

Madagascar, 2013

Raising awareness about
advantages of standardization of
geographical names /
Des avantages de la normalisation

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(Natural Resources Canada)





What is
important

?



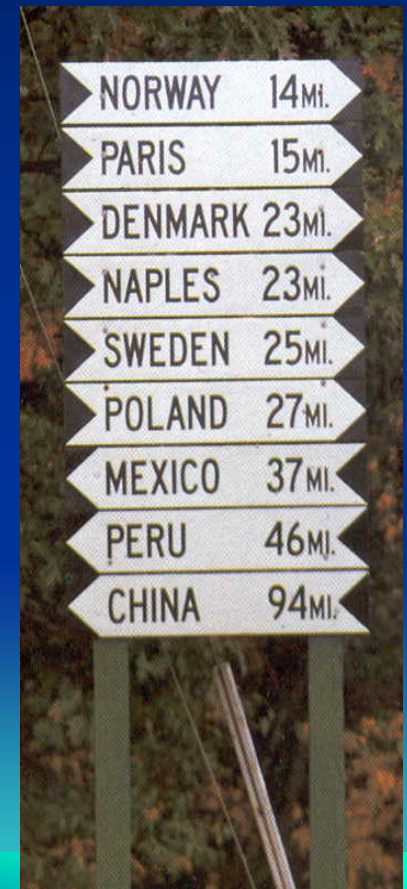
What is our focus?

- Need to understand
 - Communication through names
 - What are we naming?
 - Why we **standardize** geographical names?
- Help managers appreciate the significance of standardization
 - Benefits: technical, economic, social, cultural
 - Toponyms so much part of other issues (e.g. NSDI)
- Specific to Africa

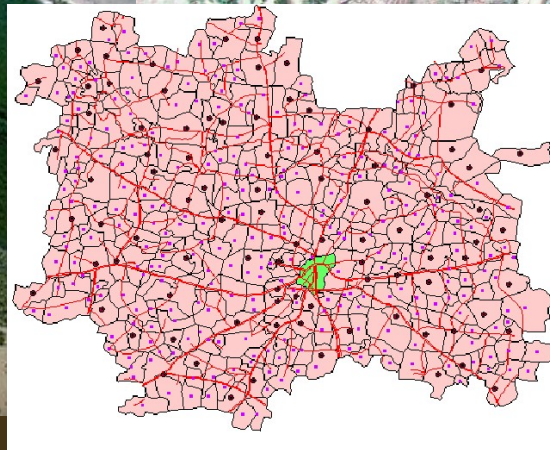
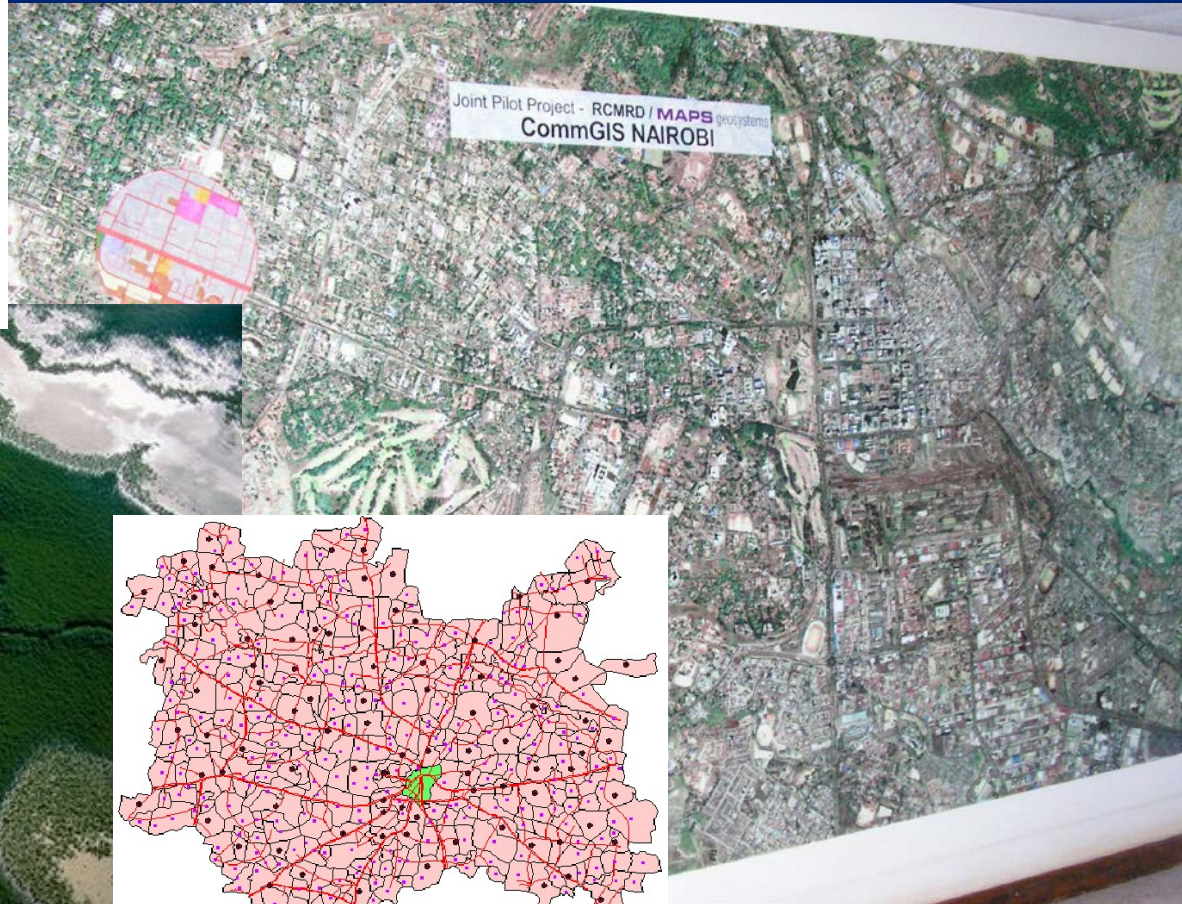
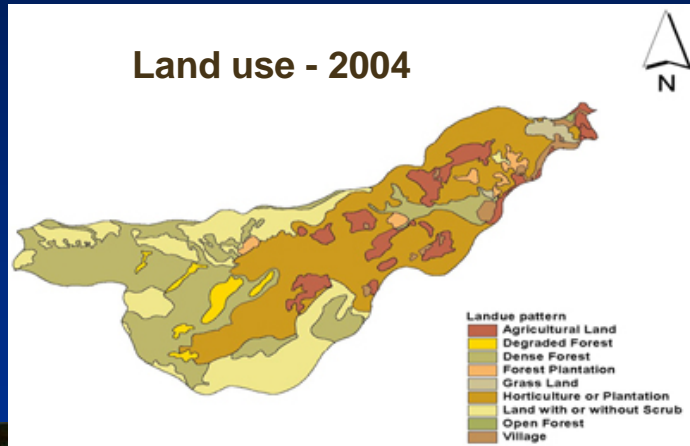


