

Dataset of post stamps on rocket and satellite (1957-1959)

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Abstract: The launching of rocket and satellite was one of the major tasks of International Geophysical Year (IGY). The first of Russia satellite named Sputnik 1 was successful launched on 4 October 1957, which is recognized as a milestone for a new era - a space age. Besides the satellites of Sputnik 1, 2 and 3, Luna 1, 2 and 3 from Russia, the Explorer 1, 3, 4, 6, 7, Vanguard 1, 2, 3, Pioneer 1,2,3, 4, Discoverer 1, 2, 5, 6, 7, 8 and Score from USA were successful launched from 1957-1959 in IGY (The Rocket and Satellite task was extended for implementation for one more year in 1959 than that of tasks else from 1957-1958). For celebrating and commemorating the great achievements in human history, 23 countries in the world issued post stamps during IGY, the first three years of the space era. The collection of post stamps consisted of 349 pieces from 23 countries are archived in LIN Chao Geomuseum (www.geomuseum.cn), The dataset consisted of 349 .jpg files for all of archived stamps and one table file which is the list of the collections. The code, image, date issued, country issued, contributor and descriptions are listed at the table items.

Keywords: rocket; satellites; post stamps; dataset; IGY; 1957-1959

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1 Introduction

After the Second World War, there was an urgent need for world wide scientists and international science communities to recover the international cooperation activities. The 6th General Assembly (GA) of the International Council of Scientific Unions (ICSU - International Council for Sciences now) was held in October 1952 in Amsterdam. An important decision made at the GA, which was to launch the International Geophysical Year program (IGY for short) from July 1, 1957 to December 31, 1958, that was also called as the Third International Polar Year (IPY). At this program, ICSU played overall leadership role, Special Committee for the International Geophysical Year (CSAGI - Comité Spécial de l'Année Géophysique Internationale) was established in 1953. Partners included Union Radio Scientifique Internationale (URSI), International Union of Geodesy and Geophysics (IUGG), International Astronomical Union (IAU), International Geographical

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Table 1 Summary of the SatelliteStamps_1957_1959 metadata

Full Name	Dataset of post stamps on rocket and satellite (1957-1959)
Short Name	SatelliteStamps_1957_1959
Author	LIU Chuang, Institute of Geographic Science and Natural Resources Research, CAS, lchuang@igsnr.ac.cn
Geographical region	Bulgaria, Canada, Czechoslovakia, Chile, Cameroon, Cuba, Dominica, China, Ecuador, Germany(East), Germany(West), Haiti, Hungary, Indonesia, Japan, Korea, Mongolia, The Netherlands, Peru, Poland, Romania, the Soviet Union (former), USA, Yugoslavia.
Year of the dataset	1957-1959
Data publisher	Global Change Research Data Publishing and Repository, DOI:10.3974/
Data access and services platform	Global Change Research Data Publishing and Repository, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, http://www.geodoi.ac.cn National Data Sharing Infrastructure of Earth System Sciences of China, http://www.geodata.cn
Academic editors	SHI Ruixiang, CHEN Wenbo, HE Shujin The author of the dataset agrees to publish the data here according to the Article I of Data Sharing
Data sharing policy	Policy of the Global Change Data Publishing and Repository, which states that the dataset can be used freely for research, education, and decision making; any users for commercial uses should get formal permission from IGSNRR/CAS.

Union (IGU), International Union of Pure and Applied Physics (IUPAP) and World Meteorological Organization (WMO)^[1]. More than 50,000 scientists from 67 countries joined the most ambitious international program in human history^[2]. 14 special science groups were established including the group of rocket and satellite^[3-4]. In implementation, the task of rocket and satellite was extended for one more year, till end of 1959^[5]. The most remarkable achievement was the successful launched Sputnik 1 on October 4, 1957^[6-8], three months later since the IGY started. Then the Soviet Union issued post stamps to congratulate and commemorate the most remarkable achievement in human history. Following, 23 countries did the same thing together with multiple cultures and arts. By the impact of the event, collections of rocket and satellite post stamps become popular not only in scientific communities, but society. The philatelic associations on rocket and satellite in many countries were established very soon. The dataset of post stamps on rocket and satellite (1957-1959) is consisted of 349 stamps issued from 1957-1959 from 23 countries, which are archived in LIN Chao Geomuseum (www.geomuseum.cn), the joint effort from International Geographical Union (IGU), International Committee on Data for Science and Technology (CODATA) and Geographical Society of China (GSC) in 2011.

