2009

Geographical names: what do they mean to us? Are they important for national geospatial infrastructures and for cultural heritage?

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Aims today

- What do we mean by “geographical names”, “toponyms”, “standardization”?
  - What is it? Who does it? Why do it?
- What are some of the benefits of names standardization?
  - For spatial data infrastructure
  - For other reasons
- What about Africa?

Referring to places and features

- By latitude and longitude
  - or other world rectangular grid (military/ civilian)
- By description
  - 18 km SW of Nairobi
  - administrative capital of particular region
  - at crossing point of two roads
  - as particular activity centre - market town
- By number …. e.g. Lake 1, Lake 2, etc.
- By name !
  - in combination with locational information

Implications

- People use names in everyday discussion
- Names are used in books, atlases, school texts, maps, road signs, timetables, media ...
  - paper , digital, on physical objects
- People search for other information and link information often through names ...
  - indexes, gazetteers, on Google, Google Earth
    - paper, on-line, through databases

So ....

- Logical and most useful if:
  - Spellings are clear, consistent, unambiguous
  - A name is clearly ‘tied’ to a location
  - Difficulties with what names are correct are sorted out
  - These names are recorded, stored and are easily available to governments and the public
  - Everybody can use the same set of names to communicate

“Geographical name”

- UNGEGN Glossary (2002):
  - *name, geographical*

    “name applied to a feature on Earth“

    (usually in English = “toponym”, although this can include names on other planets)

    (place name = toponym

    or = name of populated place)

What types of places/features?

- Populated places / administrative areas / geographical features
- Land / water
- Offshore features – water / underwater?
- Names within urban areas?
  - streets; buildings; parks?
- Changing or temporary features?
  - winds; open water areas in sea ice; dunes?

“Standardization”

- UNGEGN Glossary:
  - *standardization, geographical names*

    “The prescription by a names authority of one or more particular names, together with their precise written form, for application to a specific geographical feature, as well as the conditions for their use.”
- Authority
  - apply some official status to names – written form
  - how name is applied
  - how used
  - romanization (?)

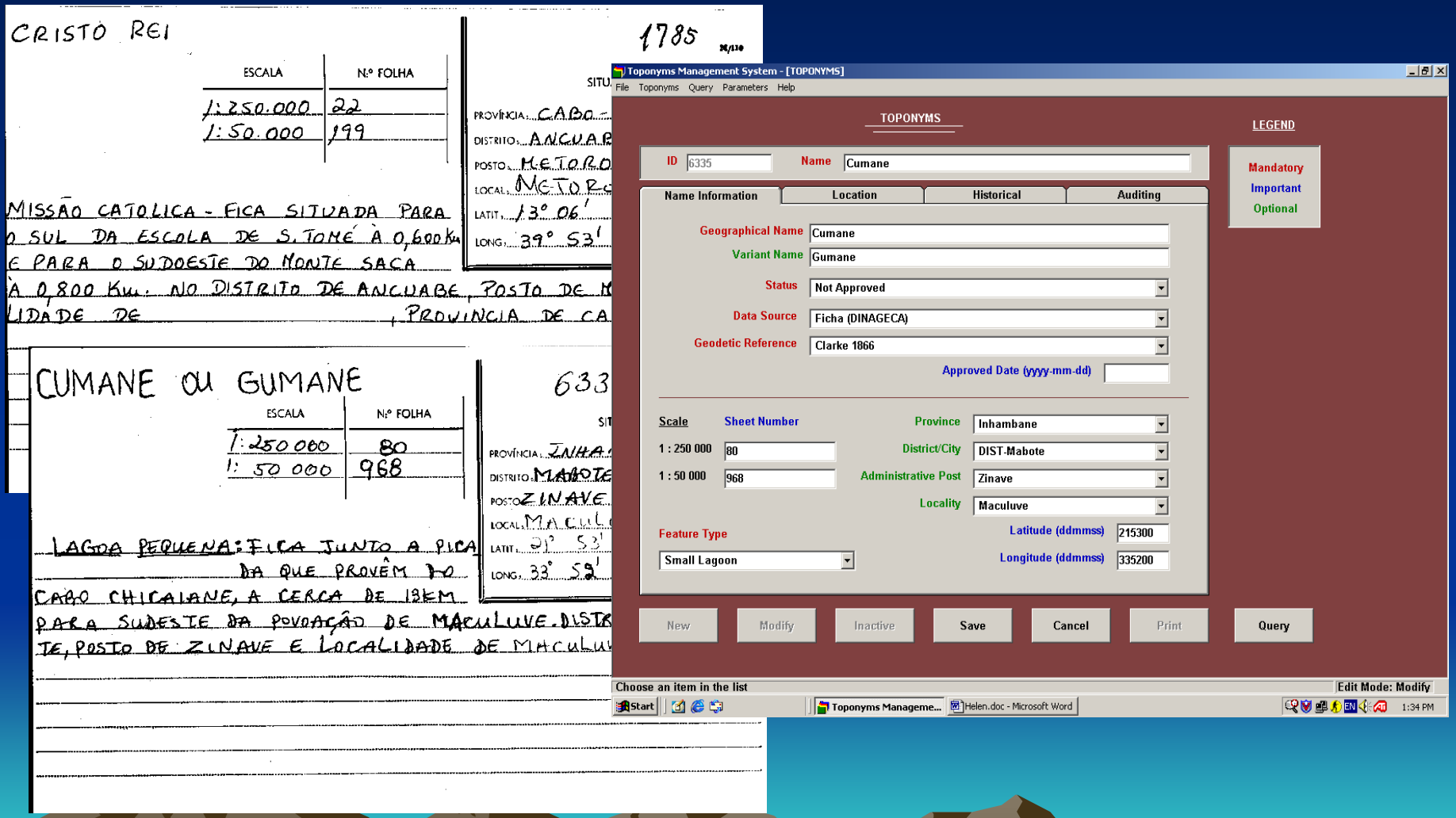
Names and our expectations

- Communication
  - Verbal and written in our own language
- Technical reference
  - Clear use on maps, timetables, etc.
- Preservation
  - Aspect of our history and culture

