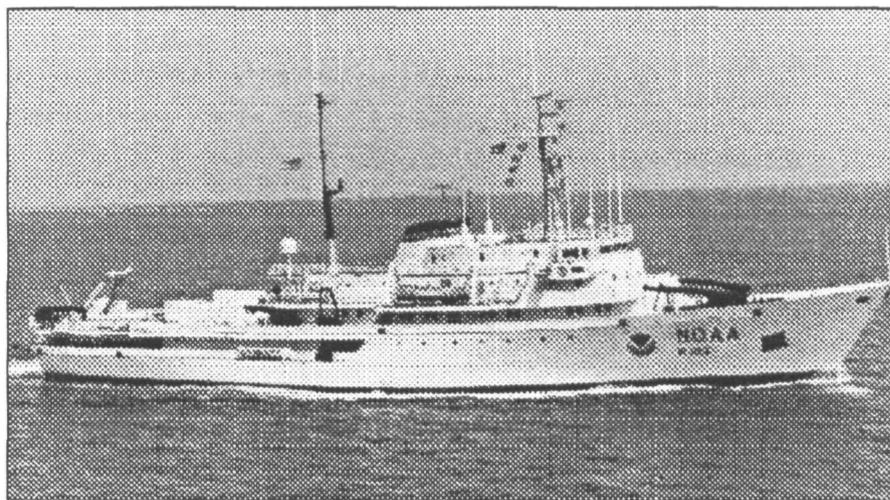
Joining the Baldrige will be the Soviet research vessel Nikolay Matusevich, a 271-foot oceanographic research and hydrographic surveying ship, which will hold open house in conjunction with the Malcolm Baldrige.

The 2,963-ton Baldrige is one of the three largest ships in NOAA's fleet of 23 research and survey vessels. It primarily conducts climate and ocean research in both the Atlantic and Pacific Oceans and the Gulf of Mexico, operating out of the NOAA Ship Support Facility in Miami, Fla.

The ship carries nine officers and 45 civilian crew members, and can accommodate 28 visiting scientists. It is equipped with a scientific laboratory, sophisticated

communications and computer systems, and the latest instruments for making marine environmental measurements.

In its over 20 years of scientific service, the ship has traveled over half a million nautical miles collecting basic scientific data about the oceans and atmosphere used in a variety of scientific studies. The ship most recently completed climate and global



The NOAA ship Malcolm Baldrige will join the Soviet researcher Nikolay Matusevich in an open house next month in Alexandria, Va.

change studies in the Pacific Ocean near the equator.

Built in 1968 and originally named the Researcher, the ship was renamed the Malcolm Baldrige in 1988, in honor of the late former Secretary of Commerce.

With a cruising range of 11,200 nautical miles and a cruising speed of 14 knots, the ship can carry six month's worth of provisions for extended scientific operations in remote ocean areas, and can remain at sea for more than a month at a time.

The ship was built by the

Toledo Plant of the American Shipbuilding Company and launched on October 5, 1968. It has two 1,600-horsepower, geared diesel engines that power twin controllable-pitch screws and a 450-horsepower bow propulsion unit that can be used to move the ship at very slow speeds or hold it steady on a position. The Malcolm Baldrige's commanding officer is Captain Charles Y. Molyneaux.

Both ships will be open to the public at the Robinson Terminal adjacent to Founders Park. ☺

Ozone Harming Chemical

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laboratories and elsewhere, Ravishankara said. High-purity samples for the latest measurements were obtained from du Pont de Nemours & Company and Allied-Signal Corp., the compound's manufacturers.

HCFC-141b, a partially halogenated ethane, contains a hydrogen atom which

makes it react in the lower atmosphere with the hydroxyl radical. This reaction shortens its lifetime in the troposphere; as a result, a smaller fraction of the compound is transported into the stratosphere, where it can deplete ozone. Therefore, the HCFCs are less effective than CFCs in destroying ozone for equal emission at the surface. ☺

Weather Satellite Launched; First Pictures Received

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tion of a variety of critical environmental issues including ozone depletion in the stratosphere, acid rain, ocean pollution, and climate change. The satellite also provides information important to many national industries, including agriculture, commercial fishing, sea and air transportation, and flood control and forest fire detection.

NOAA-12's payload includes the following instruments:

- ☐ An Advanced Very High Resolution Radiometer gathers visible and infrared measurements to evaluate land, ice, surface water, cold conditions and near surface temperatures more precisely;
- ☐ A High Resolution Infrared Radiation Sounder and Microwave Sounding Unit measures energy in the

earth's troposphere, a region from the surface to an altitude of six miles, where clouds form and air currents are active;

- ☐ An improved Space Environment Monitor, which measures the presence and distribution of energetic

particles emitted by the sun;

- ☐ An advanced ARGOS Collection and Platform Location System, which permits location and collection and transmission of environmental data from platforms on land, at sea, and in the air. ☺

N.E. Shellfish Poisoned by Red Tide

Shellfish from the Georges Bank area of New England may be contaminated with paralytic shellfish poisoning (PSP), and local fishermen have been warned not to eat them by NOAA's National Marine Fisheries Service and the U.S. Food and Drug Administration.

Although Georges Bank has been officially closed to the harvesting of surf clams and ocean quahogs since May 1990 because of the presence of PSP, the risk applies to all shellfish taken from this area as bycatch. Mussels, which accumulate very high levels of PSP, can be especially dangerous. PSP can be fatal, and first signs can occur as soon as 30 minutes after eating contaminated shellfish.

PSP is caused by red tide, an algae bloom prevalent in the Georges Bank area this time of year. ☺

Coming Events				May 1991		
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
19 NWS East Coast Hurricane Awareness Tour Thru May 24	20	21 AS Wilson, DUS Castle testify on budget, U.S. Senate	22 International Whaling Commission meeting, Reykavik, Iceland; Dr. Knauss heads U.S. delegation. Thru May 31	23	24	25
26	27 Memorial Day	28 Spring meeting of American Geophysical Union, presenting research results, in Baltimore Md. Thru May 31	29	30	31 Houston Hurricane Awareness workshop	1

National Oceanic and Atmospheric Administration

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