



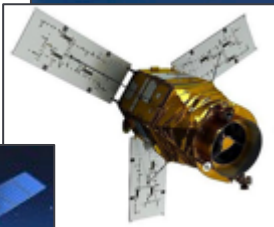
State of Play: Geospatial Analytics

May 2018

Technology Drivers Geospatial Analytics

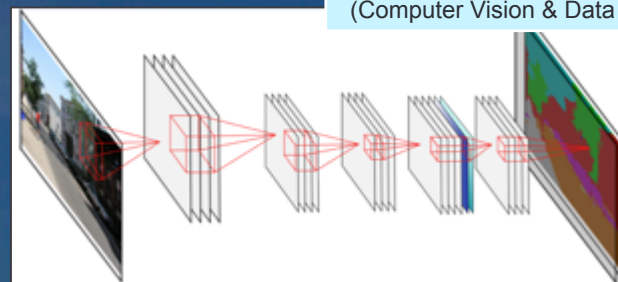
Commercialization of Space, Artificial Intelligence, Cloud & GPU

Commercialization
of Space

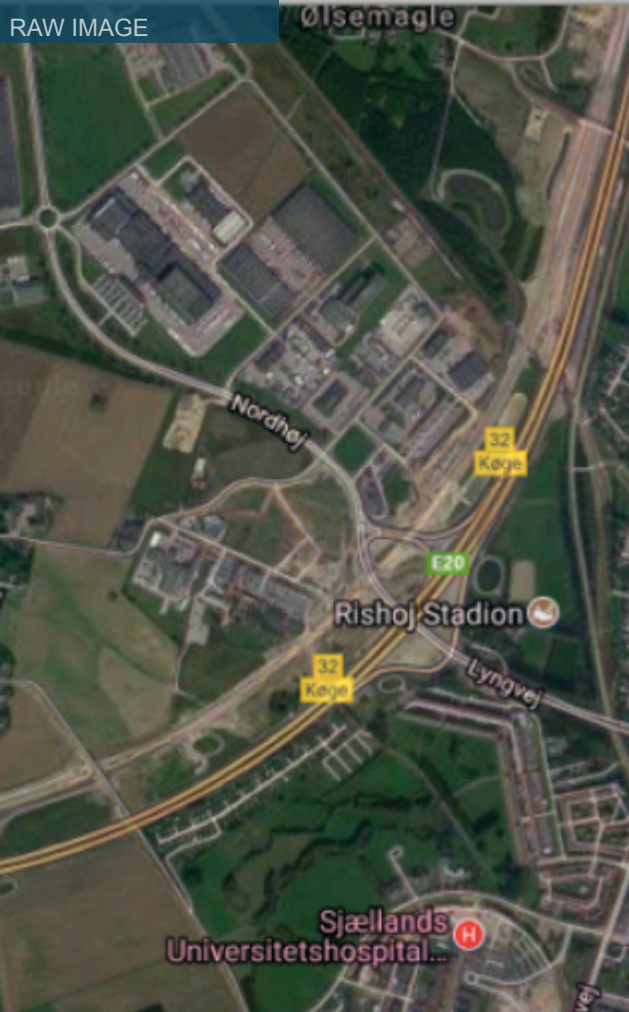


Cloud Computing &
Graphics Processing Units

Artificial Intelligence
(Computer Vision & Data Science)



