

Distribution and accuracy of place names in Indochina peninsula listed in a Japanese gazetteer during World War II

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ABSTRACT

A series of gazetteers of Southeast Asia and the Pacific region, entitled "Dai Nan'yo Chimei Jiten", was planned for publication in Japan during World War II. While not all volumes in the series were published, however, the fourth volume, which covered Thailand and French Indochina, was published in 1943.

Volume 4 lists about 3,000 place names in Thailand and about 4,000 in French Indochina in Roman alphabetical order with not only their geographic coordinates but also, uniquely among gazetteers of the same period, a brief description of the surrounding landscape or landmarks. Some entries of the place in this volume also give place names in Japanese katakana script.

The geographic locations of these 7,000 entries are densely distributed along the coastlines, especially along the Gulf of Thailand and the Ha Long Bay, while entries in deep inland are scarce and partial. This may vividly reflect the emergent requirements of wartime.

This Japanese gazetteer may show place names with a diachronic aspect. I will present some observations on locational accuracy, changes in place names. My study may contribute to smoother access to documents referring to places in Indochina in previously used Roman script, and identification of their locations.

1. INTRODUCTION

A series of gazetteers of Southeast Asia and the Pacific region, entitled *Dai Nan'yo Chimei Jiten*, was planned for publication in Japan during World War II. Five volumes were planned, however, three of them were published. The first volume covered the Philippines. The third volume covered peninsula Malay and the northwestern Borneo. And the fourth volume covered Thailand and French Indochina. Unpublished two volumes were intended to cover Indonesia and Pacific Islands.

The part of French Indochina lists 4,061 place names in Roman alphabetical order with not only their geographic coordinates but also, uniquely among gazetteers of the same period, a brief description of the surrounding landscape or landmarks (Nan'yo Keizai Kenkyusho 1943). The other part of the volume 4 lists about 3,000 place names in Thailand. Hereafter, the place names in the part of French Indochina are the target of discussion in this paper.

2. OUTLINE OF THE SOURCE

2.1 Category

Almost of all entries are with brief category of their geographic feature, such as, village, mountain, island, station, and etc (Table 1). About 35 percent of entries are categorized as a village, and about 5 percent of the list are local administration units such as town, city, and

prefecture.

Among natural features, mountains are 457 entries, islands or rocks are 821 entries, and capes are 69 entries. 298 railway stations are significant category of built landmarks. 134 mines are listed in the French Indochina part whereas no mines are listed in the Thailand part.

Other significant features are fort, lamp house, bay, sea channel, port, reef, and so on, to support safer marine navigation.

Table 1. Major categories.

Category	French Indochina		Thailand	
	Entries	Ratio	Entries	Ratio
Village, Town, City	1,582	39%	1,779	58%
Mountain	457	11%	293	10%
Island(s), Rock(s)	821	20%	295	10%
Railway Station	298	7%	166	5%
Mine	134	3%	0	0%
Cape	69	2%	99	3%

Table 2. Entries by geographical resolution.

	Example	French Indochina	Thailand
Total entries		4,061	3,047
With location		2,662	2,900
By 1 minute	16°05' N 108°13' E	2,655	1,759
By 10 seconds	11°49'40" N 109°10'50" E	7	1,067
By 1 second	13°42'01" N 100°30'03" E	none	74

2.2 Descriptions

A brief description of the surrounding landscape or landmarks is described in each entry. The description on Tourane is shown below in brief translation into English.

“Tourane (city, railway station): in Quang Nam Province, Annam. Local name is Da Nang. It stands at the mouth of the Song Cam Le River and on the left bank. The port is the number one commercial port in Annam; however, because of the heavy pile of sands brought by the river, big vessels must anchor near the meteorological observatory located at offshore of the Tien Cha Peninsula. There are many tourist spots nearby.” (Nan’yo Keizai Kenkyusho 1943)

2.3 Resolution

Among 4,061 place names, 2,662 place names or 66 percent of whole entries are with their geographic coordinates. All of them except 7 place names are mentioned in only degree and minute. Thus the locational resolution is about 2 km. Exceptional 7 place names are mentioned in the unit of 10 seconds so that their locational resolution is about 300 meters. In the part of Thailand, some entries with one second resolution are listed; however, none is listed in the part of French Indochina. (Table 2)

2.4 Distribution

Geographical distribution of place names is streaky. The geographic locations are densely distributed along the coastlines, while entries for inland areas are scarce. This may vividly reflect the emergent requirements of wartime.

