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ورشة عمل بشان تحديث الإحصاءات الرسمية في دولة قطر

Workshop on Modernization of Official Statistics in Qatar

الاثنين ١١ ديسمبر ٢٠١٧ – فندق روتانا, سيتي سنتر

Monday 11 December, 2017 - Rotana City Center Hotel - Doha

GIS FOR EFFECTIVE POLICY DEVELOPMENT: CONVERGING SPATIAL DATA AND THEMATIC ANALYSIS

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SUSTAINABLE DEVELOPMENT: THE SOCIAL CHALLENGE

54%

28 Years

10,400%

66%

2.5 Billion

2C

4th

67.2 Years

9 Billion

SUSTAINABLE DEVELOPMENT: THE TECHNOLOGICAL CHALLENGE

1.4 Billion

240 Billion

3.8 Billion

1.3 Billion

2 Billion

4,800 Times

2 Trillion

85 Trillion

1.6 Zettabytes

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POLICY DEVELOPMENT OPPORTUNITY

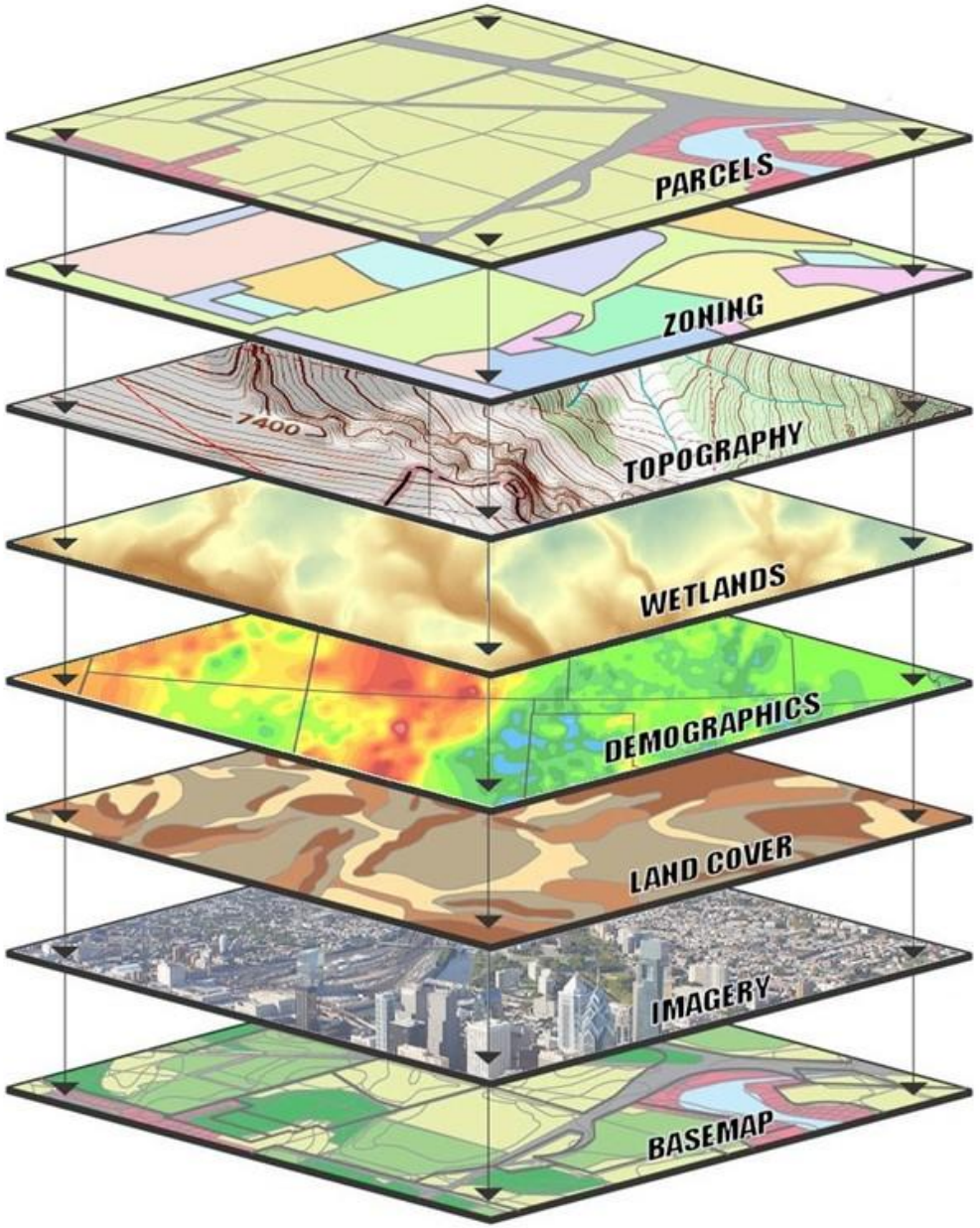
Social Challenge

https://ak5.picdn.net/shutterstock/videos/5978885/thumb/1.jpg

+

Technological Challenge

https://i.ytimg.com/vi/ZYNwlfCb440/maxresdefault.jpg



GIS DATA LAYERS

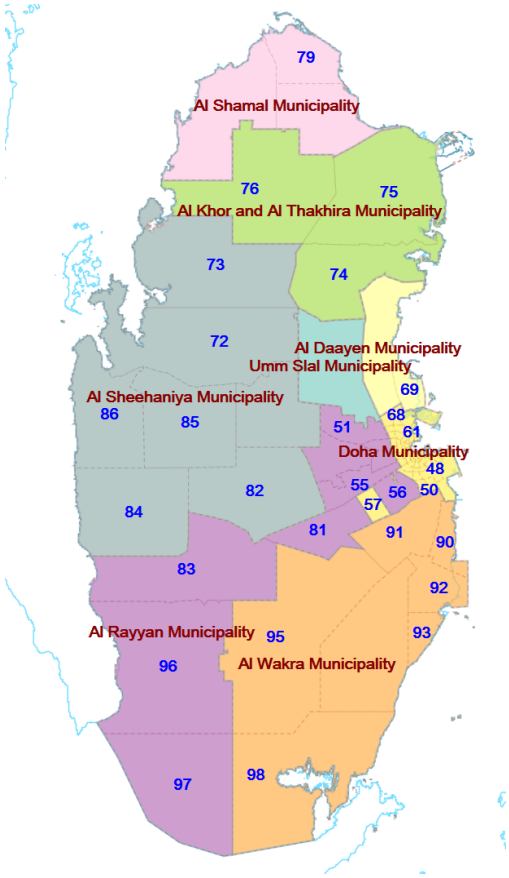
Many different types of data can be integrated into a GIS and represented as a map layer.

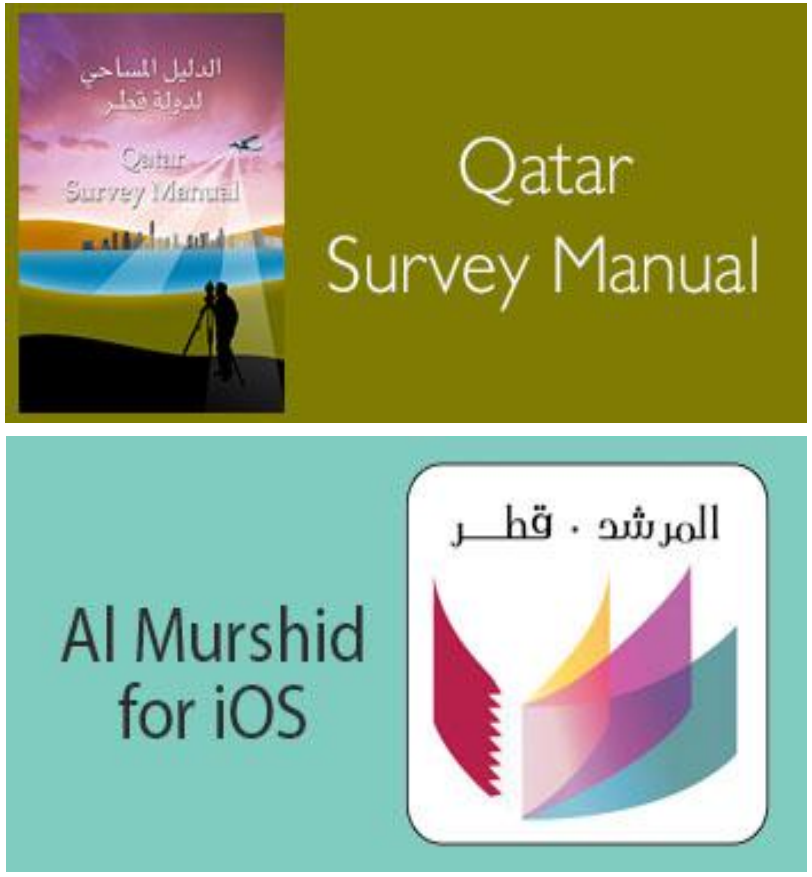
Examples can include: streets, parcels, zoning, flood zones, client locations, competition, shopping centers, office parks, demographics, etc.

