United Nations Group of Experts on Geographical Names (UNGEGN)

East Central and South-East Europe Division (ECSEED)

The Nineteenth Session of the
East Central and South-East Europe Division
of the UNGEGN
Zagreb, Croatia, 19 – 21 November 2008
Item 3 of the agenda

Document Symbol: ECSEED/Session.19/2008/5

Croatian Geographical Names Database

Submitted by Željko Hećimović and Slavko Lemajić*

---

* Prepared by Željko Hećimović and Slavko Lemajić, Croatian Geodetic Institute, Croatia.

Croatian Geographical Names Database

1. Introduction

State Geodetic Administration (SGA) launched a program to establish the national spatial data infrastructure (NSDI) of the Republic of Croatia. The database of the geographical names is an important element of NSDI. The recommendation of the UN Conference on the Standardization of the Geographical Names (2002) is to consider geographical names data in the establishment of national and regional spatial data infrastructures. Geographical names database is important for producing maps and development of basic geographical data services.
The Norwegian Government supported development of the Croatian Geographical Names Database (CGND). The agreement on realization of Croatian Norwegian Geoinformation Project (CRONO GIP) between the State Geodetic Administration (SGA), Croatian Geodetic Institute (CGI) and Norwegian Mapping and Cadastre Authority (NMCA) was signed on the March 8th 2006. The project is divided in several phases: specification of the database, development of the database, establishing procedures for uploading of data, initial loading of the data, development of user applications for external users and applications for the distribution of data (web services).

The objective of the Croatian Geographical Names Database (CGND) is to encompass all Croatian geographical names in official use, but also the names that are not necessarily official. The database contains the attributes related to each name, which should fulfill the requirements of a modern society in terms of distributing the names to all relevant use and users via Internet.
In Croatia there are the main minorities of Serbian and Italian nationalities. CGND is supporting minority languages and scripts used in multilingual areas.

2. CGND geographic feature types

Classification of geographical feature is one of the marlstones in the development of geographic names database. The State Geodetic Administration is responsible for map production in official scales on the land and Hydrographic Institute of the Republic of Croatia (HHI) is responsible for the maps of the Adriatic Sea. Both map productions have to follow the existing classification of geographical features. SGA users Croatian Topographic Information System (CROTIS), and HHI uses international hydrographic geographical feature catalog (S-57/119). Both feature catalogs are compiled in CGND geographical names feature catalog.
The CGND feature type catalog has the main level, object groups, object type and object subtypes. Object groups are divided in: geographical regions, settlements, islands peninsulas and cliffs, political regions, topographic features, land waters and sea waters. They are divided further into type and subtype levels.

3. Geographical names data models

The purpose of geographical names data models is to connect geographical name and its attributes with spatially related features. For the realization of the geographical names data models ISO TC211 and, OGC standards are used. UNICODE Standard is used for character encoding. Data model is given in Unified Modeling Language (UML). CGND is developed in Oracle DBMS.

4. Initial loading of geographical names database

In Croatia there are more official registers of geographical names. Geographical names from some of them are loaded into the CGND. Geographical names are loaded from official registers:

- Register of Spatial Units,
- Topographic database with toponyms,
- Geographical names database based on map 1:300000,
- Catalogue of lighthouses.

Checking of initially loaded geographical names is in progress.

5. CGND Gazetteer

Gazetteers are systematic lists of geographical names in a specific country, with their locations and indication of nature. CGND is containing much more attributes about names than gazetteer. CGND gazetteer is the extraction of the data from geographical names database. It contains:

- Nr. of the name,
- ID of the name,
- Geographical name,
- Administrative area,
- Coordinates of the name (E, N),
- Object groups,
- Object type,
- Object subtypes,
- CGND code,
- CROTIS code.

On the figure 1 is shown the first few records of the CGND Gazetteer are shown.

