

Data Deep Dive for EDDs: A Closer Look at Argonne National Laboratory's NERDE and EDCI Tools



EDD CoP

Economic Development District
Community of Practice

February 14, 2023



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A dramatic sunset over a body of water. The sky is filled with dark, heavy clouds that are illuminated from below by the setting sun, creating a vibrant orange and yellow glow. The sun is a bright, glowing orb on the horizon, partially obscured by the clouds. The water in the foreground is dark with gentle ripples, reflecting the light from the sky. In the distance, a city skyline is visible along the horizon, with various buildings and structures silhouetted against the bright sky. The overall mood is serene yet powerful, capturing a moment of natural beauty and urban landscape.

Resilience:

The ability of a region or community to anticipate, withstand, and bounce back from shocks, disruptions, and stresses including:

- ❑ Weather-related disasters or hazards / Impacts of climate change
- ❑ The closure of a large employer or military base
- ❑ The decline of an important industry
- ❑ Changes in workforce / effects of automation
- ❑ COVID-19 response & recovery
- ❑ Much more...



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- Please take a moment to complete the post-webinar survey to provide helpful feedback
- Contact Brett Schwartz at bschwartz@nado.org with any questions about the webinar or EDD CoP

Today's Presenters

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NATIONAL ECONOMIC RESEARCH & RESILIENCE CENTER: *INTRODUCTION TO TOOLS AND RESOURCES*



IAIN HYDE

Director

National Economic Research &
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BACKGROUND

Argonne National Laboratory

- Founded in 1946 as the first U.S. Department of Energy (DOE) National Laboratory
- DOE Scientific User Facility
 - Advanced Photon Source
 - Advanced Computing Leadership Facility
- Research areas as diverse as advanced computing, nuclear energy, nanoscale materials, and national security.



NATIONAL ECONOMIC RESEARCH & RESILIENCE CENTER

About Us

- *We provide innovative and transparent economic data access, research, and analysis to support and strengthen economic development and resilience in communities across the nation.*
- *Find us at:*
<https://www.anl.gov/dis/national-economic-research-resilience-center>



NERRC ACTIVITIES

2023-2024

- **Data Access and Analytics:**
 - *Maintain existing tools*
 - *Develop a comprehensive, interactive economic development information clearinghouse*
- **Research Analysis**
 - Use machine learning to identify and evaluate trends, best practices, commonalities, and approaches for economic development planning across the U.S.
 - *Examine existing literature, policy, and guidance to advance our collective understanding of equity in the economic development context.*
- **Program Evaluation**
 - Develop and implement new methods for estimating federal economic development investment impacts.
- **Economic Resilience Learning Collaborative**
 - *Provide a collaborative forum to build knowledge and share ideas related to economic resilience.*
 - *Quarterly webinars, quarterly research reports, and an annual conference.*

KEY TERMS



What is Economic Development?

Economic Development: Creates the conditions for economic growth and improved quality of life by expanding the capacity of individuals, firms, and communities to maximize the use of their talents and skills to support innovation, lower transaction costs, and responsibly produce and trade valuable goods and services

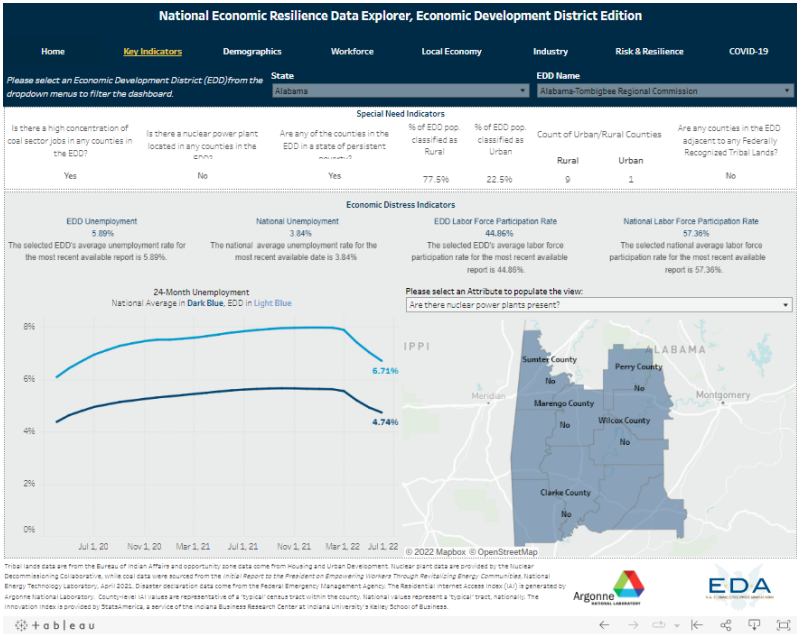


What do we mean by Capacity?

