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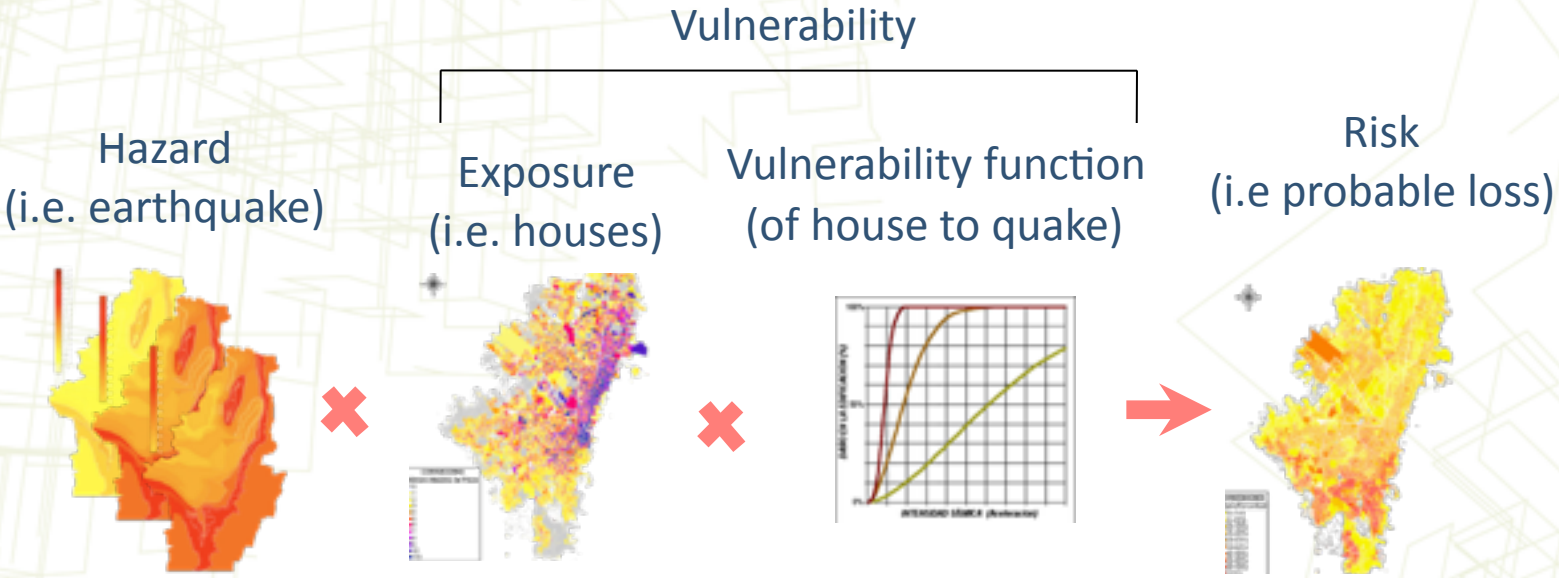
RISKYA
NULL ISLAND
Source: J Van Hoesen