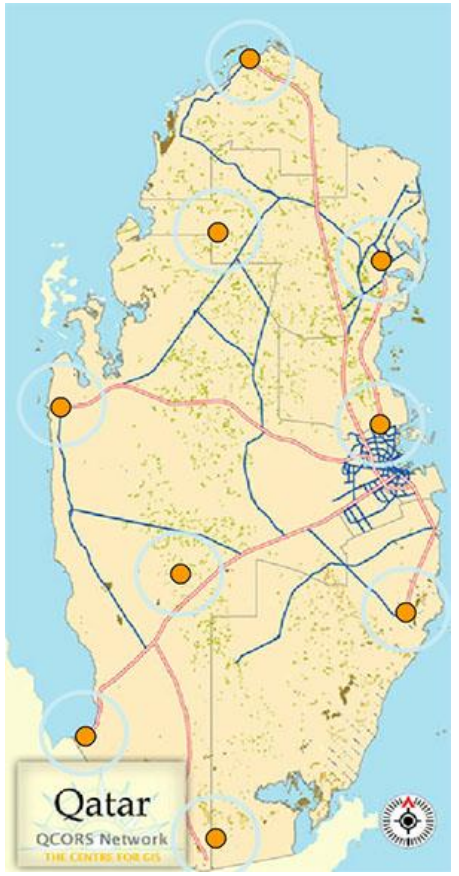
When these layers are drawn on top of one another, undetected spatial trends and relationships often emerge. This allows us to gain insight about relevant characteristics of a location.

