

The logo for "Secondary Cities" features a stylized city skyline with houses and buildings of varying heights, with a blue wavy line representing water or a path at the base.

Secondary **CITIES:**

Mapping for Resiliency, Human Security and Emergency Preparedness

Humanitarian Information Unit
Office of the Geographer and Global Issues
U.S. Department of State



What are Secondary Cities?

Characterized by population size, function and/or economic status

- Urban centers of governance, logistics and production
- Small or mid-sized cities (population: 500,000 to 5 million)
- Usually 10-50% the size of the largest city

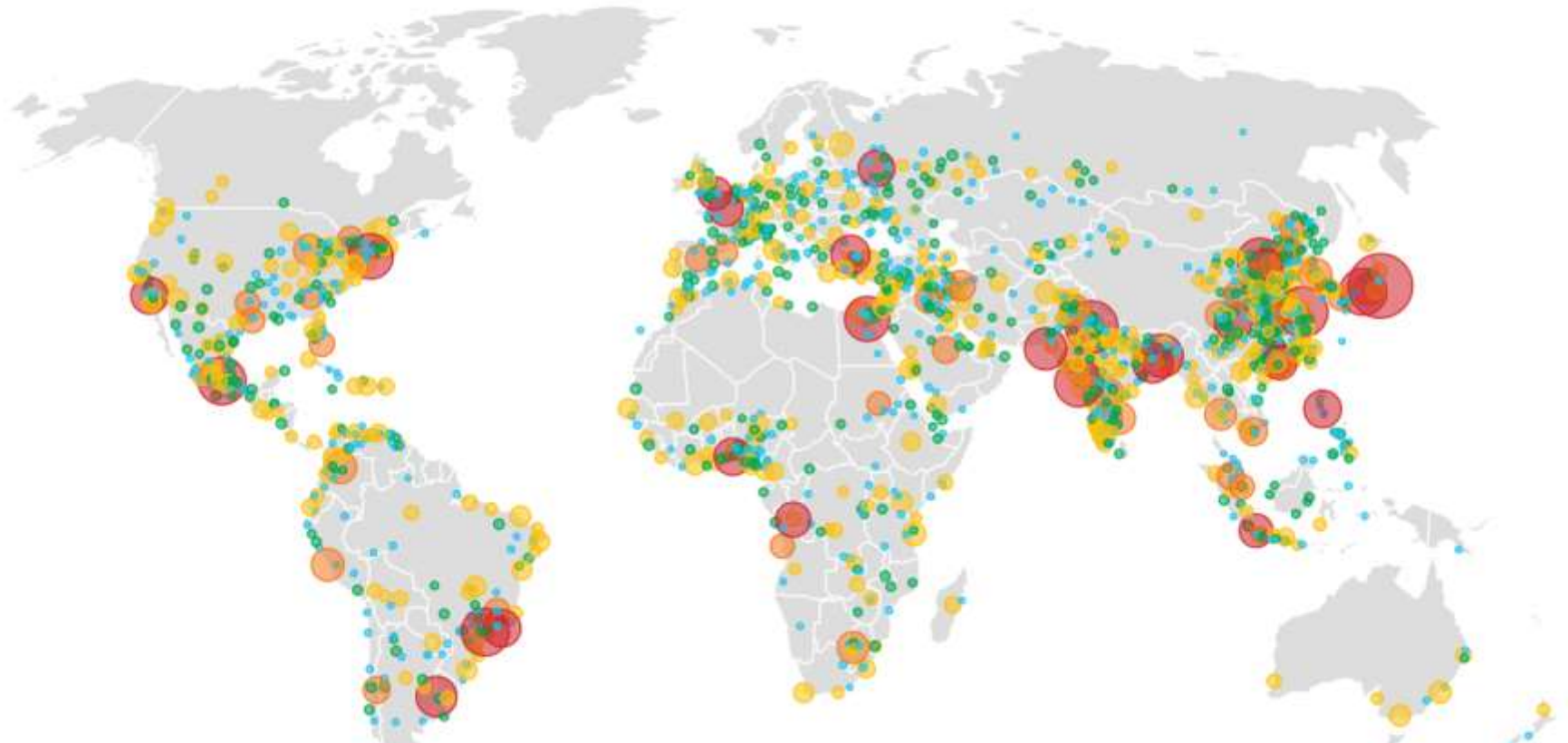
Unique environments that frequently **have gaps in** data

- Unplanned and informal growth patterns
- **Environmental security or sustainability issues**
- Under-studied places
- Newly emerging areas with high development potential

Where are Secondary Cities found?