Risk Assessments

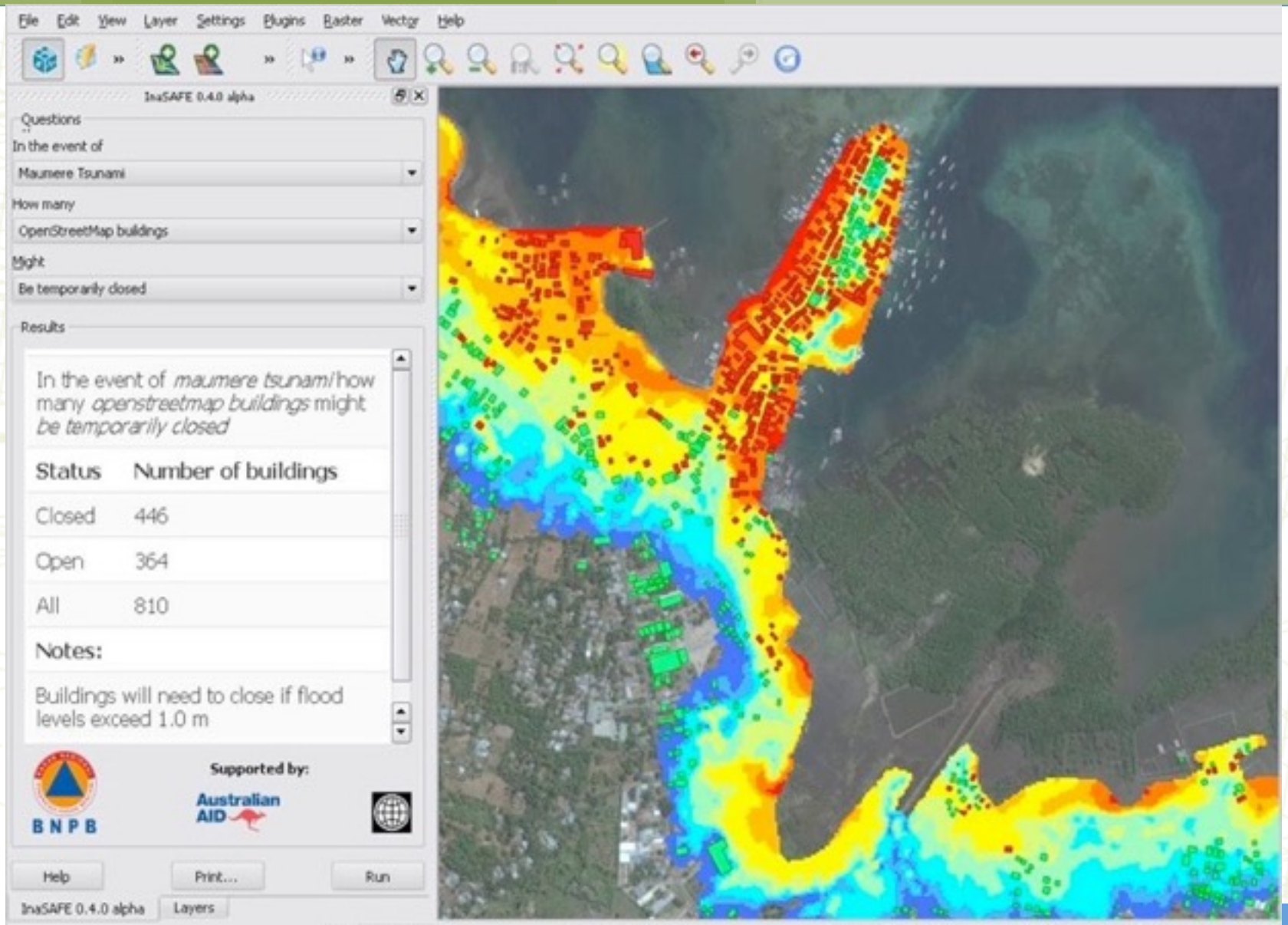
A critical step toward understanding risk and building resilience



Answers questions such as:

- What is the likely impact of an earthquake of a given magnitude on housing stock?
- Where should disaster management agencies preposition response assets in order to best respond to an event?
- How should we target retrofitting projects towards most at-risk infrastructure?

Flood Risk Assessment



Flood Hazard Model

For the purposes of today's exercise we just use digital elevation model, landcover information, and historic rainfall patterns