RAW IMAGE



ROADS CLASSIFIED



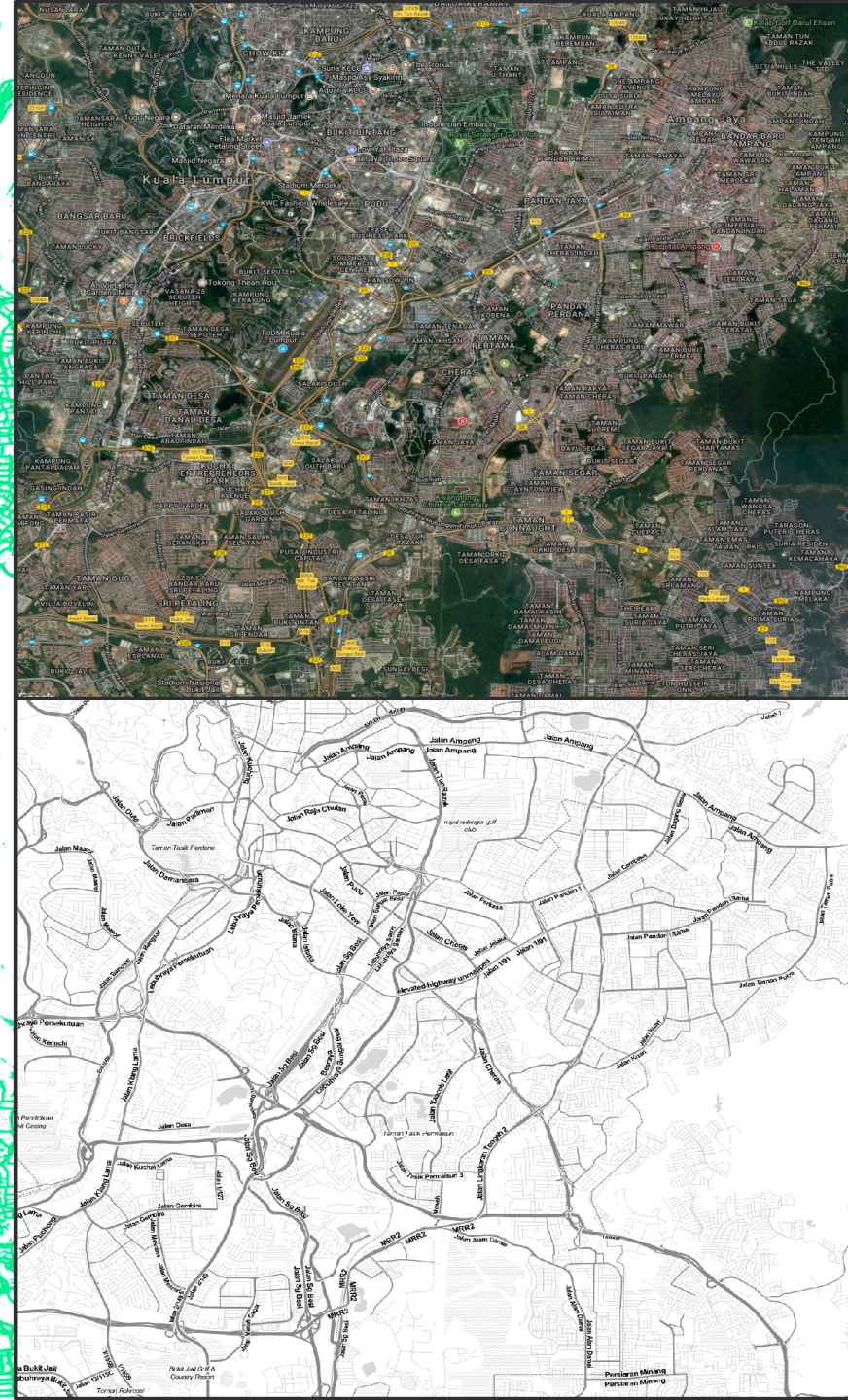
