

Philippines, 2018

# Standardization of geographical names and raising awareness of its advantages

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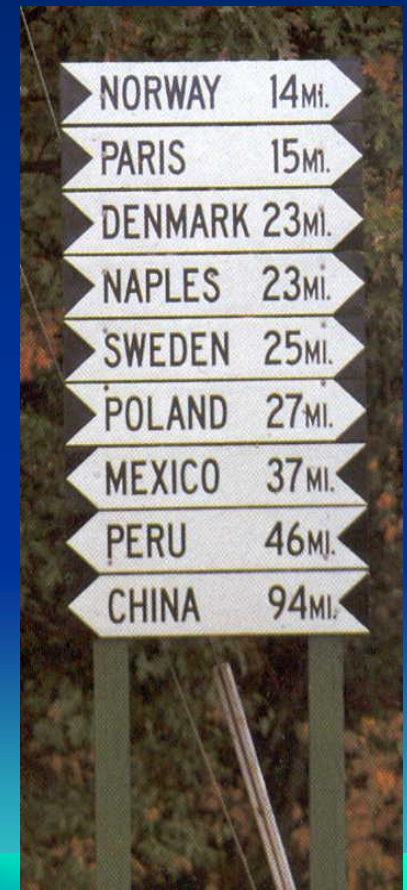
# What is our focus?

- Need to understand
  - Communication through geographical names
  - What is being named?
  - Why we want to **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)
- Various examples



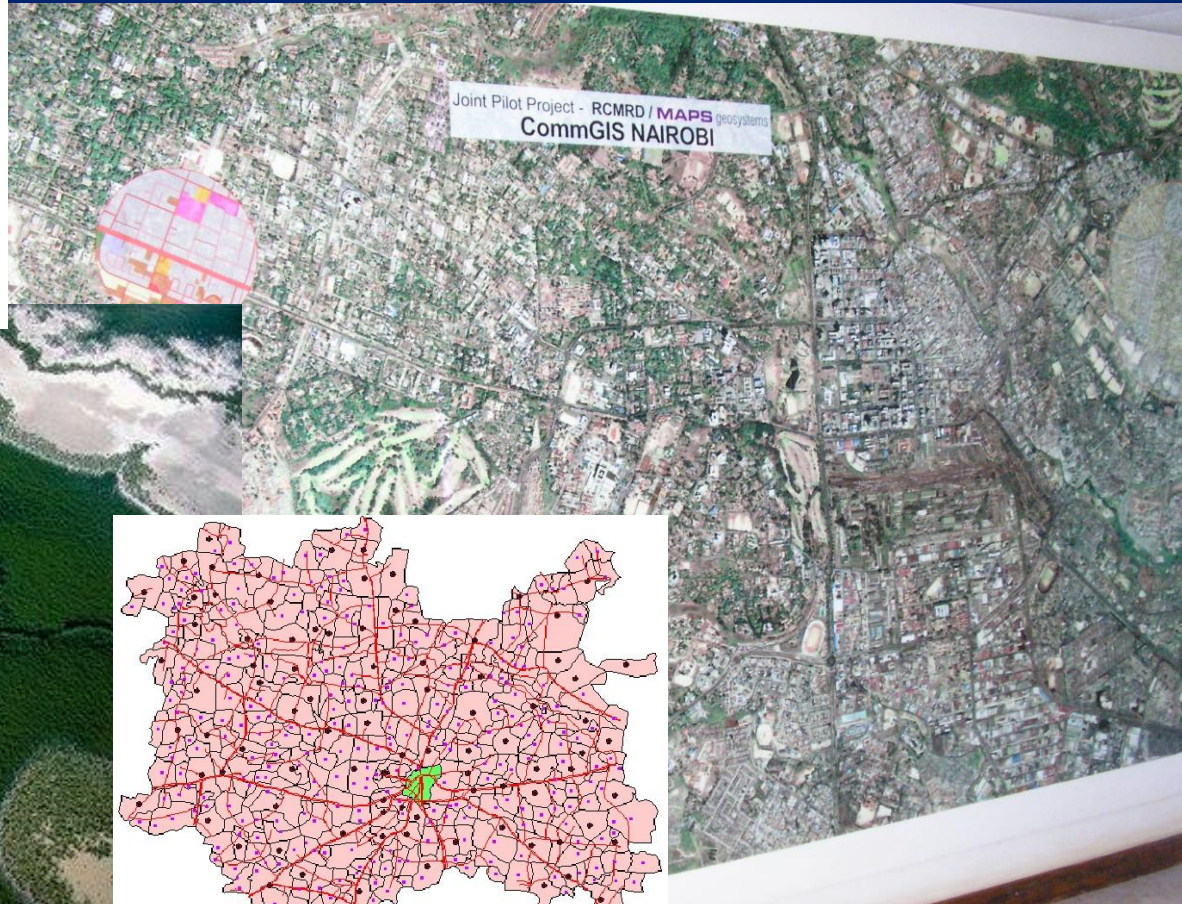
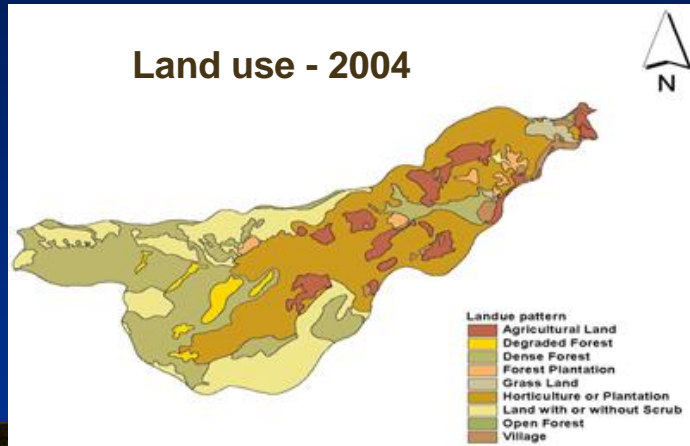
# Referring to places and features

