





AfricaGIS 2019

Dr Lee Schwartz

The Geographer, U.S. Department of State

Kigali, Rwanda November 19,2019

VIEWS EXPRESSED DO NOT NECESSARILY REFLECT THE POLICY OF THE U.S. DEPARTMENT OF STATE OR THE VIEWS OF THE U.S. GOVERNMENT.





Friday, November 22



State of the Map (SoTM) Africa, 2019 Cote d'Ivoire, Nov. 22-24



National Geography Awareness Week, 10-16 November, 2019. "Igniting the Spirit of Exploration"



Geography 2050 with American Geographic Society; New York, New York





Mapping the Okavango Wilderness Project National Geographic Society

November 2019:

10th Anniversary of Map Kibera





- International boundaries and sovereignty issues
- GIS, cartography, imagery ٠
- Political Geography

- Food and water security ٠
- Public health / infectious disease
- **Environment and energy**
- Human rights / atrocities prevention
- War crimes and early warning
- Human and wildlife trafficking

- **Natural Disaster response**
- **Visual Analytics: best practices**
- **Special Projects:** •
 - Secondary Cities
 - MapGive

SUSTAINABLE G ALS





GOOD HEALTH

AND WELL-BEING

3

Democratic Republic of the Congo: Status of the Ebola Outbreak (June 2018)











3 GOOD HEALTH AND WELL-BEING



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Populations Impacted by Hunger and Disease (September 2017)



Humanitarian Mapping:

Conflicts Without Borders





Accessible via Google Earth







Since the beginning of this year Ethiopia has more new conflict-driven Internally Displaced Persons (IDPs) than any other country in the world, with over 1.4 million in 2018. Of the approximately 2.8 million total IDPs in Ethiopia, over 2.2 million are displaced due to conflict with the over 500.000 remaining displaced by climatic shocks, including drought- and flood-induced food insecurity. An estimated 7.9 million people in Ethiopia are in need of emergency food assistance, with those internally displaced being some of the most affected. Ethiopia is also home to over 900,000 refugees that require humanitarian assistance, and is the second largest host nation for refugees in Africa behind Uganda.

Integrated Food Security Phase Classification (IPC) in assessed areas FEWS NET food security projections for October

2018-January 2019 1. Minimal



















Unclassified



Secondary Cities (2C) Initiative

https://secondarycities.state.gov/



Emergency preparedness -- Urban resilience -- Human security

Rio + 10: World Summit on Sustainable Development WSSD, Johannesburg, 26 August-4 September, 2002



"People, Planet and Prosperity"

- Links between environment, poverty, and development

WSSD Johanesburg, 2002





SRTM 90 meter data – free download for African nations and peoples





Community 0111 earth



GEOGRAPHIC LEARNING

for Sustainable Development



Partnership: U.S. Department of State; Association of American Geographers; USAID; NASA

DOWN TO EARTH

Geographic Information for Sustainable Development in Africa

NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES



U.S. Department of State • Office of the Geographer

GDEST = Global Dialogues for Emerging Science and Technology

GDEST 2008: Geospatial Science & Technology for Sustainable Development in Africa

Objectives/Themes:

- Geospatial Science: Observing and Mapping Africa
- Analysis of regional challenges to Africa: Bring Science to Decision-making
- The Africa Data Stream: Cooperation, Collaboration, and Synchronization in the African Commons



Geospatial Sciences for Sustainable Development in Africa GDEST 2008: Global Dialogues on Emerging Science and Technology

U.S. Department of State

Office of the Science and Technology Adviser Office of the Geographer and Global Issues

Harnessing the flow of geospatial information in addressing the challenges of sustainable development in Africa



GDEST Site Visit Report

Goal: sustain partnerships and activities to:

- · Discover, access, and compile fundamental datasets;
- Build capacity;
- Support and sustain development.

DRIVEN BY PROVIDING FREE COMMERCIAL SATELLITE IMAGERY – open, accessible, shareable, interactive

HABITAT III – UN Conference on Housing and Sustainable Urban Development, Quito, Ecuador



Social Media Report

Postcards from Quito

10/18 Secondary Cities in Esmeraldas!

Today we announced the launch of a Secondary Cities partnership with Esmeraldas, Ecuador!

The Secondary Cities Initiative builds local capacity to harness geospatial technologies. These tools help build resilience against natural disasters and climate change, and also aid urban planning and management of growth.

Learn more at: goo.gl/Bvup1X



HABITATIII

Ambassador Todd Chapman, Mayor Lenin Jose Lara Rivadeneira and his wife, Ambassador Nancy Stetson, and US State Department Geographer Lee Schwartz at announcement of the partnership.