Urbanisation, 2014

GLOBAL CITY POPULATIONS*



Source: <http://www.datainnovation.org/2015/04/visualizing-the-rise-of-megacities>



What is a Secondary Cities Project?

Building partnerships to create geospatial data on Secondary Cities

Enhancing understanding of Secondary Cities via data and mapping

Building local capacity in geospatial science-based decision making

Providing open geospatial data solutions

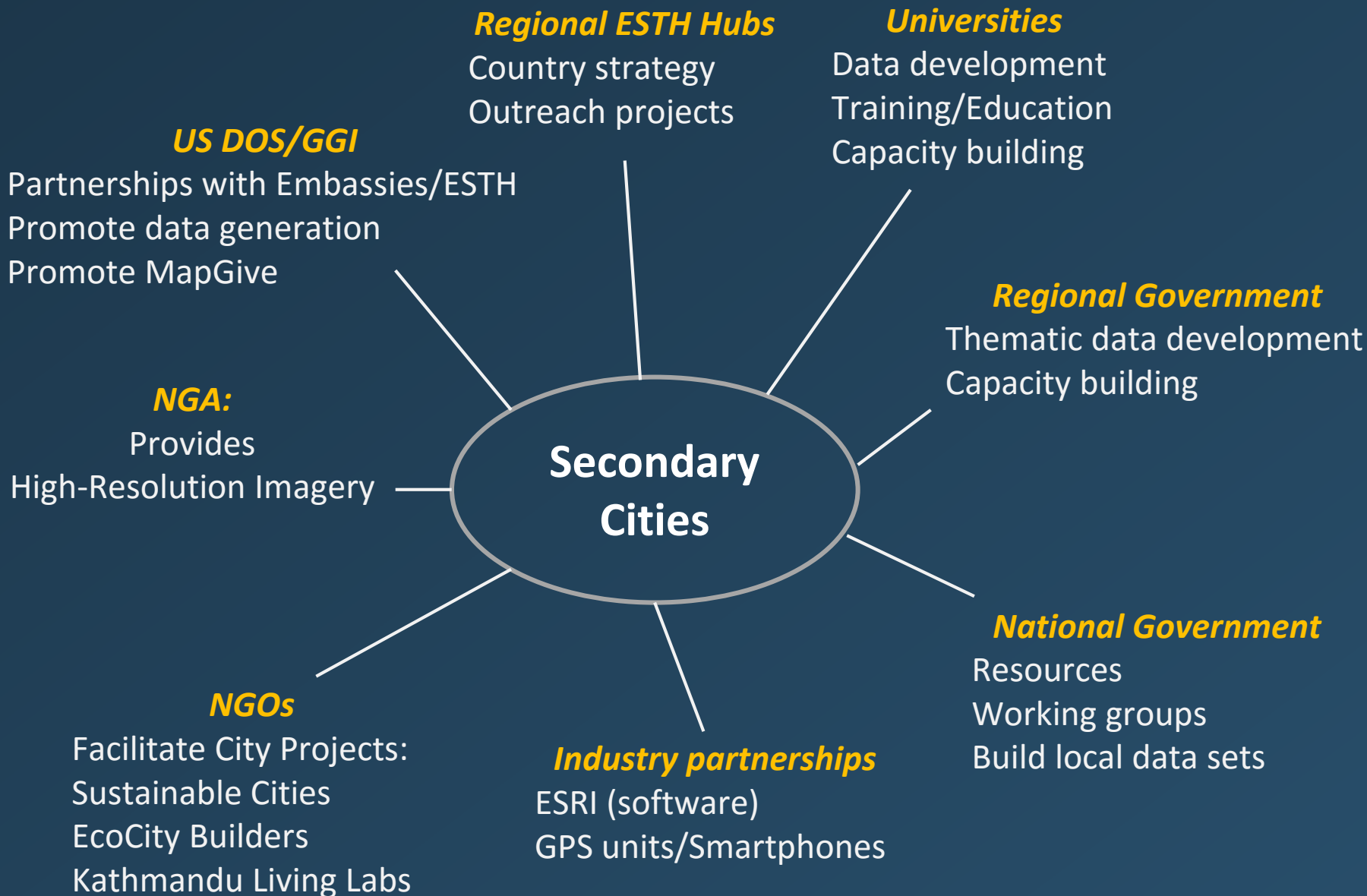
Facilitating long-term Secondary City partnerships and networks

How do we accomplish this?