- By latitude and longitude
  - or other world rectangular grid (military/ civilian)
- By description
  - 28 km N of Manila
  - 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

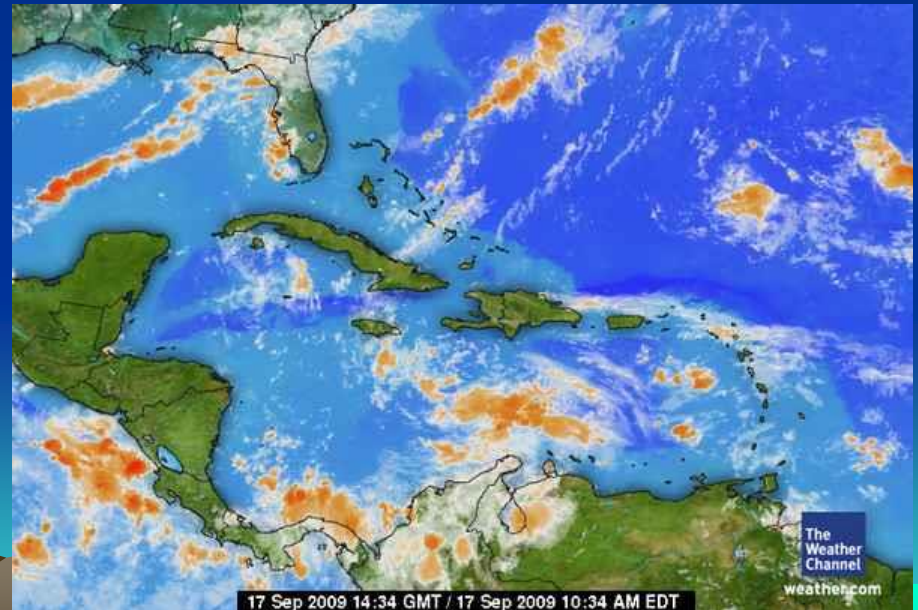
– thematic maps, air photos ...



# ... 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



# “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?
  - 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 (?)                      *approved name; official name*





# Standardization means -

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



Kyev Kiev Kyiv Kyjev

Sidney Sydney

New Zealand Aotearoa

Mumbai Bombay



Montréal Montreal

Αθήνα Athens  
Athenai Athína

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
- Integrate with NSDI; GIS opportunities
- Publicizing names through Google
  - Millions of users can access your data
  - Show names correctly