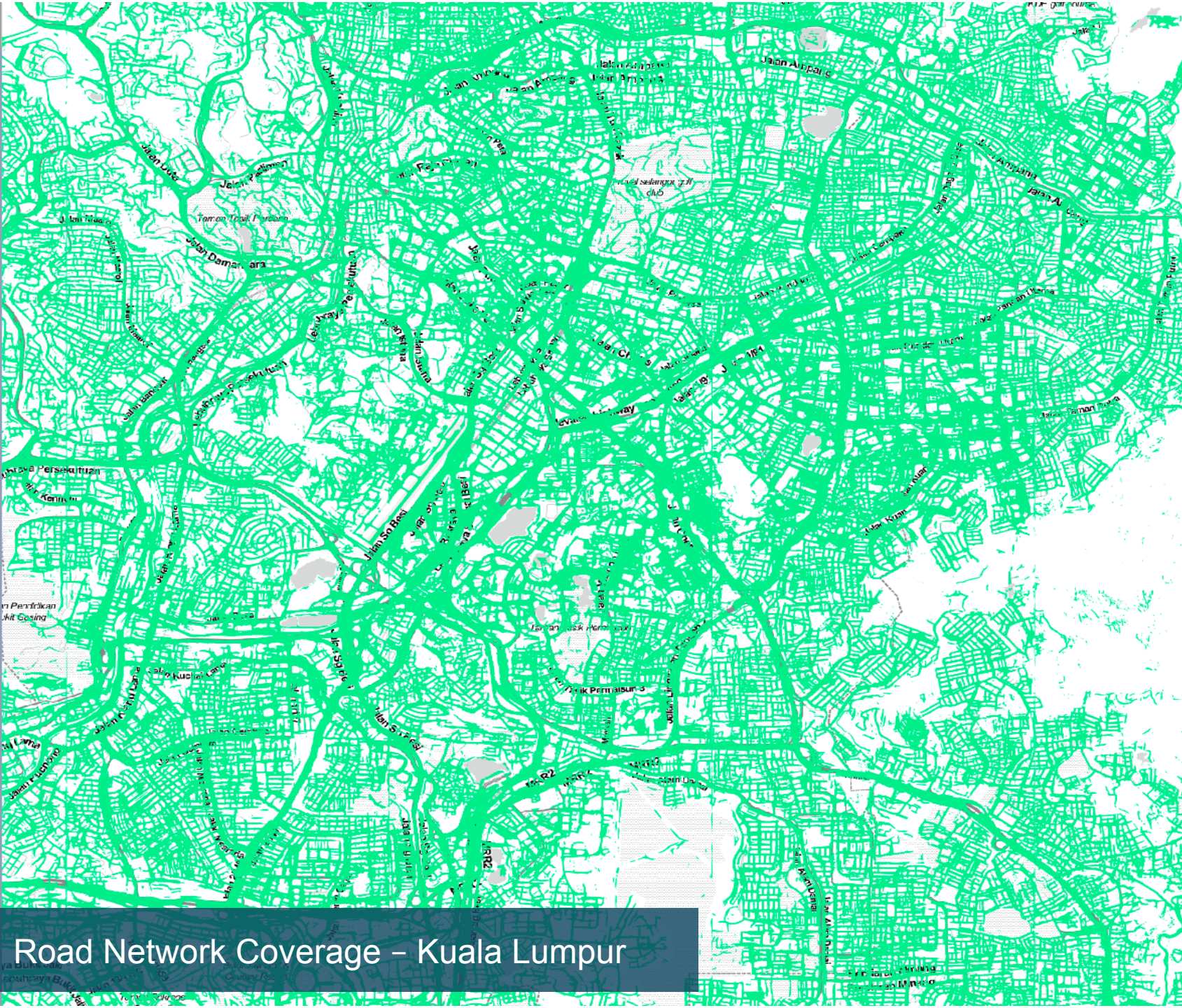
Land Use Classification