    - accurate / current (authoritative / reliable)
    - systems of names for a region or country


Kyev Kiev Kyiv Kyyev
Sidney Sydney
Helsinki
New Zealand Aotearoa
?
Mumbai Bombay
Montréal Montreal
Αθήνα Athens
Athenai Athína
Helsingfors
Cape Town Le Cap
Kaapstad Kapstadt
Uluru / Ayers Rock
Ekapa Kapkaupunki
eKapa

Mozambique – cards to database



Geographical names database

- Name records must be geo-referenced and will contain a variety of attributes

  - unique identifier for name and/or feature

- Aim to collect the information once for national use – avoiding overlap
- Develop to international standards

Data fields (elements)

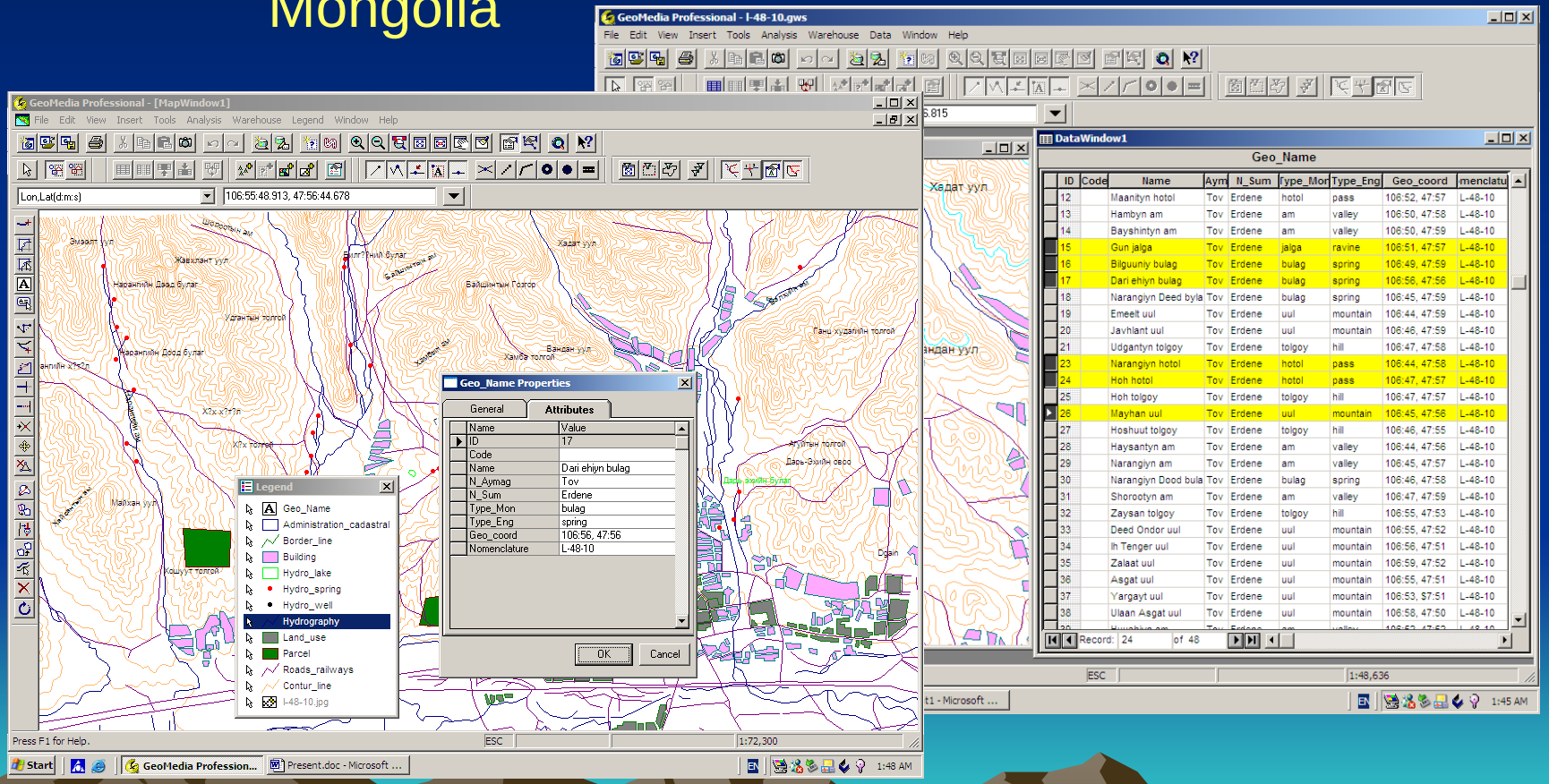
- Toponym
- Variants
- Feature type
- Administrative unit
  - 1st and 2nd levels
- Geographical coordinates
  - What to record?
    - latitude and longitude
  - How to select coordinates?
- Location narrative
- Map sheet references
- Status of name
- Date of approval of name
- Data source
- Other fields?
  - geodetic reference
  - language

Mozambique – feature types

- Scheme created when card records put into a database (Sistema de Gerência de Topônimos Moçambique)
  - e.g. provincia, distrito, posto, localidade, distrito urbano, vila, sede, cidade, povoação, bairro ...
  - e.g. escola, alfândega, apeadeiro, casa, farol, régulo, posto sanitario, monumento ...
  - e.g. rio, lagoa, lagoa pequena, baixa, ponta, dunas, salina, banco rochoso, savana, praia, garganta ...
  - e.g. floresta, plantacão, reserva, acampamento ...