# Hurricane Isaac Gulf of Mexico August 2012

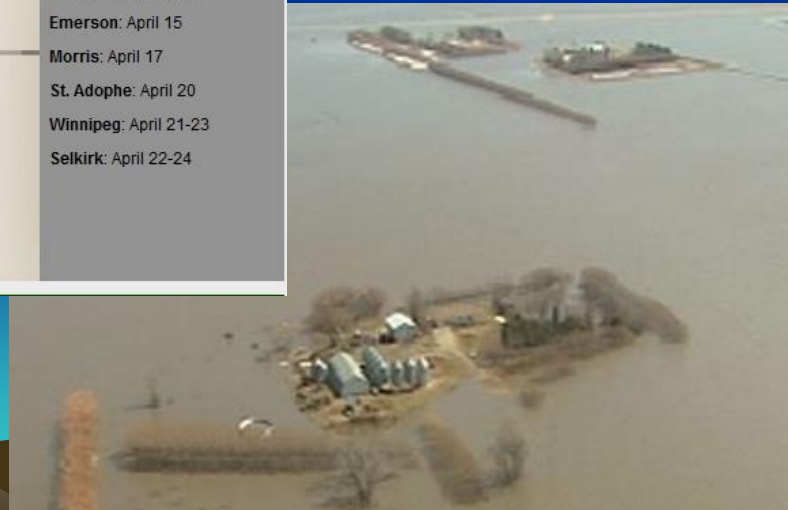
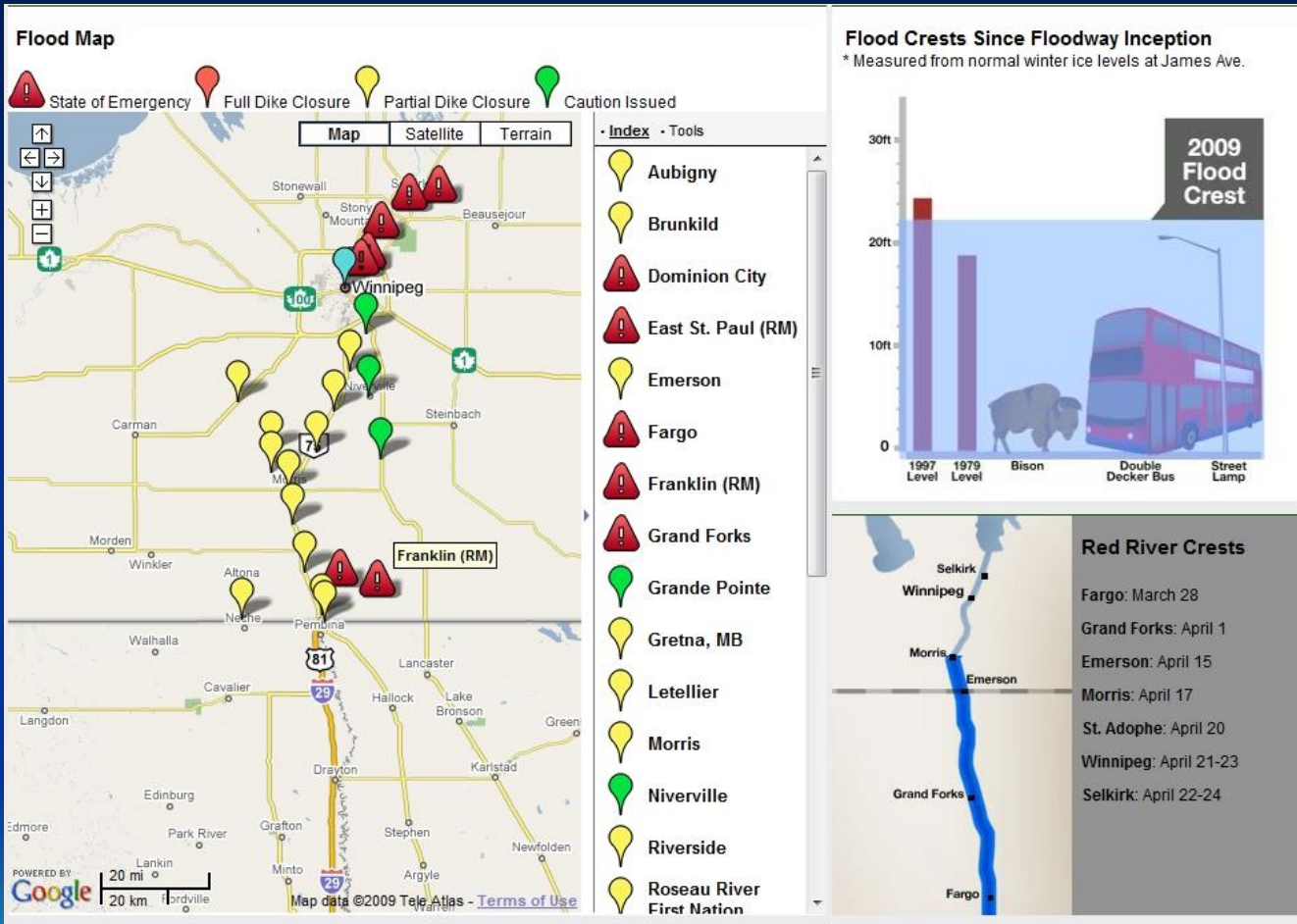


Value of standardized street names for evacuation planning

Following Katrina (5 years before) – details of streets and buildings ... for shelter provision, for tracking family members