2 Metadata of dataset of rocket and satellite post stamps (1957-1959)

The descriptions of the rocket and satellite post stamps (1957-1959) (SatelliteStamps_1957_1959 for short) dataset are recorded. These information include the dataset full name, dataset short name, corresponding author, authors, geographical region of the dataset content, year of the dataset, number of the dataset tiles, dataset spatial and temporal resolution, dataset format and size, data publisher, data sharing platform and contact information, technical editors, foundation and the data sharing policy. Table 1 below summarizes the main metadata elements of the SatelliteStamps_1957_1959 dataset.



Figure 1 IGY Logo
(1)



Figure 2 IGY
Logo (2)



Figure 3 (RU19571010102) A mark was over printed on November 28 in back in the commemorative stamp issued by Soviet Union for remembering Mr. Konstantin Tsiolkovsky' 100th anniversary on 7 October 1957 : The First Artificial Satellite Launched on October 4, 1957 (Konstantin Tsiolkovsky was born on 17 September 1857) (Scott No. 2021)



Figure 4 (RU19571010104) Soviet Union issued commemorative stamps on November 5 and December 28 for celebrating Sputnik 1 successfully launched on October 4, 1957. (Scott No. 1993)



Figure 5 (RU19581010701) Soviet Union issued a set of four stamps for celebrating Sputnik 2 - Symbolic Figure and Greeting Sputnik 2 in later of 1957 to earlier of 1958. The most significant achievement of the Sputnik 2 was carrying Laika into space - a first dog in space. Here is the postcard with the IGY logo, stamp on Sputnik 2 and image of Laika.

3 Content of the dataset

The earliest symbol of satellite moving around the earth was the International Geophysical Year (IGY) logos (Figures 1 and 2). However, the real satellite information on commemorative stamps were issued by the Soviet Union after the first Soviet satellite launched successfully on October 4, 1957. Two sets of post stamps were issued by Soviet Union then, one was the stamp remembering Mr. Konstantin Tsiolkovsky' 100th anniversary, and the second was commemorative stamp for celebrating Sputnik 1 successfully launched.

For celebrating the 100th anniversary birthday of Mr. Konstantin Tsiolkovsky (1857-1935), Rocket and Astronautics Pioneer and Father of Rocket and Satellite of the Soviet Union, the Soviet Union issued a commemorative stamp on 7 October 1957. With the Sputnik 1, the first artificial earth satellite, successfully launched on October 4, 1957, a special mark was over printed in the stamp: The First Artificial Earth Satellite Launched on October 4, 1957 (Figure 3). For celebrating the Sputnik 1 successfully launched, the Soviet Union issued a set of two stamps - Sputnik 1 Circling (Figure 4). Both of them were 40K. One of them in indigo, bluish was issued on Nov. 5, and other one in bright blue was issued on December 28. The former one is recognized as the first stamp of space era (Scott No. 2021) and the later set of stamps is recognized as the first set of stamps of artificial earth satellite (Scott No.1992 and No.1993)^[9-10].

During IGY, although a dozen of countries joined the rocket and satellite cooperation activities, only Soviet Union and USA successfully launched artificial satellites. Soviet Union had two series, one was earth satellites, and other one was lunar satellites. 3 earth satellites (Sputnik 1, 2 and 3) and 3 lunar satellites (Luna 1, 2 and 3)^[10] in all the 6 satellites were successfully launched. While in USA, 19 satellites in 5 series were successfully launched. They were: Explorer (1, 3, 4, 6, and 7), VANGUARD (1, 2 and 3)^[7], PIONEER (1, 2, 3 and 4), SCORE and Discoverer (1, 2, 5, 6, 7, and 8). Totally 25 satellites in 7 series were successfully launched in the three years, the beginning of space age.