Tracking land use over time provides valuable insight into urbanization, transportation, access to resources, environmental degradation, and more

KØGE, DENMARK

Road Coverage Percentage

Pixel-Level Land Use Classification



Road Network Coverage – Kuala Lumpur

Opacity

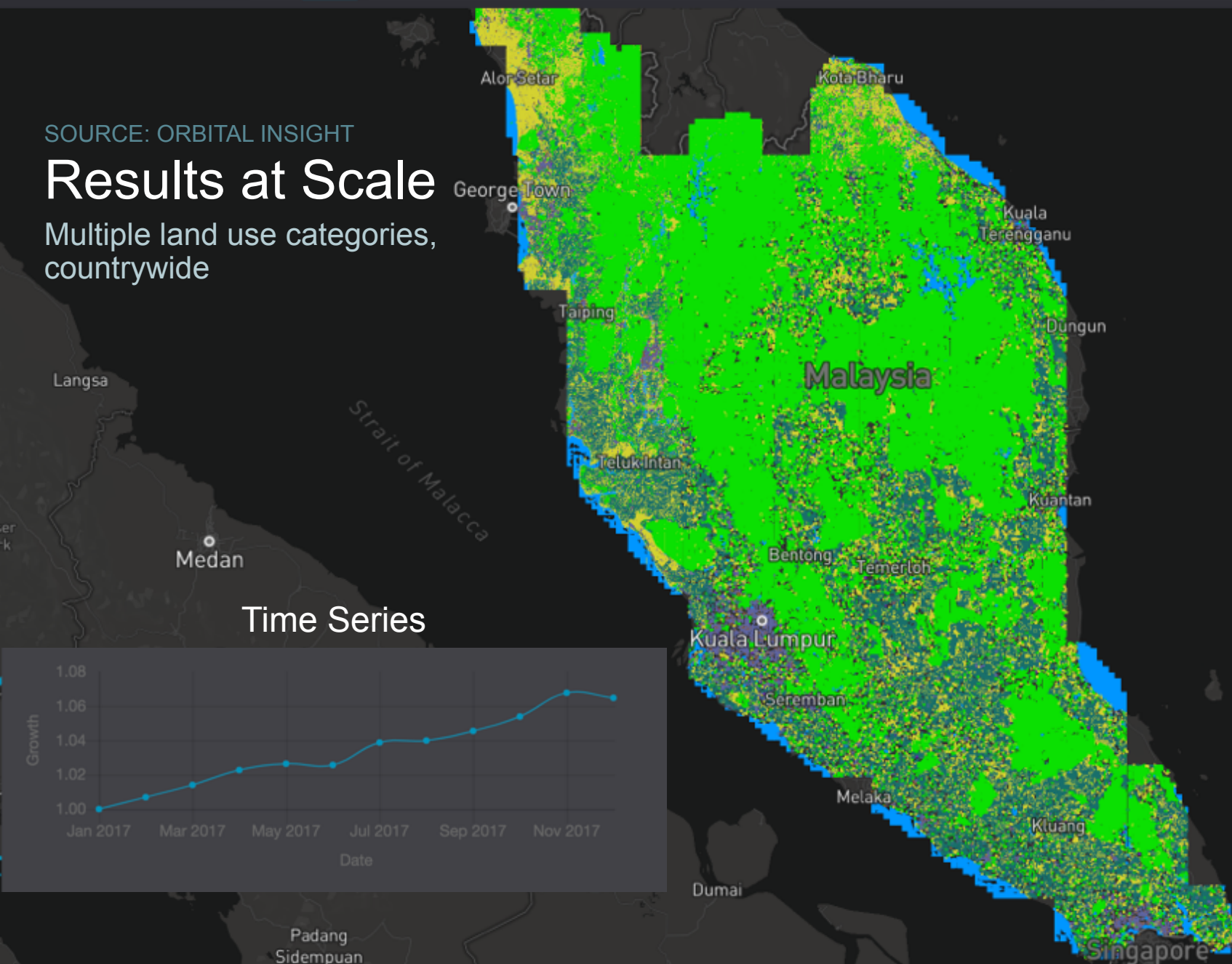
100%

SOURCE: ORBITAL INSIGHT

Results at Scale

Multiple land use categories,
countrywide

Time Series



Landuse Classes

- natural forest
- planted forest
- grass ag
- golf course
- urban
- water
- buildings
- roads
- parking lot
- mining