Distribution of authorized names …database, map, gazetteer

Mongolia



Canadian Geographical Names Data Base

- Some 500,000 records for places and features across Canada – recognized by the Board
- Data supplied primarily by provinces/territories for this central database, available on the web

- Digital database from card files in the 1980s (before digital mapping)
- The source of toponyms for federal maps and charts (paper and digital)

Canada – toponymy for 1:50,000 maps

- At present text preparation and placement takes 70% of carto work for map
- Use extraction of Canadian Geographical Names Database (CGNDB), and hard copy of map sheet + other documents
- Locate each named feature on map and delineate; research if necessary

- Features crossing map edge are ‘tied’; finished map sheet scanned and georeferenced for Raster Amendment Map
- Used for digital compilation; in GIS named features matched to vector form and tagged to CGNDB key
- Map Generator identifies font, point size, layout, text placement (50-80% success – so edit check)

National spatial data infrastructures

- SDI, NSDI, GSDI
- Growth in use of geo-referenced data for GIS and as a tool to support other activities
  - Use of geo-information in industry, transportation, banking, communication ...
  - Climate change, natural disasters, natural resource management, sustainable development – common issues requiring regional / global handling
    - Isolated “islands of geo-information” must be integrated into a geo-information archipelago where data sharing, data exchange and interoperability can be easily implemented (SEASC 09)

Canadian example

- http://www.geoconnections.org/en/aboutcgdi.html
- CGDI … “Geobase” … federal, provincial and territorial commitment
  - Elevation data
  - Geodetic control network
  - Geographical names
    - (‘current’ subset of CGNDB)
  - Administrative boundaries
  - National road network
  - Satellite imagery
  - National hydrographic network