Referring to places and features

- By latitude and longitude
 - or other world rectangular grid (military/ civilian)
- By description
 - 18 km NW of Antananarivo
 - 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



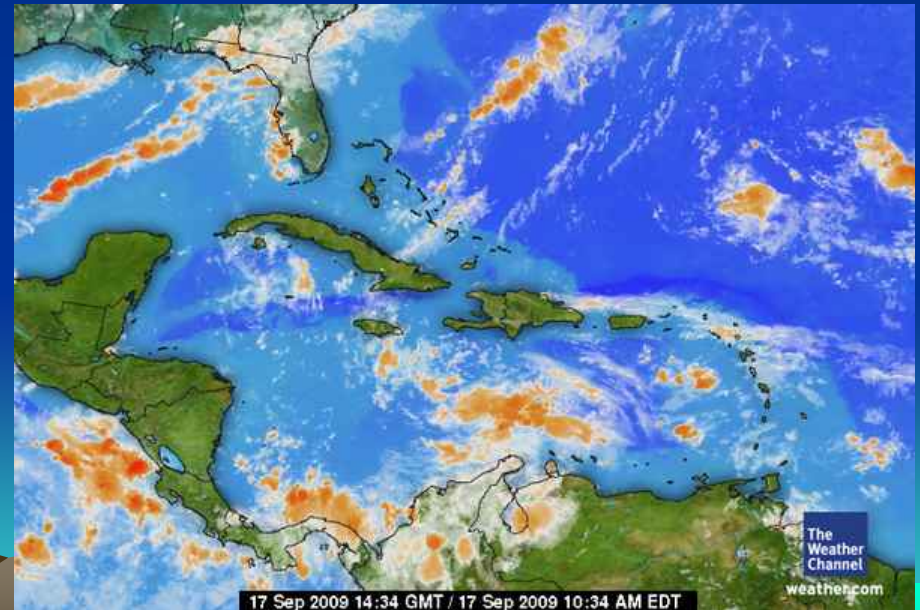
Communication problems if no names – thematic maps, air photos ...



... satellite images



Geographical names needed to identify, describe, analyse



Using names ...

- 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



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?
 - open water areas in sea ice; dunes; winds?



“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 (?)





Standardization means -

- Aiming to avoid –
 - Duplication of names
 - Poorly recorded names
 - Confused applications
 - Absence of quick and easy access to data



Kyev Kiev Kyiv Kyjev

Sidney Sydney

New Zealand Aotearoa

Mumbai Bombay



Montréal Montreal

Αθήνα Athens
Athenai Athina

Cape Town Le Cap

Uluru / Ayers Rock

Kaapstad Kapstadt
Ekapa Kapkaupunki
eKapa



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

“standardization”



Practical aspects of names standardization?

