Working with Different Data Sources of Geographic Information

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A brief history of Web Mapping

1993 : Ability to include images in pages, to generate content dynamically, and to click on images

Maps move from Desktop GIS to Server

• 1997-07: UMN MapServer 1.0,
• 2000-02: ArcIMS 3.0, The first public release of ESRI's ArcIMS.

Maps move to the clouds

• 2004-07: OpenStreetMap, an open source, open content world map
• 2005-02: Google Maps and Yahoo Map are launched
Business Models for data dissemination

3 main models:

1. Commercial Services (GoogleMap, Bing, etc.)
2. User Generated Content (OpenStreetMap and corresponding API: Cloudmade, Mapbox, Mapquest, etc.)
3. Public service (French GeoPortail, Indian Buhvan ..)
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→ Google Map Maker

Attribution-ShareAlike “CC BY-SA”
→ Open Street Map

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→ Some Public Organizations
Data from satellite imagery

http://www.unitar.org/unosat/horn-africa-data
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(1) Copies of all mapping products and new data created using Map Maker Source Data, as follows:
(a) Trusted third party licensees will email to Google (at mapmaker-data-upload@google.com) a copy of all such new data in accordance with the following format, schema, and other technical requirements:

http://mapmaker.google.com/datadownload
World Bank & Google join forces to empower mapping communities around the world

World Bank and Google announce a collaborative agreement aimed at improving disaster preparedness and development efforts in countries around the world.

Under this agreement, the World Bank will act as a conduit to make Google Map Maker source data more widely and easily available to government organizations in the event of major disasters, and also for improved planning, management, and monitoring of public services provision.
Working with Open Street Map

Map by Humanitarian

Map by Volunteer
Working with different data sources

Map Maker / Open Street Map

Working with different data sources

Problematic block identification

Conflicting Sources

Legend
- Secondary road
- Road
- Path
- Footway
- Residential
- Service
- Track
- Unclassified
Working with different data sources

What an NGO could produce

Conflicting Sources
Matching feature type

Features in Google

- administrative
country
land_parcel
locality
neighborhood
province
all
landscape
man_made
natural
poi
attraction
business
government
medical
park
place_of_worship
school
sports_complex
road
arterial
highway
local
transit
line
station
airport
bus
rail
water

Amenities for Health Care in OSM

- healthcare
  - baby_hatch
    - a place where you can drop a baby anonymously for adoption
  - clinic
    - A medium-sized medical facility or health centre.
  - dentist
    - A dentist practice / surgery.
  - doctors
    - A doctors' practice / surgery.
  - hospital
    - Often used in conjunction with emergency=* to note whether or not the hospital has emergency facilities (A&E (brit.) or ER (am.))
  - nursing_home
    - A home for disabled or elderly persons who need permanent care. See social_facility=* for more details.
  - pharmacy
    - Pharmacy dispensing=yes dispensing=no or omitted
  - social_facility
    - A facility that provides social services.
  - veterinary
    - A place where a veterinary surgeon (vet) practices.
Maps are a view of the world

Maps are highly political and display a certain perception of a political context...

In a humanitarian context, OSM or Google are not reliable source of Information in themselves...
Western Sahara
Border with Israel (Golan)
Toward a Humanitarian data repository?

Mixed Business model?

Non-defined licenses?

HXL and Geo-triplestore repository?