A Conversation with…

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Bureau of Intelligence and Research

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Disclaimer

The material in this presentation does not represent official views of the U.S. Department of State.
Mapping the World…

Office of the Geographer and Global Issues

Bureau of Intelligence and Research

Open/Democratic Data…
**The Geographic Information Unit (GIU)**
Office of the Geographer and Global Issues • U.S. Department of State

### International Boundaries
As the U.S. Government authority on international boundary depiction and policy, the GIU:
- Coordinates production of the Large Scale International Boundaries (LSIB) dataset; most accurate worldwide digital data source, available to the public.
- Advises Department of State policymakers on international boundaries and disseminates international boundary policy to the U.S. Federal Government.

### Mapping and GIS Support
The GIU supports the Department of State with mapping, and with geographic information systems (GIS) analysis and production, to further foreign policy objectives.

### Geographic Names
GIU represents the Department on the U.S. Board on Geographic Names, and chairs the Board’s Foreign Names Committee.

### Sovereignty Issues
The GIU advises Department of State policymakers on political sovereignty issues with decades of supporting historical records; disseminates mapping policy to U.S. Government cartographers.
HIU
Building a global information network of institutions and individuals

Leveraging USG Geographic and Satellite Data
- NGA, USGS, NOAA
- High resolution commercial satellite imagery

Natural Disasters
- Preparedness and risk reduction
- Recovery and resilience
- Emergency response

Open Data
- Linked with White House Open Government Initiative
- Open data and open platforms for improved crisis mitigation and response

Partner Engagement
- American Red Cross
- UN Agencies
- World Bank
- Humanitarian OpenStreetMap Team

GeoDiplomacy
- Digital diplomacy through collaborative mapping
- Crowdsourcing new data
- Empowering local communities

The Humanitarian Information Unit (HIU) is a division of the Office of the Geographer and Global Issues in the Bureau of Intelligence and Research, U.S. Department of State. HIU is an interagency center staffed by personnel from the U.S. Department of State (DoS), U.S. Agency for International Development (USAID), U.S. Department of Defense (DoD), National Geospatial-Intelligence Agency (NGA), and other technical and specialist personnel.
“Telling the Truth (or Lying) With Maps”

ATTACK AGAINST THE WORLD
Countries With Dead or Missing Citizens From the September 11 Attacks

Antigua and Barbuda  Argentina  Australia  Austria  Bahamas  Bangladesh  Barbados  Belgium  Belarus  Belize  Bolivia  Brazil  Cambodia  Canada  Chile  China  Colombia  Costa Rica  Czech Republic  Dominican Republic  Dominican Republic  Ecuador  Egypt  El Salvador  France  Germany  Ghana  Greece  Grenada  Guatemala  Guyana  Haiti  Honduras  India  Indonesia  Iran  Ireland  Israel  Italy  Jamaica  Japan  Jordan  Kenya  Lebanon  Luxembourg  Malaysia  Mexico  Netherlands  New Zealand  Nicaragua  Norway  Pakistan  Panama  Peru  Philippines  Poland  Portugal  Romania  Russia  Saint Kitts and Nevis  Saint Lucia  Saint Vincent and the Grenadines  Slovakia  South Africa  South Korea  Spain  Sri Lanka  Sweden  Switzerland  Thailand  Trinidad and Tobago  Turkey  Ukraine  United Kingdom  Uruguay  Uzbekistan  Venezuela  Zimbabwe
EEBC wants pillar placed here. Eritrea disagrees.

The town of Ura was put in Eritrea, but it is impossible to get to it without coming from Ethiopia. Moreover, its school and church are on the Ethiopian side.
Liancourt Rocks

(U.S. Board on Geographic Names sole official name)

Variant names:

Hornet Islands,
Take-shima, Take Sima,
Matsu-shima,
Tok-do, Dok-to, Dok-do,
Dog-do, Chuk-to
Indonesian Resources and China’s Nine-Dash Line

- Gas, oil and/or condensate field
- Hydrocarbon contract block
- Chinese outposts
- Open well
- Pipeline

Scale:
- 0 50 100 Kilometres
- 0 50 100 Nautical miles

- Area of apparent overlap between claimed Indonesia EEZ limits and Chinese dashed line
- Approximately 15,000 square nautical miles
- Approximately 11,150 square nautical miles
- Natuna D-Ahlo field
Support for Diplomacy: Analysis of Israeli and Palestinian Actions in the Occupied Territories
Fieldwork: Real-Time Georeferenced Sitreps