SOURCE: GOOGLE BASEMAP

Nanhui New City

Roads and Buildings Only

2016-03-27 - 2017-01-22

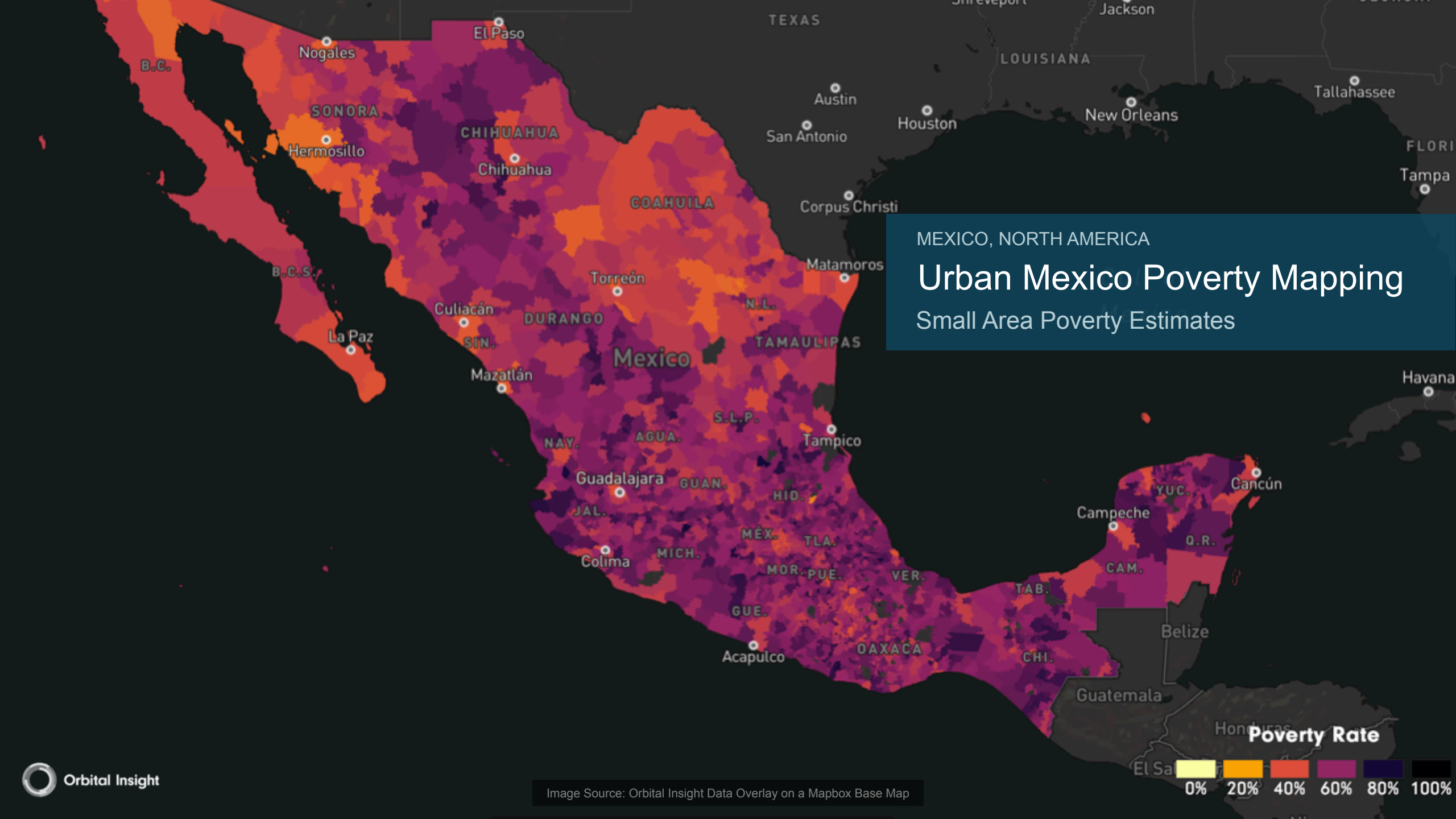
Algorithm	Growth Rate
Roads	.7%
Buildings	21.3%



Arabella Estates Housing Development

Rancho Cucamonga, California

AOI	Observation Date	Slab / Foundation	Under Construction	Roof Completion
Arabella Estates	4/21/17	6	5	29

