

**Committee of Experts on
Global Geospatial Information Management**

Background document¹
Available in English only

Fourth session
New York, NY
6-8 August 2014

Item 12 of the provisional agenda

**Coordination of United Nations activities
related to geospatial information management**

United Nations Group of Experts on Geographical Names

Background Document Prepared by
UNGEKN

**The Secretariat acknowledges with thanks the substantive contribution of Mr. Ferjan Ormeling,
Vice Chair of UNGEKN & Mr. William Watt, Chair of UNGEKN,
the authors of this background paper**

¹ The designations used and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. The term “country” as used in this publication also refers, as appropriate, to territories and areas.

United Nations Group of Experts on Geographical Names

Prepared by:

Ferjan Ormeling

Vice Chair UNGEGN

William Watt

Chair UNGEGN

1. Introduction

As we have witnessed in the last few years, spatial data is leaving the realm of the experts and is being used in an ever increasing capacity in the general community, even though the users are not necessarily aware that this is what they are using.

As the developers, maintainers and suppliers of much of this data, particularly those data sets seen as fundamental. We have an ever increasing role to play in ensuring that data is available in the formats and structures required.

As spatial data usage is considered, it is important to recognise that the most common spatial identifier used to access any spatial data is the name of a place, particularly when it is remembered that addresses are composed of geographical names.

Geographical names are not just a spatial data set in their own right, but also provide an indexing and linking tool between other spatial data sets and also enable the inclusion of aspatial data for analytical purposes. Geographical names are used extensively when searching for information in web-services (including geoportals), navigating, referencing thematic information to a location (geocoding), and visualising spatial information on maps and screens.

Importantly, Resolution VIII/6 of the Eighth United Nations Conference on the Standardization of Geographical names (UNCSGN) recommends integrating geographical names better into national, regional and international spatial data infrastructures (SDIs). This supports United Nations Global Geospatial Information Management (UN-GGIM) activities as geographical names definitely are pertinent to spatial information management.

The benefits of geographical names usage in relation to spatial data increases in direct proportion to the name(s) being standardized in a specific jurisdiction. By standardized we are referring to the same name, with the same spelling and application, associated with the same generic term being used throughout the community. In everyday life, the same place can be referred to by several geographical names, i.e. that a central element of spatial data shall be a spatial object “named place” that can carry one or more geographical names.

Geographical names - the names of populated places, administrative areas, landscape and hydrographic features, streets and so on – serve a pivotal role, particularly as knowledge is increasingly based on the concept of “place”. They may be given only passing acknowledgement when they are clear, but cause many difficulties when they are inaccurate, ambiguous, too frequently repeated, incomprehensible, misapplied, ill-defined in their application, or just not readily available to all users.

2. Purpose

The importance of standardised geographical names was first recognised by the United Nations in 1959, when a small group of experts were commissioned to examine the regional and general problems associated with the lack of standardization and to draft recommendations that might be followed in the standardizations of geographical names. This resulted in the first United Nations Conference on the Standardization of Geographical Names being held in 1967.

For over 50 years, geographical names experts from a range of countries (from academic and research institutions, public service, military and publishing houses) and disciplines (including cartography, geography, history, linguistics, planning and GIS Specialists) have

been following this mandate as part of the United Nations Group of Experts of Geographical Names (UNGEGN). During this time UNGEGN has clearly identified the issues involved as experts have had the opportunity to discuss the technical, cultural and politically sensitive issues that are associated with a standardization of geographical names for government and public use. It has been adaptive to changing technologies, expectations and priorities and although a structure for the work has been established, it is not a static structure.

UNGEGN has developed manuals about the production of gazetteers and geographical names databases (including toponymic information) in general, and has conducted workshops all over the world showing how these should be structured and integrated into national, regional and international SDIs.