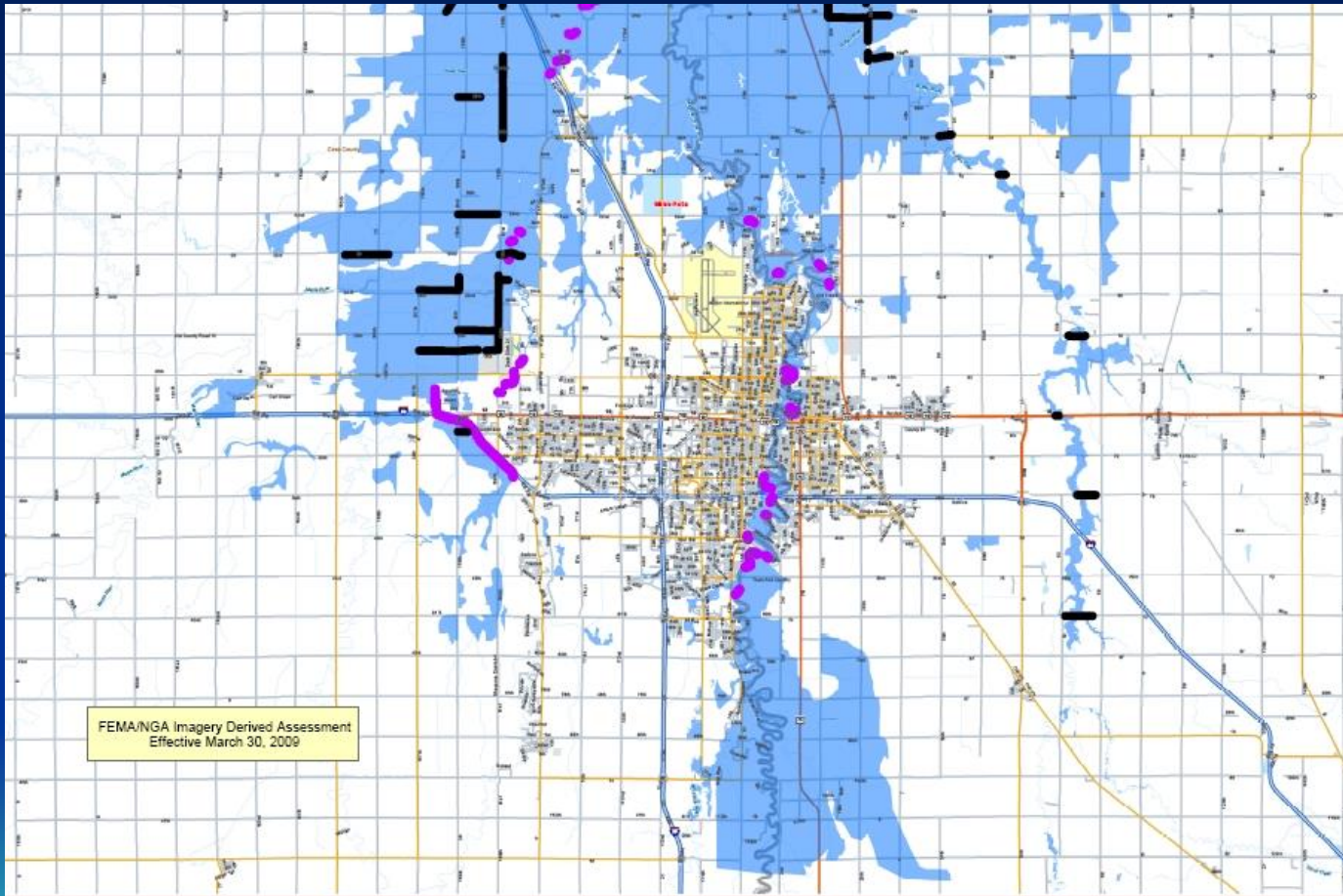


# Red River floods – Canada/US



# Red River floods

## Red Cross – Fargo, USA



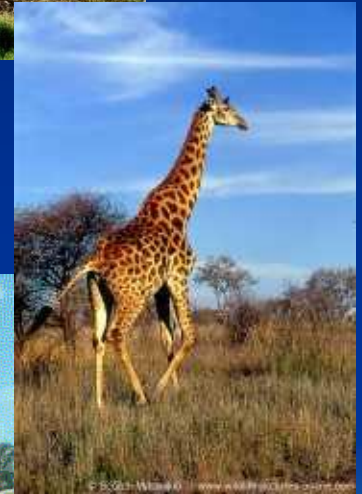
- Red River Valley
- Floods
- Road closures

### Legend

-  Flooded Area
-  Impassable Roads
-  River Ice Jams
-  County Boundaries
-  State Boundaries



# Benefits of standardized names?



# Benefits of standardized names?

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

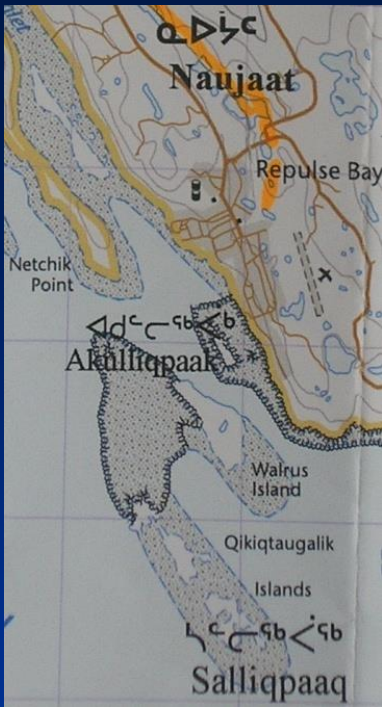
**Technical  
benefits**

**Economic  
benefits**

**Social  
benefits**

**Cultural  
benefits**





# Technical benefits

- Production of maps and atlases
- GIS and spatial data infrastructures
- Search tools on the Web
- *Onboard navigation systems; unique Internet addresses; presentation of data analysis ...*

# Economic benefits

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



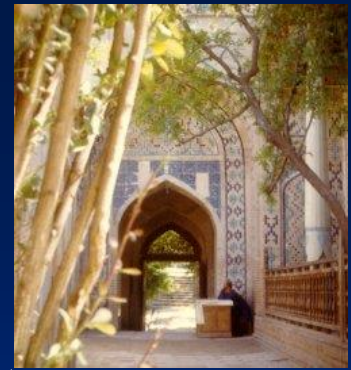
# Social benefits

- 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



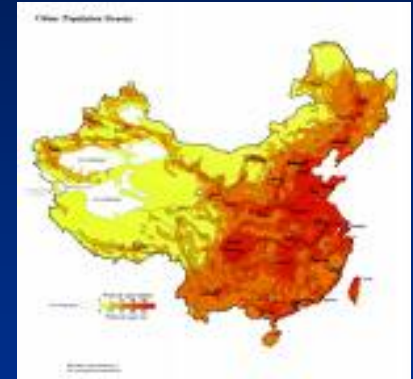


# Benefits – example of UNOCHA

- 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





# Data or scrambled eggs?

Here, there or where?