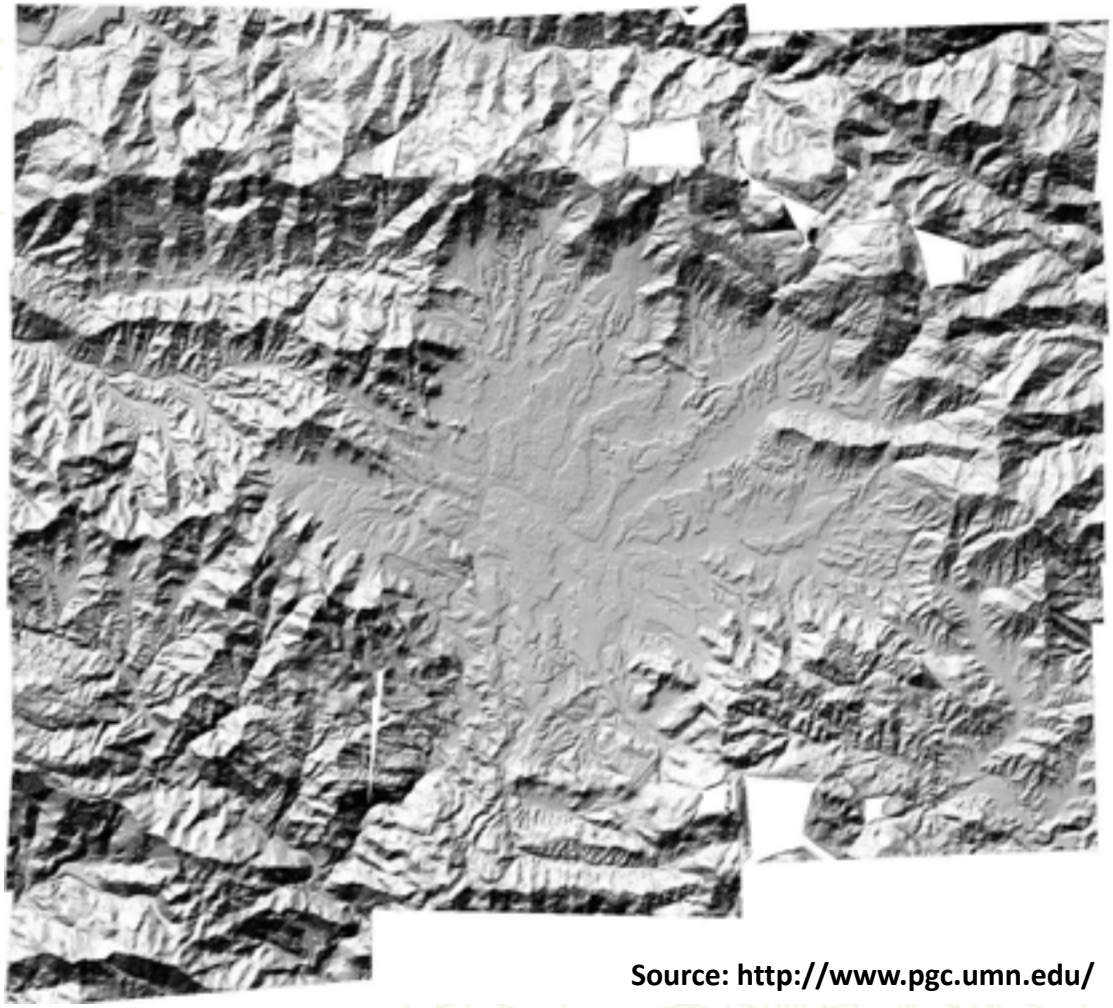
Asking the question, what will the water depth be under conditions of a 100 year rainfall event?

Flood Hazard: Digital Elevation Model

Source: Shuttle Radar Topography Mission (SRTM)