3. Structure

UNGEGN is a bottom-up organization; experts working in the field of names collection, processing and standardization convene at its meetings, and discuss their current concerns, but they also communicate through their geographical or linguistic divisions and in the working groups to which they contribute. As a forum for exchange of toponymic expertise the UNGEGN sessions, held twice between the five-yearly standardization conferences, form an ideal occasion. Many toponymic initiatives, like the EuroGeoNames names service, originated here. With over a hundred working papers being sent in for each session, and some 200 for each conference, the exchange of relevant information has ideal conditions.

The structure that is in use at present is summarised as follows:

Meetings

Since 1967, the United Nations Conferences on Geographical Names have been held on a five yearly cycle, the last been held in 2012 in New York. At these conferences, countries report on their progress, concerns and emerging issues.

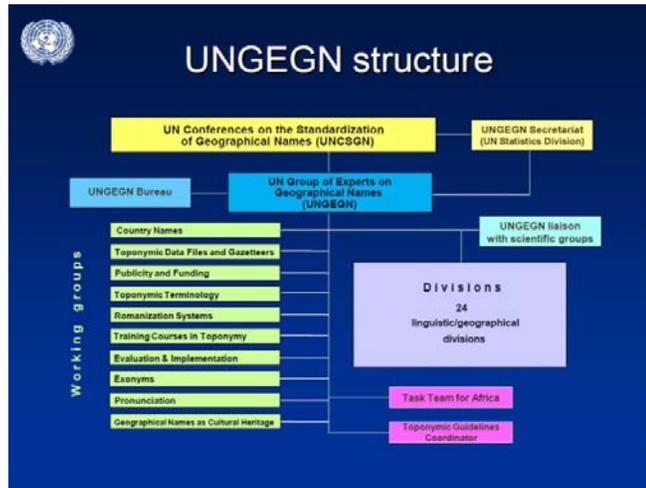
At the conferences, resolutions covering a number of topics are passed to:

- Encourage countries to work towards geographical names standardization.
- Establish targets
- Set directions
- Create precedents
- Define a foundation for possible procedures.

Between each conference, UNGEGN holds two sessions, where the Divisions and Working Groups listed below report on the progress of meeting resolutions, new developments and emerging issues.

From the 10 conferences, 28 sessions of UNGEGN and early meetings in the 1960s, over 3,400 documents have been presented. A large proportion of these documents can now be downloaded as pdf files from the UNGEGN website <http://unstats.un.org/unsd/geoinfo/UNGEGN/default.html>.

Over 200 resolutions that have been drafted by the Standardization conferences and have been accepted by ECOSOC form a body of best practice on geographical names and are accessible from the UNGEGN website, through an online data base. <http://www.land.go.kr/portal/ungn/mainEn.do>. This continues to expand with each Conference.



4. Divisions

Twenty four geographic or linguistic divisions exist at present, the purpose of which is to bring a regional or language focus to the issues identified. This enables countries with similar situations to share experiences and solutions to common issues that are appropriate for the unique culture and circumstances found within the divisions.

The current divisions are listed below:

- | | |
|--|---|
| Africa Central Division | East Central and South East Europe Division |
| Africa East Division | Easter Europe, Northern and central Asia Division |
| Africa South Division | Easter Mediterranean Division (other than Arabic) |
| Africa West Division | French-Speaking Division |
| Arabic Division | India Division |
| Asia East Division (other than China) | Latin America Division |
| Asia South-East Division | Norden Division |
| Asia South-West Division (other than Arabic) | Pacific South-West Division |
| Baltic Division | Portuguese-speaking Division |
| Celtic Division | Romano-Hellenic Division |
| China Division | United Kingdom Division |
| Dutch- and German-Speaking Division | USA/Canada Division |



Divisions hold meetings, often in conjunction with UNGEGN sessions and conferences or other meetings.

The UNGEGN divisions. Note: As some countries are members of two or more divisions, not all of these memberships could be represented.

5. Working Groups

Working Groups have been formed to create a forum to bring expertise and focus to specific issues. Working Groups aimed at specific themes that are no longer a current issue can be disbanded and new ones formed as other issues emerge.