- Useful in addressing emergency situations
- Include in predictions and modelling
- Everyone can benefit ... many applications
- Publicizing names through Google
- Integrate with NSDI
- GIS opportunities - Africa





Hurricane Isaac Gulf of Mexico August 2012

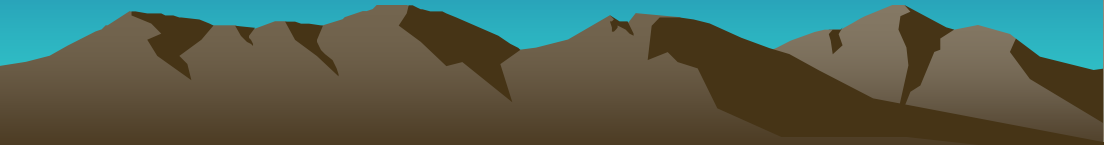
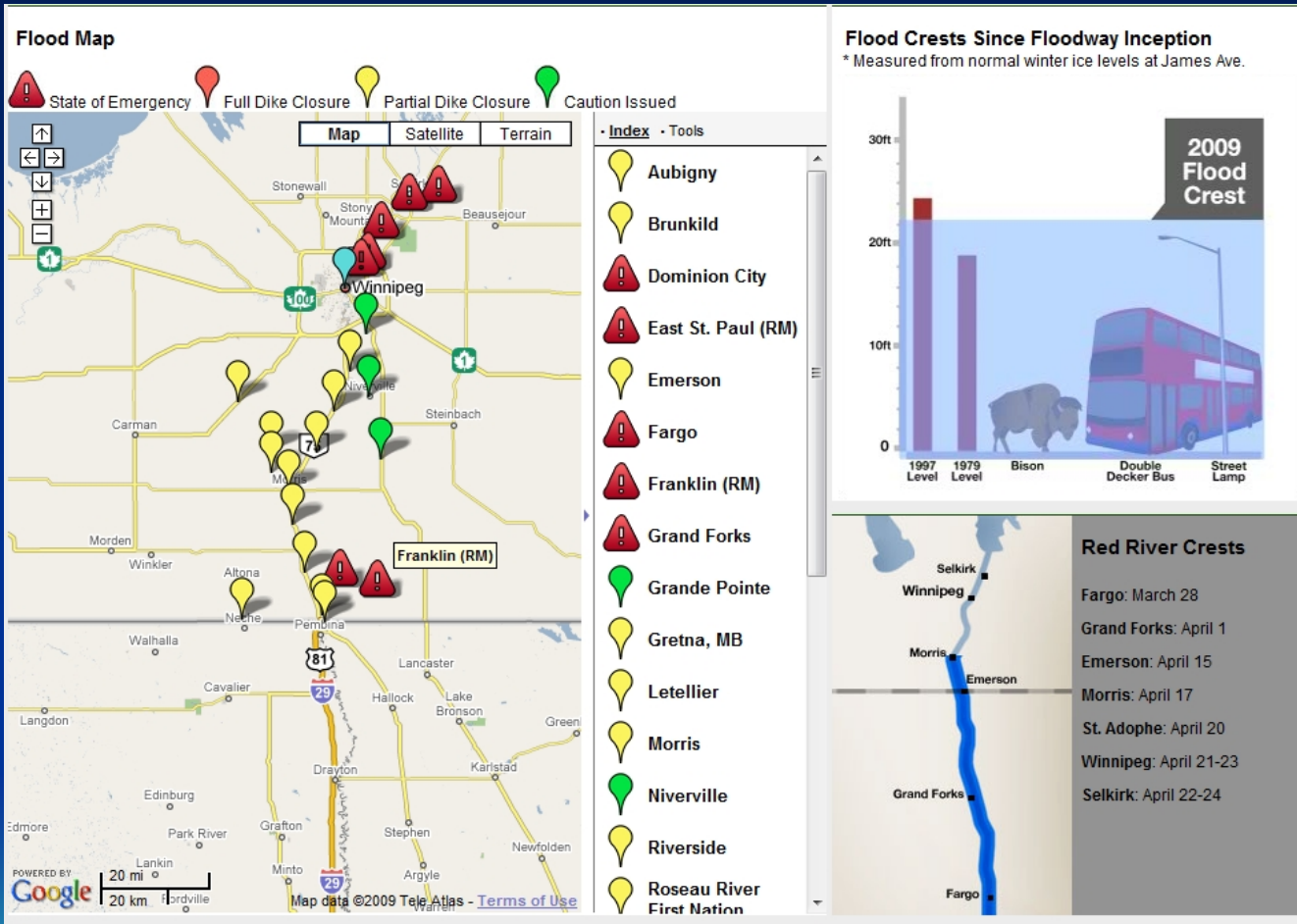


Value of standardized street names for evacuation planning

Following Katrina (7 years ago) – details of streets and buildings ... for shelter provision, for tracking family members



Red River floods – Canada/US



Benefits of standardized names?