Iraq:
Humanitarian Update
DART Report March 30-31, 2003

Legend
- DART Report
- Dust Divided Highway (Casing)
- Dust Divided Highway
- Primary Road
- Secondary Road
- Railroad
- Active Airfield
- Built-up Area
- River
- Open Water
- Inland Water
- Coastline
- Ind. Boundary
- Ind. Boundary Overlay
- Destroyed Marsh and Wetlands
- Al Subaylat Depression

Sources: NIMA Reference Map, DART Team member

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Information based on (OCHA) Rapid Assessment forms.
Today, 2.4 billion people in the world do not have access to basic sanitation. Most of them reside in Southern Asia (953 million) and Sub-Saharan Africa (695 million). Access to basic sanitation facilities close to home is critical to maintaining healthy and safe populations. Worldwide, 1.1 billion people currently defecate in the open. Open defecation helps diseases and parasites spread and can contaminate drinking water supplies. While 2.1 billion people have gained access to basic sanitation since 1990, Millennium Development Goal Target 7C of halving the proportion of the population without basic sanitation by 2015 was not met.

Sustainable Development Goal 6 aims to ensure availability and sustainable management of water and sanitation for all.

Access to basic sanitation lags in many African cities

<table>
<thead>
<tr>
<th>City</th>
<th>Access to basic sanitation</th>
<th>Access to basic sanitation in major African cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazzaville, Rep. of the Congo</td>
<td>8.2%</td>
<td>16%</td>
</tr>
<tr>
<td>Kumasi, Ghana</td>
<td>12.5%</td>
<td>12%</td>
</tr>
<tr>
<td>Kinshasa, Dem. Rep. of the Congo</td>
<td>13.5%</td>
<td>13%</td>
</tr>
<tr>
<td>Dar es Salaam, Tanzania</td>
<td>19.6%</td>
<td>19%</td>
</tr>
<tr>
<td>Antananarivo, Madagascar</td>
<td>19.6%</td>
<td>19%</td>
</tr>
<tr>
<td>Addis Ababa, Ethiopia</td>
<td>21.9%</td>
<td>22%</td>
</tr>
<tr>
<td>Conakry, Guinea</td>
<td>22.4%</td>
<td>22%</td>
</tr>
<tr>
<td>Kampala, Uganda</td>
<td>23.4%</td>
<td>23%</td>
</tr>
<tr>
<td>Accra, Ghana</td>
<td>25.6%</td>
<td>26%</td>
</tr>
<tr>
<td>Bamako, Mali</td>
<td>25.8%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Names and boundary representation are not necessarily authoritative.

Open mapping initiatives are improving the assessment of community needs:

- Reliable data on the locations and numbers of toilet facilities, especially in poor settlements, are critical to assessing needs and planning for improvements.
- Open mapping initiatives such as HIU's MapKibera facilitate essential data collection. The MapKibera project, an open mapping initiative that began in October 2009 in Nairobi, Kenya, has led to a sharp increase in the number of sanitation facilities mapped in the Kibera slum and a more accurate assessment of community needs. Only 31 toilets were mapped in Kibera in 2010, compared to 543 toilets mapped in 2016.
Lebanon: Impacts of Hostilities on the Agricultural Sector of Southern Lebanon

Unexploded cluster bombs have affected an estimated 25% of total crop area in southern Lebanon. Access to fields will be limited and dangerous until unexploded ordnance is cleared. Cluster bomb sites are depicted here as 500 m radius from the identified site.

Fires from shelling based upon NASA/JMD interpretation of NCDIS imagery at 1km resolution, depicted here as 1 km radius of point location.

The agricultural sector represents up to 80% of household income in southern Lebanon. Citrus, bananas, and truck farming represent the largest portion of overall crop production in the region. Losses to the crop harvest have been largest in truck farming, citrus and banana crops. However, the value of lost production is greatest in the citrus and banana crops. Direct losses due to bombing represent 16% of all losses, with much of the loss (84%) due to abandoned fields.