Quality

No cost

Can redistribute

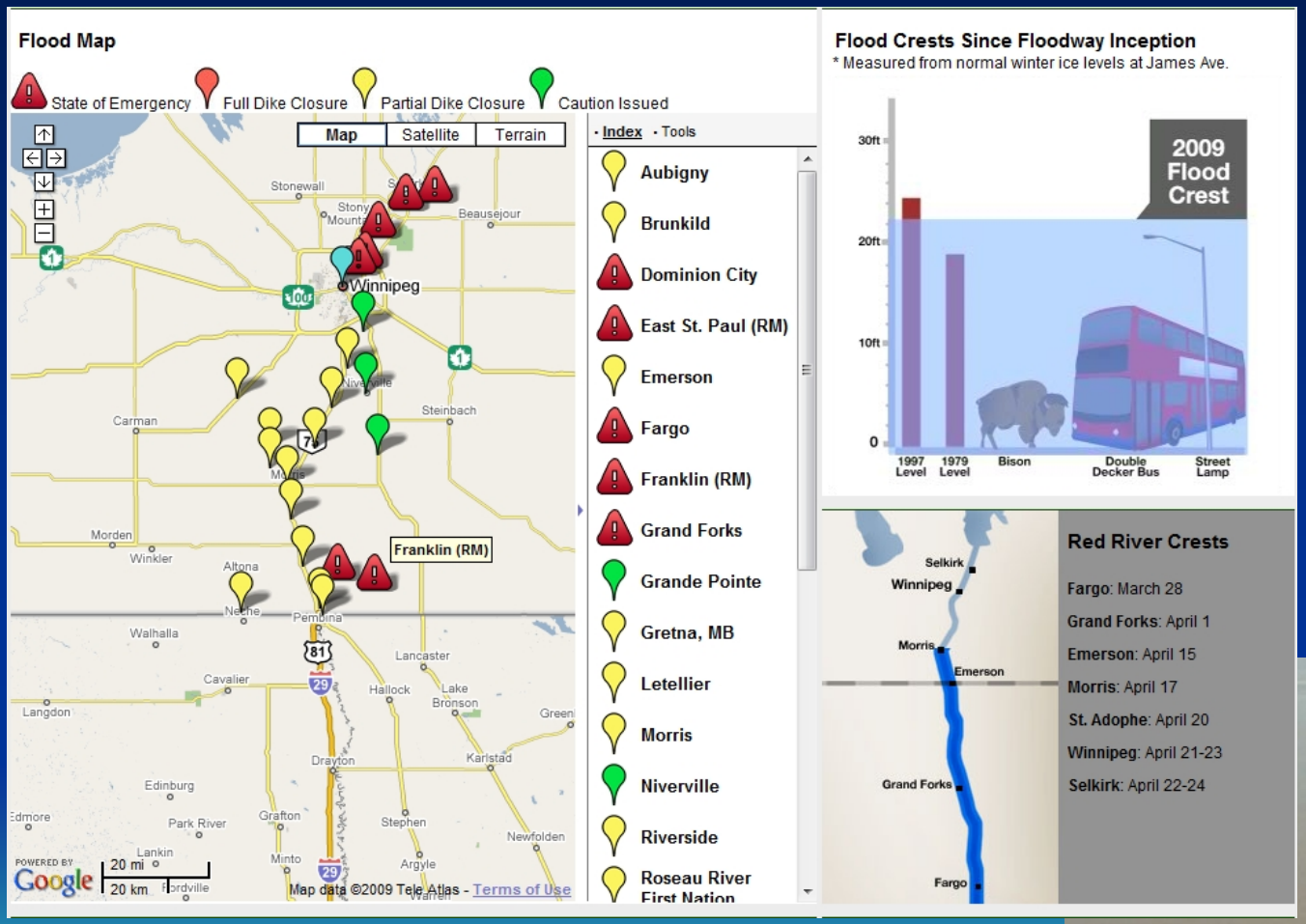
Authoritative sources

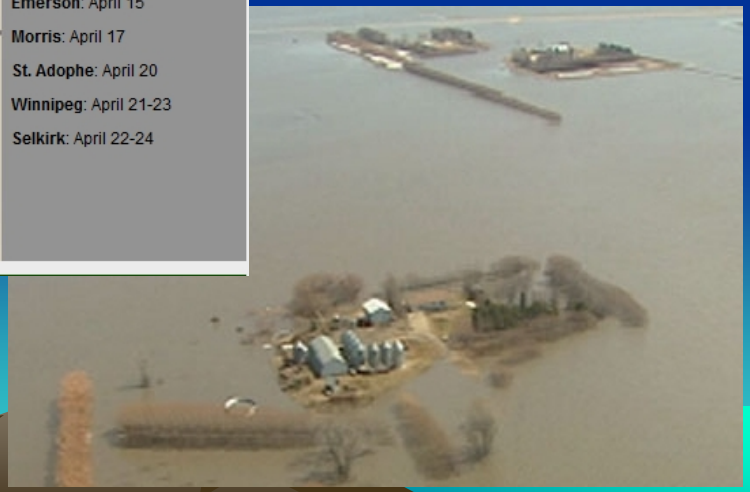
Standards for content and format

Canada - examples

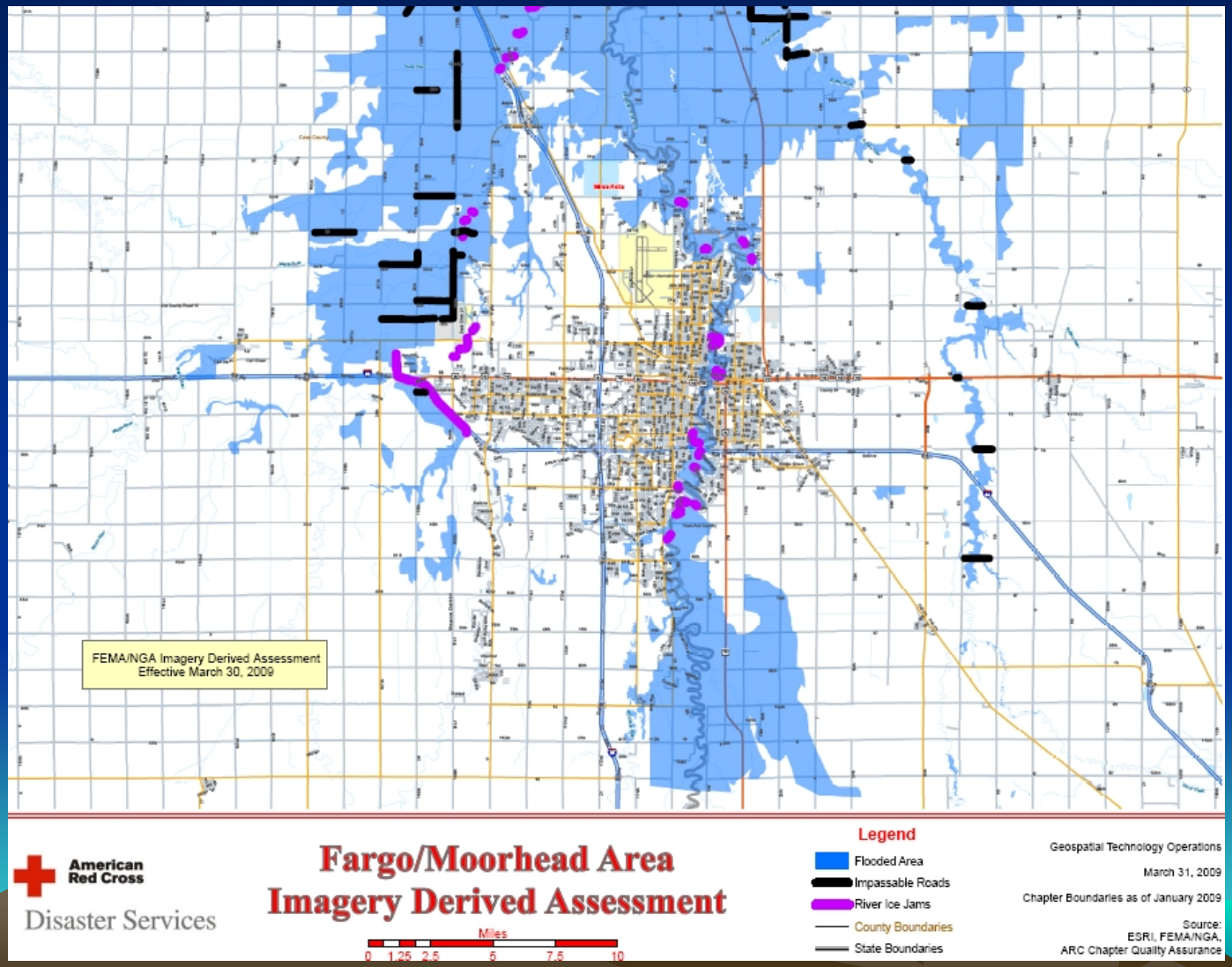
- Layers of data integrated for purposes of research and enhanced planning
  - e.g. in health, environment issues, services, aboriginal communities ....
    - PEI ... toponyms and road network .. for winter snow removal and sanding operations
    - Nine Cree nations of Quebec for competing land use, cabins/traplines vs. snowmobile trails, tourism/outfitters camps and permits