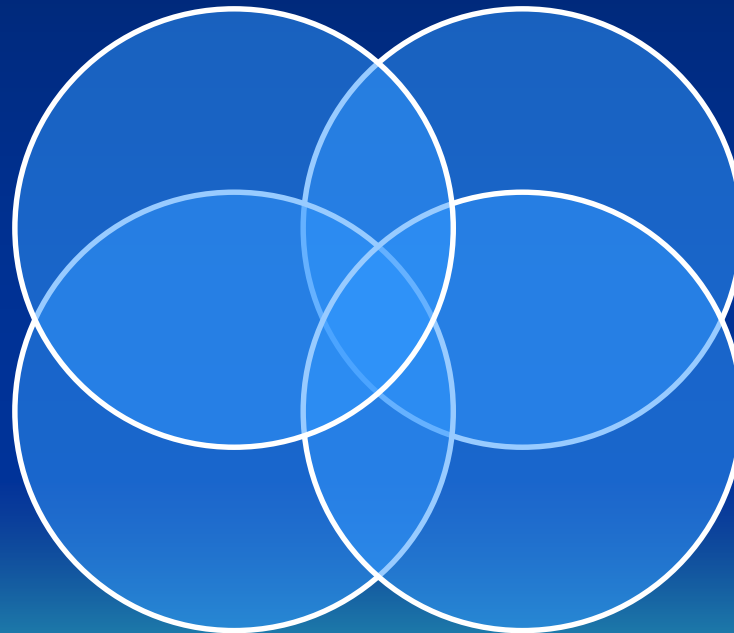
- *UNGEGN brochure ... several languages*
 - *Advantages of clarity and consistency*

**Technical
benefits**

**Economic
benefits**

**Social
benefits**

**Cultural
benefits**

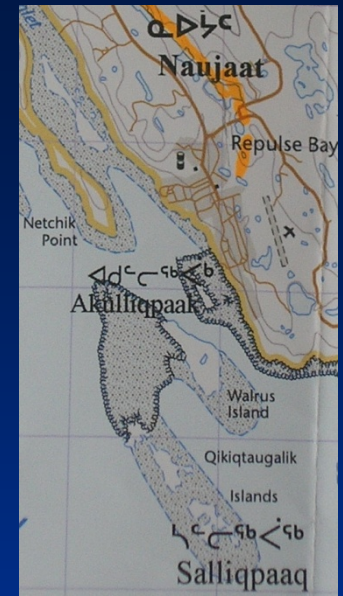


Benefits of standardized names?



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*



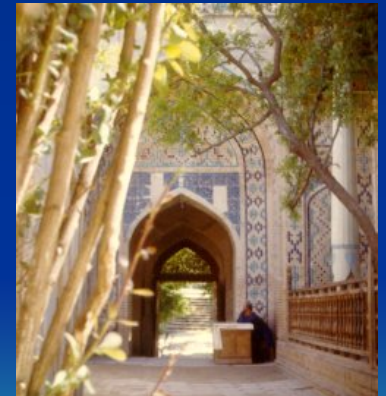
Social benefits

- 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 urban naming



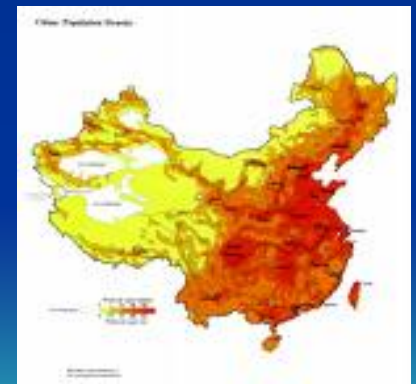
- China

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

(training to 400 people in a year to improve city name planning)

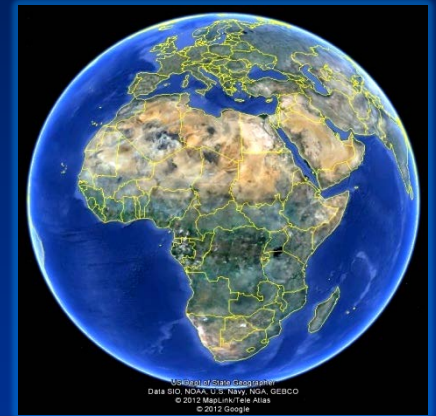
- **Problems in towns with no street names?**

- Development of GIS for service infrastructure
 - (road, rail, water, sewer, electric power, gas lines)
- World Bank help for addressing in Africa



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



National spatial data infrastructures

- SDI, NSDI, GSDI ... for government, public
- 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
 - To tackle challenges of Africa ... the need is to unite the disjointed efforts and work towards a common cause for the overall benefit of the region
(7th Africa Geospatial Forum, Ghana)