https://www.co.ontario.ny.us/1176/GIS-Program-Background

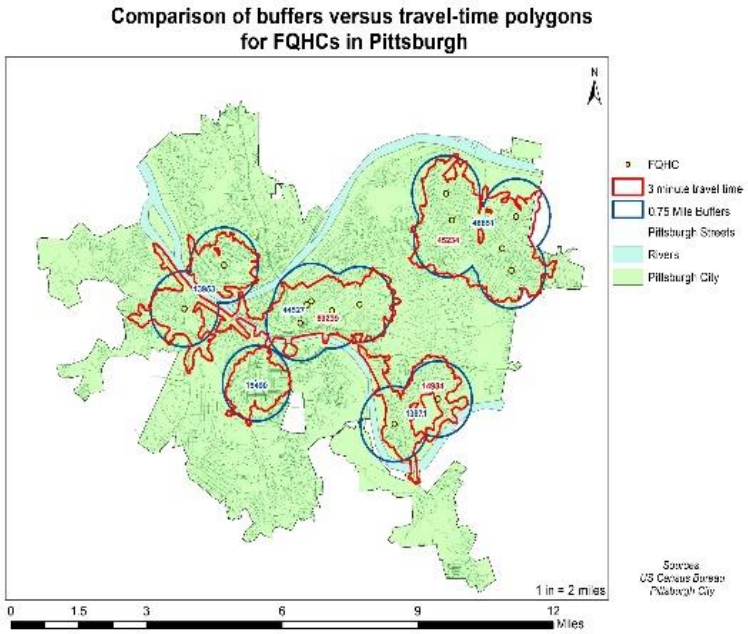
GEN 1: JURISDICTIONAL AND TOPOGRAPHIC MAPPING

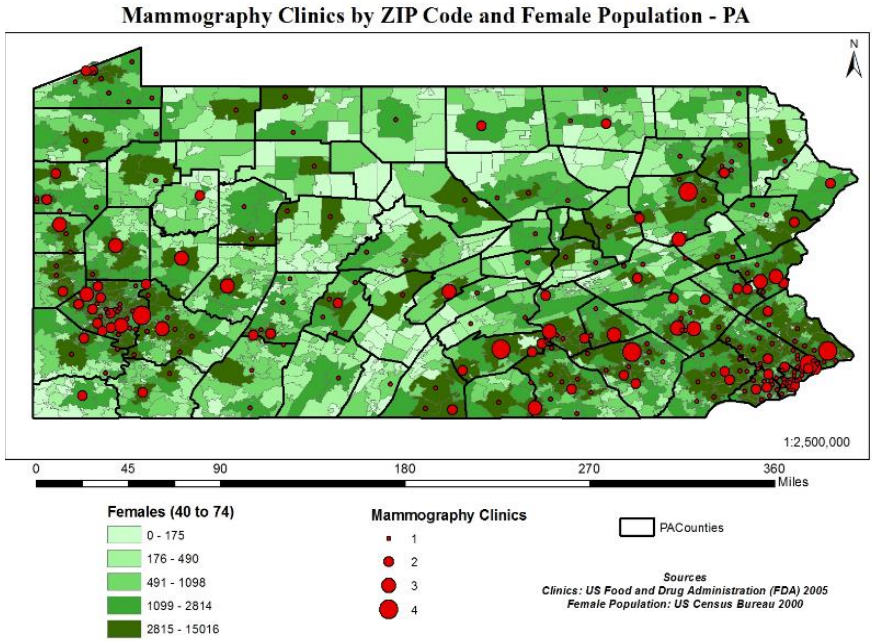


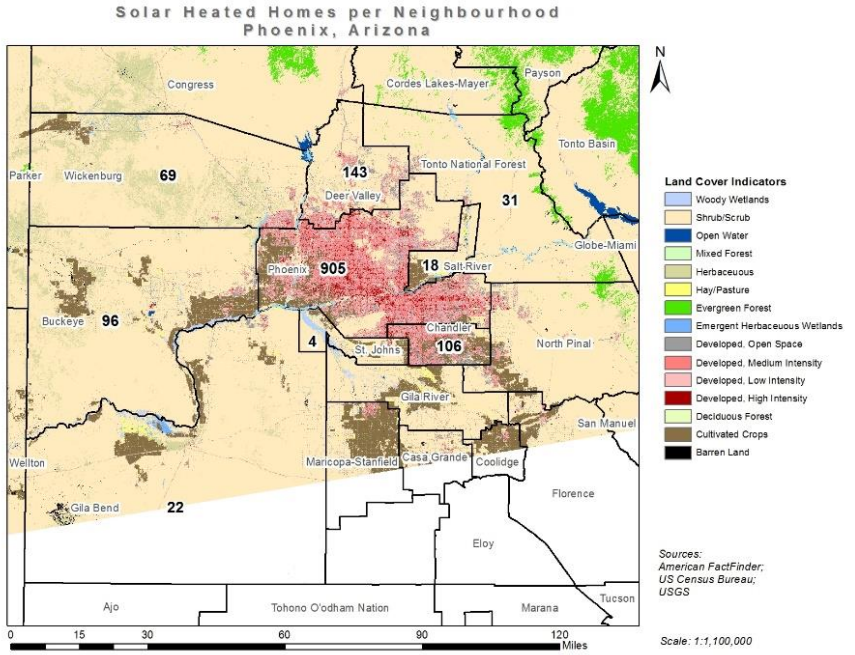




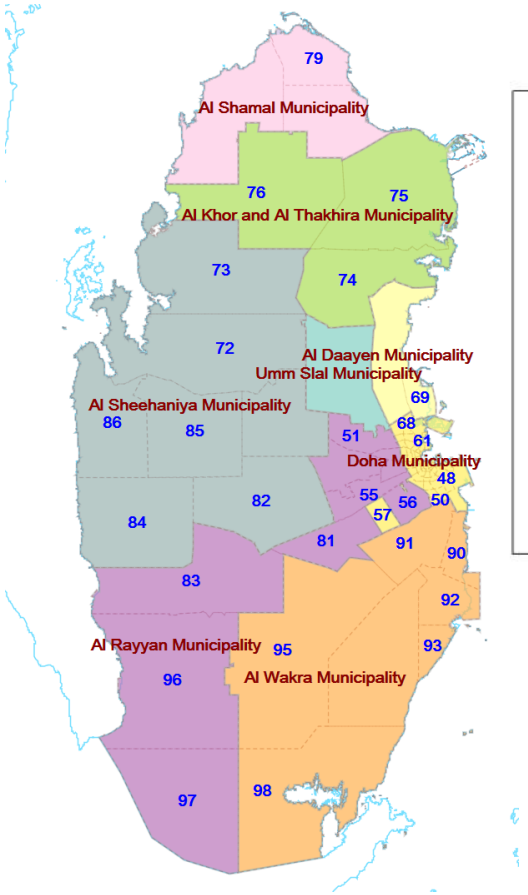
GEN 2: CROSS-SECTIONAL THEMATIC MAPPING

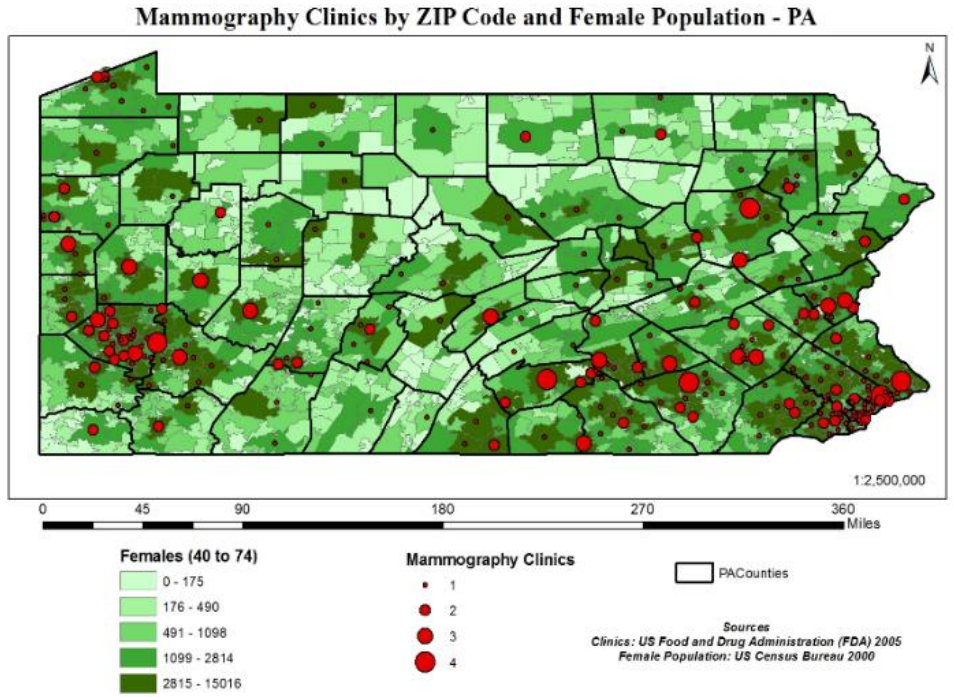






GEN 3: DYNAMIC BEHAVIORAL MAPPING





(Franke et al. 2015)

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REAL-TIME CONVERGENCE OF SPATIAL & THEMATIC EXAMPLES:

- **Health:** Tracking contagious diseases spread through online searches.
- **Transport:** Identifying congestion bottlenecks through mobile signals.
- **Utilities:** Monitor consumption flow through IOT sensors and smart meters.
- **Safety & Security:** Site suitability analysis for positioning of emergency personnel at public events through spatial geo-processing.
- **Environment:** Continuous tracking of air quality and population mobility to provide instantaneous notifications and alerts.

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POLICY RECOMMENDATIONS

1. **Scope:** From jurisdictional/topographic to behavioral.
2. **Data Collection:** From periodic to continuous.
3. **Temporal:** From historical to current.
4. **Analysis:** From tabular to geo-spatial.
5. **Communication:** From textual to visual.
6. **Infrastructure:** From data silos to Big Data and absorptive capacity.
7. **Planning:** From retrospective to future-focused orientation based on emergent evidence.

THANK YOU

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