2.5 Reference Datum

Reference datum is not mentioned in the *Dai Nan’yo Chimei Jiten*.

Nowadays, geographic coordinate systems applied in many countries are based on a global ellipsoid called WGS 1984 and a global datum called WGS 84 as de fact standards. But until very early this century, many local datums which refer several different ellipsoids were used for long.

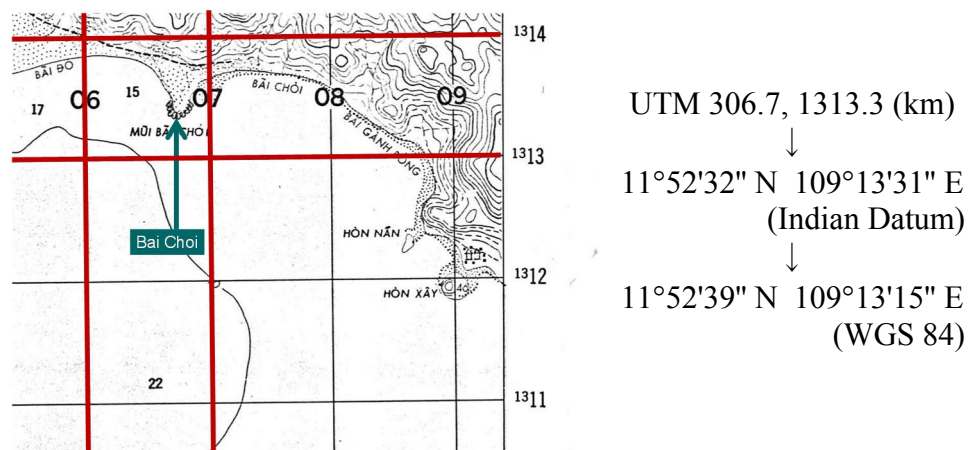


Figure 1. Calculation of geographic coordinates on different datum.

In French Indochina, the longitude value was measured based as the East of Paris. After the wartime, several variations of datums were introduced in Vietnam, such as “Indian Datum” referring Everest ellipsoid, and “Hanoi 1972 Datum” referring the Krassovsky 1940 ellipsoid (Mugnier 2002). In general, the location based on the “Indian Datum” and the location in the same coordinate values on the “WGS 84” differ about 400 meters in distance.

3. ACCURACY

As already mentioned, resolution of coordinate values of most entries can be said rough. Locations described in the unit of minute may absorb the difference of 400 meters between different datums. But, small numbers of entries keep coordinate values in the unit of 10 seconds, which are located at Cam Ranh Bay. Examination of locational accuracy can be done because these landmarks are capes or a small island. For this purpose, topographic maps of the L7014 series are used to identify these locations. The L7014 series which scaled in 1 to 50,000 were compiled around 1970 by the National Imagery and Mapping Service, US.

Table 3. Accuracy of locations around Cam Ranh.

Place	Japanese Gazetteer	Indian Datum		WGS 84	
			Difference (km)		Difference (km)
Pagode (Pointe de)	11°53'30" N 109°12'00" E	11°53'11" N 109°12'27" E	1.025	11°53'18" N 109°12'12" E	0.523
Bai Choi (Pointe de)	11°52'40" N 109°13'00" E	11°52'32" N 109°13'31" E	0.955	11°52'39" N 109°13'15" E	0.456
Bai-Tun (Pointe de)	11°49'40" N 109°10'50" E	11°49'43" N 109°11'21" E	0.945	11°49'51" N 109°11'05" E	0.576
Ba-Lum (Pointe de)	11°56'20" N 109°11'00" E	11°56'16" N 109°11'33" E	1.016	11°56'23" N 109°11'18" E	0.550
Ba Tien (Pointe de)	11°48'30" N 109°11'00" E	11°48'34" N 109°11'58" E	1.752	11°48'41" N 109°11'42" E	1.344
Nui Bai Thong	11°56'30" N 109°16'00" E	11°56'24" N 109°16'34" E	1.046	11°56'31" N 109°16'18" E	0.566
Salacco	11°47'30" N 109°12'00" E	11°47'19" N 109°12'42" E	1.299	11°47'26" N 109°12'27" E	0.847
Average			1.148	0.695	