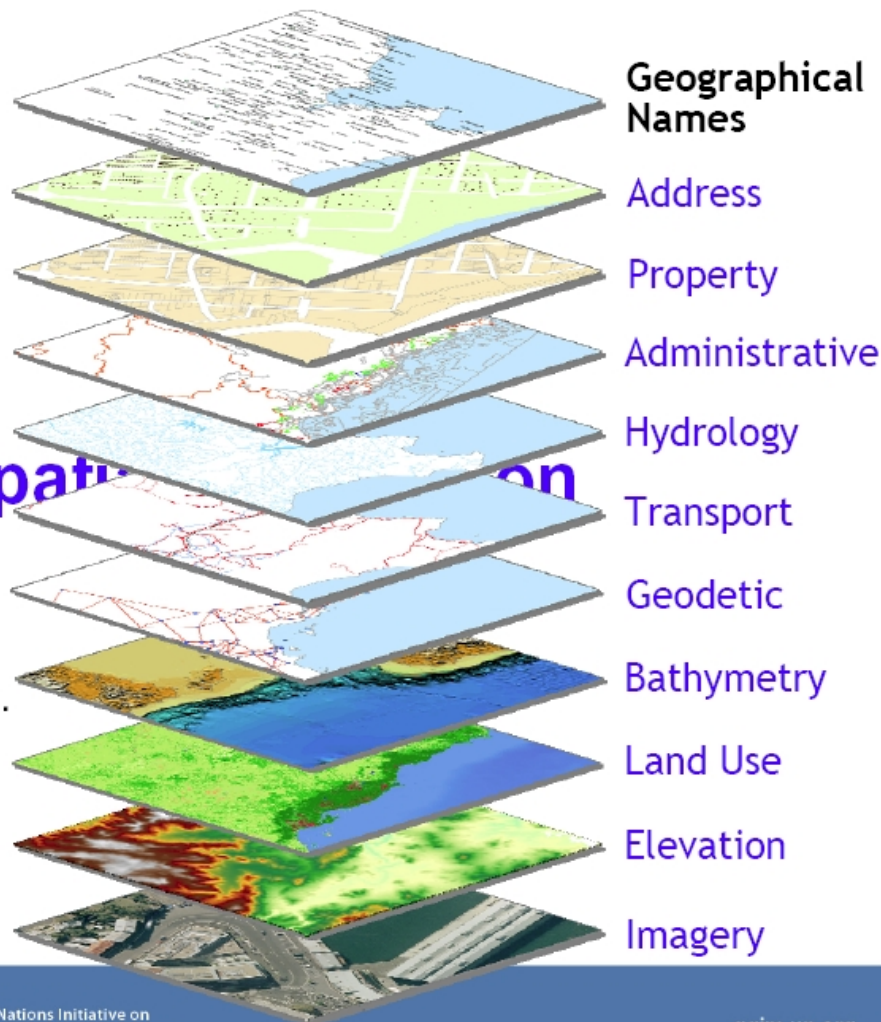


Geographical names in NSDI

What's in a place?

Building any National Spatial Data Infrastructure requires authoritative national framework data themes

Geographical Names bring context and understanding to the data. They provide "place" to "location"



