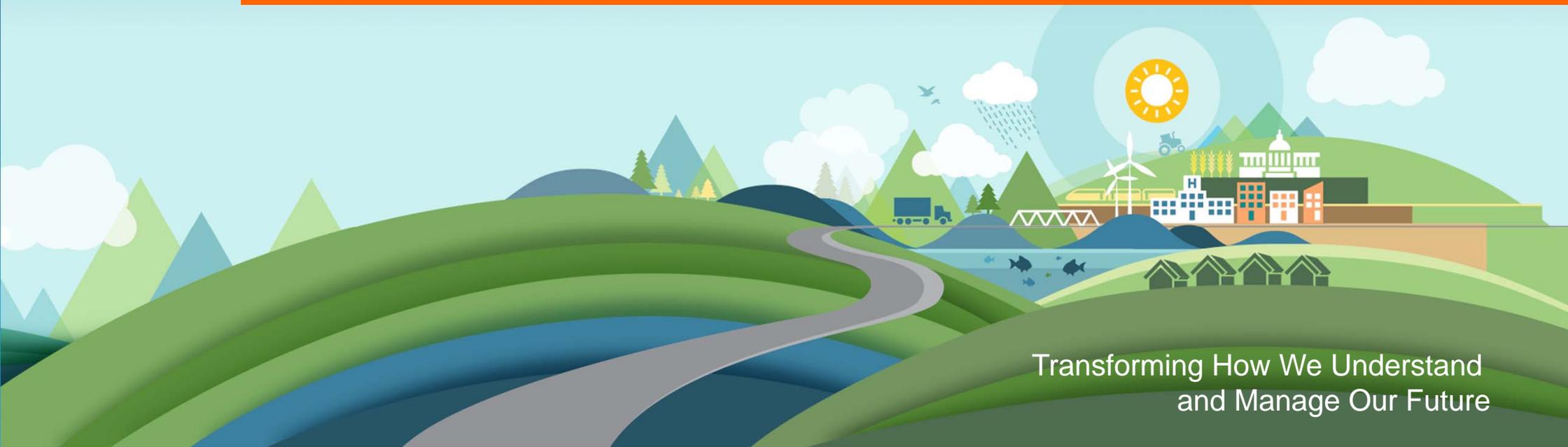


# Sustainable | Resilient | Smart Cities

Mark Cygan | Esri

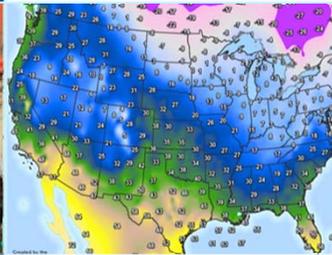


Transforming How We Understand  
and Manage Our Future

# Sustainable | Resilient | Smart Cities - Require:

## *Monitoring and Predicting*

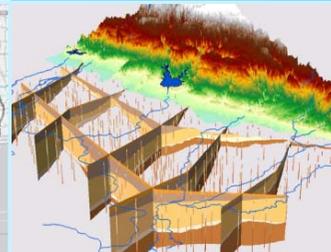
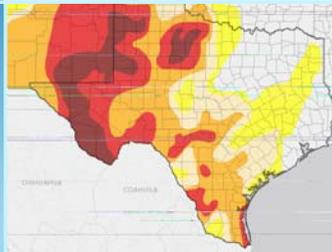
Climate Change



Flooding



Sea-level Rise



Groundwater

Soil Moisture



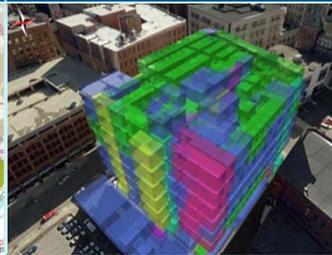
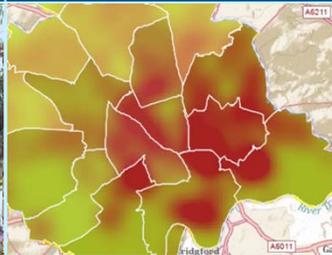
Economic Impacts



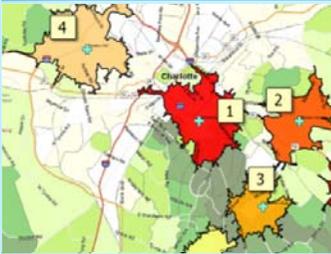
# Sustainable | Resilient | Smart Cities - Require:

## *Planning and Designing*

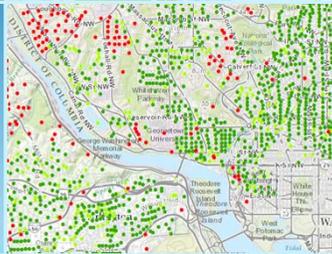
Urban Design



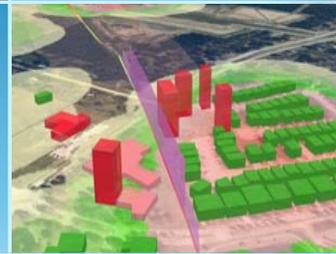
Green Building



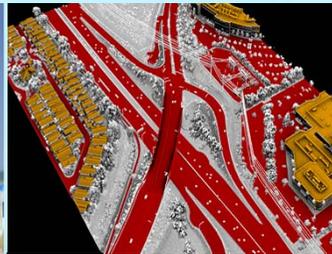
Healthy Food Accessibility



Mitigating Risk



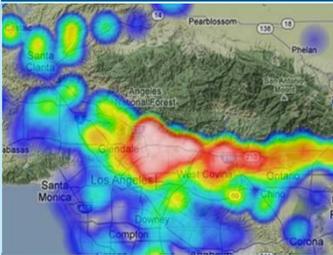
Solar Potential



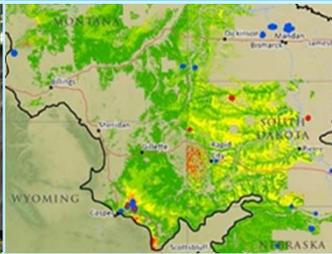
# Sustainable | Resilient | Smart Cities - Require:

## *Managing and Taking Action*

Transportation



Disaster Response



Natural Resources



Renewable Energy



# Sustainable | Resilient | Smart Cities - Require:

## *Collaborating and Communicating*



Ridesharing



Heat Impact



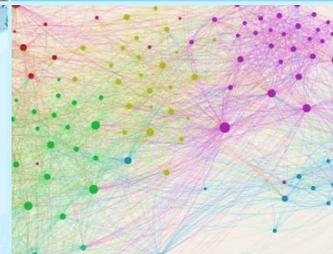
Reporting Status



Volunteerism

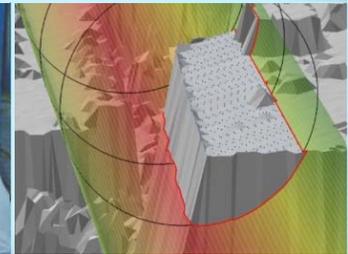
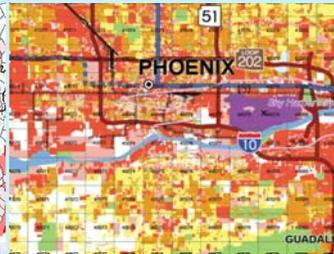
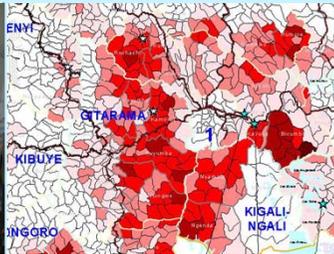
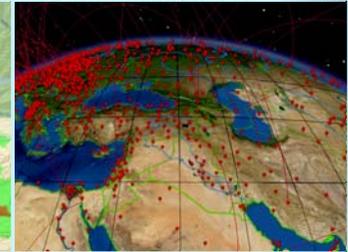
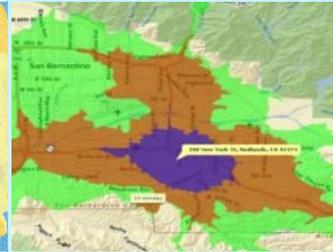
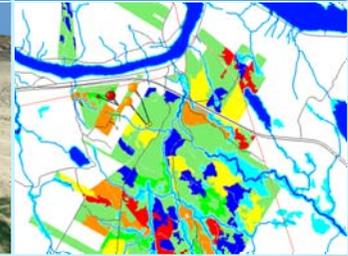
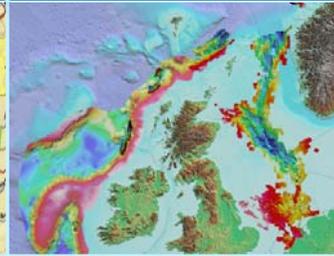