Resolution: 90m

Freely available from USGS



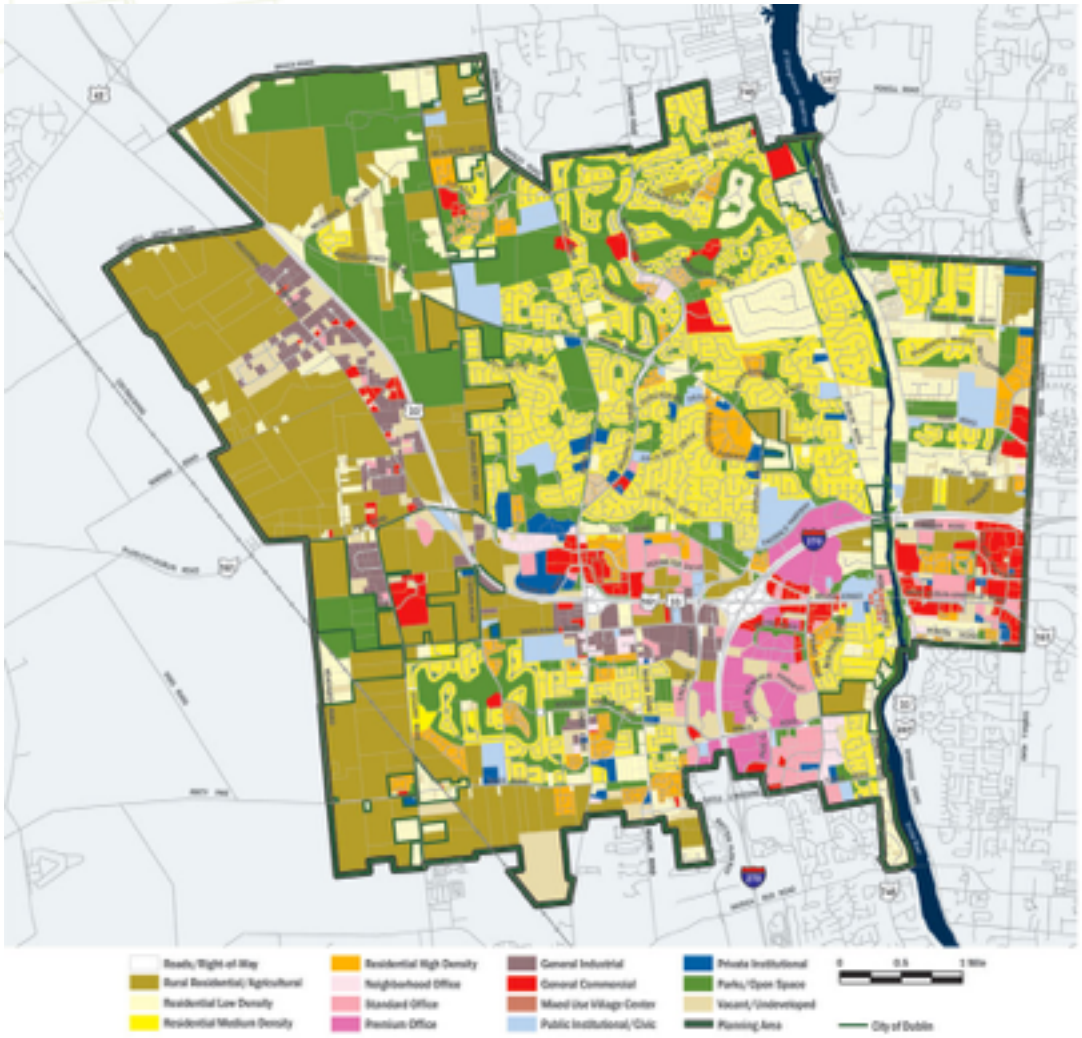
Source: http://www.pgc.umn.edu/

Flood Hazard: Landuse Map for Riskya

Source: Riskya Department of Urban Planning, 2005

Divides into categories of park and open space, agriculture, water, industrial use, residential, commercial

Made available to the Riskya Office of Emergency Management under an MoU for the sole purposes of this risk assessment



