**United Nations Group of Experts on
Geographical Names
Second session**
New York, 3 – 7 May 2021
Item 14 of the provisional agenda *
Toponymic data files and gazetteers

Experimental release of webmap: "Japan map in multilingual notation"

Submitted by Japan **

Experimental release of webmap: "Japan map in multilingual notation"

1. Overview

The Geospatial Information Authority of Japan (GSI) is the national geospatial information authority of Japan. GSI has been developing various data related to the nation of Japan, and providing it in an easy-to-use manner.

GSI has been working on making the easy-to-understand maps for overseas visitors by settling "Notation Rules of Geographical Names, etc. in English"(i) and new map symbols for overseas visitors, to support providing overseas visitors with trouble-free trip and safe and comfort stay in Japan.

For this purpose, GSI has developed Japan's multilingual webmap, the "Japan map in multilingual notation". For this exercise GSI set English, French, Korean, Simplified Chinese, Traditional Chinese, and Romanized Japanese as the targeted languages for multilingualization. These targeted languages cover about 85% of foreign visitors in the point of their understandable languages as of 2019, according to the figure of Japan National Tourism Organization (JNTO).

At the 11th UNCSGN conference, China reported on developing the guideline for the translation rules from Japanese into Chinese. GSI obtained the draft of the guideline from the Toponymy Research Institute of China and used it as a reference.

Vector tile technique is introduced in the webmap. The technique is based on a machine readable tile-format for describing geographic information, therefore an automatic translation function can be implemented in the webmap. Consequently, GSI has developed the multilingual webmap efficiently. A display example of the webmap is shown in Figure 1. GSI experimentally released the "Japan map in multilingual notation" on February 14th, 2020 at the following URL https://www.gsi.go.jp/kokusaikoryu/kokusaikoryu-e31032.html.

This release was done in order to find the issues for improvement of the map for foreign visitors.
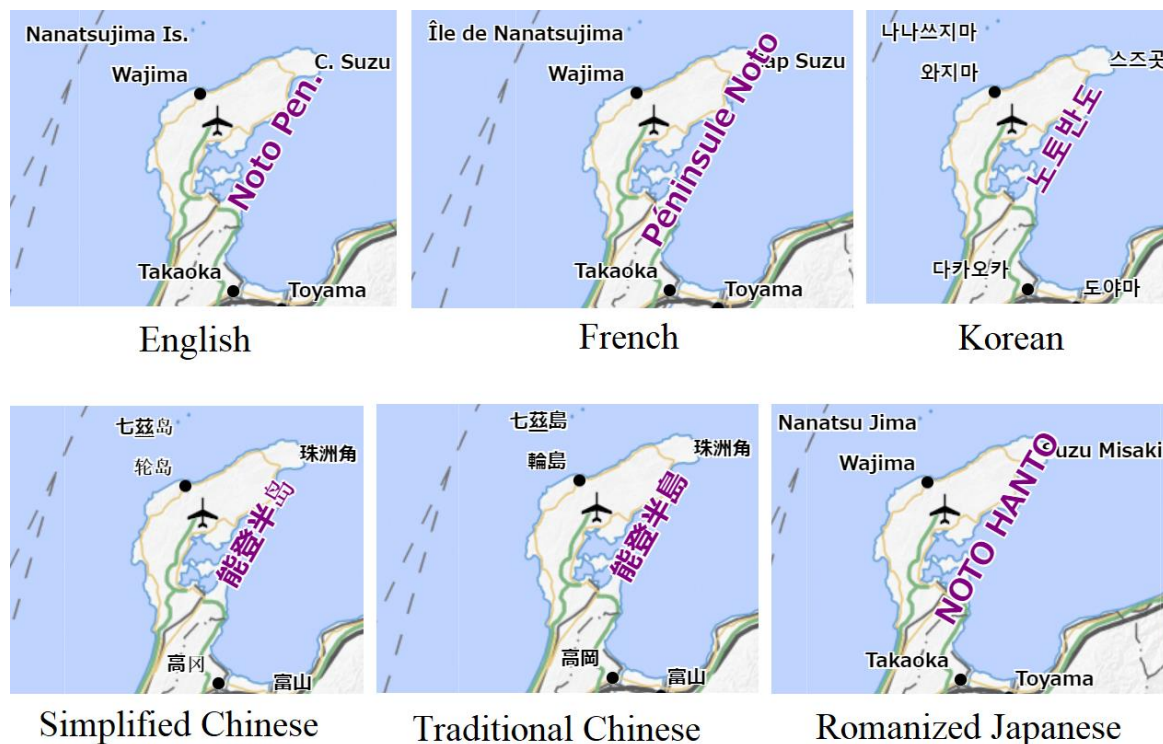

Figure 1: Display example

2.   Notation rules in each language

Notations in languages other than English and partly Romanized Japanese are automatically generated using the following ways:

i.   English: Translated individually according to the "Notation Rules of Geographical Names, etc. in English";

ii.   French: General noun replaced automatically from English notation to French notation;

iii. Korean: Converted automatically according to rules based on Foreign Language Notation System(ii) and Guidelines for Korean Language Notations(iii);

iv.   Simplified Chinese: Converted automatically according to rules based on Guidelines for Chinese Language Notations(iv) and a correspondence table for Japanese Kanji and Simplified Chinese Characters (v);

v.   Traditional Chinese: Converted automatically according to rules based on Guidelines for Chinese Language Notations and Traditional Chinese Correspondence Table(vi);and

vi.   Romanized Japanese: Transportation facilities' names are generated based on simple conversion rules from English. Geographical names of natural features and residential areas are individually transliterated from Japanese.

