

Modeling Renewable Energy Potential Using ArcGIS

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Benefits of Renewable Energy

- Little to No Global Warming Emissions
- Improved Public Health and Environmental Quality
- A Vast and Inexhaustible Energy Supply
- Jobs and Other Economic Benefits
- Stable Energy Prices
- A More Reliable and Resilient Energy System

Union of Concerned Scientists: http://www.ucsusa.org/clean_energy/our-energy-choices/renewable-energy

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Why GIS?

1. Analysis on a local scale



2. Fine tuning of methodology

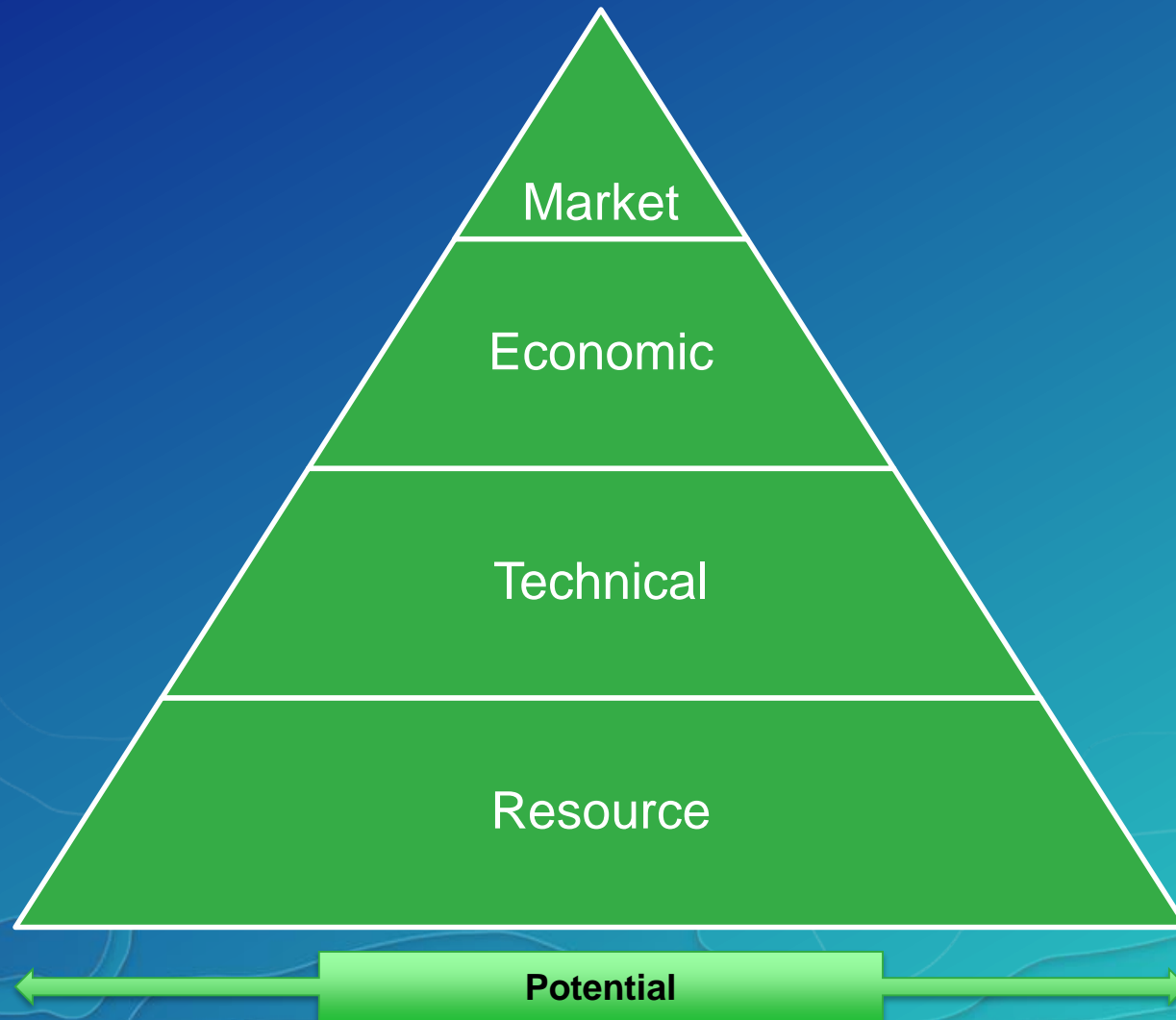


3. Broader analysis

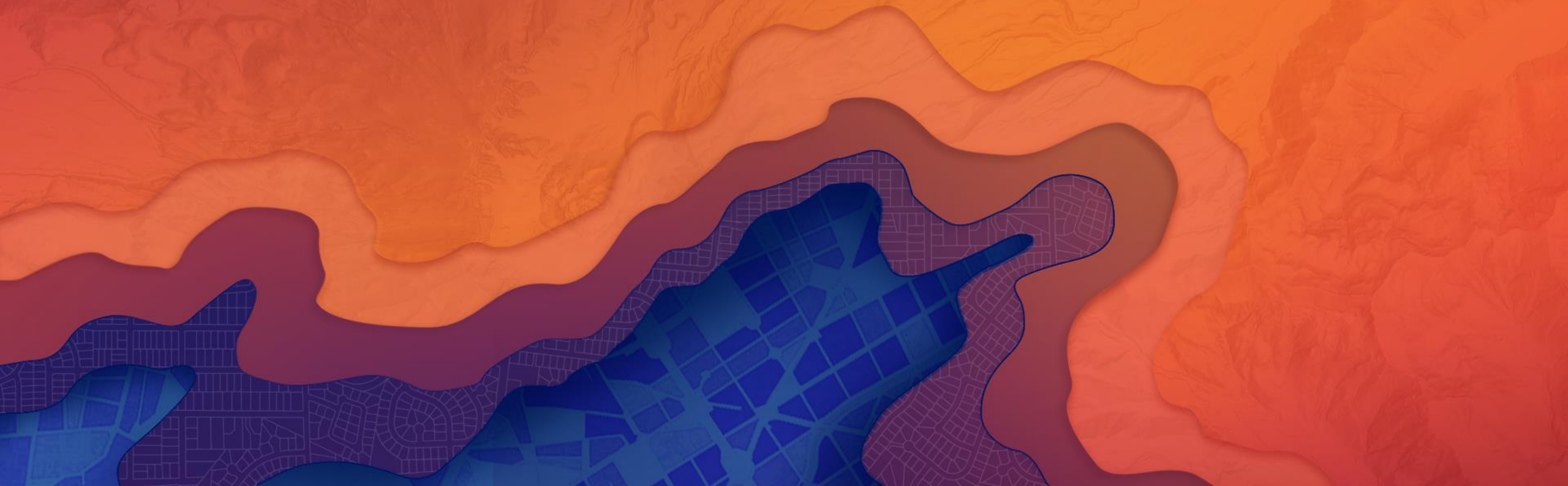


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Why GIS?



Rooftop Solar



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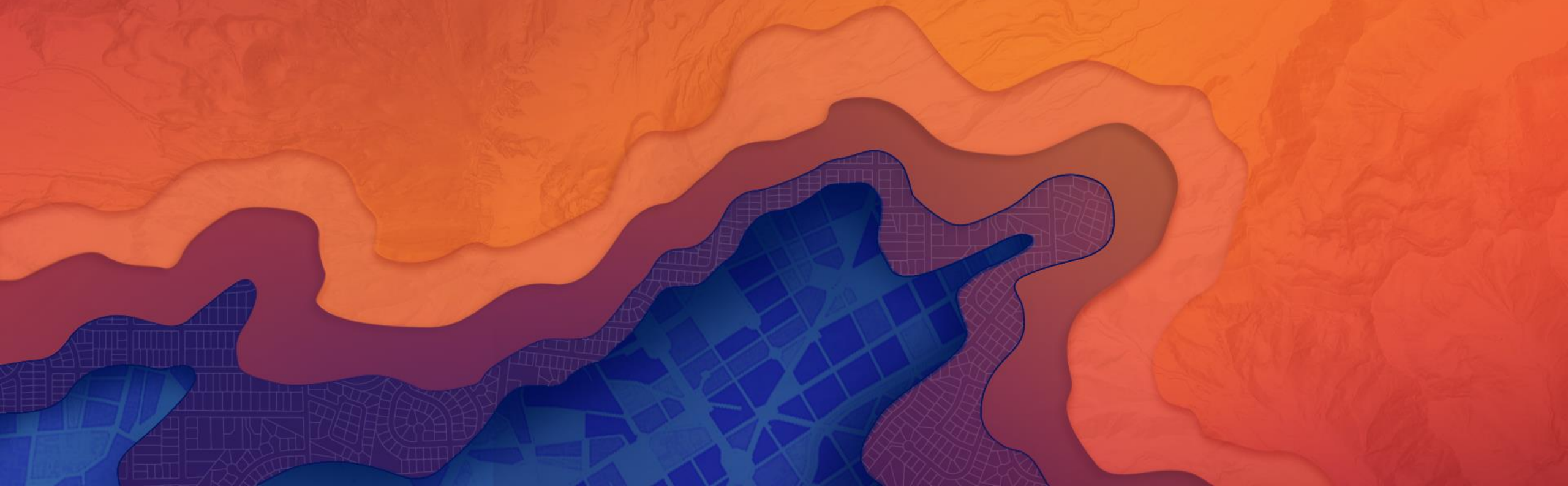
Solar