Quality data

Authoritative sources

Standards for content and format

Free or low cost

Redistribute or licence



UN-GGIM

United Nations Initiative on
Global Geospatial Information Management

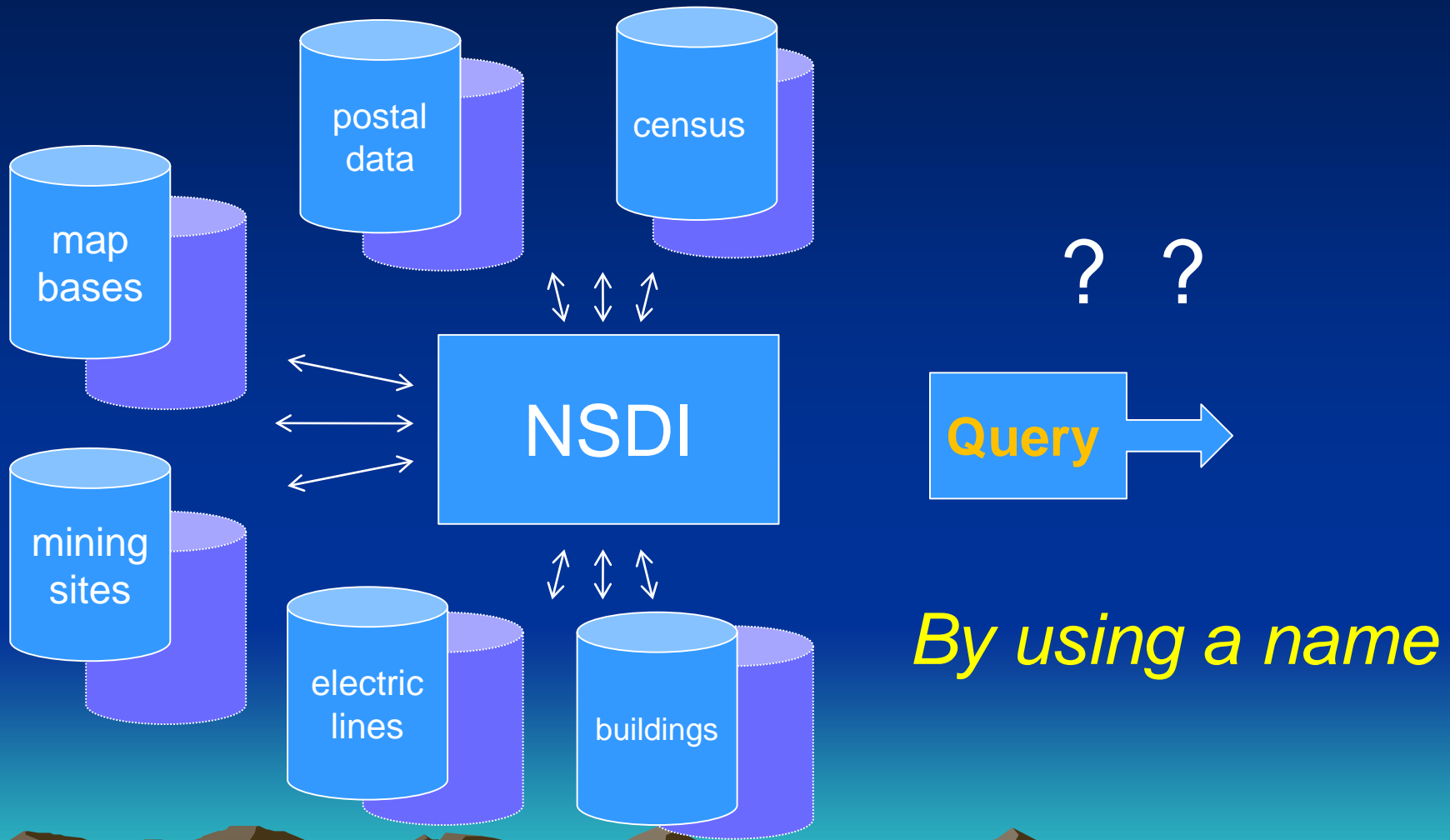
ggim.un.org

Geographical names in SDI

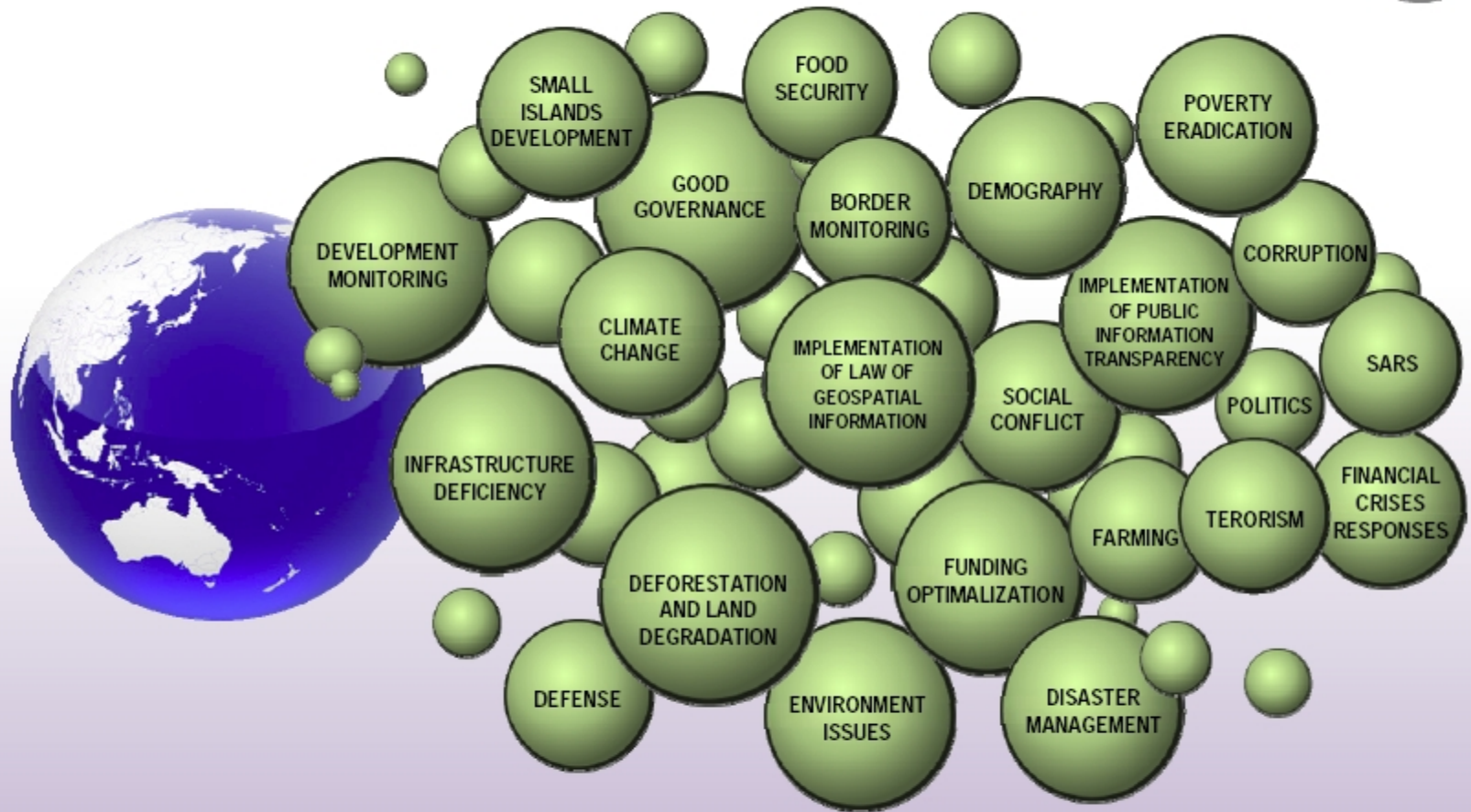
- Vital locational component for inclusion in all geo-referenced data
 - Pali Lehohla (S. Africa) re statistics/census and names
- Direct and intuitive point of access
- Help integrate data sets to provide powerful decision-making tools
- Necessary for presenting practical results of spatial data analysis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



Entry to spatially organized data



GEOSPATIAL PROBLEMS



- ❖ COLLABORATION AND SINERGY FROM ALL STAKEHOLDERS IS A MUST!
- ❖ OPPORTUNITY FOR GOVERNMENT AND INDUSTRY TO FORM PUBLIC PRIVATE PARTNERSHIP