Redni broj	ID	Geografsko ime	Administrativno područje	E	N	Objektna grupa	Objektna vrsta	Objektna podvrsta	CGND kod	CROTIS kod
1	11849	Abanići	DONJI ANDRIJEVCI	641806.40	5003966.92	Geografske cjeline	Rudina		110103	110103
2	34031	Abdovnici	JAKŠIĆ	599788.81	5027178.20	Geografske cjeline	Rudina		110103	110103
3	18256	Abesinija	RUGVICA	473006.40	5069726.37	Geografske cjeline	Rudina		110103	110103
4	11558	Abikoše	NOVA KAPELA	587730.69	5008923.27	Geografske cjeline	Rudina		110103	110103
5	12596	Abrahamov breg	VINICA	471719.24	5131627.67	Reljefni oblici	Planina, gorje, prigorje	gorje	120102	120102
6	22557	Abrami	BUZET	298889.16	5035312.17	Naselja	Gradsko naselje	gradsko naselje	150100	150102
7	33181	Acansko brdo	PAKRAC	566999.97	5039748.43	Reljefni oblici	Vrh, stijena	vrh	120301	120301
8	10318	Ačimovići	GVOZD	457350.46	5030883.45	Naselja	Gradsko naselje	gradsko naselje	150100	150102
9	29222	Ačaš	TRPINJA	686004.69	5040717.49	Geografske cjeline	Rudina		110103	110103
10	40136	Ada	ŠODOLOVCI	669965.97	5031379.51	Naselja	Naselje		150000	
11	14846	Ada	ZDENCI	612400.57	5052650.73	Geografske cjeline	Rudina		110103	110103
12	13677	Ada	SOPJE	593295.31	5075713.35	Geografske cjeline	Rudina		110103	110103
13	29022	Ada	TRPINJA	687944.24	5038008.51	Geografske cjeline	Rudina		110103	110103
14	40137	Adamovec	GRAD ZAGREB	474018.13	5084806.20	Naselja	Naselje		150000	
15	24918	Adamovići	DVOR	490543.00	5001154.82	Naselja	Gradsko naselje	gradsko naselje	150100	150102
16	11115	Adamovići	PETRINJA	486727.91	5022290.12	Naselja	Gradsko naselje	gradsko naselje	150100	150102
17	30104	Adanići	LOBOR	466234.88	5110032.87	Naselja	Gradsko naselje	gradsko naselje	150100	150102
18	34411	Ade	POŽEGA	590891.12	5022161.25	Geografske cjeline	Rudina		110103	110103
19	14057	Adica	SOPJE	597860.35	5073308.60	Geografske cjeline	Rudina		110103	110103
20	29247	Adica	VUKOVAR	693787.79	5026737.91	Geografske cjeline	Rudina		110103	110103
21	12914	Adica	GRADINA	581989.15	5082469.64	Geografske cjeline	Rudina		110103	110103
22	34421	Adino br.	POŽEGA	594616.51	5021801.48	Reljefni oblici	Dolina, klisura, kosa, prijevoj	prijevoj	120201	120201
23	14471	Adlerovo klenje	ZDENCI	613893.59	5057372.78	Geografske cjeline	Rudina		110103	110103
24	14220	Adolfovac	ČAĐAVICA	607265.16	5064871.32	Geografske cjeline	Rudina		110103	110103
25	11805	Adrovka	VRPOLJE	645902.15	5012031.86	Geografske cjeline	Rudina		110103	110103
26	11689	Adžamovci	REŠETARI	575341.66	5012421.46	Naselja	Seosko naselje	seosko naselje	150200	150101

Fig. 1: CGND Gazetteer (part of).

On the figures 2 and 3 are shown outputs from CGND.

Fig. 2: Output from the CGND.

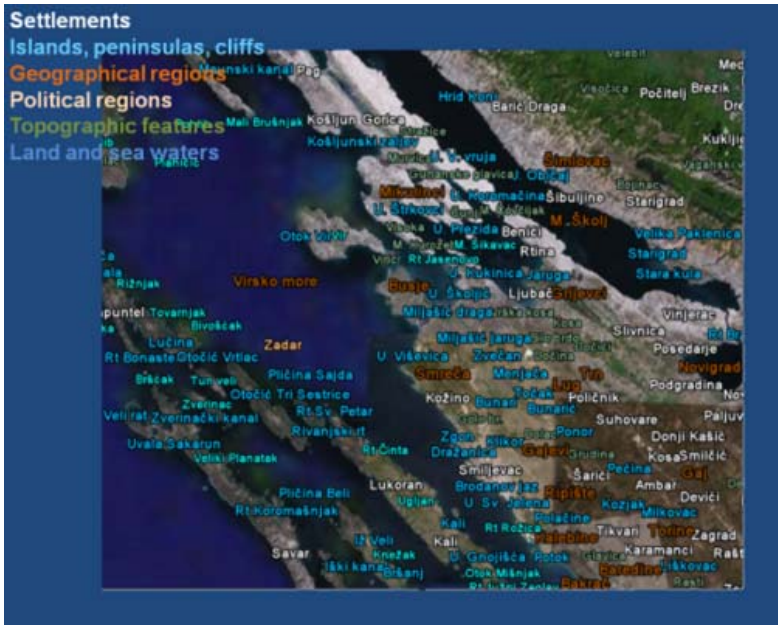

Fig. 3: Output from the CGND.

6. Future CGND development

The first solution of the CGND user interfaces will allow users simple search for the CGND names after the names and features. It will be developed like examples in other countries; e.g. Norway (http://www.norgeibilder.no/), U.S. Board on Geographic Names (http://geonames.usgs.gov/), Geographical Names of Canada (http://geonames.nrcan.gc.ca). CGND will be the part of national space data infrastructure.