- Calculate amount of incoming solar radiation (insolation)
- Important for determining financial feasibility
- Highly variable



DEMO: Rooftop Solar

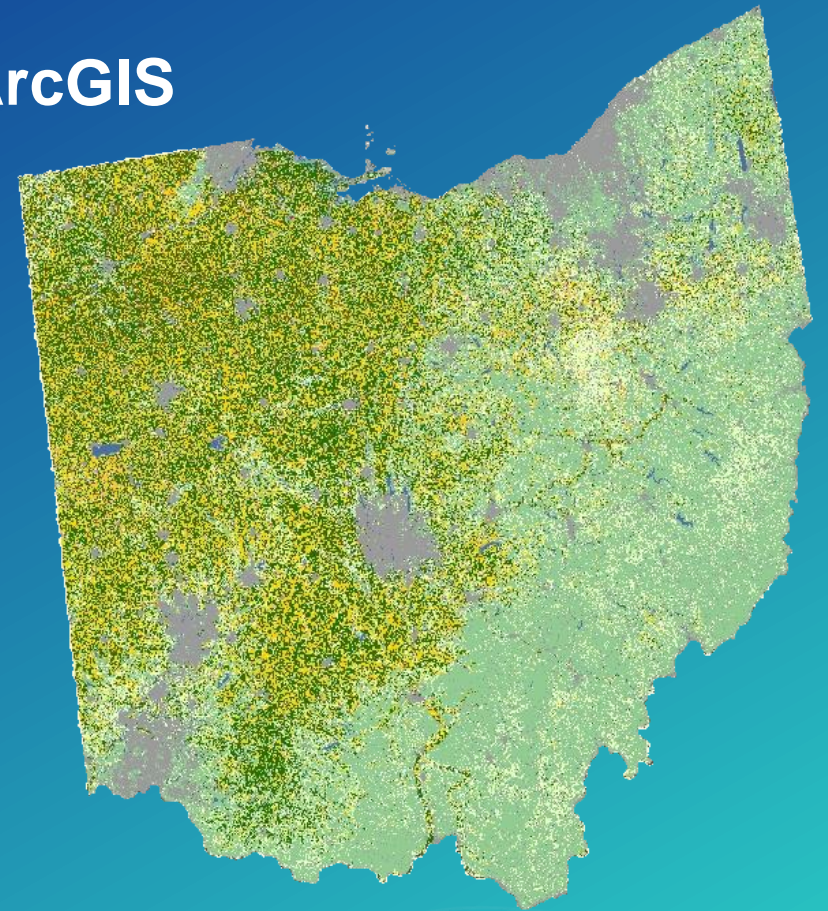
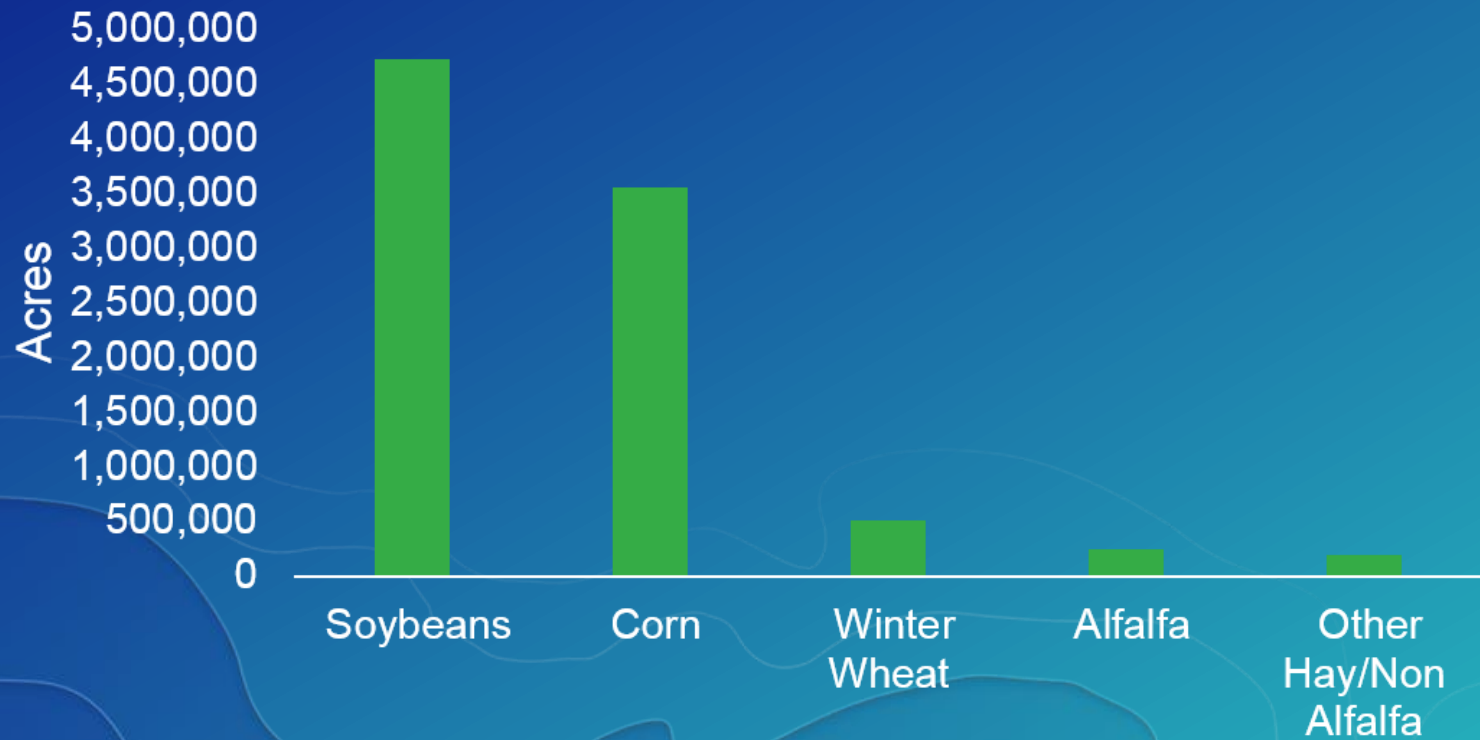
Biomass