Source: http://communityplan.dublinohiousa.gov/

Flood Hazard: Historic Rainfall Data

Source: Null Island Meteorological Agency

Time period: 1996-Present

Coverage: North and central parts of the island

Availability: Directory of xls files given to project manager on zip drive

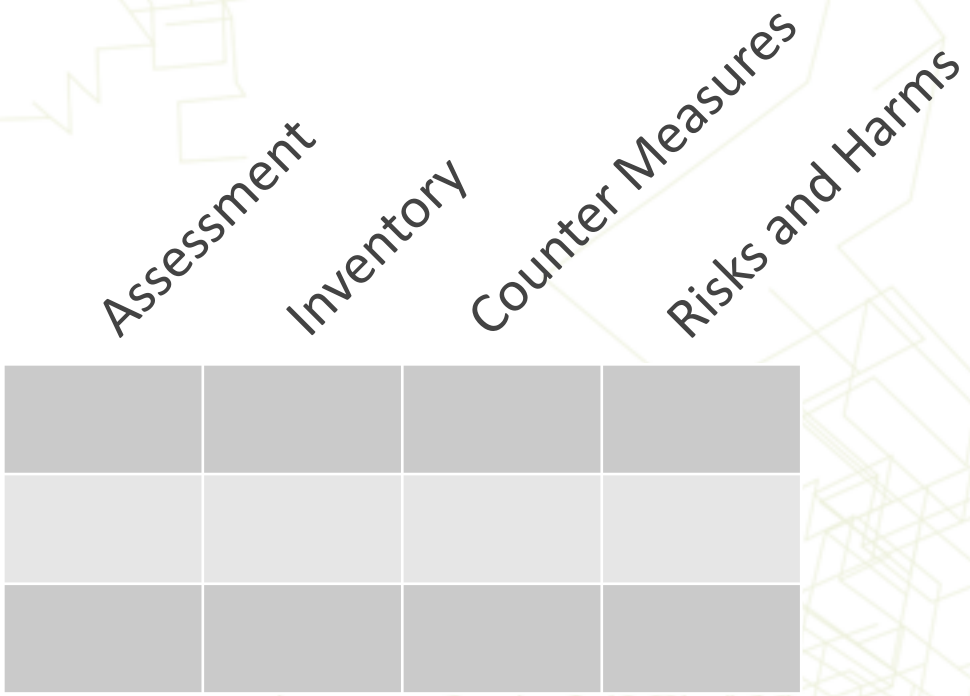
Source: NASA

Flood Hazard Model

Digital Elevation Model

Landuse Map

Historic Rainfall Data

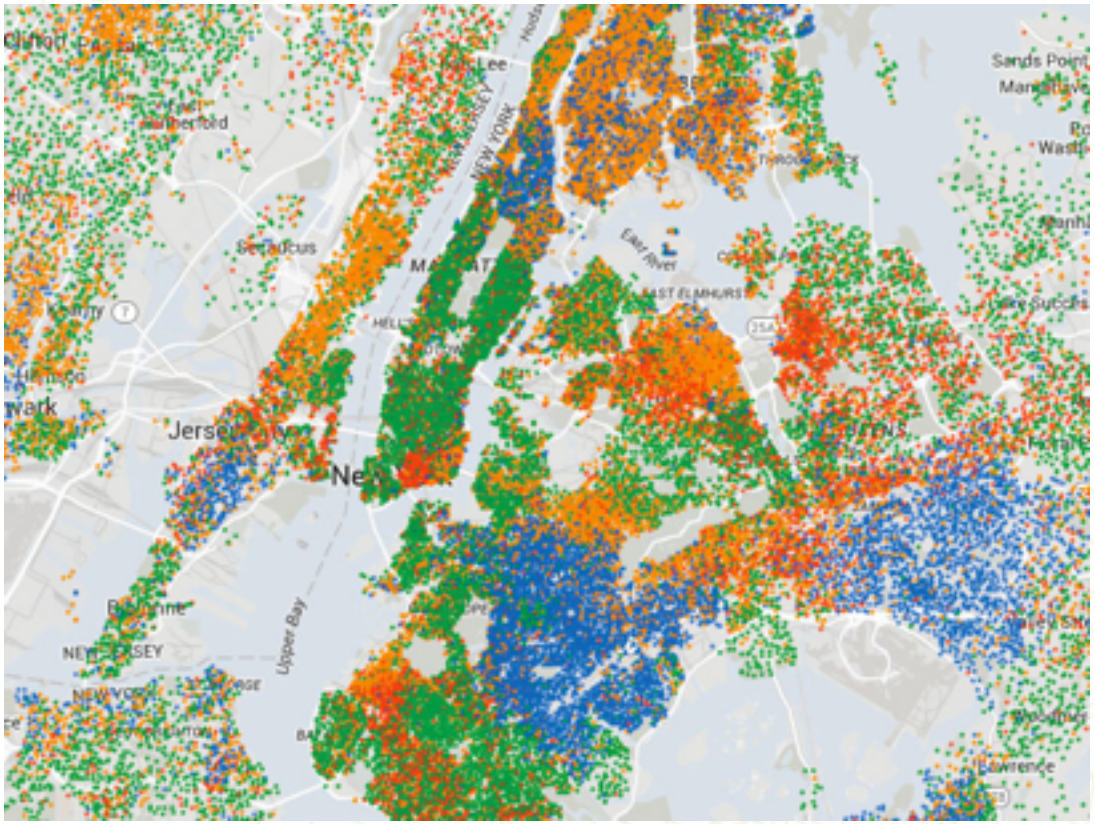


