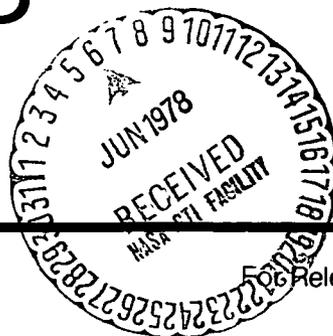


# NASA News

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## NASA TO LAUNCH NOAA'S GOES-C EARTH MONITORING SATELLITE

NASA's launch of the GOES-C geostationary satellite for the National Oceanic and Atmospheric Administration (NOAA) from Kennedy Space Center, Fla., is planned for June 16. The launch vehicle is a three-stage Delta 2914.

GOES-C is a key element in the Global Weather Experiment, a worldwide year-long accumulation of meteorological and oceanographic data which begins in December. Oceanographic and wind observations all over the world will be made by nine satellites and scores of ships and aircraft.

(NASA-News-Release-78-72) NASA TO LAUNCH  
NOAA'S GOES-C EARTH MONITORING SATELLITE  
(National Aeronautics and Space  
Administration) 10 p

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May 24, 1978

Thousands of surface and upper air observations will be made daily by several hundred buoys distributed in the southern hemisphere and by conventional observation methods elsewhere on Earth.

The experiment is a part of the Global Atmospheric Research Program (GARP) sponsored by the World Meteorological Organization of the United Nations and the International Council of Scientific Unions. As its contribution, GOES-C will contribute information from a data-sparse area of the world centered in the Indian Ocean.

GOES-C, which becomes GOES-3 once successfully orbited at 35,750 kilometers (22,300 miles), will replace another NOAA geostationary satellite now positioned to observe much of the Pacific Ocean and the western half of the United States. That spacecraft (GOES-1) will be moved by stages from its present position above the equator at 135 degrees west longitude, almost halfway around the Earth, to about 60 degrees east longitude.

GOES-1 first will be shifted to 15 degrees west, over the Atlantic Ocean, where it will remain under the control of NOAA's National Environmental Satellite Service Command and Data Acquisition Station at Wallops, Va.

NASA's Spaceflight Tracking and Data Network (STDN) will provide necessary support for the mission. Tracking stations include the Minitrack Network and stations at Guam; Orroral, Australia; Santiago, Chile; Quito, Ecuador; Rosman, N.C.; and Wallops Island, Va.

NASA's Goddard Space Flight Center, Greenbelt, Md., has contract and systems management responsibility for the spacecraft and performs in-orbit testing of the satellite until it is turned over to NOAA for operational use about 30 days after launch.

DELTA LAUNCH VEHICLE (2914) STATISTICS

The GOES-C spacecraft will be launched by a three-stage Delta 2914 launch vehicle. This launching will mark the 142nd for the Delta rocket which has achieved an impressive performance record of more than 90 per cent. The launch vehicle has the following general characteristics:

Height: 35.4 m (116 ft.) including shroud

Maximum Diameter: 2.4 m (8 ft.) without attached solids

Liftoff Weight: 131,895 kg (293,100 lb.)

\*Liftoff Thrust: 1,765,315 newtons (396,700 lb.) including strap-on solids

First Stage

(Liquid only) consists of an extended long-tank Thor, produced by McDonnell Douglas. The RS-27 engines are produced by the Rocketdyne Division of Rockwell International.

Height: 21.3 m (70 ft.)

Diameter: 2.4 m (8 ft.)

Propellants: RP-1 kerosene as the fuel and liquid oxygen (LOX) as the oxidizer

\*Thrust: 912,000 N (205,000 lb.)

Strap-on solids consist of nine TMX-354-5 Castor II solid-propellant rockets produced by the Thiokol Chemical Corp., with the following features:

Height: 7 m (23.5 ft.)

Diameter: 0.8 m (31 in.)

Propellants: Solid

\*Thrust: 2,083,000 N (468,000 lb.) for nine  
231,400 N ( 52,000 lb.) for each

### Second Stage

Produced by McDonnell Douglas Astronautics Co., using a TRW TR-201 rocket engine; major contractors for the vehicle inertial guidance system located on the second stage are Hamilton Standard, Teledyne and Delco. The second stage has the following characteristics:

Height: 6.4 m (21 ft.)

Diameter: 1.5 m (5 ft.)

Propellants: Liquid, consisting of aerzene 50 for the fuel and nitrogen tetroxide ( $N_2O_4$ )

\*Thrust: About 42,943 N (9,650 lb.)

### Third Stage

A TE-364-4 motor produced by Thiokol Chemical Co., with the following characteristics:

Height: 1.4 m (4.5 ft.)

Diameter: 1 m (3 ft.)

Propellants: Solid

\*Thrust: 61,855 N (13,900 lb.)