Social Networks



# GIS Measuring & Monitoring

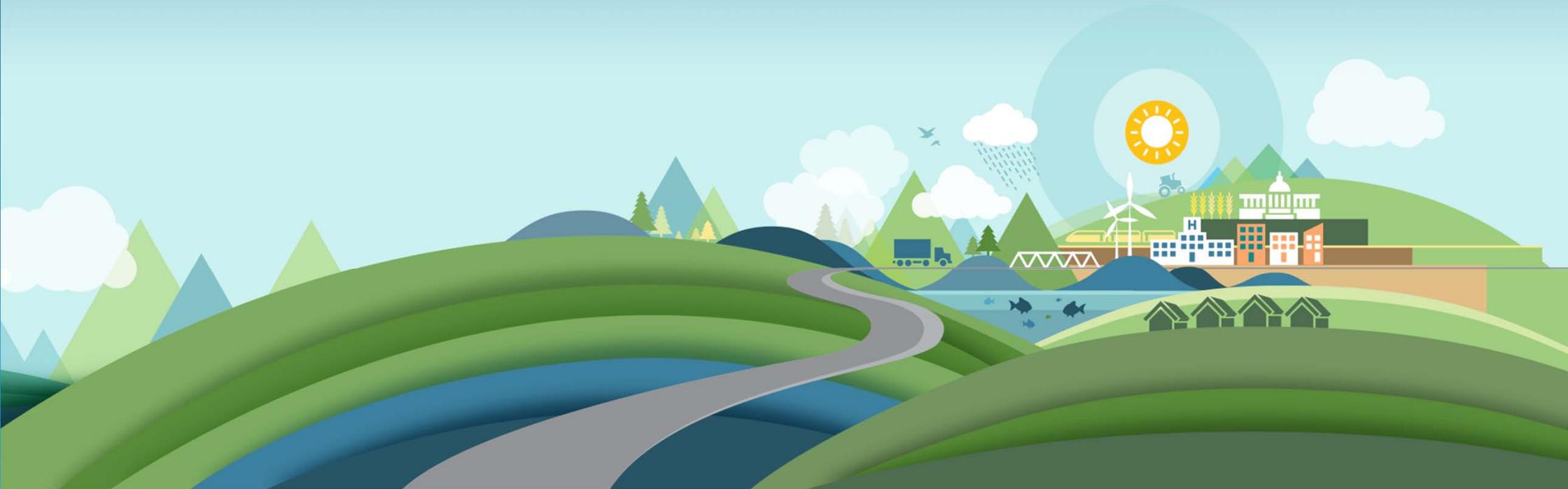
## Sustainable Development Goals for UN Post-2015 Agenda



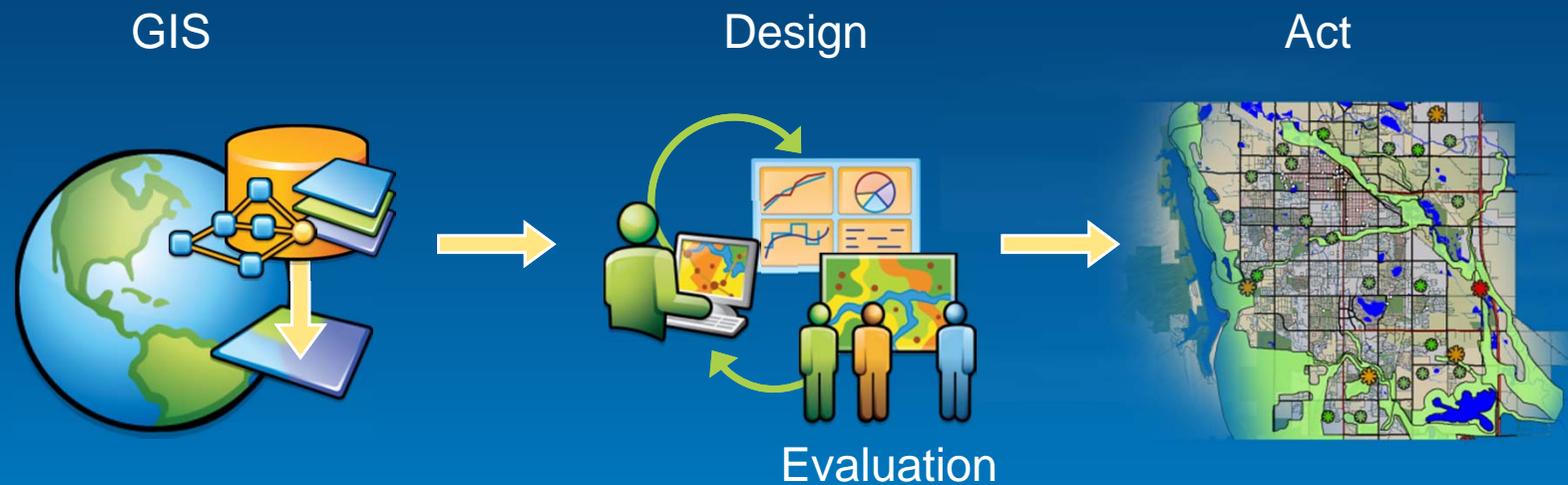
*Improving Analysis and Decision Making*