Like the divisions, the working groups can meet and/or use web based forums, emails etc. to discuss the issues at hand.

The current Working Groups are listed below:

Working Group on Country Names	Working Group on Training Courses in Toponymy
Working Group on Toponymic Data Files and Gazetteers	Working Group on Evaluation and Implementation
Working Group on Toponymic Terminology	Working Group on Exonyms
Working Group on Publicity and Funding	Working Group on Pronunciation
Working Group on Romanization Systems	Working Group on Geographical Names as Cultural Heritage

Two other groups have been formed to provide direction on particular issues, being:

Task Team for Africa	Toponymic Guidelines for Map and Other Editors for International Use
----------------------	--

6. Publications

To assist in this work, UNGEGN has produced a number of publications, aimed at both promoting the need for standardization and providing guidance to countries who wish to establish programs. The available publications are listed below:

- *Glossary of Terms for the Standardization of Geographical Names (Revised)*
- *Geographical Names as Vital Keys for Accessing Information in Our Globalized and Digital World*
- *Manual for the National Standardization of Geographical Names*
- *Technical Reference Manual for the Standardization of Geographical Names*
- *UNGEGN Brochure*
- *Media Kit 1- Aims of the Kit*
- *Media Kit 2- Geonames - social and cultural values*
- *Media Kit 3- Geonames - changing world*
- *Media Kit 4- Geonames - databases*
- *Media Kit 5- What is UNGEGN*
- *Media Kit 6- How does UNGEGN work*
- *Media Kit 7- Resolutions*
- *Media Kit 8- Why do we need standardization*
- *Media Kit 9- Where to find out more*
- *Media Kit 10- Other organizations involved*
- *Media Kit 11- Frequently asked questions*
- *Media Kit 12- Quotable quotes*

Together with the Task Team for Africa, the Working Group on Training Courses in Toponymy has organized 10 toponymy courses in Africa. It has developed, in conjunction with the International Cartographic Association (ICA), an English language toponymy web course, while the French-speaking UNGEGN division is developing a French language toponymy web course, and the cartography section of the Pan-American Institute of Geography and History (PAIGH) is developing a Spanish-language web course. All will extend the accessibility to toponymic training tools and information to a wider audience, beyond those who are able to participate in person.

7. The Need for Standardization

We need geographical names to refer to our environment and for geospatial communication in general. Maps without names won't work, just as geospatial information in general is impractical without names, the number of people able to directly understand coordinate systems or grid references is restricted. When we want to relate databases to each other names are more universally understood than any area codes that might be used.



Maps without names won't work

But even if names are added we still might need additional processing for more general understanding

Geographical names that are in everyday use by the local population have to be collected. When everyone agrees on the way these names should be spelled and applied, they can be standardized and represented in gazetteers/data bases for public access and use. UNGEGN has developed manuals about the collection of names, their authorization, the production of gazetteers and geographical names files in general, and has conducted workshops all over the world, indicating methodologies, structures and standards for these processes.

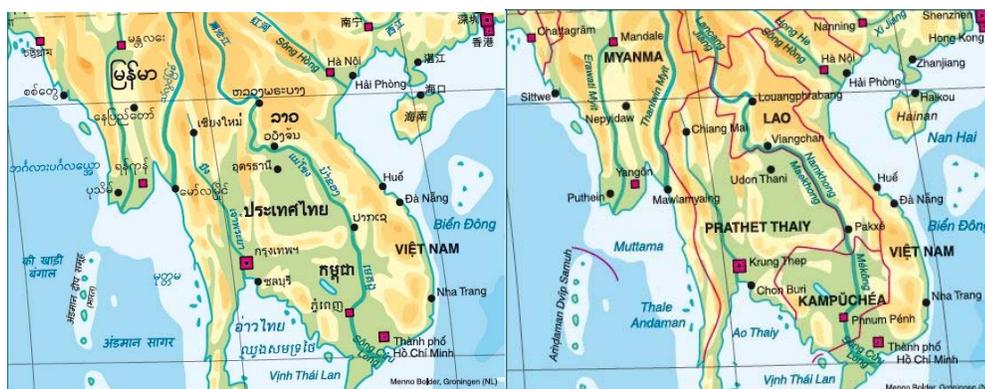
It is not only the correct spelling of the geographical name which is at stake, of course the location of the named object should be spatially referenced, as well as its extent if it refers to an area. The meaning of the name or the narrative related to it can be registered with its pronunciation. The *UNGEKN Working Group (WG) on Pronunciation* is elaborating best practices for registering audio files. Additional information about the named object that might be added is the height above sea level, the number of inhabitants, or its administrative status. Additional information about the name may be, its language, gender (is it le Seine or la Seine?), number (is it plural or singular), or definiteness (is it a river or the river?). All this information should be accommodated in a geographical names dataset that can relate to more comprehensive spatial information communication models.

