Hainan – the Island of South Sea
A New Province in China

Hsieh, Chaio-min, Prof. Dr., University of Pittsburgh, Depart. of Geology and Planetary Science, 321 Old Engineering Hall, Pittsburgh, PA 15260, USA
Zhong, Gong-fu, Prof., Guangzhou Institute of Geography, Yellow Flower Hill, Guangzhou, PR China

The island of Hainan, the largest island of China, second only to Taiwan is called “Chu-Yi” or “shore of pearls” by ancient Chinese for it produces true pearls along the north shore. For Western visitors it is called “Isles of palms” for it possesses lush vegetation, especially palm trees. The present name Hainan means “Island of South Sea”, representing a frontier area for Chinese culture and the farthest penetration of China's major territory into the tropics.

The latitude of Hainan, between 18° –20° N, makes its position comparable to that of Puerto Rico, Cuba, or Hawaii. Its pendent location to China reminds one of Ceylon to India or Tasmania to Australia.

Shaped somewhat like a pear, Hainan is about 210 km wide from W to E and about 165 km long from N to S. Its total area is about 33,920 km² which is only half the size of Ceylon, slightly smaller than Taiwan, but nearly twice the size of the state of New Jersey. Long administered as part of Quangdong, the island became an independent province of the People’s Republic of China in 1989 (Fig 1).

Historically, Hainan has been a backward place of the Chinese empire. When the officials in the court offended the Emperor, they were sent as exiles to Hainan. Mr. Li Deyu, a prime minister of the Tang Dynasty (c. 600–800 AD), and Su Shi, a high official and great poet of the Sung Dynasty (1127–1276), were good examples.

Because of its close proximity to Vietnam, its military importance has increased with the rise of border conflicts between Vietnam and China. Consequently, the W coast of Hainan island is dotted with naval bases, aircraft and missile bases, and army bases.

Hainan is separated from China’s mainland by Hainan strait which is only 24 km, much shorter than Taiwan strait separating Taiwan from China, which is 144 km. Hainan has not received as much Chinese migration as Taiwan, nor does it have the same degree of Japanese exploitation.

The forms of its mountains play a key role in shaping the physical geography of Hainan. The mountains stretch generally from NE to SW with a length of 288 km, forming a kind of back-bone. However, the high mountain core concentrate in the SW part of the island where the fivefinger mountains rise to 1867 m. The mountain's name refers to the five great peaks spreading out like the fingers of a hand. There are 81 peaks along the range with a elevation above 900 m and 6 above 1350 m. The major plains appear around the coast especially in the NE where the plains extend 1–9 km in width. As for land form classification in Hainan, mountains occupy 25.4%, hills 13.3%, terraces 32.6%, and plains 28.7% (Fig 2).

The SW portion of the mountain core is the result of the intrusion of granite which form a dome structure. With the long period of erosion and faulting, the surface is dissected into high peaks and deep valleys. It is these valleys which became the traveling routes.

High in the SW part, the land declines gradually toward the surrounding lowlands, forming a ring shaped landform, consisting of hills and coastal plains.

There are 154 rivers which start in the Five-finger mountains and radiate outward to the ocean in Hainan. Most of them are short and swift. There are 38 rivers with a drainage area of 100 km², 25 with 100 to 500 km² and 13 with more than 500 km², with a drainage area more than 3000 sqkm are only three rivers, namely Nantu, Wanquan and Changhua rivers. The rivers are not navigable, but provide the potential energy for water power. In the higher regions, the rivers cut the moun-
tains into gorges and form rapids; once descending into the lower lands, terraces are developed (Fig 3).

With 1528 km of coastline, Hainan reveals the tropical coast in characters. The coast of Hainan can be divided into three parts: in the N, are mainly volcanic basalt terraces resulting from sea wave erosion; the SE contains the drowned-valley(ria-)type of coast; and in the SE has mainly beaches and sand bars, the depositional type of coast.

Though landform of Hainan is not necessarily an ideal place for cultivation, the island certainly has the advantage of a tropical climate that favors the growth of rice, sugar, rubber, coconuts, pineapple and coffee.

Located in low latitude, Hainan receives rich sunshine. For the most part, the average annual sunshine is about 2,000 hours, with the highest in summer and lowest in winter. In the W part of the island, sunshine can total 2700 hours; while in the central mountain regions, about 1700 hours.

In Hainan, the average temperature ranges from 22° to 26° C, decreasing from the surrounding low land to the central high mountains. Summers are long, lasting for a few weeks, with average temperatures between 28° to 29° C. Winters are short and warm with a temperature between 18° to 20° C. The peaks of the high mountains may be snow-capped in winter, but frost is rare on the plain. The N is often warm enough to raise two crops of rice, sugar cane, sweet potatoes, corn, peanuts, bananas, pineapple and even rubber.

Since Hainan is an island it receives maritime influences from all directions. The summer monsoon brings heavy rainfall, especially against the mountains on the S half of the area. Besides a year round growing season, all of Hainan except a very narrow strip along the W coast, receives an average of 1639 mm rainfall annually.