Example – Red River floods



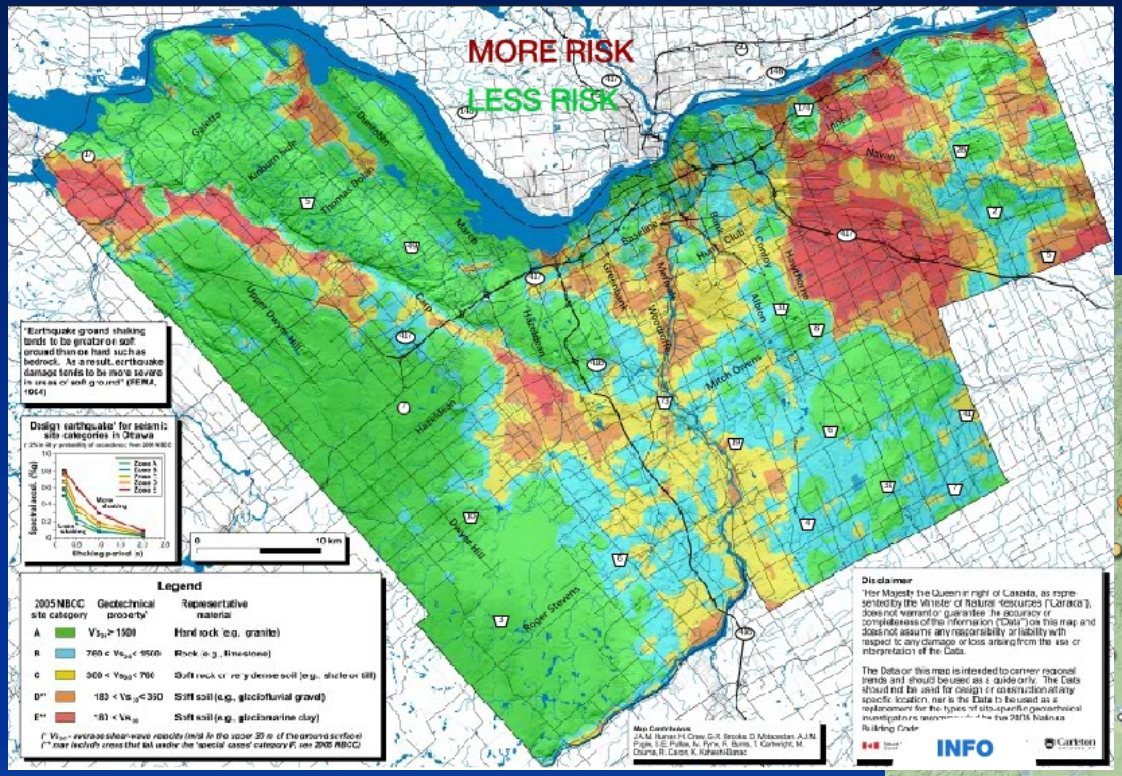


Red Cross – Fargo, US

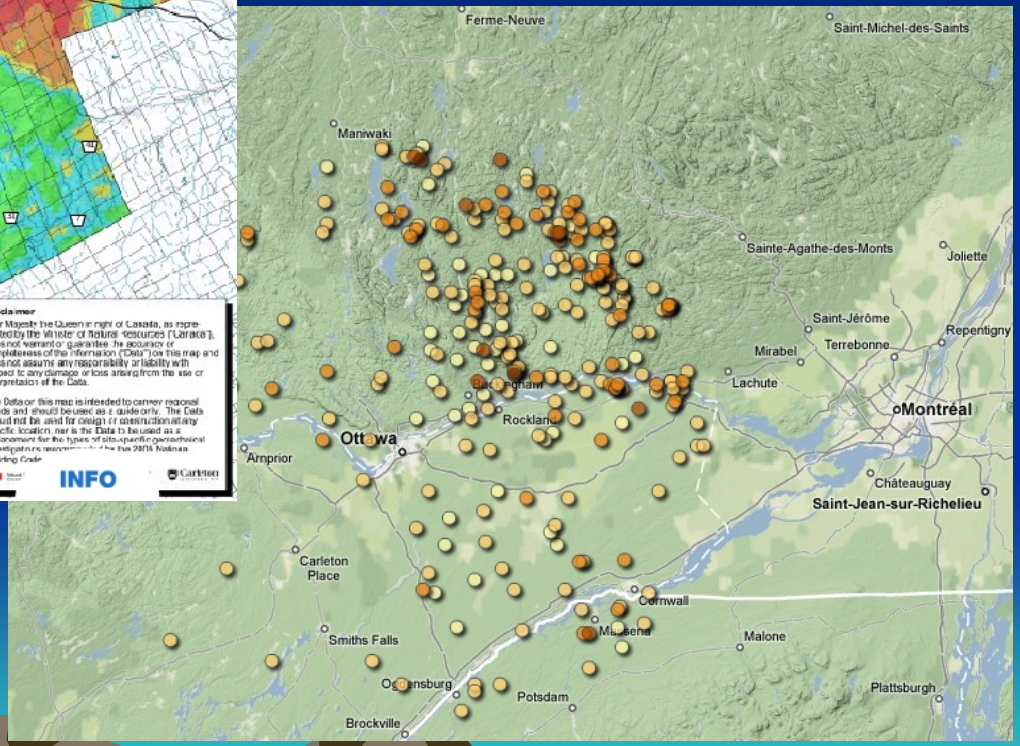


- Red River Valley
- Floods
- Road closures

Earthquake vulnerability – Ottawa, Canada



Last 5 years – 0.4-5.4



British Columbia – Nisga'a names (Canada)

BCGNIS Geographical Name Details - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://srmwww.gov.bc.ca/bcgn-bin/bcg10?name=39898

Customize Links Free Hotmail Windows Marketplace Windows Media Windows

BCGNIS Query Results

Gitwinksihlkw	**Official Name**	
Pronounced:	**"GIT-win silk"**	
Feature Type:	**Community**	
Latitude:	55°11'30"	*Position at:* **POPULATION CENTRE**
Longitude:	129°13'00"	
Gazetteer Map:	103P/3	
Relative Location:	N side of lower Nass River, below K:si Sii Aks (Tseax River), Cassiar Land District	
Return all features within 5Km proximity		View geographical name location on a 1:250K mapsheet