Overall, the agricultural sector in Lebanon as a percentage of GDP was projected by the IMF to approach 27 million US Dollars by 2010. Projected decreased agricultural production, based upon the period in the 1980s when previous hostilities between Lebanon and Israel occurred, show that it may take four years to recover. Total lost agricultural income may reach 15.4 million US Dollars.
Public Diplomacy: Darfur

Collaboration with Amnesty International, AAAS, Holocaust Museum, Google Earth
Accountability and Justice requires systematic data compilation

Darfur Atlas
State/DRL, INR, USAID & NGO partners

Darfur Crisis
- Drawing all-source data from a variety of partners
- Collaboration between State, NGA, and USAID
- Facilitating declassification of data
- Series of products over time

INTERVIEW PROJECT IN CHAD:
State/DRL, INR/GGI, USAID & NGO partners
Documenting Atrocities in Darfur
The new digital data landscape

Global
- Land Use
- Demographics
- Global Climate
- Sea Surface Temperature
- Digital Elevation
- Food and Fiber
- Disaster Preparedness
- Biodiversity
- Coastal Sensitivity

State Scale
- Land Use/Land Cover
- Precision Agriculture
- Hydrologic Modeling
- Transportation Planning
- Smart Growth
- Public Health
- Disaster Response
- Weather

Local Scale
- Individual Scale
- Genetic Scale

Adapted, with permission, from Dan Sui, The Ohio State University
Need for better foundation data globally on human geography in order to gain a better understanding of people and cultures to support human security, humanitarian assistance/disaster relief and emergency preparedness, response and recovery

https://wwhgd.org/
BUILDING A "SATELLITE" TO COLLECT HUMAN GEOGRAPHY DATA

- Priorities
- Gaps
- Scale
- Cost
METHODS: Partnerships, participatory, community-based, local knowledge, ownership

Spatial Networks
GeoSHAPE
Imagery to the Crowd

Collaborative Mapping
OpenStreetMap
MapGive Mapathons

Participatory Mapping

Bottom up vs. Top Down

Humanitarian organizations use mapped information to plan risk reduction and disaster response activities that save lives.
Community volunteers add local detail such as neighborhoods, street names, and evacuation centers.
Remote volunteers trace satellite imagery.

Sharing
GeoNode
MapStory
Secondary Cities
Resilient, sustainable, and better mapped cities

In 2014 close to one half of the world’s urban population lives in settlements with fewer than 500,000 inhabitants

Cusco
### Satellite Imagery – Support for Natural Disaster Support

<table>
<thead>
<tr>
<th>Event</th>
<th>Mappers</th>
<th>OSM Edits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 <em>Haiti Earthquake</em></td>
<td>640</td>
<td>1.4 million</td>
</tr>
<tr>
<td>2013 <em>Typhoon Haiyan (Philippines)</em></td>
<td>1600</td>
<td>4.5 million</td>
</tr>
<tr>
<td>2015 <em>Nepal Earthquake</em></td>
<td>7000+</td>
<td>10.6 million</td>
</tr>
</tbody>
</table>
Satellite Imagery Support

MapGive & Imagery to the Crowd
You can help. Map any place in the world even if you've never been there.

Map data is key to humanitarian and development missions. MapGive helps new volunteers learn to map and get involved in online tasks.

http://mapgive.state.gov
Office of the Geographer

Official Activities (including those that are Congressionally-mandated):

• Keeping track of countries and their official names.
• Standardizing geographic names for USG
  – Chair of the Foreign Names Committee of the US Board on Geographic Names.
• Dissemination of international boundary policy.
• Dissemination of territorial sovereignty policy.
• Official point of contact for geographic inquiries.
• Using geospatial technology to support foreign policy:
  • - Support for public and private diplomacy
  • - Boundary negotiations
  • - Intelligence analysis, on global issues

Today’s Global Issues Focus is On “Soft/Smart” Power:

• Complex Humanitarian Emergencies:
  – Humanitarian Planning Maps and Information Centers
  – Transparency and Partnerships
• Peacekeeping/UN Security Council Issues.
• War Crimes, Atrocities, Early Warning.
• Democracy and Human Rights.
• Natural Disasters.
• Environment and Sustainable Development.
• Water, Food, Energy Security, Climate Change
• “Civilian Security” – QDDR reform; Human Geography
Boundary negotiations and verification

Satellite Imagery and Geographic Information Systems have revolutionized the way the US government is able to analyze, verify, negotiate, and mediate international boundaries.

Despite these technological advances, ground truth and library/archival research remain critical components of understanding – defining, delimiting, and demarcating -- international boundaries.
Boundary as drawn on NGA maps and Russian maps

Correctly drawn boundary by GGI

Afghanistan

Pakistan
3D Visualisation Flyovers