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Biomass

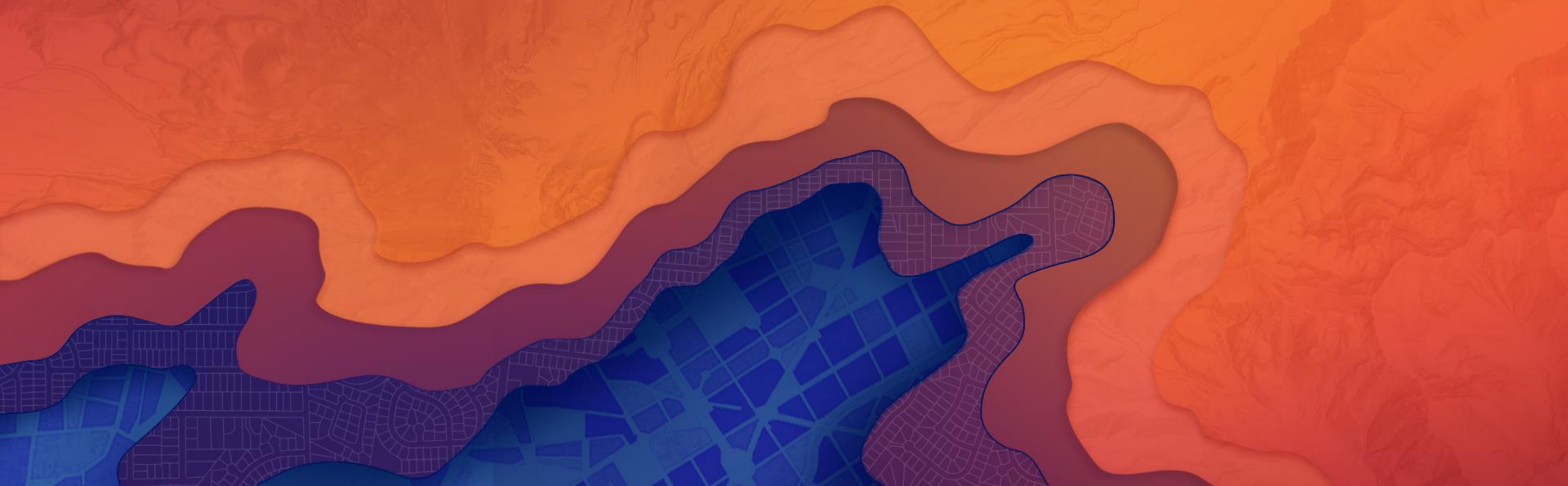
Ohio Crops 2014



- Source: USDA National Agricultural Statistics Service Cropland Data Layer. 2014. Published crop-specific data layer [Online]. Available at <http://nassgeodata.gmu.edu/CropScape/> (accessed 7/1/2015; verified 7/13/2015). USDA-NASS, Washington, DC.