Exposure Data - Population

Source: Null Island Census Bureau, 2015

Resolution: Block level

Contains: Population, ethnicity, age, and income information



Source: New York Times

Exposure Data - Infrastructure

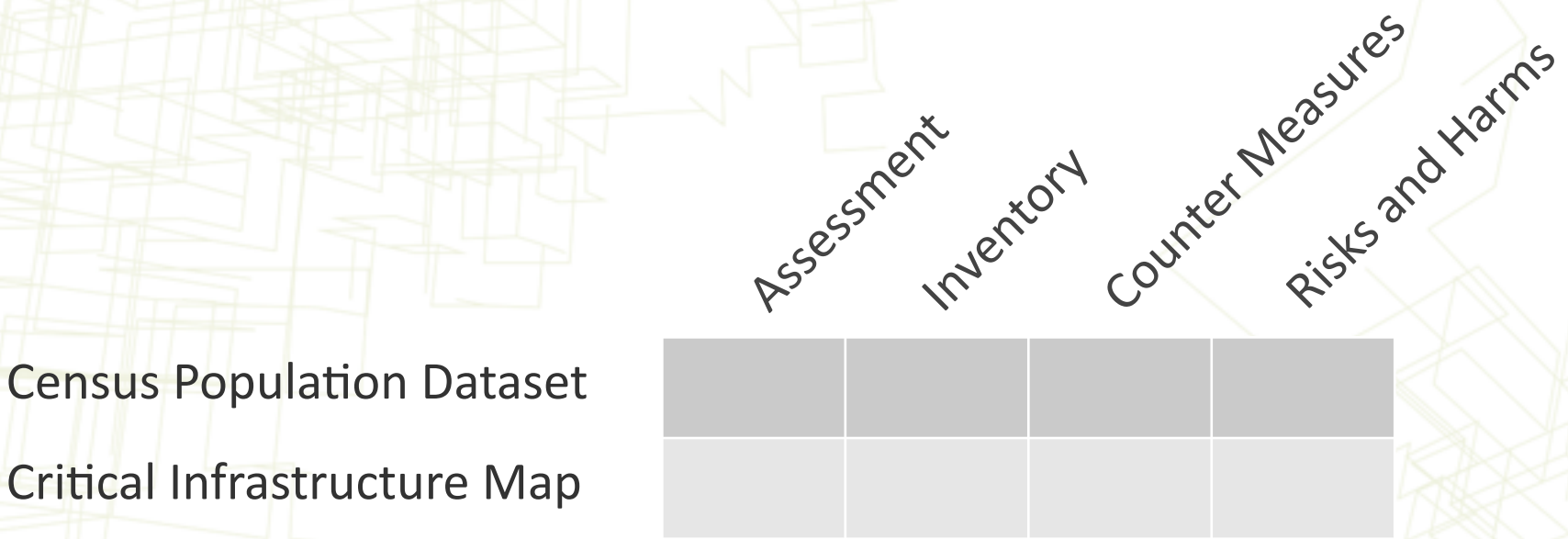
Source: World Bank Open Cities Mapping Project

Map of schools, hospitals, community centers, police and fire stations, emergency shelters, other key infrastructure in Riskya