Duplication

Repetition

No standardization

Incomplete data

Resources lost

Affects security

Confusion

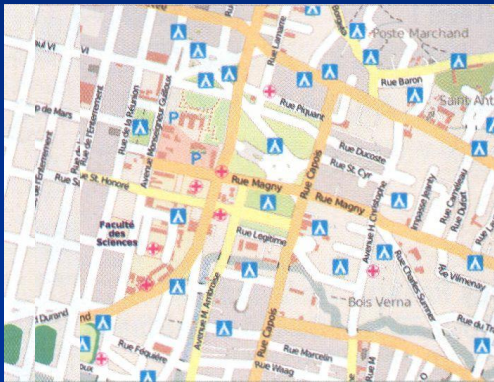
Bad decisions

UNECA

# Lack of standardized names – in emergency

## Haiti earthquake Jan. 12, 2010

- Maps lacking information



Dec. 30, 2009

Jan. 13, 2010

Jan. 29, 2010

(National Geographic)

## Crowd-sourcing

- Quick response by volunteers – names and information
- Help guide emergency workers ... accuracy?
- Needs standardization for longer term use
- (Perhaps names are temporary ... )

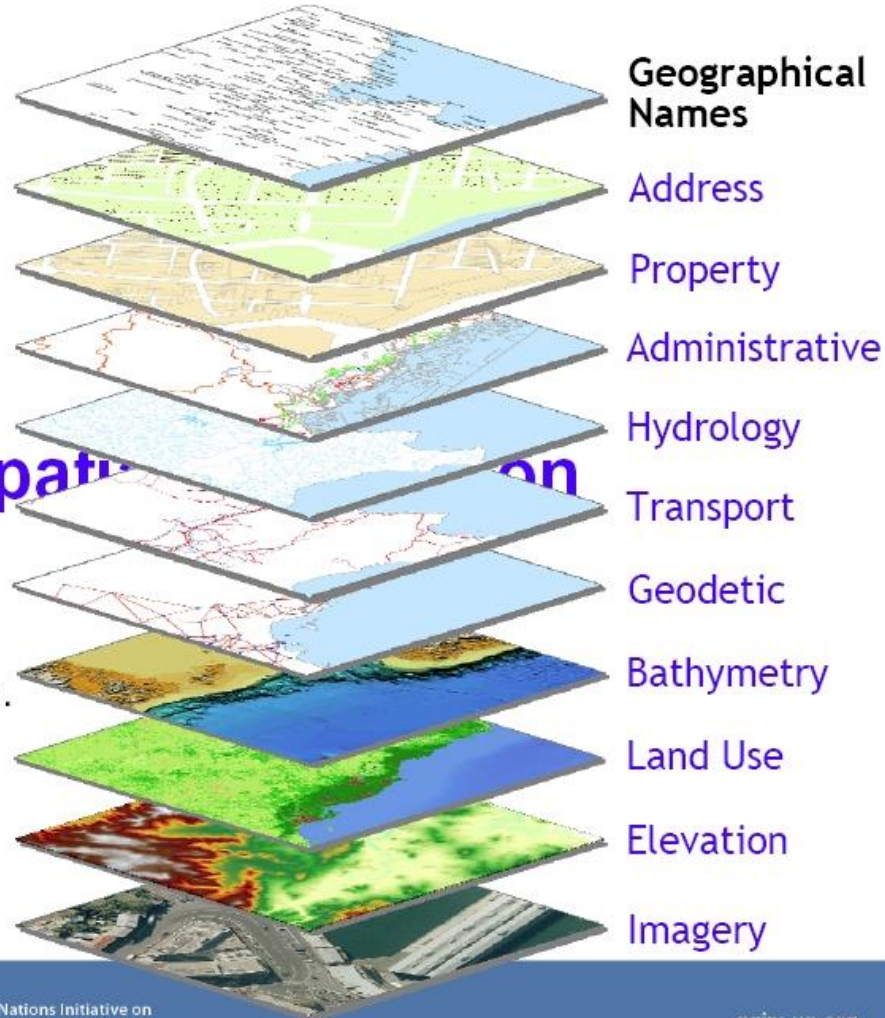


# Geographical names in NSDI

## 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

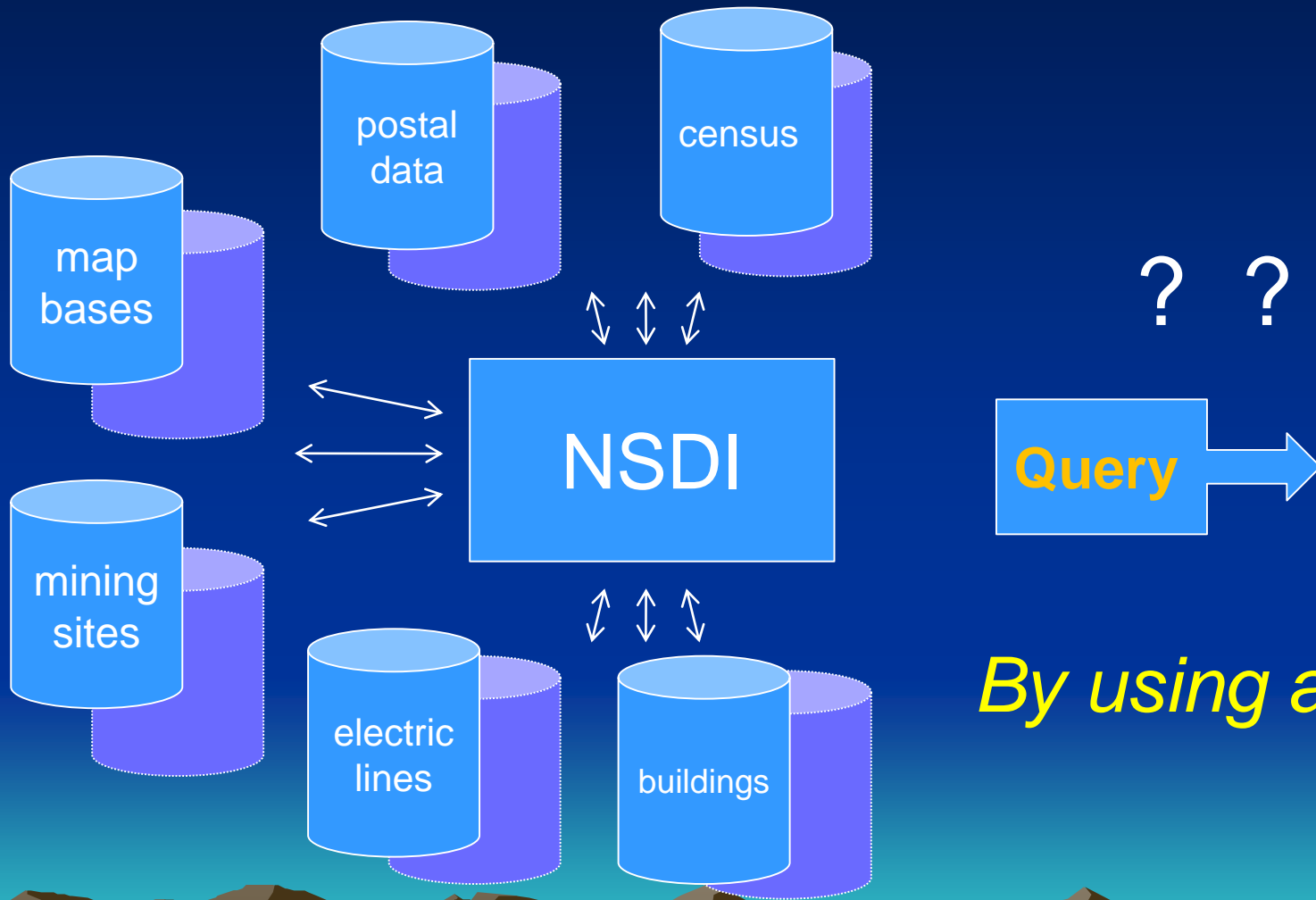
ggim.un.org

# 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



*By using a name*

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/SDI ... new opportunities

- **Indonesia** – earthquake zone maps support the development of quake resilient infrastructure; BIG “one map”; cloud computing for sharing data
- **Malaysia** – re-delineate electoral constituencies; social issues database is g-tagged (locating and plotting domestic violence)



US Dept of State Geographer  
© 2012 Google  
© 2012 MapLink/Tele Atlas  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

- **Philippines** – Urge to fund GIS and SDI to enable disaster simulations; geo-hazard risk mapping of key urban centres
- **Brunei Darussalam** – 3D mapping for flood monitoring
- **Viet Nam** – impact of climate change on rice farming ... assess vulnerability
- **Singapore** – OneMap manages geospatial data, including street names, for health, recreation, etc.
- **Bangladesh** – risk map of malaria prevalence in south