DEMO: Biomass

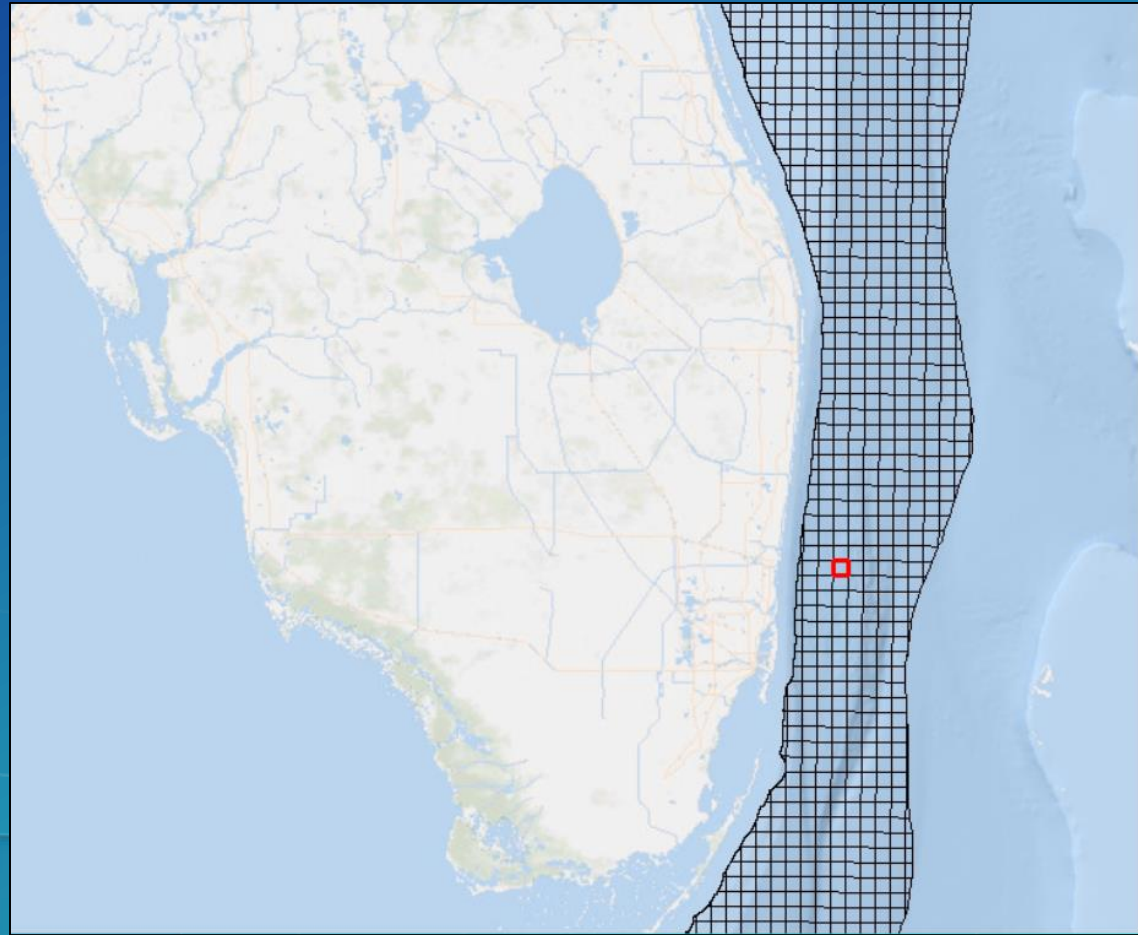
Tidal Energy



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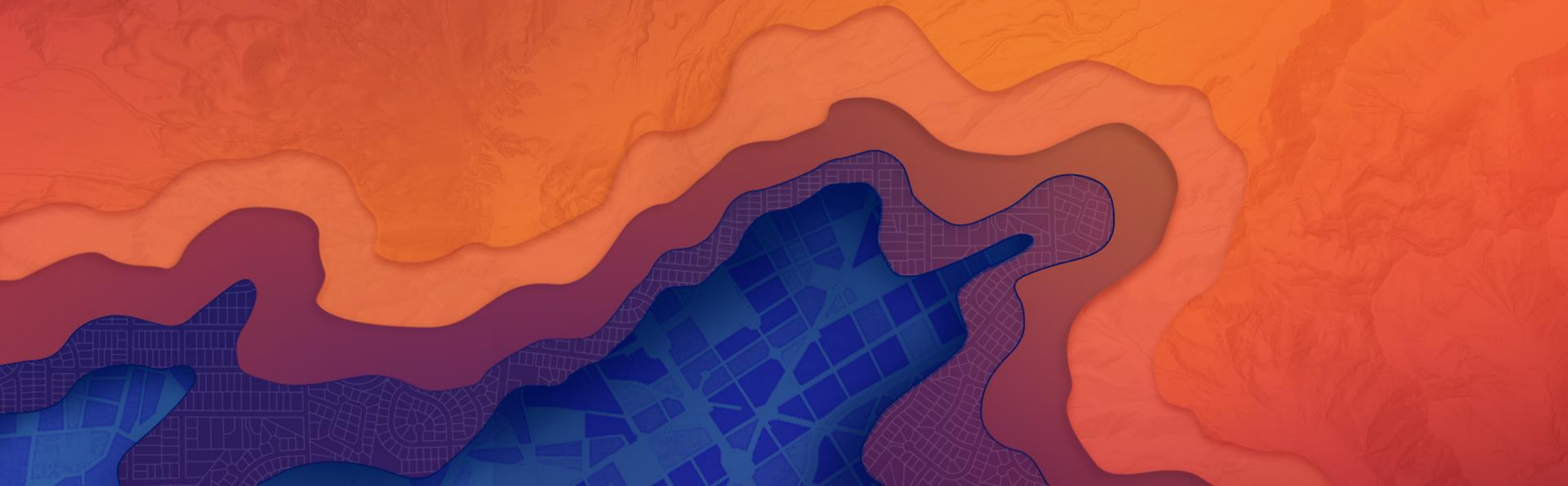
Tidal Energy

- Wave power density
- Depth
- Rugosity



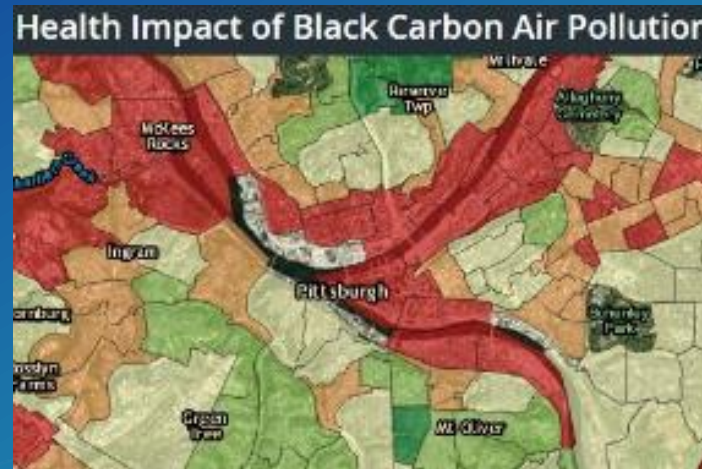
DEMO: Tidal Energy

Story Maps



Story maps

Communicating the results of your analysis



DEMO: Story Maps

<https://uwe.maps.arcgis.com/apps/MapJournal/index.html?appid=e1533caf14d541b48f7db92c0380dd7a>

A Changing Planet ...