## Sustainable | Resilient | Smart Cities - Require:

- Geodesign
- Mobile GIS
- 3D GIS



# Geodesign is the process for informed design & wise decision making



The science of geography + Purposeful design + Evaluation + Decision + Implementation

*Understanding*

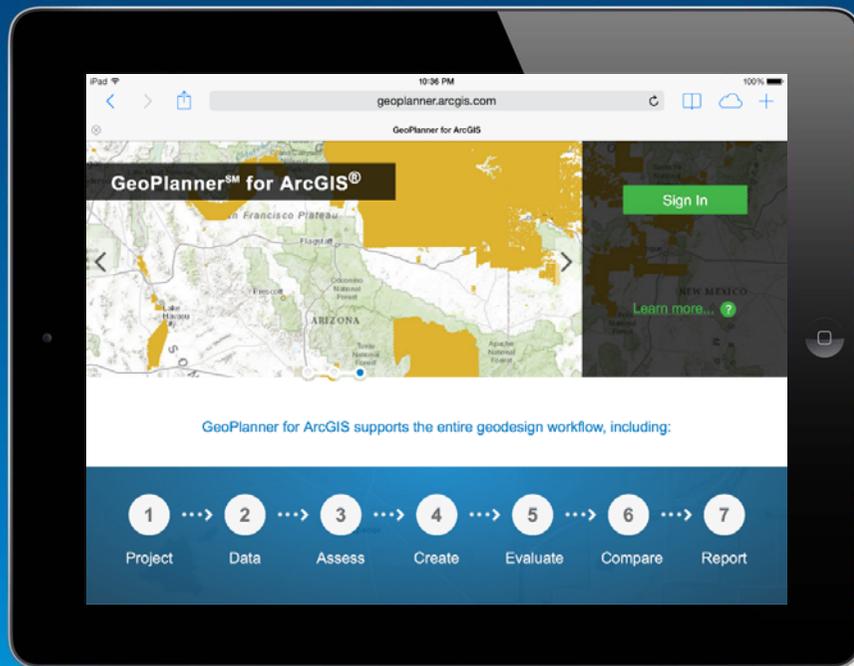
*Precedes*

*Action*

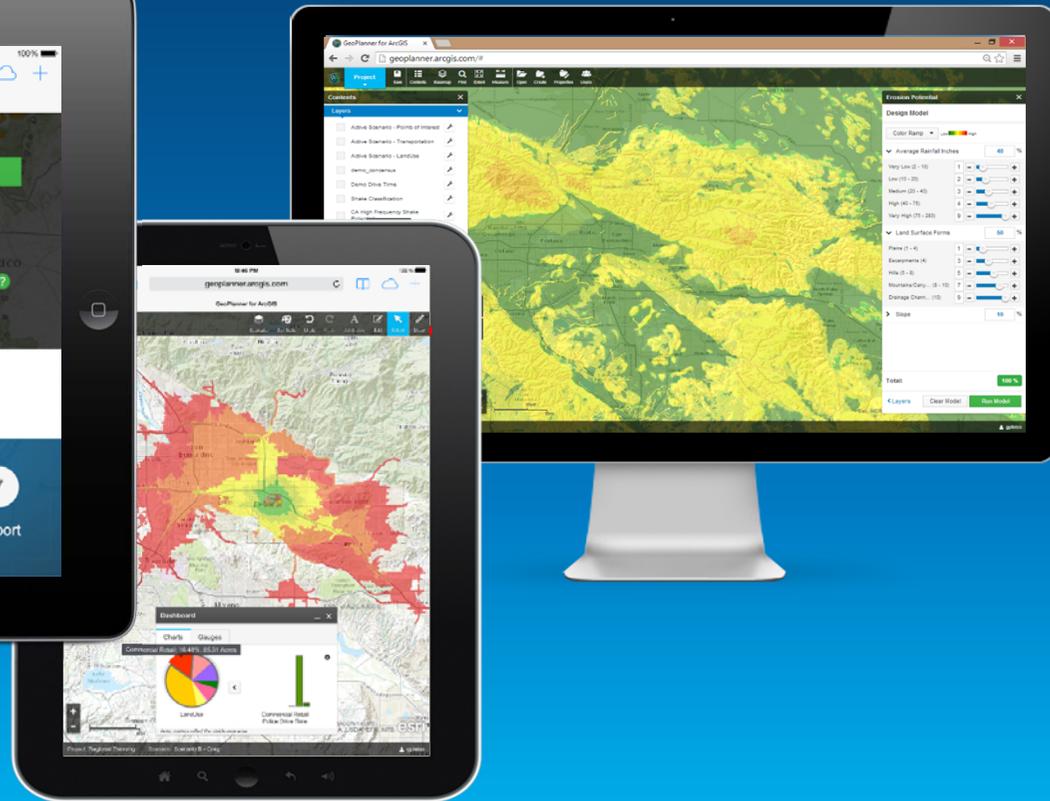
# Geodesign is Mobile

Easy access to tools for designing with anyone, anywhere, anytime