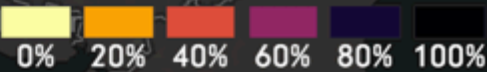


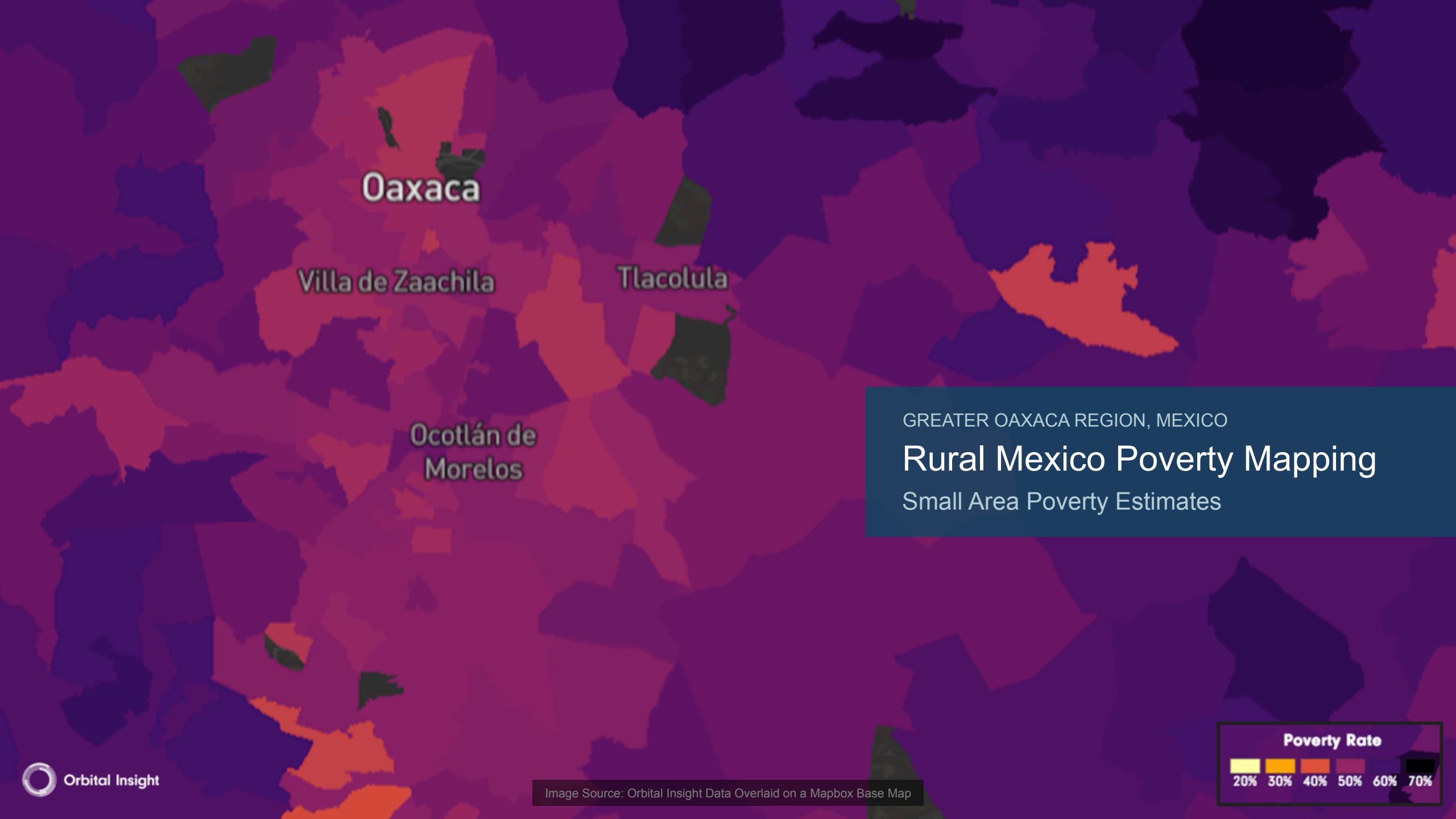
MEXICO, NORTH AMERICA

Urban Mexico Poverty Mapping

Small Area Poverty Estimates

Poverty Rate





Oaxaca

Villa de Zaachila

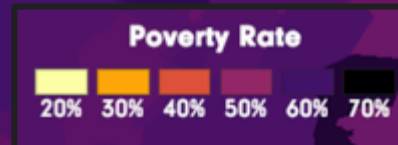
Tlacolula

Ocotlán de
Morelos

GREATER OAXACA REGION, MEXICO

Rural Mexico Poverty Mapping

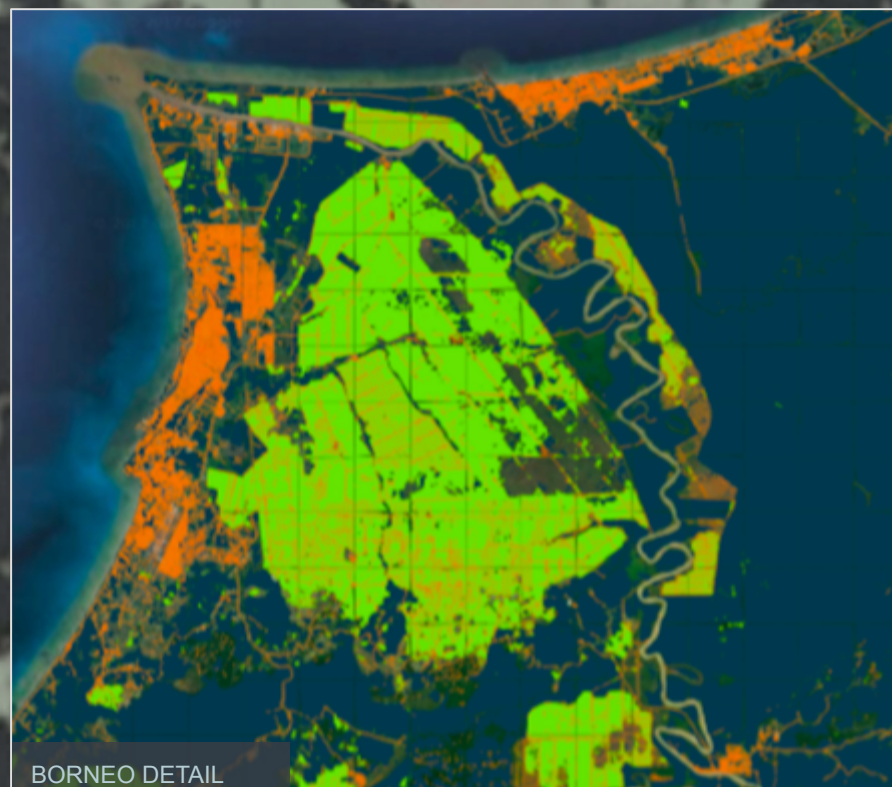
Small Area Poverty Estimates



BORNEO, INDONESIA

Deforestation

Land Cover Change Detection



Orange: Urban Areas
Light Green: Planted Forests
Dark Green: Natural Forests

FLOOD DETECTION

Hurricane Harvey

Texas, United States of America

Marine Cargo Case Study



Auto Import-Export Facility
Tianjin, China

Total cars in lot:
3,654

Estimated value:
\$124,236,000



Total cars in lot:
0

Estimated loss:
\$124,236,000

Wildfire Risk Assessment



California Wildfire Damage



Address	30ft Defensible Tree Area	100ft Defensible Tree Area	1 km ² Forest Area	1 km ² Grassland Area	Annual Probability of Loss
6261 Pueblo Dr., Magalia, CA 95954	82	121	4,210,432	7,445,983	0.67
5237 County Club Dr., Paradise, CA 95969	17	75	1,645,549	8,321,325	0.05
13795 Ferguson Dr., Magalia, CA 95954	99	234	5,116,982	6,327,534	0.51

Northern China

Steel Mill Monitoring

Observed Activity Using Infrared Imagery



Province	
Anhui	■
Guangdong	■
Hebei	■
Henan	■
Hubei	■
Inner Mongolia	■
Jiangsu	■
Jilin	■
Liaoning	■
Shandong	■
Shanghai	■
Shanxi	■
Sichuan	■
Tianjin	■

Hebei - 50 tons

Shandong - 18 tons

Jiangsu - 18 tons