Audio Accompaniment you will need

Origin Notes and History

Canyon City (Settlement) adopted 25 September 1974 on 103P at 55 12 - 129 09. Form of name changed to Canyon City (Community) 25 August 1980 on 103P/3, and coordinates corrected to 55 12 - 129 13. Name changed to Gitwinksihlkw (community) 17 July 1989 on 103P/3 per Band Council Resolution. Gitwinksihlkw (Community) confirmed per Nisga'a Treaty, Appendix F-3, effective 11 May 2000.
Source: BC place name cards, or correspondence to/from BC's Chief Geographer or BC Geographical Names Office

Spelled Kitwanchilt on Geological Survey sheet 69A, Route Map of Part of Nass River, 1912; numerous other spelling variations through the years, including Gitwencheltque and Gitwenchilque.
Source: BC place name cards, or correspondence to/from BC's Chief Geographer or BC Geographical Names Office

Gitwinksihlkw means "people of the lizard's habitat" [Git/ people of; win (derived from 'wil wanhl'...)/ where situated, or inhabited by; ksihlkw/ salamander]. The salamander, a lizard-like animal, once inhabited the bay area of the community, however, in the 1700's a volcanic eruption caused lava flows to bury the two neighbouring communities of Wii Lax K'abit and Lax Ksiluux; since that time the ksilkw (salamander) has either disappeared from the area or become extinct.
Source: Nisga'a Tribal Council / Ayuukhl Nisga'a Department, Aiyansh BC

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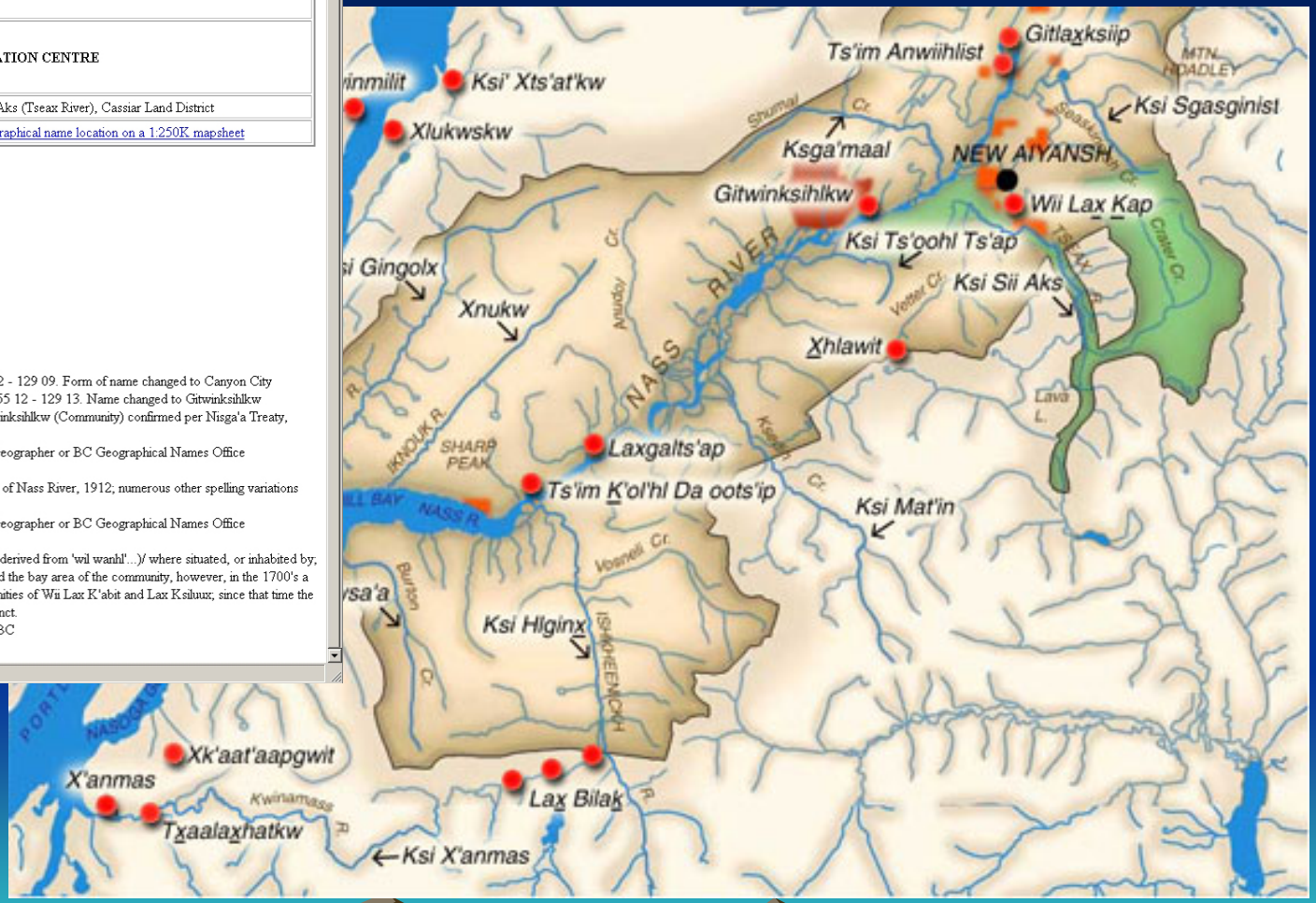

http://srmwww.gov.bc.ca/bcnames/g2_nl.htm

Geographical names in SDI

- Vital locational component for inclusion in all geo-referenced data
  - Pali Lehohla re statistics/census and names
- Direct and intuitive point of access
- Help integrate data sets to provide powerful decision-making tools
- Necessary for presenting practical results of spatial data analysis and interpretation, planning and provision of emergency and humanitarian aid

Benefits of standardized names?