The mission and its great achievements of rocket and satellite program of IGY called



Figure 6 (US19581011607) The first US satellite - Explorer 1 was successful launched on January 31 1958 at Fort Canaveral of Florida. It was sent to space by Jupiter C Rocket. The Explorer 1 means US enters the space age. US issued the commemorate cover at the same day and the date stamp from the Fort Canaveral post office was printed on the cover. The most important discovering of this satellite was the Van Allen Belts in space.



Figure 7 (US19581011602) As one of IGY achievements, the US Navy successfully launched Vanguard 1 on March 17, 1958 from Fort Canaveral of Florida. The date stamp on March 17, 1958 from Patrick Air Force Base post office of Florida was on the cover.



Figure 8 (RU19591010106) During IGY, Soviet Union successfully launched a series of artificial Luna satellites. They are Luna 1, 2 and 3. The first lunar surface image, photographing far site of moon, was transferred to Earth by Luna 3 on October 7 1959. Soviet Union Post issued a set of stamps for celebrating the scientific achievement from the lunar satellites.



Figure 9 (PL19591010102) Poland Post issued stamp for celebrating Soviet Union satellite in 1959



Figure 11 (HU19591260113) Hungary Post issued stamp for celebrating Soviet Union's Luna 3 satellite in 1959



Figure 10 (JP19581220101) The Ryukyu Islands Post issued stamp for news week in 1957



Figure 12 (MN19591010102)Mongolia Post issued stamp for celebrating Soviet Union's satellites in 1959



Figure 13 (CS19571260101)Czechoslovakia Post issued stamps for IGY in 1957

most people from all over the world to pay more attention on it, from scientific communities, policy makers to all society. The stamps on rocket and satellite even played more roles in advertising the program in society^[11]. 23 countries issued post stamps to commemorate the great achievement in human history. These countries are: Bulgaria, Canada, Chile, Cuba, Czechoslovakia, Cameroon, Dominica, China, Ecuador, Germany (East), Germany (West), Haiti, Hungary, Indonesia, Japan, Korea, Mongolia, The Netherlands, Peru, Poland, Romania, the Soviet Union (former), USA, Yugoslavia.

Table 2 List of satellites successfully launched during IGY (1957-1959)

Year	Soviet Union Satellites		USA Satellites		Total
	Name of satellite	Date launched	Name of satellite	Date launched	
1957	SPUTNIK 1	Oct. 4, 1957			2
	SPUTNIK 2	Nov. 3, 1957			
	SPUTNIK 3	May 15, 1958	EXPLORER 1	Jan.31, 1958	
1958			VANGUARD 1	Mar.17, 1958	9
			EXPLORER 3	Mar.26, 1958	
			EXPLORER 4	Jul.26, 1958	
			PIONEER 1	Oct.11, 1958	
			PIONEER 2	Nov. 8, 1958	
			PIONEER 3	Dec. 6, 1958	
		SCORE	Dec. 8, 1958		

Table 3 Statistics of collection of rocket and satellite post stamps (1957-1959)

Country	MNH	Souvenir Sheet	Cover	Postcard	Postal label	Total
Bulgaria	7		6			13
Canada			7			7
Czec	7		4	2		13
Chile			6			6
Cameroon	1					1
China	8		5			13
Cuba			1		1	2
Dominica	8	4	3			15
Ecuador	2		3			5
Germany	4	1	8		7	20
Haiti	4	1	3			8
Hungary	8		7			15
Indonesia	5		3			8
Japan	3		11			14
N.Korea	15					15
Mongolia	2		1			3
The Netherlands			3		8	11
Peru	1				1	2
Poland	7		6			13
Romania	16	8	7			31
Soviet Union	25	2	51	6		84
USA		1	36	1	10	48
Yugoslavia	1		1			2
Total	127	14	172	9	27	349
(%)	36.38	4.01	49.29	2.58	7.74	100

From individual stamps, it is obviously that the local culture had been integrated in the design of stamps; multi and diverse culture have been appeared in the images of stamps. For example, the Ryukyu Islands Post issued stamp for the News week in 1957, while the rocket and satellite was the hot news in the news week. So, the pen representing news was design like rocket (Figure 10); China Post issued the stamp with red color as the basic color, Sputnik 1 was on the stamp together with the figures of dragon and armillary sphere (an ancient tool of China for observing stars and sky). It signified not only celebrating the first earth satellite successfully launched, but also Chinese desire for the space studies.