UNGEKN has promoted for almost 50 years the establishing of national infrastructures dealing especially with geographical names. It is the role of these geographical names bureaus to be the national body responsible for standardizing the spelling of geographical names and making these standardized names available to the general public. Such names bureaus can be independent bodies, or reside under the national academy of sciences, or be a section of the national mapping and cadastral services. As is the case with the experts participating in UNGEGN, the staff of such bureaus consists of cartographers, linguists, geographers, onomasticians. For their use, UNGEGN has developed manuals and glossaries that can be downloaded from the UNGEGN website (<http://unstats.un.org/unsd/geoinfo/UNGEKN/>). Together with these national names bureaus, UNGEGN has developed *toponymic guidelines* (particularly for the benefit of map

and other editors), describing the linguistic characteristics of each country's geographical names, to be taken in account when rendering them on maps. In Dutch, for instance, the letters forming the ij sound (a ligature formed by a combination of i and j) should both be capitalized when at the beginning of a name: IJsselmeer, not Ijsselmeer.

8. International Geospatial Communication

Even if geographical names have been collected and are added to the map, this will not always guarantee that geospatial communication is feasible, the names should also be in a writing system understandable to users. This is where the concept of Romanization comes in. UNGEGN has been very active in deciding on the best, scientifically-based conversion systems between writing systems, focusing primarily on the conversion of other writing systems into the Roman alphabet, but also creating infrastructures for conversion of other writing systems amongst themselves. The UNGEGN ideal here is univocity - to have only one standardized spelling form of each geographical name in each writing system. The UNGEGN *Working Group on Romanization Systems*, next to the *WG on Data Files and Gazetteers*, is easily the most important one among its Working Groups. It is working with national linguistic authorities to establish the best conversion systems preferably through transliteration (which is a character by character conversion, but that works only when both writing systems have alphabets), and publishes these as the UN-endorsed conversion systems. Its website <http://www.eki.ee/wgrs/> shows all the UN-endorsed conversion systems, currently for 30 languages. Work is still ongoing to develop and endorse single systems for Armenian, Burmese, Dzongkha, Georgian, Japanese, Kazakh, Kirghiz, Korean, Lao, Maldivian, Mongolian, Pashto, Sinhalese, Tajik and Tigrinya.



Conversion of other writing systems into the Roman alphabet. For Burmese no UN-recommended conversion system exists as yet.

For a specific conversion system to be recommended by the UN it has to answer specific technical requirements but it also has to be implemented by the countries using the particular writing system. If they propose a specific system but in practice do not use it in their international communication (on airports, maps for tourists, in Wikipedia, etc) UN endorsement can be withheld.

