



Figure 1



Figure 2



Figure 3

two broad categories: geostationary and polar-orbiting. Geostationary satellites orbit with a period of 24 hours, viewing the earth below as if stationary. These satellites orbit over the equator approximately 36,000 km above the earth, about 5.6 earth radii away from the earth's surface. Polar-orbiting satellites orbit at much lower altitudes, typically between 800 km and 1200 km above the earth. These satellites have orbits highly inclined to the equator, passing over the polar regions of the earth. Their orbits are typically sun-synchronous, allowing a single satellite to pass over and view all portions of the earth as it rotates underneath.

Table 1 lists current-series weather satellites (both geostationary and polar-orbiting) and gives the name corresponding to each satellite acronym. Geostationary weather satellites are currently in use by 6 countries: the

WEATHER SATELLITES

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The author recently published two articles on weather satellites in *Topical Time* (Hillger 1997a,b). One article covered current-series geostationary weather satellites, and the other article covered current-series polar-orbiting weather satellites. Each article included a list of all known postage stamps showing each type of weather satellite. However, as a result of continuing research into this topic and due to correspondence as a result of publishing those two articles, several additional stamps have been discovered. This article provides an updated list of all known stamps showing current-series weather satellites.

Weather satellites fall into



Figure 4



Figure 5

United States, the European Union, Japan, India, the Russian Federation, and most recently China. Polar-orbiting weather satellites are currently in use by 4 countries: the United States (both civilian and military), the Russian Federation, India, and Japan. Neither the European Union nor China currently have polar-orbiting weather satellites, although the EU does operate polar-orbiting remote-sensing satellites.



Figure 6

Table 1: Current-series meteorological satellites

Satellite	Country (Agency)	Orbit Type
GOES	USA (NOAA)	geostationary
Meteosat	Europe (Eumetsat)	geostationary
GMS / Himawari	Japan	geostationary
INSAT	India	geostationary
GOMS / Elektro	Russian Federation	geostationary
FY-2 / Feng-Yun	China PR	geostationary
NOAA	USA (NOAA)	polar
DMSP	USA (DoD)	polar
Meteor	Russian Federation	polar
IRS	India	polar
ADEOS	Japan	polar

GOES = Geostationary Operational Environmental Satellite

GMS = Geostationary Meteorological Satellite, or Himawari (sunflower).

INSAT = Indian National Satellite

GOMS = Geostationary Operational Meteorological Satellite

FY = Feng-Yun (wind-cloud)

NOAA = National Oceanic and Atmospheric Administration

DMSP = Defense Meteorological Satellite Program

IRS = Indian Remote Sensing satellites

ADEOS = ADvanced Earth Observation Satellite

Table 2 lists stamps showing current-series geostationary satellites: 3 GOES; 10 Meteosat; 6 GMS; and 2 INSAT. No stamps are known to show the Chinese FY-2 geostationary satellite launched in 1997.

Table 3 lists stamps showing current-series polar-orbiting satellites: 4 NOAA; 18 Meteor; 1 IRS; and 3 ADEOS.

Images of selected satellites on stamps are provided. Since the author's collection of these stamps is incomplete, information is verified only for those stamps in possession. The author would appreciate knowing of any errors or additional stamps that may have been missed.

Continued

Table 2: Postage stamps showing current geostationary meteorological satellites

Country	Scott Number	Year	Satellite
Bulgaria	3612	1991	Meteosat
Cayman Islands	628	1991	GOES
Central Africa Rep.	C234 (Fig. 1)	1980	Meteosat
Chad	?	1996 ?	INSAT ?
China (Taiwan)	2222	1981	GMS
Ciskei	193 (Fig. 2)	1992	Meteosat
Comoro Islands	392 ss	1978	Meteosat ?
Congo PR	961	1992	Meteosat launch
France	1903	1983	Meteosat
Gr. Britain (Jersey)	561	1991	Meteosat
India	1020	1983	INSAT
Japan	1564	1984	GMS
Korea (South)	1572 (Fig. 3)	1990	GMS
Liechtenstein	956	1991	Meteosat
Maldive Islands	1575	1991	GMS
Morocco	464	1983	Meteosat
St. Lucia	611 ss	1983	GOES
Thailand	1472	1992	GMS
Turkey	2331	1985	Meteosat
Vanuatu	566	1992	GMS
Venezuela	1426e	1992	GOES?

ss = souvenir sheet

Table 3: Postage stamps showing current-series polar-orbiting weather satellites

Country	Scott Number	Year	Satellite
China (Taiwan)	2221	1981	TIROS-N / NOAA
Cuba	2324	1980	Meteor
Cuba	2502	1982	Meteor
Cuba	2587	1983	Meteor
Czechoslovakia	2304	1980	Meteor
French Antarctica	C114 (Fig. 4)	1991	NOAA
Germany (East)	1364 ss	1972	Meteor
Germany (East)	1900	1978	Meteor

India	1352	1991	IRS
Korea (North)	Mi2523	1984	Meteor
Laos	784	1987	Meteor (Cosmos)
Madagascar	969 (Fig. 5)	1990	NOAA
Madagascar	1050	1992	ADEOS
Madagascar	1050 ss	1992	ADEOS
Madagascar	1050a ss6	1992	ADEOS
Mongolia	C78	1976	Meteor
Mongolia	C90	1977	Meteor
Mongolia	1686	1988	Meteor
Nicaragua	1657 (Fig. 6)	1987	Meteor
Romania	2422	1973	Meteor
Russia	3860	1971	Meteor
Russia	4175	1974	Meteor
Russia	4665	1978	Meteor
Russia	5298	1984	Meteor
Russia	5299 ss	1984	Meteor (in margin)
Russia	5603 ss	1987	NOAA (in margin)

Mi = Michel catalog number

ss = souvenir sheet

ss6 = souvenir sheet of 6

References:

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