3.   Map Symbols

Map symbols adopted in the webmap are shown in Figure 2. New map symbols specially developed for foreign visitors mentioned above are used.

Legend	
Symbol	Type
✉	Post Office
🏠	Koban (Police Box)
⛩	Shrine
🏛	Museum
⊞	Hospital
♨	Onsen (Hot Spring etc.)
🚆	Station
✈	Airport
◎	Prefectural Office
◯	Subprefectural Bureau Office
◎	City Hall
◯	Municipality Office
1	National Highway Number
6	Urban Expressway Number
E4	Expressway Number
🏠	Michi-no-Eki (Roadside Rest Area)

Figure 2: Map symbols adopted in the webmap

4.   Functions of the webmap

(1) Displaying information / reading aloud (speech synthesis)

By clicking a map symbol or an annotation on the map, the type and the name, if GSI has acquired, are displayed in a pop-up (Figure 3). In addition, users can listen Japanese pronunciation of the name through the browser's speech synthesis function (Figure 4). Please note this function may not be available on some browsers (Microsoft Edge, Google Chrome, Safari are confirmed to operate).

Type of map symbol and name

Type of map symbol

Figure 4: Switching languages / displaying

Type of annotation and name

Figure 3: Examples of pop-up (in French)

(2) Switching languages / displaying legends

A language on the map can be switched by clicking "Language" button and choosing a language. The link for the legend of each language can be displayed by clicking "i" button next to the respective languages.

5. Terms of use / Notice

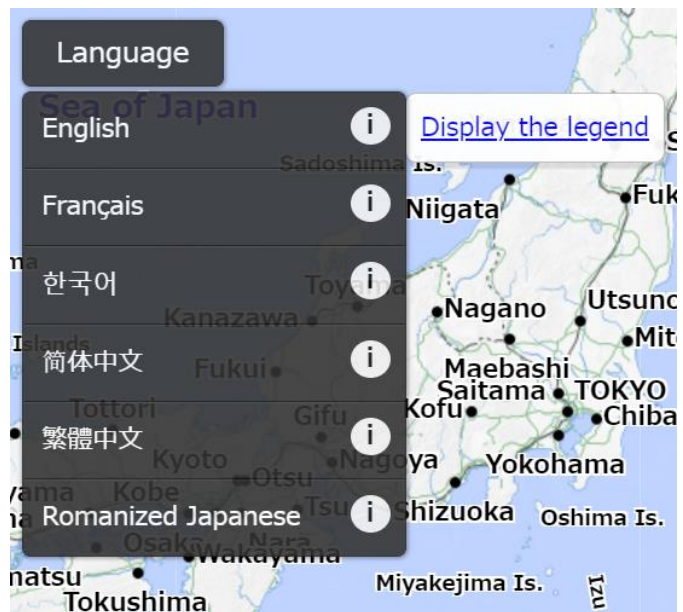To use the webmap and related materials such as the vector tiles, users are required to comply with the "GSI Website Terms of Use(vii)", which says it can be freely used with the source citation. GSI hopes that many people will use the webmap.

Notations other than English and partly Romanized Japanese are automatically generated based on the simple conversion rules as mentioned above. Therefore, please note they may not be accurate.

Points for discussion
The Group of Experts is invited to:
(a) Comment and provide input on similar work being carried out in other countries.
(b) Express its views on multilingual notation on web maps with this kind of automatic conversion.

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i *See the UNGEGN Website https://unstats.un.org/unsd/geoinfo/UNGEGN/docs/29th-gegn-docs/WP/WP22_11_29UNGEGN_REPORT_JAPAN.pdf*

ii *National Institute of Korean Language: Foreign Language Notation System, [https://www.korean.go.kr/front/page/pageView.do?page_ id=P000108&mn_id=97](https://www.korean.go.kr/front/page/pageView.do?page_id=P000108&mn_id=97) (accessed 20 Feb. 2020)*

https://www.korean.go.kr/front/page/pageView.do?page_id=P000129&mn_id=97 (accessed 20 Feb. 2020)

iii *National Geographic Information Institute (2015): Toponymic Guidelines for Map and Other Editors For International Use, Second Edition, http://www.ngii.go.kr/en/contents/contentsView.do?rbsIdx=81. (accessed 20 Feb. 2020)*

iv *Transformation guidelines of geographical names from foreign language into Chinese – Part 10: Japanese (draft version) http://www.std.gov.cn/gb/search/gbDetailed?id=5DDA8BA20DD618DEE05397BE0A0A95A7*

v *Release of "Kanconvit", a mutual conversion tool for simplified Chinese and Japanese kanji, (in Japanese) https://chalow.net/2009-06-14-1.html (accessed 20 Feb. 2020).*

vi *SATO Masahiko (2007): Traditional/Simplified Chinese and Japanese Kanji Correspondence Table, (in Japanese) http://jgrammar.life.coocan.jp/ja/tools/ksimple.htm*

vii *See the GSI Website https://www.gsi.go.jp/ENGLISH/page_e30286.html*