Capacity: The interrelated set of institutions, resources, knowledge, skills, and networks that help determine a region's ability to implement economic development activities

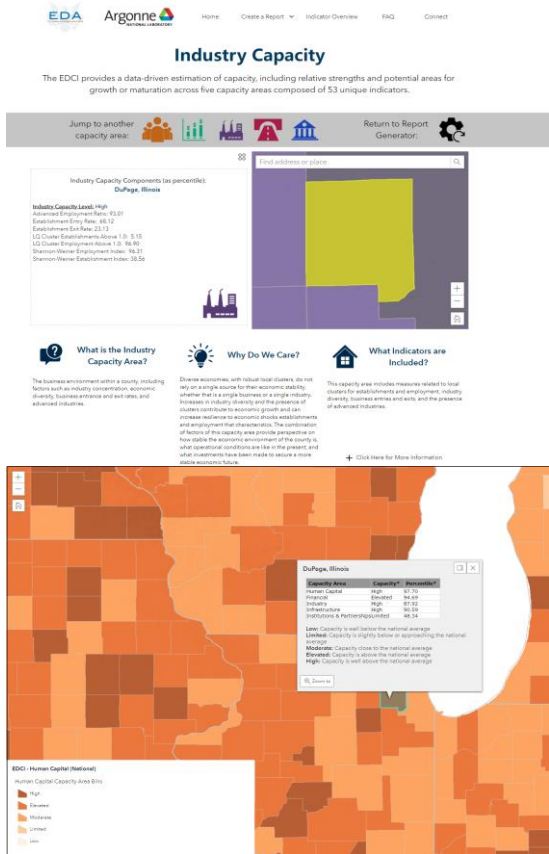
OUR TOOLS

National Economic Resilience Data Explorer



Baseline economic context

Economic Development Capacity Index

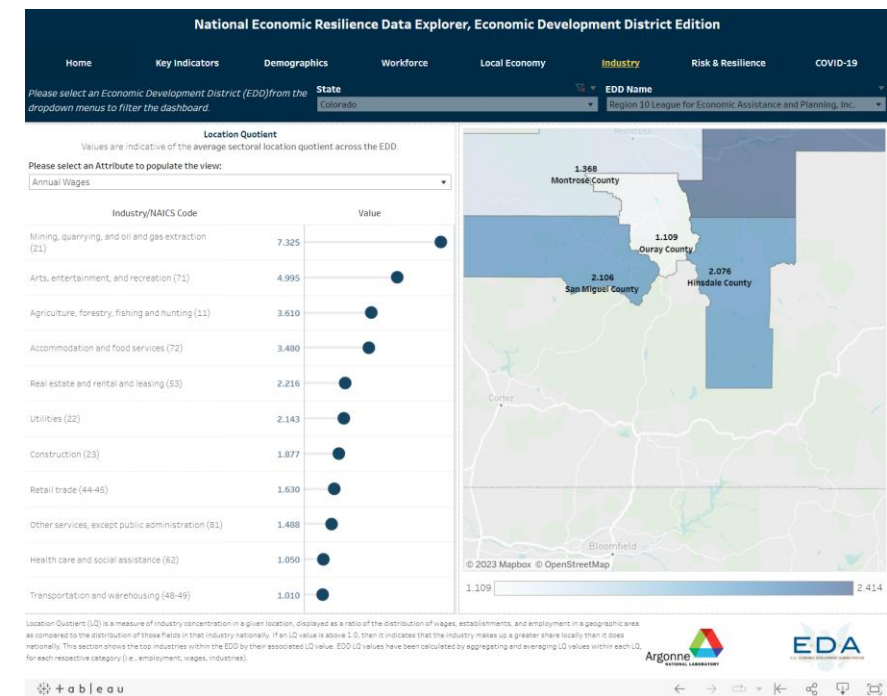


Assessment of county-level capacity, strengths, and opportunities for investment

NATIONAL ECONOMIC RESILIENCE DATA EXPLORER

<https://www.anl.gov/dis/national-economic-resilience-data-explorer-nerde>

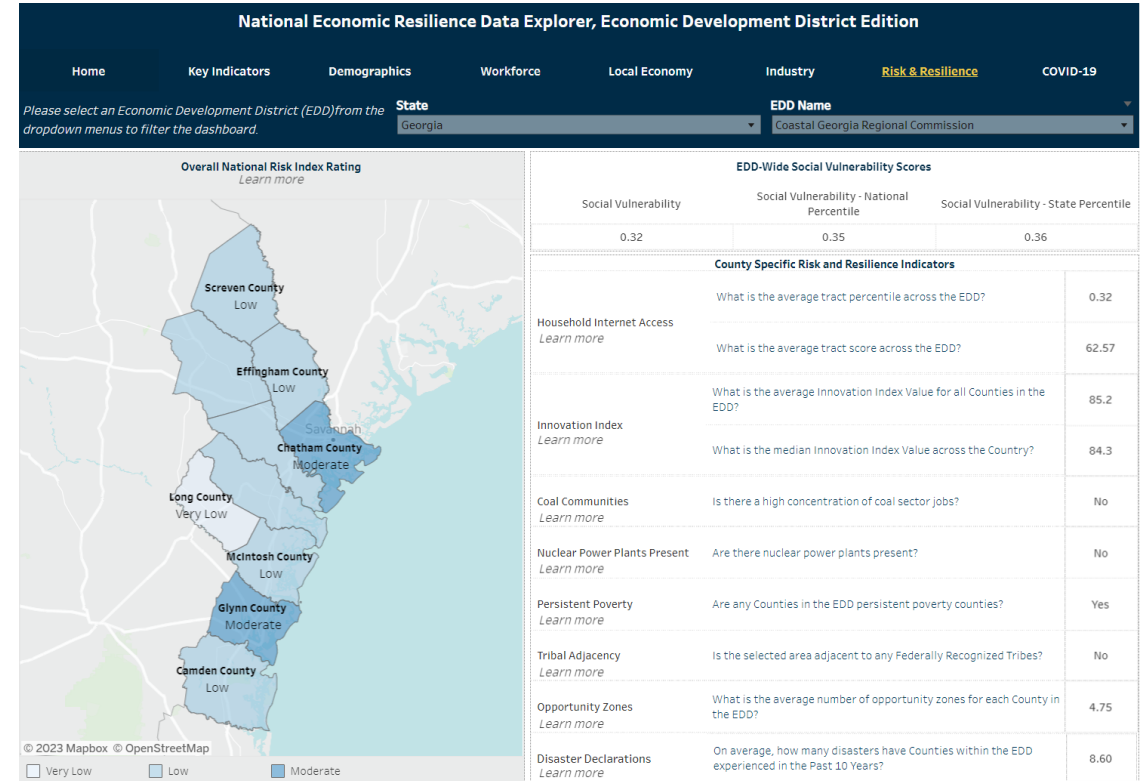
- Tableau-based dashboards.
- Free and publicly available
- Data provided at the county and EDD levels
- Updated monthly



NATIONAL ECONOMIC RESILIENCE DATA EXPLORER

Components

- Components:
 1. **Key Indicators:** highlights special need and economic distress.
 2. **Demographics:** Population indicators from the U.S. Census.
 3. **Workforce:** Composition of labor force and unemployment.
 4. **Economy** GDP, GDP growth, and employment concentration by industry.
 5. **Industry** tells the story of industry employment, wage, and establishment concentration.
 6. **Risk and Resilience** information about risks to and resilience of regional economies
 7. **COVID-19** highlights COVID-19's ongoing impacts on counties, EDDs, and states.