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- *UNGEGN brochure … several languages*
  - *Advantages of clarity and consistency*

Technical benefits

- Production of maps and atlases
- GIS and spatial data infrastructures
- Search tools on the Web
  - UNGEGN brochure: “Geographical names as vital keys for accessing information in our globalized and digital world”
  - Have a names register that can be used consistently
- *Onboard navigation systems; unique Internet addresses; presentation of data analysis …*

Economic benefits

- Government using one standard registry of names
- Transportation services, delivery and postal services – loss of time and materials without clear names references
- *Developing national planning strategies; routing in trade and commerce; urban and regional planning; encouraging tourism; promotion of countries by the media*

Social benefits

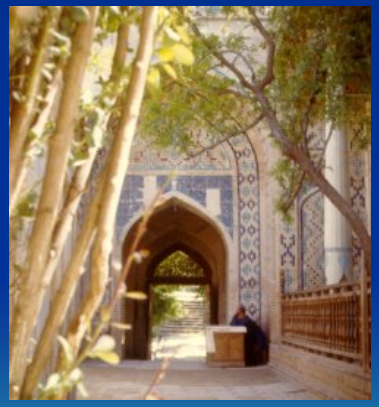
- Expression of our identity … and standardized names help in effective communication
- Reference points in laws and regulations of society
- Exact and available toponyms are essential in emergency services – humanitarian aid, search and rescue, warning of natural disasters

- *Environmental management; modelling for climate change vulnerability …*

Cultural benefits

- An important part of our language and heritage
  - Recording names helps to preserve our heritage
  - Toponyms provide a link to our history
- Oral tradition – today the recording of toponyms becomes essential for future generations
- Census data – clear names essential

- Of note:
  - 1988, Québec, Canada … training course … recognizing toponyms as a national treasure could the development of a standardization process
  - UNESCO – intangible cultural heritage



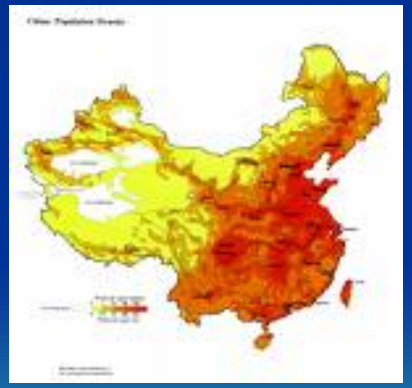
Benefits – example of UNOCHA

- United Nations Office for the Coordination of Humanitarian Affairs (OCHA)
  - Earthquake in Pakistan, 2005
    - Problem of delays in providing assistance to remote villages
    - Difficult to obtain - standardized names, coordinates of villages, gazetteers, population statistics, maps
  - Java, Indonesia, earthquake, 2006
    - Aid progressed rapidly … maps, standardized names integrated into GIS, easily available
  - Need for cooperation and move towards a global toponymic database

Benefits: example of China

- China
  - growth of cities … new urban areas
  - more than 20,000 new urban names needed every year

    (training to 400 people in 2005 to improve city name planning)



  - Problems in towns with no street names?
    - Development of GIS for service infrastructure
      - (road, rail, water, sewer, electric power, gas lines)

What about Africa?

53 countries

Some are small islands

Many have low financial resources

Questions of government stability

Some with viable mapping agencies, statistics departments, national organizations for infrastructure and toponymic databases

Outstanding questions

- Duplication of names in an area
  - Confusion of address for emergency services
    - led to wasted time and loss of life
- Delivery services
  - More efficient with clear and unambiguous place names
    - savings of time and money

- Name changes
  - Lack of information causes confusion in communication (e.g. airline/railway/bus timetables)

Felicia Akinyemi, Nigeria
cited some difficulties in West Africa (UNGEGN Bulletin)

- Fragmentation
  - colonial languages, forming stronger ties than proximity
  - pressures of these ties (e.g. education systems) not favour standardization
  - poor communications (now cell phones)
  - need better integration of WA countries
- Hundreds of traditional languages spoken across country boundaries
  - Nigeria >400; and dialects (e.g. Yoruba >300)
  - tribal loyalty (split across countries) often > national loyalty
- Places: >1 name, duplication, different pronunciations, variant spellings
- Names mostly for mapping; scale dependent collection
  - places of historic/cultural, important to national identity could be omitted
- Benefits of a country's toponyms not really recognized
  - Need to create awareness, and tie in with ECOWAS - based on national identity, spatial data infrastructure, trade and commerce, tourism

Viban Ngo, Geocartographer (Cameroon)

"Toponyms and cartographic communication in Africa : a panoramic perspective" mss. 2000

- Along the route to political and economic maturation, the place of geographical nomenclature in cartography will constantly need revision
  - Political players introduce their own toponyms, uprooting or modifying those laid down by their predecessors to suit their own philosophies and practices.
  - Provisional names become entrenched and 'eternal' names are replaced.
  - Changes will continue with unstable politics, use of exonyms and encroachments on African culture.
- Updating problems for countries that before independence relied on foreign technical aid for surveying and mapping; map sales problems
- Toponyms approved by national committees – not always accepted
- Cartographic confusion between conventional and standardized names
  - Misinterpreted African languages led to badly spelled names on colonial maps
- Relevance of toponymy not generally appreciated

UNGEGN's Task Team for Africa

Since 2007, revitalization process in Africa to assist with geographical names standardization

(Brahim Atoui)