*Browser-based*



*Touch-enabled*

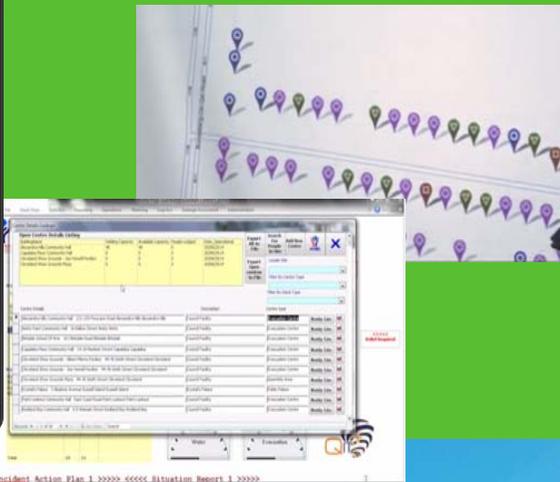


# UN Global Disaster Resilience App Challenge

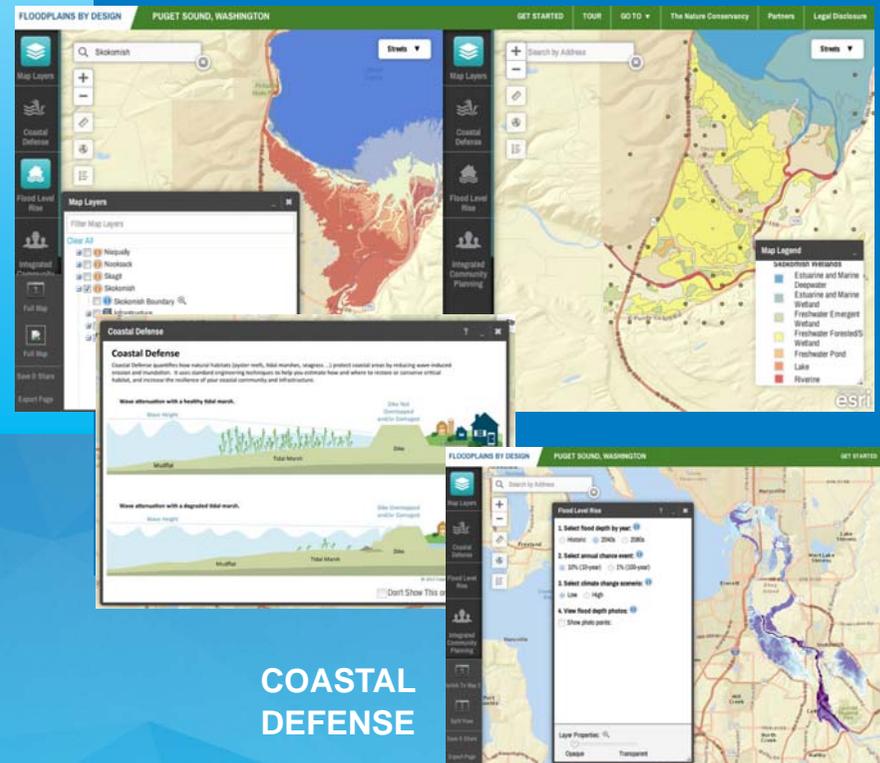
Citizen / Public-Facing



GUARDIAN  
EVACUATION



Scientific / Professional



COASTAL  
DEFENSE

# The Future of Geodesign...

Solving 3D problems in... 3D

## Urban & Landscape Design



Rochester, NY



## Visualization



Rotterdam

City of Portland



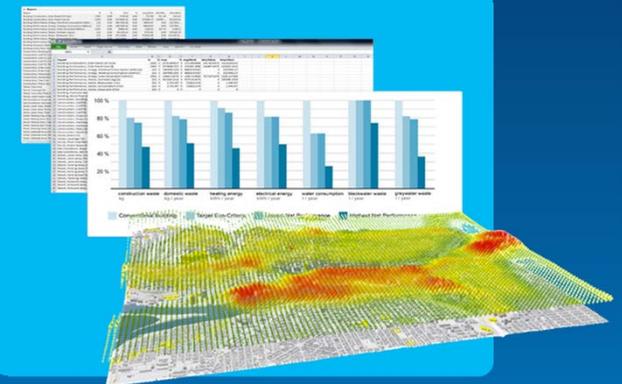