# National to international standardization

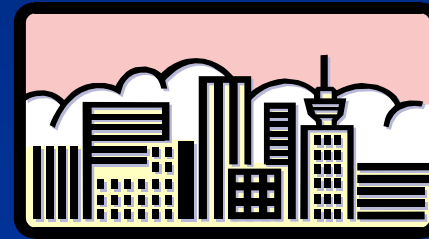
- Local community use



- Province / state approval



- National approval



Romanization



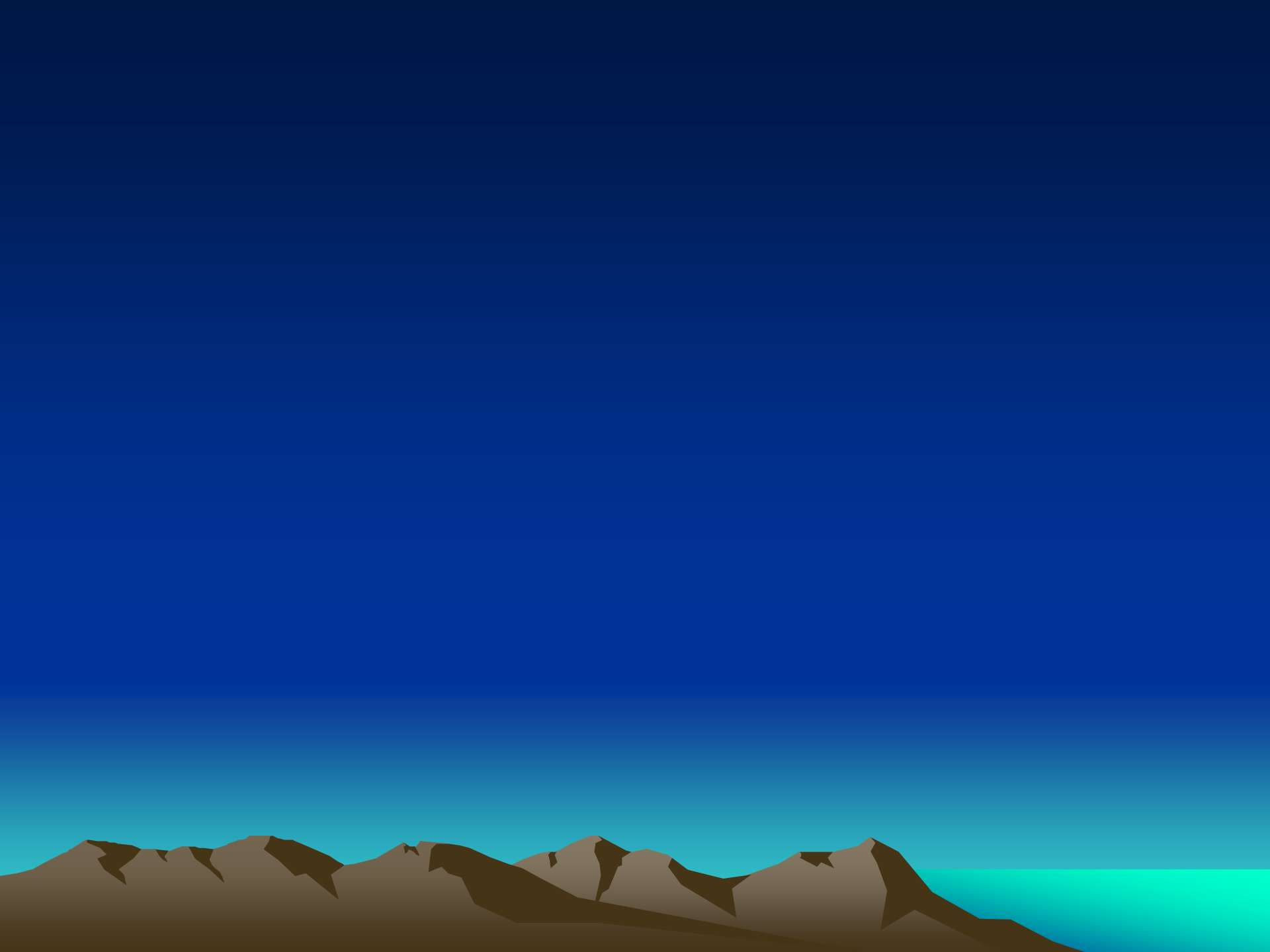
- International standardization



# In concluding

- Names are vital elements in accessing our digital world and also in preserving our cultures
  - What must be standardized to provide easy, quick and accurate referencing?
  - Who benefits from names being standardized?
  - Why are standardized names important for geospatial data infrastructures?
  - To achieve standardization internationally, what are the first steps?