- Rooftop solar
- Biomass
- Wave energy

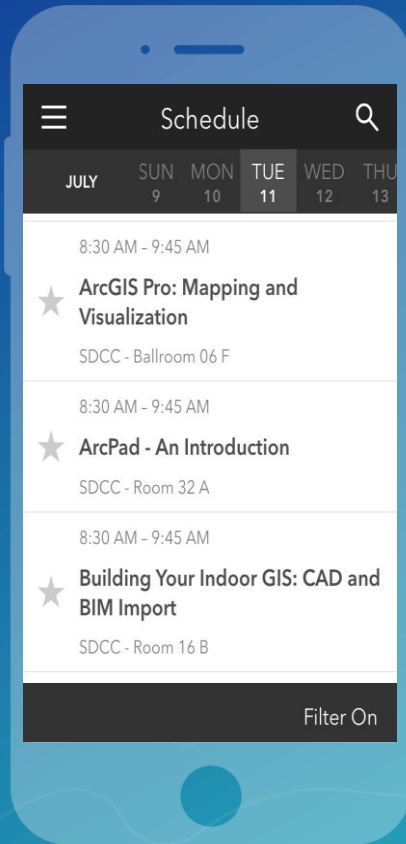


Please Take Our Survey on the Esri Events App!

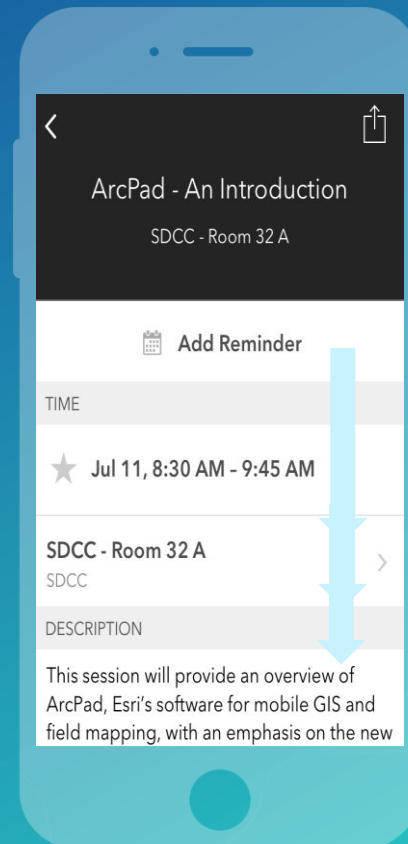
Download the Esri Events app and find your event



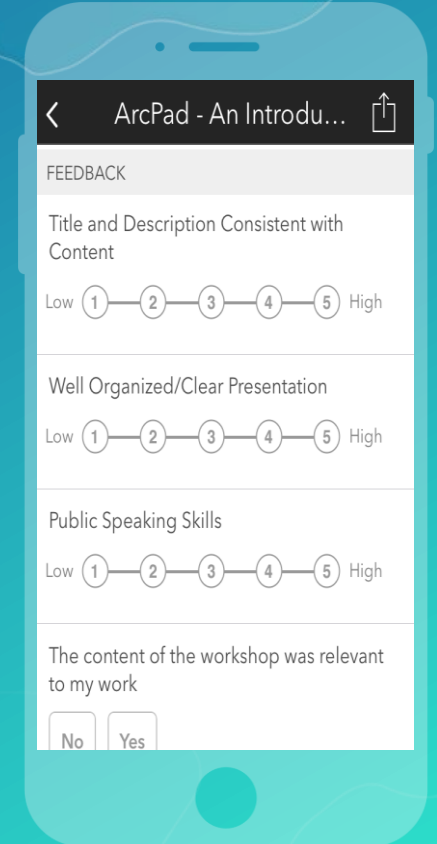
Select the session you attended



Scroll down to find the survey



Complete Answers and Select "Submit"





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