Dataset contains both location but also building characteristics

Freely available from the OpenStreetMap Platform

Exposure & Vulnerability Data



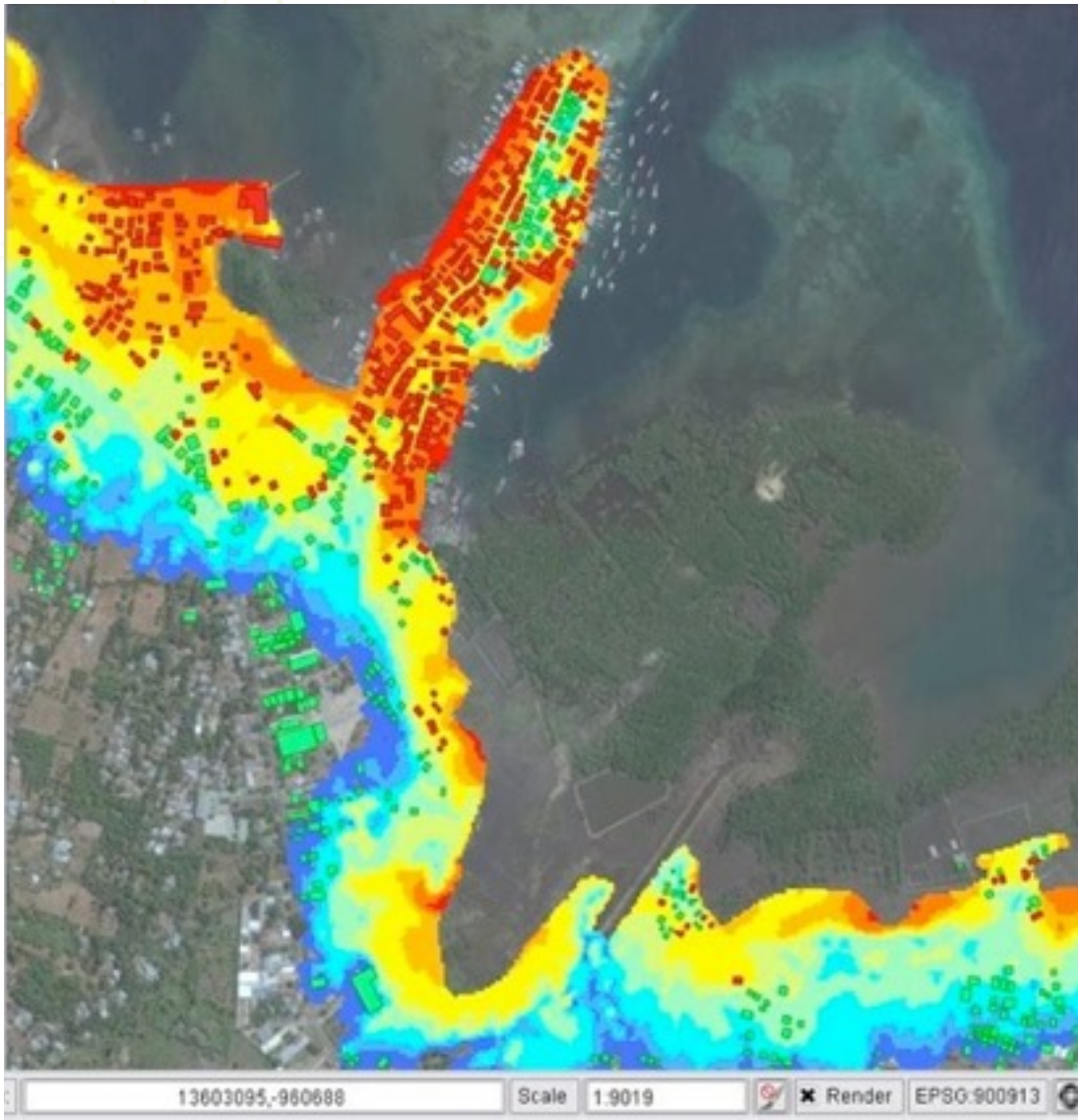
Flood Risk Model

Outputs:

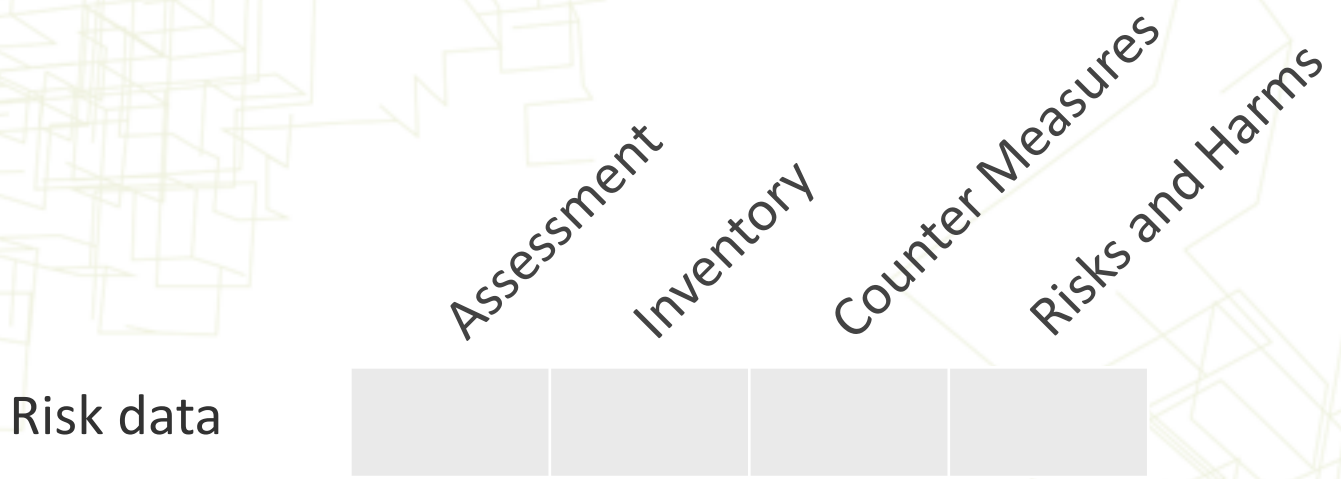
"Vulnerable" households exposed to 2m or greater inundation at the 100-yr flood level.

Community infrastructure exposed to 0.5m or greater inundation at the 100-yr flood level.

The results of our flood risk model were written up in a 90 page report, which was delivered in pdf and hard-copy to the Disaster Management Agency.



Risk


Assessment
Inventory
Counter Measures
Risks and Harms
Risk data

Source: J Van Hoesen