Figure 14
(CN19581010101)China
Post issued stamp for
celebrating the Sputnik
1 in 1958



Figure 15
(CM19581010101)
Cameroon Post issued
stamp for celebrating USA'
satellites in 1958



Figure 16
(DE19571260101)
Germany Post
(East) issued stamp
for IGY in 1957



Figure 17
(HT19581260101)
Haiti Post issued
stamp for IGY
in 1958



Figure 18
(EC19581260102)
Ecuador Post issued
stamp for IGY in 1958



Figure 19
(ID19581260105)
Indonesia Post issued
stamp for IGY in 1958



Figure 20
(KP19581260104) North
Korea Post issued stamp
for IGY in 1958



Figure 21
(RO19571010102)
Romania Post issued
stamp for celebrating the
Sputnik 2 in 1957



Figure 22
(PE19611260101)Peru
Post issued stamp for
IGY in 1961



Figure 23
(BG19581260102)
Bulgaria Post issued
stamp for celebrating
Sputnik 2 in 1958



Figure 24
(YU19581260101)
Yugoslavia Post issued
stamp for IGY in 1958

There are several items in the dataset of collection of rocket and satellite post stamps (1957-1959), including stamp archiving code, country issued, image, stamp type, date issued, contributor and short descriptions.

With the stamps on rocket and satellite issued, the stamp collection and the philatelic became popular. The stamps not only were issued according to the meaning of scientific and art, but the stamp technology. For example, some of stamps were issued at imperforated MNH although most of them were perforated MNH. Not only, the color, figure design, art and history, sizes, annotation, and price were all different. All of these made the philatelic society on rocket and satellite more active and attractive (Figures 25, 26 and 27).

Another example is a cover with mistake printing. China Post issued a set of two stamps

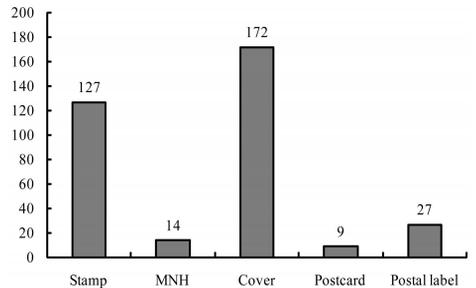


Figure 25 Statistics of stamp types archived

Figure 25 Statistics of stamp types archived



Figure 26 Bulgaria Post Issued stamps for celebrating Sputnik 1 in 1959 in both imperforated (BG19591010105) and perforated (BG19591010103) formats



Figure 27 Dominica Post issued IGY sheet in 1959 in both imperforated (DO19591260503) and perforated (DO19591260503) formats



Figure 28 Hungary Post Issued stamps for celebrating Sputnik satellites in 1959 in both imperforated (HU19591260112) and perforated (HU19591260111) formats



Figure 29 (CN19581011502) China Philatelic Corporation issued the first data cover for the Beijing Astronomical Observatory in 1958, the words were wrong printed in the cover

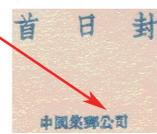


Figure 30 (CN19581011509) China Philatelic Corporation issued the first data cover for the Beijing Astronomical Observatory in 1958, the words were all right printed in the cover

titled as Beijing Astronomical Observatory in 1958. At the same day, the first day cover issued. However, there are two different copies of the cover released then (Figures 29 and 30). In the left corner of bottom, the world of China Philatelic Corporation in Chinese appeared in right one is correct (Figure 29) and the left one is wrong (making the wrong order of the words). From the point of view of collection, the wrong one may even more expensive than another one since the number of cover printed was much less than regular one. So, the LIN Chao Geomuseum collected both of them and archived.

4 Acknowledgement

The stamps which are listed at the dataset and archived in the LIN Chao Geomuseum

are from donors, they are LIU Chuang (322 stamps), CHEN Wenbo (14 stamps) and LIU Yang (13 stamps). LIU Chuang completed the database development based on these contributions. More information of the dataset and its contributors are listed at the Contributor Hall of LIN Chao Geomuseum at <http://www.geomuseum.cn>.

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