Sydney



## Vegetation Models



## Analytics



## 3D on the Web



... Empowering how we design In 3D

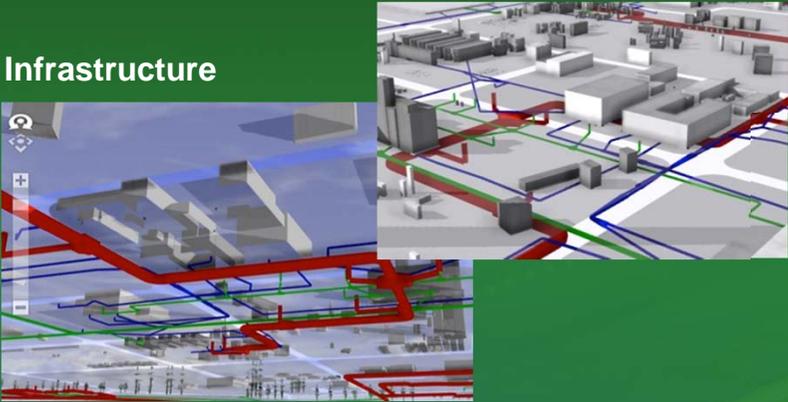


**3D GIS**

Better Decision Making

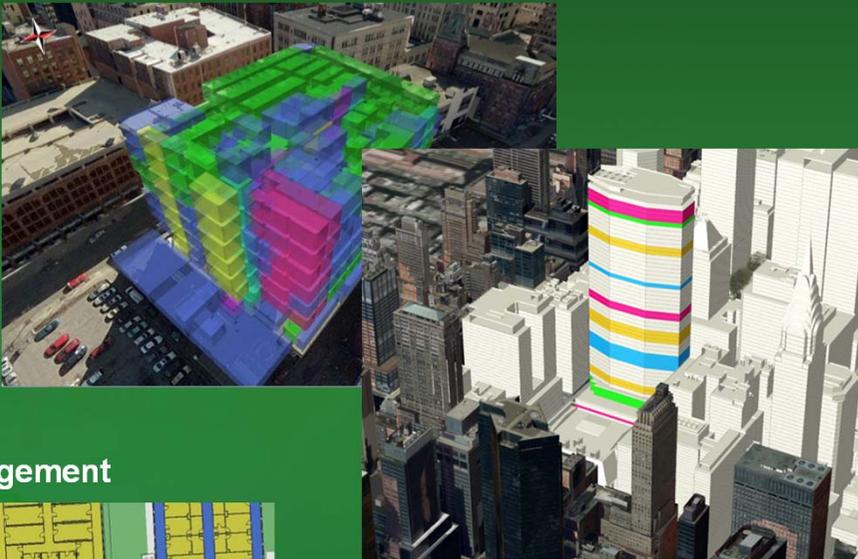
# Geodesign

## Infrastructure



Switzerland

## Buildings



## Urban Visualization



## Campus Management



National Institutes of Health

# Recent Geodesign Examples

## Reconstruction



Tohoku City, Japan. SmarterBetterCities.