LAW 4/2011, DICTUM 12 AND 15

**± 90% of
Government
Activities has
Geospatial Element**

- HYDROGRAPHIC
- BUILDING AND PUBLIC FACILITY
- TRANSPORTATION
- LAND COVER
- HYSOGRAPHIC
- ADMIN BOUNDARY
- COAST LINE
- GEOSPATIAL REFERENCE
- TOPONYM/ GAZETTEERS

GEOSPATIAL DATABASE

- GEOLOGY
- DEMOGRAPHY
- VEGETATION
- SOIL
- BIODIVERSITY
- METEOROLOGY
- DISASTER
- SPATIAL PLANNING
- etc.

**± 65% of
Government
Activities use
Geospatial Element
as Primary Identifier**

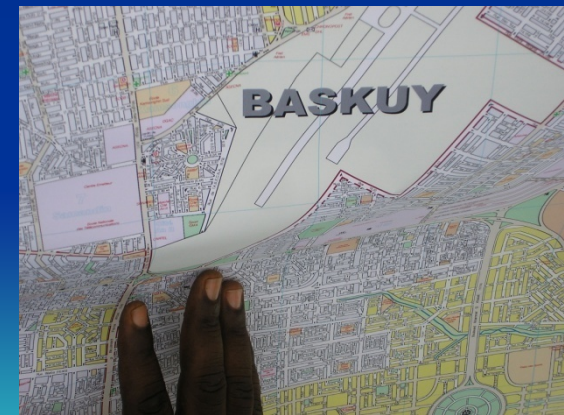
Gazetteers:

- *Indexes of spatial identifiers;*
- *Can be used to achieve interoperability*



GIS and SDI on the upswing

- These are all examples of the recognition of information technology as an enabling tool.
- New business opportunities are arising.
- With geospatial activity centred round land information, the geospatial industry is growing.
- Consistent and accurate geographical names are so basic to these developments being effective.



GIS ... new opportunities

- **Rwanda** – teachers getting GIS training
– National Land Use and Development Master Plan
- **Ghana** – map food crops to help farmers plan production and resource allocation



- **Gambia** – data collection and processing for effective disease surveillance
- **Kenya** – ‘Virtual Kenya’ to help access datasets for decision-making, development and education
- **Egypt** – 4500 digital village maps to help alleviate poverty
- **Nigeria** – study of crime patterns in Lagos state: GIS for public safety
- **Namibia** – integrated employment information system

Outstanding questions

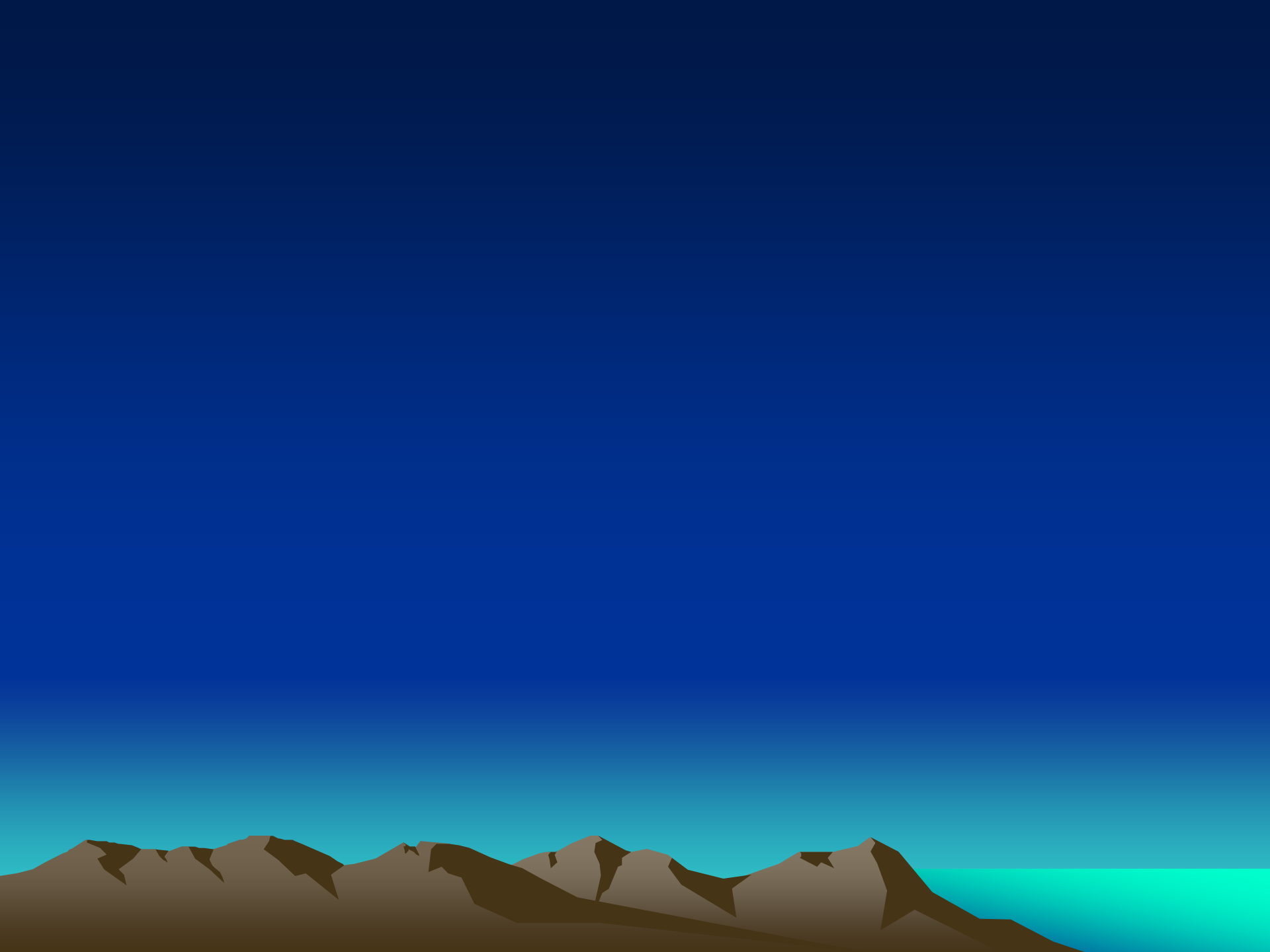
- Duplication of names in an area
 - Confusion of address for emergency services
 - led to wasted time and loss of life
- Delivery services
 - More efficient with clear and unambiguous place names
 - savings of time and money
- Name changes
 - Lack of information causes confusion in communication (e.g. airline/railway/bus timetables)