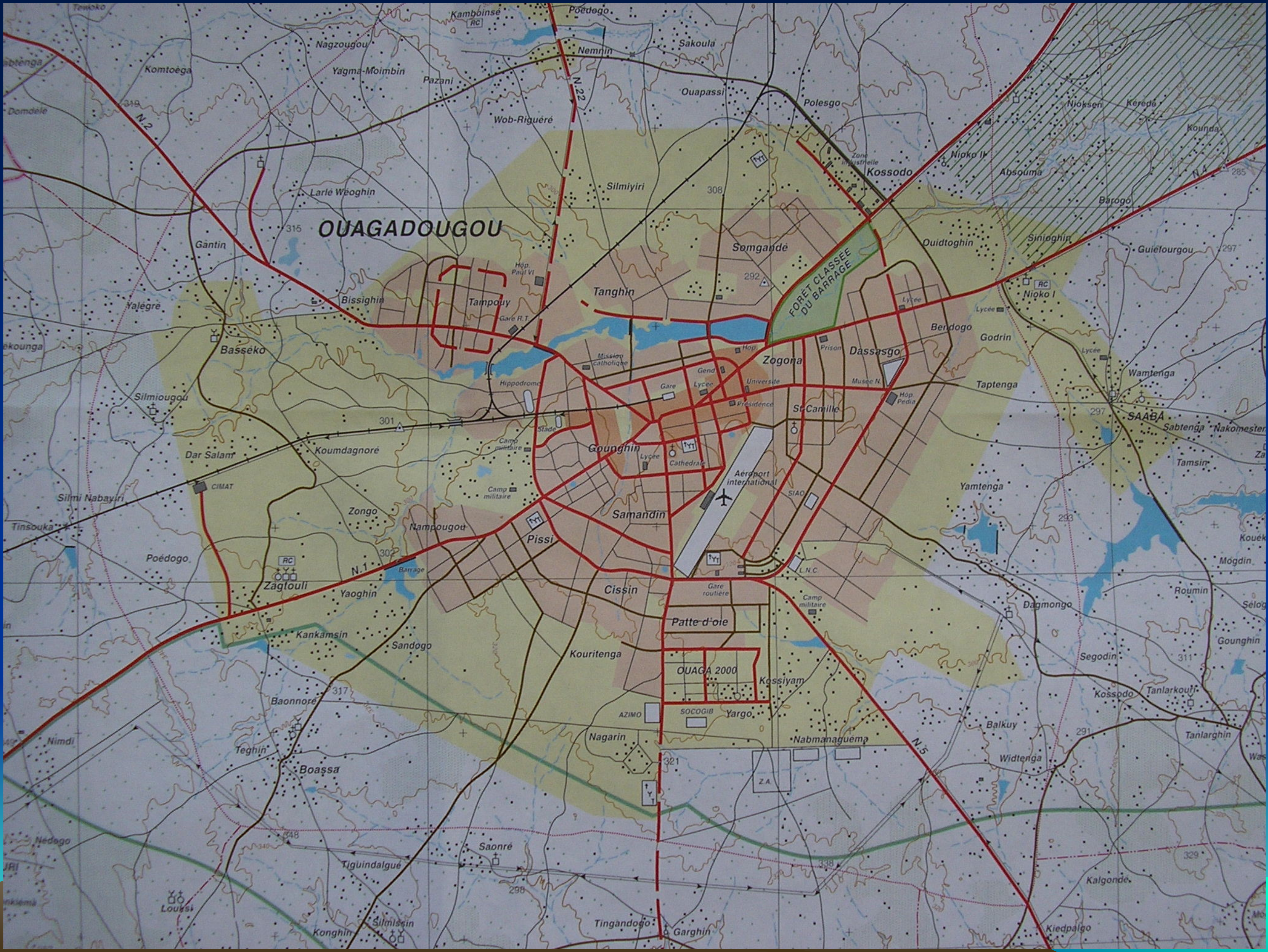
- Geographical names included on the agenda of CODI V organized by ECA in 2007
- Participation in GIS Africa (Burkina Faso, 2007)
  - to be included in future GIS Africa conferences
- Cooperation with AOCRS has resulted in support and organization of training
  - Tunis, Ouagadougou, Nigeria
- Efforts to re-invigorate African divisions of UNGEGN
  - West, East, Central, South + Arabic, Dutch- and German-speaking, French-speaking + (new) Portuguese-speaking
- 25th UNGEGN being held in Africa

Other progress

- Other endeavours of a technical / GIS nature:
  - ECA ... EthioGaz/AfricaGaz and database
  - ICA, FIG, ISPRS etc. joint group monitoring advances in Africa
  - Websites providing links to national mapping agencies in Africa (through UN-SALB and ICA)
  - CODIST-I in Ethiopia last week ???
  - AfricaGIS

Benefits of standardized names distribution by: Google / Google Earth

- Influence on globalization
  - Internet
  - Google / Google Earth
- UNGEGN - collaborate with Google
  - Use toponyms correctly
  - Of economic interest for every country to publicize their toponyms (standardized) via Google
  - Millions of internet users can access the data



OUAGADOUGOU
Kamboinsé
Poédogo
Nagzougou
Sakoula
Nemnin
Komtoéga
Yagma-Moimbin
Pazani
Ouapassi
Polesgo
Domdele
N.2
N.22
Wob-Riguéré
Niokse
Kossodo
Nioko II
Absouma
Larlé Weoghin
Silmiyiri
Barogo
Gantin
Somgandé
Ouidtoghin
Siniogh
Guiefourgou
FORÊT CLASSÉE DU BARRAGE
Tanghin
Bissighin
Tampouy
Yalgré
Nioko I
Bendogo
Godrin
Basséko
Zogona
Dassasgo
Silmiougou
Taptenga
Wamtenga
St Camille
SAABA
Dar Salam
Koumdagnoré
Gounghin
Samandin
Silmi Nabayiri
Zongo
Nampougou
Pissi
Yamtenga
Tinsouka
Poédogo
Zagtouli
N.1
Yaoghin
Cissin
Patte d'oie
Kankamsin
Sandogo
Kouritenga
Dagmongo
Roumin
OUAGA 2000
Kossiyam
Segodin
Baonnoré
Yargo
Kossodo
Tanlarkouli
Nimdi
Nagarin
Nabmanaguema
Balkuy
Tanlarghin
Teghin
Boassa
N.5
Widtenga
Nedogo
Saonré
Tiguindalgué
Kalgondé
Loussi
Tingandogo
Garghin
Kiedpalgo
Konghin
Silmissin