Involve field-implementers (NGOs/universities)

Establish relationships with local partners

Identify priority issues





Data Generation

Human Geography Themes:

- Language
- Land use
- Health
- Religion
- Significant Events
- Transportation
- Water Supply
- Communications and Media
- Demographics/Population
- Economy
- Education
- Social Groups/Organizations

Data excerpt from Capstone project in Cusco, Peru:
Maternal and Infant Health clinic





Human Geography Themes

Ethnicity



Ethnicity

Religion



Places of worship

Demographics & Human Population



- Population distribution and density
- Settlements and urban areas

Groups & Organizations



Civil, political and ideological areas of influence

Language



Extent of main languages and key dialects

Land Ownership, Use/Cover



- General land use
- Agriculture

Education



- Type of schools
- Literacy rates

Water Supply & Control



- Surface water
- Annual rainfall and patterns
- Dams, water infrastructure

Health & Medical



- Hospitals and clinics
- Distribution of disease

Economy



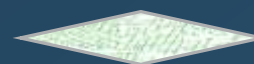
- Industries, businesses, markets/bazaars
- Electric power and oil/gas networks

Communication & Media Use



Broadcast media coverage

Transportation Use



Road and Rail Networks

Significant Events



Historic events, man-made and natural disasters



Technology and Tools

Baseline geographic data – gathering, integrating, and analyzing

Field data collection to fill gaps

- Mobile devices
 - Handheld GPS / GIS systems
 - Smartphones with mapping apps

Mapping and spatial analysis

- ArcGIS (donated by ESRI)
- Open source software - QGIS
- Spatial statistics

Imagery analysis & change detection

- Commercial high-resolution satellite imagery



Sharing Data & Best Practices

Open data

- OpenStreetMap data – foundational layers
- GeoNodes - data storage, organization & hosting layers of data, including existing background data

Best practices

- Metadata
- Quality Assurance / Quality Control
- Open and transparent
- Data sharing for project partners and the public



Project Engagement Plan

Scoping meetings and input from Kharkiv stakeholders

THEME: Emergency preparedness as it relates to vulnerable populations, mobility, and accessibility

Initial one-year city engagement

- Define themes, features, and attributes needed
- Collect and integrate existing data
- Regular follow-up with Secondary Cities teams
- Webinars on tailored topics

Benchmarks

- Two workshops in Kharkiv
- Regular progress reports
- Quarterly data generation updates
- On-going coordination