In concluding

- Names are vital elements in accessing our digital world and also in preserving our cultures
 - standardized spelling and application are key to easy, quick and accurate referencing
 - providing benefits for all users - in government, science, education, public ...
 - a process needs establishing in each country to ensure standardized name information is available nationally and internationally
 - standardized names are key to SDI





Louisiana

Where are all the Gas Stations?

2008 Hurricane Season Lessons Learned Workshop
Louisiana's Geospatial Response to Hurricanes
Gustav and Ike

January 29, 2009
State Library of Louisiana



Hurricane Gustav



2008

- Nearly **2 million** people evacuated from south Louisiana in the days before Gustav
- **34** parishes were declared disaster areas on September 2
- **48** deaths in the state of Louisiana
- **1.5 million** people were without power in Louisiana on September 1

Louisiana EOC needs information on the availability of fuel for the public

- Citizens enter open gas station addresses into La.gov website
- LA gov. is using internet to call gas stations
- Believe there is an official source for gas stations
- Yes, LA Agriculture and Forestry's Weights and Measures have official list in their main building but they have no power
- Eventually list is obtained

Oid	Parish	Name	Address	City	State	Zip	Phone
1142	Iberia	CHASTANT GARAGE	205 MAIN STREET	LOREAUVILLE	LA	70552	337-229-6703
1154	Iberia	EJS EASY SHOP 0	4017 LOT 1 AVERY ISLAND ROAD	NEW IBERIA	LA	70560	3373651808
1153	Iberia	ECONO MART 12	319 EMILE VERRET ROAD	NEW IBERIA	LA	70563	3373677437
1152	Iberia	ECONO MART 10	1801 CENTER STREET	NEW IBERIA	LA	70560	3373655920
1151	Iberia	DAGOS MOBIL AND GROCERY 0	3902 DARNALL ROAD	NEW IBERIA	LA	70560	3373654235
1150	Iberia	CRACKER BARREL 38	218 NORTH LEWIS STREET	NEW IBERIA	LA	70560	3373655410
1149	Iberia	CJ'S GET-N-GO	4814 HIGHWAY 90 EAST	NEW IBERIA	LA	70560	3373656257
1148	Iberia	CIRCLE K 1731	900 JEFFERSON TERRACE	NEW IBERIA	LA	70560	3373656840
1147	Iberia	BROTHERS SELF SERVE	600 WEST ADMIRAL DOYLE DRIVE	NEW IBERIA	LA	70560	337-365-0175

- LA gov. to geocode (find geographic location for specific address)
~ 3400 gas stations on September 4 for a meeting on the 5th



Non-standard addresses cause delays

Spelling variance and errors

- Wrong zip code - street name and zip code do not match
- Wrong prefix/suffix
 - Street instead of Road
 - missing N,S, W, E prefix
 - abbreviation – boulevard: bou\blvd
- Wrong town given
- New streets/addresses
- Multiple names (Florida BI/ US 190)
- Highways
 - 123 Highway 10 instead of 123 State Hwy 10
 - (standard is 123 Hwy 10)



Louisiana: lessons learned in 2008

- **Data Ownership**

Agencies with data useful in emergencies need to identify those sources, maintain them, and make them available .

- **Location Accuracy**

GPS locations should be gathered for as many critical databases as possible. These locations need to be maintained by the agencies that “own” the data.

- **Data Quality**

QA, QC should be a constant commitment. Prior to hurricane season each agency should ensure the quality of their data.

- **Data Access**

Web Services make an excellent means for sharing and distributing data. These assets should be prepositioned before hurricane season.

During emergency operation everyone needs to be on the same page!