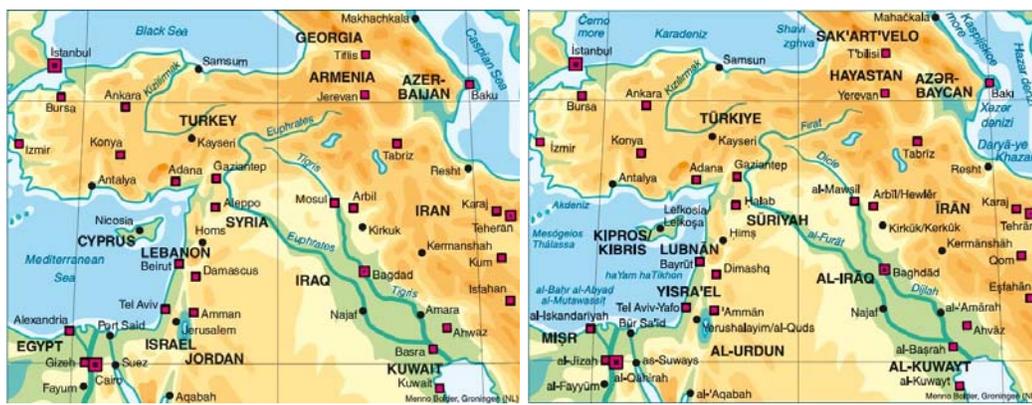
9. Updating Names Data Files

The 10th UNCSGN was held in New York in 2012, and it has been realised by now that names standardization is an ongoing concern. Techniques for the exchange of geospatial

information will change, but the need to standardise toponyms for global use remains, in view of an ever changing namescape, ongoing names conflicts, and changing circumstances for names collection.

Through its *Working Group on Data Files and Gazetteers*, UNGEGN is monitoring best practices for establishing geographical names databases. There is a trend to focus on the establishment of multi-functional or multi-usable geographical names databases (including toponymic information), services and applications, to provide geographical names data for different purposes – e.g. for linking census or statistical data to geographical names, for map production or for the support of specific services like addresses. Here geocoding and reverse geocoding are needed in order to convert addresses into coordinates and vice versa. Geographical names databases are designed as unique (national) sources and are linked (by unique identifiers) to a country’s basic geographic objects. Web GIS and web services technologies for the geographical names data provision/dissemination are used, supporting the vision of a (national or regional) Spatial Data Infrastructure (SDI). This trend recognizes Res VIII/6 of the 8th UNCSGN, which recommends integrating geographical names better into national, regional and international SDIs. Furthermore this supports UNGGIM activities, as geographical names definitely are pertinent to geospatial information management.

The utilization of Volunteered Geographic Information (VGI) and crowd-sourced data are becoming more and more important. In Europe for instance, the former practice of topographers surveying the countryside in order to update the map, checking whether the geographical names on the current maps are still in use, has largely been replaced by the monitoring of imagery collected from space. At the same time, because of urbanization and changing mobility patterns, traditional names in the countryside might not be used anymore, as they have been superseded by the names of new landmarks. Mapping agencies therefore come to depend on volunteered geographical information. In various countries apps and techniques are being experimented with in order to collect the geographical names that members of the general public now use in order to relate to their environment. The *Working Group on Toponymic Data Files and Gazetteers* is currently addressing the practical issues of national names authorities handling large volumes of unverified names data.



Maintenance of names databases: traditional or conventional names as used in English at left and official current names at right.

An example of the necessary maintenance of names data bases is provided by the UNGEGN *Working Group on Country Names*. Since the 2007 we have seen changes in the official names of at least a dozen countries; Belarus, Bolivia (now Plurinational State of Bolivia), Comoros (national Official name is now Juzur al Qamar or formally Jumhuriyyat al

Qamar al Muttahidah), Eritrea, Fiji, Georgia, Myanmar (now Union of Myanmar or formally Republic of the Union of Myanmar). For geographical names in Arabic a change has been made in the romanization, changing the word ending “-iyah” to “-iyyah”, affecting names in the following countries: Algeria, Chad, Comoros, Djibouti, Egypt, Iraq, Jordan, Lebanon, Libya and Tunisia.