## Urban Network Analysis Toolbox For ArcGIS



City Form Lab, MIT, Massachusetts

## Healthy Communities



The Planning Center DC&E, California

## Master Planning

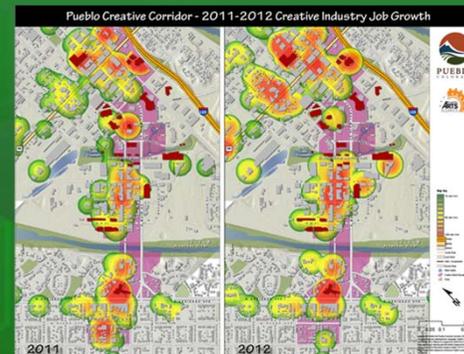


Forest Lawn Creek, Canada.  
O2 Planning + Design



King Abdullah Economic City, Saudi Arabia  
Skidmore, Owings, and Merrill

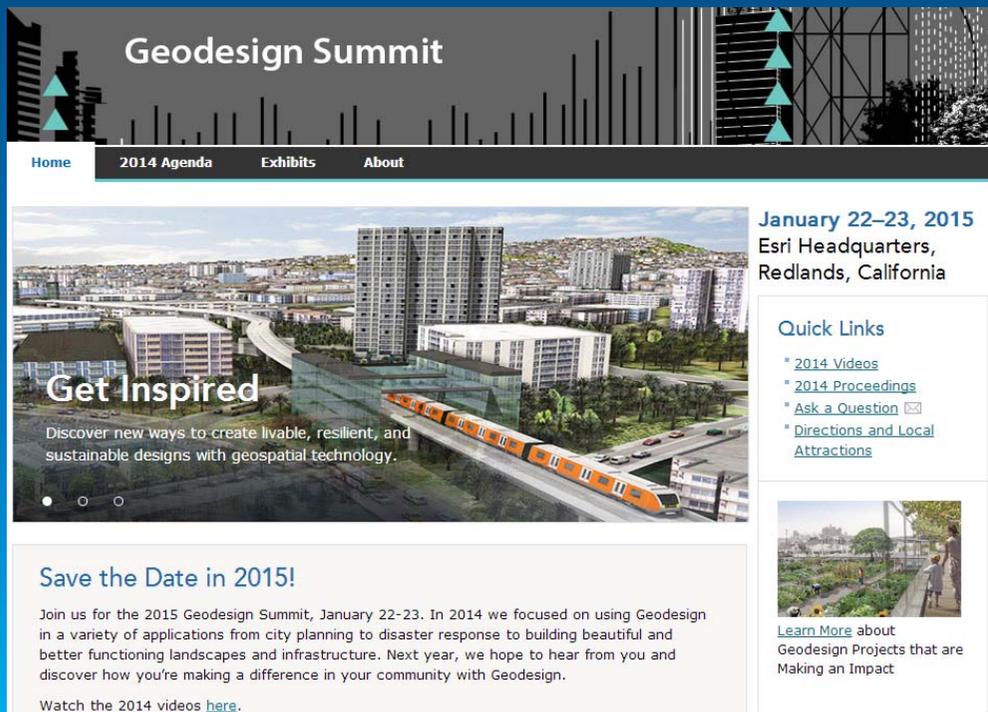
## Economic Development



Pueblo County, Colorado

# Geodesign Summits

Geodesign Summit, Redlands, CA  
January 22-23, 2015



**Geodesign Summit**

Home 2014 Agenda Exhibits About

**January 22–23, 2015**  
Esri Headquarters,  
Redlands, California

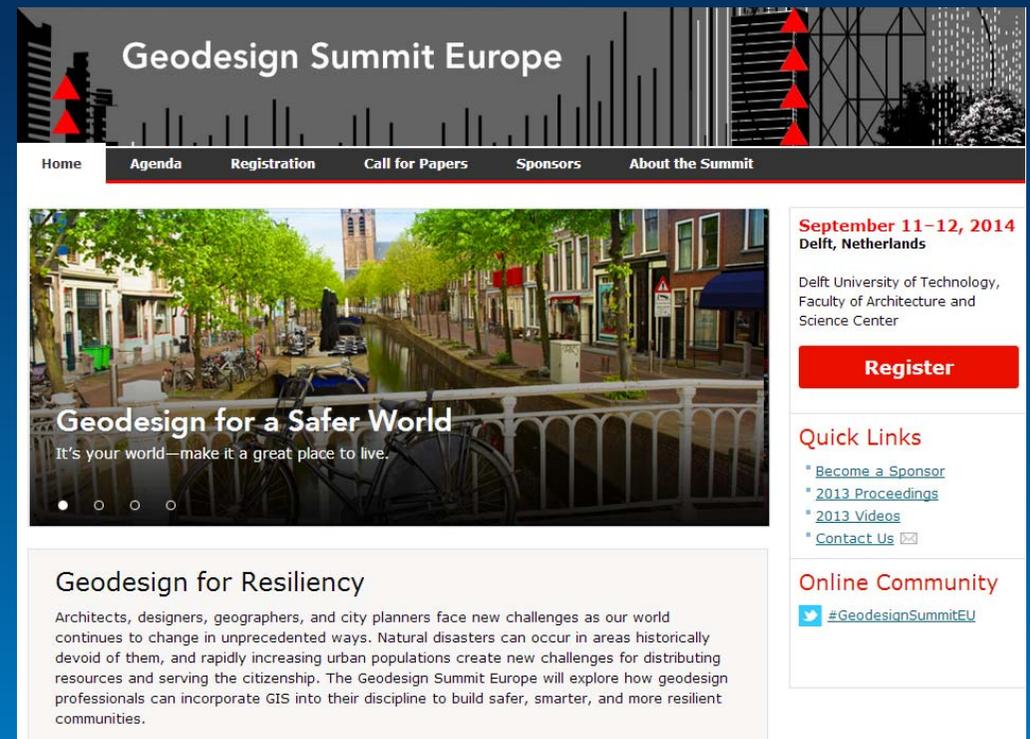
**Get Inspired**  
Discover new ways to create livable, resilient, and sustainable designs with geospatial technology.

**Save the Date in 2015!**  
Join us for the 2015 Geodesign Summit, January 22-23. In 2014 we focused on using Geodesign in a variety of applications from city planning to disaster response to building beautiful and better functioning landscapes and infrastructure. Next year, we hope to hear from you and discover how you're making a difference in your community with Geodesign.  
Watch the 2014 videos [here](#).

**Quick Links**

- 2014 Videos
- 2014 Proceedings
- Ask a Question
- Directions and Local Attractions

[Learn More](#) about Geodesign Projects that are Making an Impact



**Geodesign Summit Europe**

Home Agenda Registration Call for Papers Sponsors About the Summit

**September 11–12, 2014**  
Delft, Netherlands

Delft University of Technology,  
Faculty of Architecture and  
Science Center

**Register**

**Geodesign for a Safer World**  
It's your world—make it a great place to live.

**Geodesign for Resiliency**  
Architects, designers, geographers, and city planners face new challenges as our world continues to change in unprecedented ways. Natural disasters can occur in areas historically devoid of them, and rapidly increasing urban populations create new challenges for distributing resources and serving the citizenship. The Geodesign Summit Europe will explore how geodesign professionals can incorporate GIS into their discipline to build safer, smarter, and more resilient communities.

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**Online Community**  
[#GeodesignSummitEU](#)

Geodesign Summit Europe, Delft,  
Netherlands September 11-12, 2014

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Chart, Data Production  
and SDI, Esri



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**Resilient Communities**

<http://www.esri.com/industries/government/resilient-communities>



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