To calculate the accuracy, the coordinate values on the Indian Datum were measured on the L7014 map. For example, Bai Choi Cape is located at (11°52'40" N, 109°13'00" E) in the

gazetteer, and is located at (11°52'32" N, 109°13'31" E) on the L7014 map. Then, coordinate value (11°52'39" N, 109°13'15" E) on the WGS84 datum can be converted from the value on the Indian Datum (Figure 1).

Thus, seven locations with 10 seconds resolution around Cam Ranh Bay were identified on the L7014 map, and coordinate values on the Indian Datum and the WGS84 Datum were calculated (Table 3).

Locational difference between the value mentioned in the Japanese Gazetteer and the value on the Indian Datum can be calculated if the values are on the same datum. Difference between the value in the Japanese Gazetteer and the value on the WGS84 Datum can be also calculated. For example, at Bai Choi Cape, the difference on the Indian Datum is about 960 meters, and that on the WGS84 Datum is about 460 meters. Both differences are far larger than the tolerance of 10 seconds, so as to say, about 150 meters. At seven locations in Table 3, average difference on the Indian Datum is more than 1 km, and average difference on the WGS84 Datum is about 700 meters. None of the two datums can be the reference datum applied in the Japanese Gazetteer; however, the WGS84, the current global de fact standard datum is rather closer than the Indian Datum.

Table 4. Accuracy of railway stations.

Station	Japanese Gazetteer	Indian Datum		WGS 84	
			Difference (km)		Difference (km)
Tan My	11°43' N 108°48' E	11°42'42" N 108°49'08" E	2.128	11°42'50" N 108°48'53" E	1.652
Nga Ba	11°55' N 109°05' E	11°55'25" N 109°07'29" E	4.570	11°55'32" N 109°07'13" E	4.237
Suoi Cat	12°02' N 109°07' E	12°01'33" N 109°07'40" E	1.462	12°01'40" N 109°07'24" E	0.961
Thanh Khe	16°04' N 108°09' E	16°03'53" N 108°11'14" E	3.988	16°03'59" N 108°10'59" E	3.662
Tourane	16°05' N 108°13' E	16°04'11" N 108°12'52" E	1.544	16°04'17" N 108°12'36" E	1.528

Most entries are with coordinate values of one minute resolution. Locational tolerance of these entries can be expected as one kilometer. Table 4 above shows some sample locations of railway station listed in the Japanese Gazetteer. Tourane is the old name of Da Nang at present. As far as locational examinations, coordinate values in the Japanese Gazetteer and those on the two standard datums are far more than the expected tolerance. Some stations show two minutes difference even though these locations are mentioned by the unit of one minute. But as same tendency as shown in Table 3, to values in the Japanese Gazetteer, values on the WGS84 datum show closer than values on the Indian Datum.

4. DISCUSSION

Entries listed in the Japanese Gazetteer show not only geographic coordinates but also descriptions on their geographic surroundings and sometimes with their brief history. These information give us richer imagination of these places. When we think of integrating place names with a diachronic aspect, information of old name and local name is very useful. But, as far as my observations on locational accuracy, coordinate values shown in this gazetteer can be used as reference only as long as the reference datum used is unclear.

5. REFERENCES

- Mugnier, Clifford J. 2002. "Grids & Datums: The Socialist Republic of Vietnam", *Photogrammetric Engineering & Remote Sensing*, 68(5), pp.403-405.
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