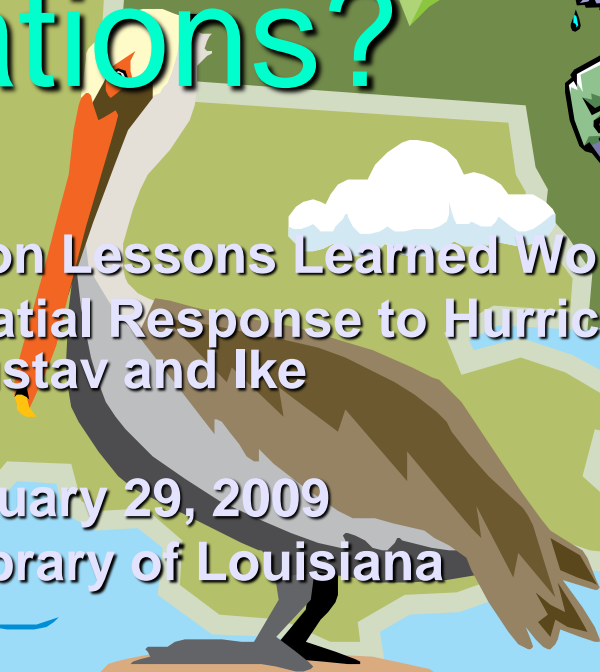


# Louisiana

# 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 5<sup>th</sup>



# 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: boul\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**

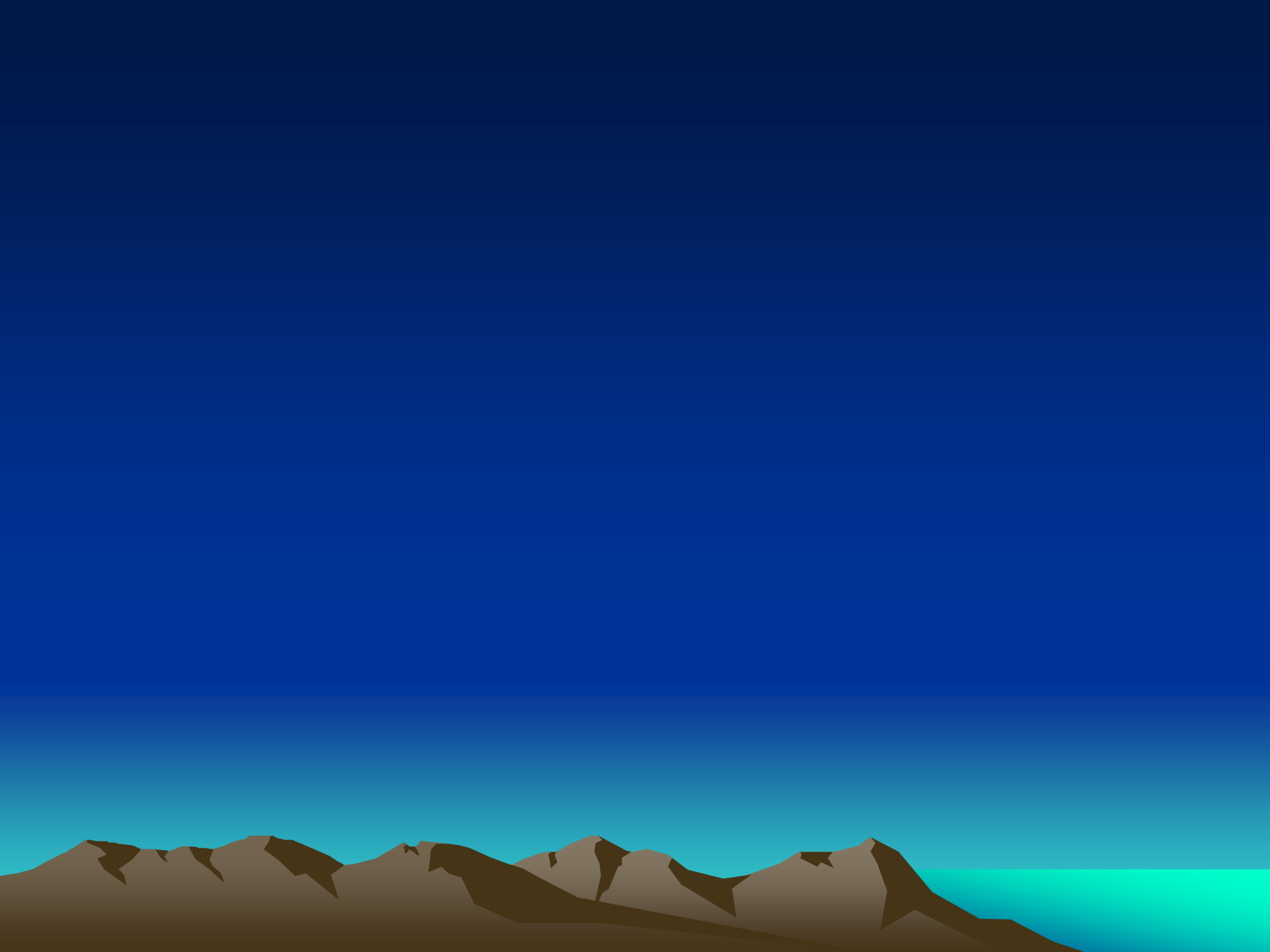
QA, QC should be a constant commitment. Prior to hurricane season each agency should ensure the quality of their data.

- **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!**





# Noms de rues en Afrique – Banque mondiale

## Rapport de la Banque mondiale, 2005

50% des rues des villes d'Afrique subsaharienne n'ont ni nom, ni adresse  
- impossible de suivre le rythme de l'urbanisation

Fonds consacrés à des initiatives des adresses et des bases de données  
- système de numérotation; des noms ajoutés graduellement

## Yaoundé, Cameroun

Liste de 1670 rues; 6 zones; plan des rues imprimé

L'adresses des bâtiments – impair et pair, basées sur la distance



# Ouagadougou, Burkina Faso



- 4 910 rues répertoriées; 70 nommées -1997
- Commission de toponymie municipale a été crée
  - Liste de noms potentiels– noms célèbres
  - Avant 2005, 2 000 noms avec plaques (Ouaga 2000 inclus)
  - M. Titinga, président:
    - « L'identité des rues, des places et des monuments définit l'essence d'une nation et en est le reflet relativement à sa souveraineté, à son histoire et à sa culture. »



Recommandations: Identifier les rues en priorité pour les noms;  
créer une liste des noms;  
l'examen des résidents; l'approbation de la municipalité



# Crowd-sourced names – bad/good news

- Don't change too quickly!
  - perhaps ephemeral or not yet formalized
  - Syria and Google (criticism in UN)
- Will be needed in future, as budgets diminish
  - Must know source – authenticity and accuracy
    - Perhaps structured hierarchy of data providers
  - Benefit for names authorities by being part of other projects
    - environmental studies,
    - community-based data ... etc.

Place 7 novembre



Place Mohamed Bouazizi



Place 14 janvier 2011