\*NOTE: All thrusts are averaged for the duration of the burns.

DELTA/GOES-C MAJOR LAUNCH EVENTS

Event	Time	Altitude		Velocity	
		Miles/Kilometers	Mph	Km/Hr	Mph
Liftoff	0 sec.	0	0	0	0
Six Solid Motor Burnout	38 sec.	3.9	6.3	1,524	2,452
Three Solid Motor Ignition	39 sec.	3.9	6.3	1,524	2,452
Three Solid Motor Burnout	1 min. 17 sec.	13.8	22.3	2,650	4,265
Nine Solid Motor Jettison	1 min. 27 sec.	16.8	27	2,865	4,611
Main Engine Cutoff (MECO)	3 min. 41 sec.	57	92	12,059	19,408
First/Second Stage Separation	3 min. 49 sec.	61	98	12,074	19,432
Second Stage Ignition	3 min. 54 sec.	63	102	12,060	19,408
Fairing Jettison	4 min. 31 sec.	78	125	12,440	20,021
First Cutoff Stage II (SECO-1)	8 min. 48 sec.	105	170	17,544	28,235
Restart Stage II	20 min. 51 sec.	111	179	17,514	28,185
Final Cutoff Stage II (SECO-2)	21 min. 3 sec.	111	179	17,814	28,669
Third Stage Spinup	22 min. 3 sec.	113	182	17,809	28,660
Second/Third Stage Separation	22 min. 5 sec.	113	182	17,808	28,660
Third Stage Ignition	22 min. 46 sec.	114	184	17,802	28,650
Third Stage Burnout	23 min. 29 sec.	117	189	22,973	36,973
Spacecraft Separation	24 min. 43 sec.	139	223	22,905	36,861

LAUNCH OPERATIONS

Delta 142 arrived at the Kennedy Space Center Jan. 23 of this year. The first stage and interstage were erected on Pad B, Complex 17 at the Cape Canaveral Air Force Station April 13. The nine strap-on Castor II solid motors were mounted on the first stage April 14 - 17. The second stage was erected April 18.

The GOES-C spacecraft was received by Kennedy Center April 24 and underwent initial processing in Hangar AE. It is scheduled to be mated with the Delta third stage June 6.

Following spin tests the spacecraft and Delta third stage is scheduled to be moved to the launch pad and mated with the rest of the vehicle June 8. The payload fairing will be put in place June 13.

All launch vehicle and pad operations during the launch countdown are conducted from the blockhouse at Complex 17 by a joint government-industry team.

DELTA/GOES-C TEAM

NASA Headquarters

John F. Yardley	Associate Administrator for Space Transportation Systems
Joseph B. Mahon	Director, Expendable Launch Vehicle Programs
Peter Eaton	Manager, Delta Launch Vehicles

Goddard Space Flight Center

Dr. Robert S. Cooper	Director
Robert E. Smylie	Deputy Director
Robert Lindley	Director of Projects
Robert Baumann	Assistant Director for Space Transportation Systems
David Grimes	Delta Project Manager
William R. Russell	Deputy Delta Project Manager, Technical
Robert Goss	Mission Analysis and Inte- gration Manager, Delta Project
Frank Lawrence	Delta Mission Integration Manager
Robert H. Pickard	Project Manager, GOES-C
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August H. Wessels, Jr.	Deputy Project Manager, Resources
Arthur C. Clarke	Science Manager
John P. Lahzun	Assistant Spacecraft Manager

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Ralph N. Banning	Network Operations Manager
Kermit B. Blaney	Network Support Manager
Michael J. Prokopchak	Mission Support Manager
Larry E. Rouzer	Instrument Manager

Kennedy Space Center

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Gerald D. Griffin	Deputy Director
Dr. Walter J. Kapryan	Director, Space Vehicles Operations
George F. Page	Director, Expendable Vehicles
W. C. Thacker	Chief, Delta Operations Division
Bert L. Grenville	Complex 17 Operations Manager
Gayle Hager	Spacecraft Coordinator
Wayne McCall	Chief Engineer, Delta Operations

NOAA

David S. Johnson	Director, National Environmental Satellite Service
Clifford A. Spohn	Deputy Director
George H. Ludwig	Director, Office of Operations
E. Larry Heacock	Director, Office of Systems Integration
Edward W. Mowle	Geostationary System Group Head

NOAA (Cont'd.)

Edward W. Bisone

Spacecraft Coordinator

Frank H. Eastman

Payload Coordinator

Shelia Frye

Goddard Liaison Administrative Assistant

CONTRACTORS

McDonnell Douglas  
Astronautics Co.  
Huntington Beach, Calif.

Delta launch vehicle

Ford Aerospace Corp.

GOES-C spacecraft

Santa Barbara Research Center  
Subsidiary of Hughes Aircraft  
Company

Visible Infrared Spin Scan  
Radiometer

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