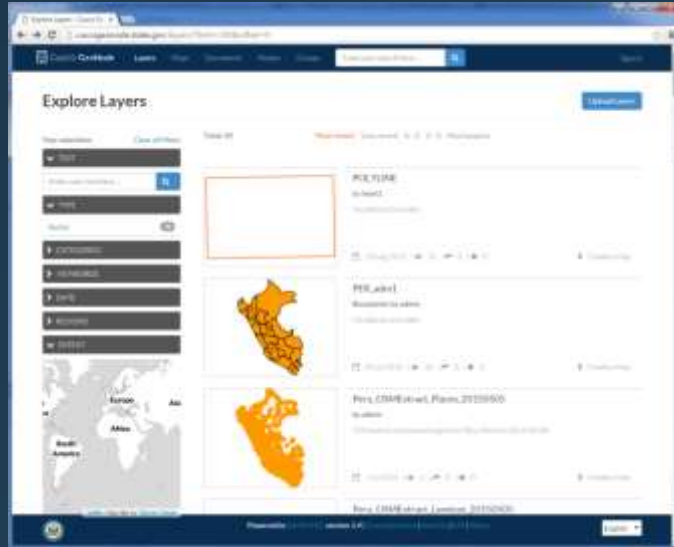
Pilot Project: Cusco, Peru

Worked with Science Hub Officer to identify study site in Peru

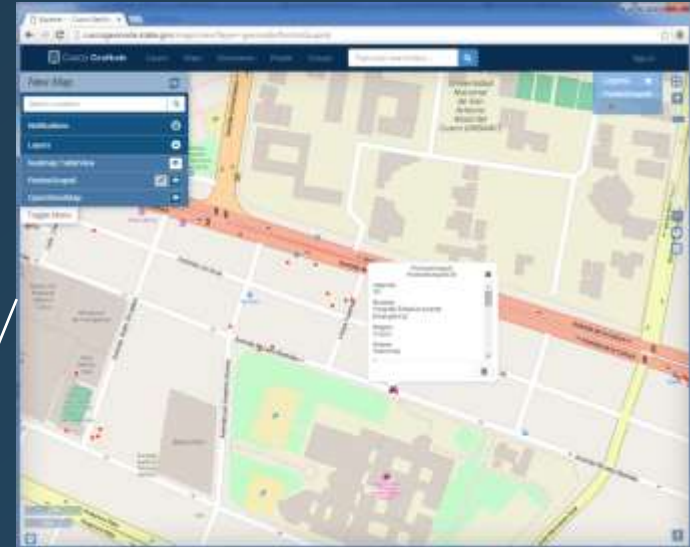
- Population: 432,654
- UNESCO World Heritage Site
- Historic preservation and Tourism
- Flood and Landslides
- Migration hub
- Rapidly changing



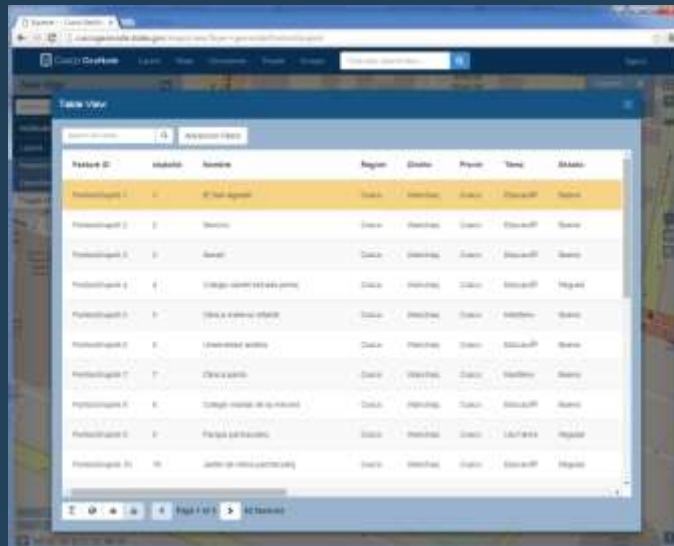
GeoNode: Cusco, Peru



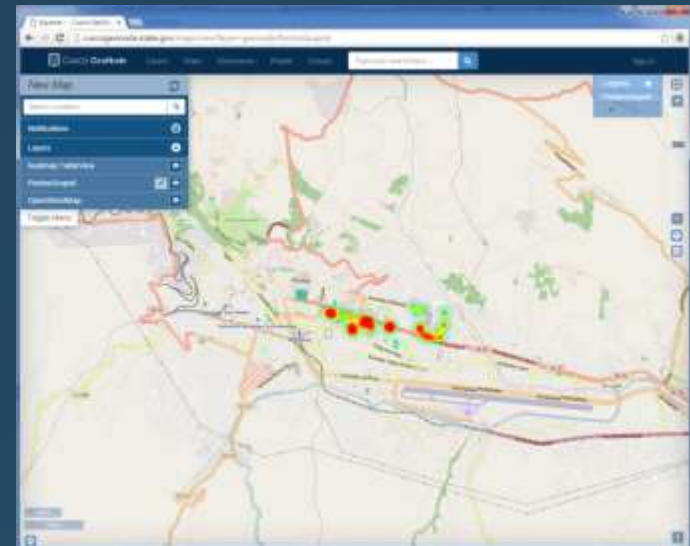
Local data uploaded



Data displayed on map



Data attributes



Overview of collected data



The Secondary Cities team with Workshop Attendees in Cusco, Peru



Further Information

Website: <https://secondarycities.state.gov>

Example of GeoNode: <http://cuscogeonode.state.gov>

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Secondary **CITIES**

OFFICE OF THE GEOGRAPHER

Дякую! Thank you! Спасибо!