In order to increase geospatial communication UNGEGN has also addressed the issue of exonyms, that is variant names with spellings differing from the official local names, used outside the country where the named object is located. *Londres* is a French exonym for *London*, and *Warsaw* an English exonym for *Warszawa*. It has been UNGEGN policy to try, in an international context, to decrease the use of exonyms in favour of the use of endonyms, that is official local names. The UNGEGN *Working Group on Exonyms* aims to define situations in which the use of exonyms could be considered acceptable.

Geographical Names as Cultural Heritage

By their very nature, many geographical names inform us about their relationship with the land of the early settlers who gave the names. In the names they described characteristics and events, they commemorated persons or referred to previous locations. Sometimes, the original meanings of the names have become opaque, or they have been translated into other languages. In South Africa for example, the early San names only exist in their Afrikaans translations, like in Olifants River or Great Fish River. With mechanization and an increase in scale of agriculture, agrarian population densities are rapidly decreasing. One of the results of this is the original namescapes are disappearing; names of parcels and fields, microtoponymy that described the original farmlands and the results of former agrarian practices are in danger of being obliterated. This aspect of our cultural heritage in some countries is now being safeguarded by surveys of old cadastral maps (on modern cadastral maps these names would have been replaced by lot numbers) and interviews with retired farmers.

Similar threats of disappearance of names occur in areas where the original population has been replaced by new colonists who brought their own names with them, or changed the aboriginal names beyond recognition. Here as well, concerted actions by staff of geographical names bureaus, anthropologists and linguists strive to safeguard these names. In still other situations, UNGEGN is called upon to safeguard the original names in newly occupied areas. In 1992 ECOSOC accepted the Fourth UN Conference resolution IV-9 which states that “The conference, recognizing the cultural and historical significance of geographical names, aware of the sensitivity to deliberate changing of geographical names, which could lead to the loss of cultural and historical heritage, discourages the unauthorized changing of geographical names that have already been established by a legally constituted entity and are nationally recognized.”

The UNGEGN follows up on UN Conference resolutions, so in this case, the *Working Group on Geographical Names as Cultural Heritage* develops policies for safeguarding geographical names under threat of disappearance.

10. Results

The results of the work UNGEGN has undertaken can be summarised as follows:

1. Eighty one countries have established geographical naming authorities to deal with the issues of the standardization of geographical names within the borders of the country and how the country wishes. Within these countries it is these authorities that should be the first source of geographical names data, as this will provide authoritative data for the geographical names that have become the standard.

A further 19 countries have indicated that they are in the process of or interested in establishing geographical names authorities. For those nations who have not indicated this is the case, efforts are underway to encourage the creation of responsible authorities.

2. Over 50 years of involvement has resulted UNGEGN developing considerable expertise, knowledge and awareness of the many issues associated with this part of the fundamental spatial data framework. Solutions have been found in relation to such issues as:
 - a. Romanisation of non-roman scripts
 - b. Structure of toponymic data files
 - c. Training of national bodies
 - d. Cultural matters

Directions have been set in many other of the currently identified issues.

11. Conclusion

As an organization dedicated to a single issue, standardization of geographical names, UNGEGN has developed expertise and authority in order to deal with all issues related to toponymic standardization. Within the UN it expects to take part in and contribute to all discussions about standardization issues, and therefore in all discussions about the exchange of geospatial information, either for military, disaster mitigating or cultural objectives.

Again, it is stressed that geographical names are a fundamental spatial data set. They constitute the most commonly used spatial identifier to enable both the general community and spatial data experts to interface with spatial data and also provides a key indexing and linking tool between spatial data sets and to enable the incorporation of aspatial data.

It is also stressed that the benefits to spatial data are in direct proportion to the degree of geographical names standardization evident within a country.

There is an opportunity at present as UNGGIM develops its spatial data strategies for UNGEGN and UNGGIM to work in a synergistic manner.

UNGGIM can assist to encourage nations to develop effective geographical name standardization programs as an important part of spatial data strategy.

UNEGN can contribute to the general strategy the proven directions and solutions relevant to the geographical names portion of the spatial data framework.