Building sustainable cities:

New Urban Agenda (2016) and
Sustainable Development Goals (2015)
built upon multiple global agendas;

- Integrated through city, regional, and national government partnerships;

 Need data and standards for measurements, transparency, accountability, and inclusion of non-traditional (industry or academic) partners.

Geospatial data is the link to better understand, explain, manage (and map) the urban environment.

https://www.weforum.org/agenda/2018/10/how-much-progress-has-been-made-on-the-new-urban-agenda/ https://www.undp.org/content/undp/en/home/blog/2018/cities-2030--implementing-the-new-urban-agenda.html



GLOBAL

SDG INTEGRATION

The 2030 Agenda

Mapping for Sustainable Development: MCC Hosts Its First-Ever Mapathon



Volunteers from USAID, the U.S. Department of State, and the Private sector participate in a mapathon hosted by the Millenium Challenge Corporation (MCC) in Wash, D.C. From March 9-May 15, 2015, the U.S. Department of State's MapGive project organized four Young African Leadership Initiative (YALI) Connect Camps in Tanzania and Namibia. Connect Camps are regional, week-long workshops for Mandela Washington Fellowship (MWF) alumni and their mentees.



The <u>workshops highlighted OpenStreetMap</u> as a community-driven resource.

Agenda Item 10 – Outcome of the Conference: The Future We Want

273. We request relevant UN agencies to identify options for a facilitation mechanism that promotes the development, transfer and dissemination of clean and environmentally sound technologies by, *inter alia*, assessing technology needs of developing countries, options to address them and capacity building. We request the UN Secretary General, on the basis of the options identified and taking into account existing models, to make recommendations

274. We recognize the importance of space-technology-based data, in situ monitoring, and reliable geospatial information for sustainable development policy-making, programming and project operations. In this context, we note the relevance of global mapping and recognize the efforts in developing global environmental observing systems, including by the Eye on Earth network and through the Global Earth Observation System of Systems. We recognize the need to support developing countries in their efforts to collect environmental data.

275. We recognize the importance of strengthening international, regional and national

B. Technology

Rio de Janeiro, Brazil 20-22 June 2012



UNITED NATIONS



RIO+20 United Nations Conference on Sustainable Development

US Congress: Geospatial Data Act (GDA) of October, 2018:

Reflects growing recognition of the essential role of geospatial data and technology in understanding and managing our world and fosters efficient management of geospatial data, technologies, and infrastructure

Importance of GI in Africa



EARTH OBSERVATION + PARTICIPATORY MAPPING HELP DRIVE DECISIONS





Mapping Internal Administrative Boundaries

- Event Goal: Discover, document, and distribute internal administrative boundary data
- Challenges:
 - No official source of internal admin boundaries
 - Some countries have good boundary data, but it has not been approved by their governments as an official set of boundary data.
 - Industry is moving ahead;

not waiting for official data.



Dr. Lee Schwartz, U.S. Department of State; Dr. Benjamin Lewis, Harvard University; Dr. Carmelle Terborgh, Esri; Mr. Craig Williams, UN OCHA; Mr. Lorant Czaran, UN Fund of Population/GRID3 Project; and Ms. Crystal Sholts, Google



Center for International Earth Science Information Network Earth Institute | Columbia University

October 2, 2019

National and Provincial Boundaries on the African Continent Saud Arabia Yemen Map Features National Boundaries Provincial Boundaries

GIS STANDARDS FOR COMBATING TRAFFICKING OF WILD FLORA AND FAUNA

Platform-Agnostic Standards for Source, Transit, and Destination Geographies

+ Demographic Information
Animal Information
Weapons Information
Seizure Information
Origin Information



Fieldwork: Mozambique and Madagascar



Combatting Wildlife Trafficking

With standardized geospatial data

Scan QR code to view geospatial data standards



Geospatial standards for combating wildlife trafficking incorporate multiple attributes and domains relevant to source, transit, and destination geographies.



Iterative editing and open

availability allow the data dictionary to be a living document yet still subject to communityderived standards that enable sharing and analysis to help combat wildlife trafficking.

Fields in the data dictionary are dynamic, meaning attribute entries trigger sub-fields that only appear to the user if the sub-fields are relevant.

Attributes have restricted domains, permitting only predetermined data types (i.e. integer, decimal, text, or date) or even offering a drop down list of acceptable entries.

These fields and domains are themselves dynamic and subject to additions and revisions by the user community.



WhoDiscovered

TransitMethod

ShipCompany



https://WWHGD.org



Many Challenges to Development and Good Governance Require Geographic Foundation Data



Thank You

• Questions?

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