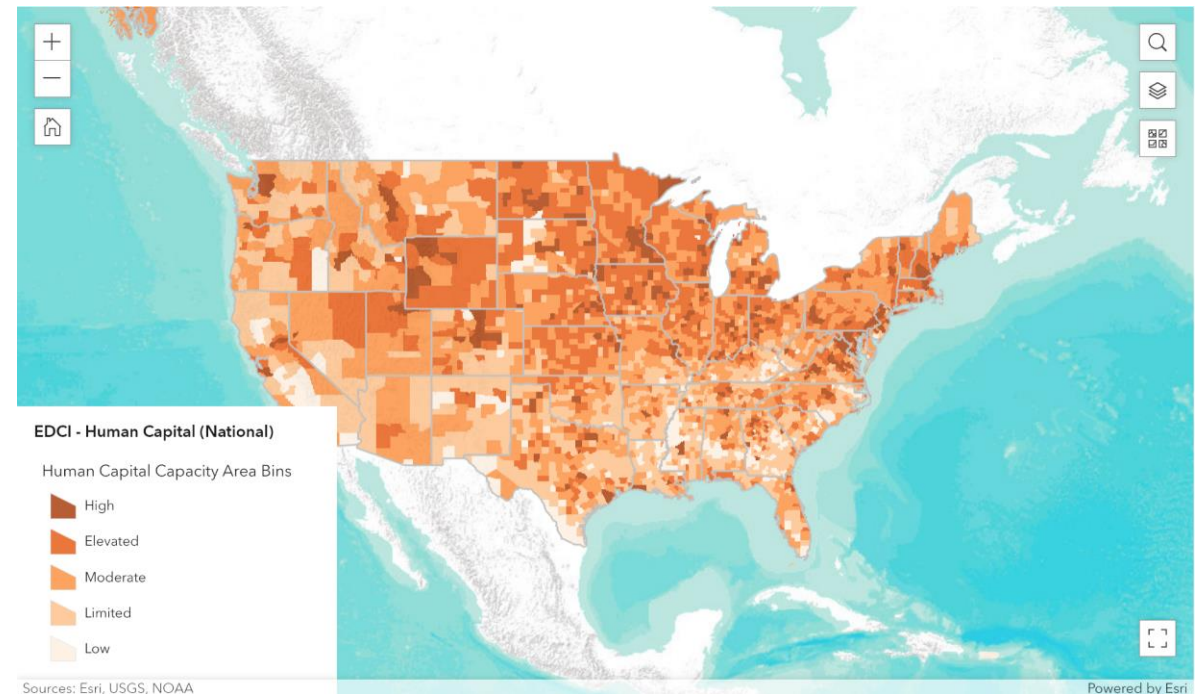
Data is provided by FEMA's National Risk Index (NRI). The NRI is an online mapping application that identifies communities that are most at risk to 18 natural hazards. For the sake of this dashboard, hazards have been filtered to Tornadoes, Riverine Flooding, Lightning, Hurricanes, and Winter Weather. Data has not been aggregated at the EDD level. However, data for all counties within a selected EDD is provided.



ECONOMIC DEVELOPMENT CAPACITY INDEX

Background

- Collaboratively developed between Argonne and the Economic Development Administration (EDA). The development process included:
 - Consultation with subject matter experts within EDA to identify index goals, data requirements, and use cases;
 - A review of literature to identify core capacity areas and indicators of interest;
 - A review of publicly available data sources that were germane to each of the identified capacity areas;
 - Consultations with select subject matter expert agencies.
 - Review and refinements of results in consultation with EDA.
- Technical report and tool available at:
<https://www.anl.gov/dis/economic-development-capacity-index>



ECONOMIC DEVELOPMENT CAPACITY INDEX

<https://www.anl.gov/dis/economic-development-capacity-index>

WHAT THE EDCI IS

- A collection of publicly available indicators that provide insight into local economic development conditions and capacities.
- A way of measuring a community's capacity relative to the rest of the nation.
- A tool to inform planning, strategy identification, and funding applications.
- A resource that will be updated annually to track changes over time.

WHAT THE EDCI IS NOT

- The sole, definitive measure of local capacity.
- A value judgement on how well any economic development organization or program is performing.

ASSUMPTIONS AND REQUIREMENTS

- All included data must be open to the public and available nationwide.
- There is no overall index score. The EDCI is designed to help pinpoint specific strengths or areas for growth among 5 Capacity Areas.
 - Capacity Area bins:
 - High—capacity is well above the national average
 - Elevated—capacity is above the national average
 - Moderate—capacity is close to the national average
 - Limited—capacity is slightly below or approaching the national average
 - Low—capacity is well below the national average
- Some indicators positively contribute to capacity; others inhibit capacity.
- Scaling applied where appropriate to account for the size of the community.

CAPACITY AREAS

Human Capital

Capacity	Indicator Name	Directionality
Human Capital	Percent High School Education and Above	Positive
	Percent High School Education and Above migration	Negative
	Gini Index (Income Inequality)	Negative
	Percent Home Ownership	Positive
	35%+ of Household Income to Rent	Negative
	35%+ of Household Income to Mortgage	Negative
	Percent SNAP Households	Negative
	Healthcare Professional Per Capita	Positive
	Percent Creative Class	Positive
	Percent Inventive Class	Positive
	Per Capita Income	Positive

CAPACITY AREAS

Financial

Capacity	Indicator Name	Directionality
Financial	Local Government Vulnerability Index Value	Positive
	5-yr average Small Business Innovation Research (SBIR) grants	Positive
	5-year average Small Business Technology Transfer (STTR) grants	Positive
	SBA Loans per establishments	Positive
	SBA Third-Party Loans per establishments	Positive
	Banks per capita	Positive

Note: Private transactions are a critical aspect of economic development capacity. However, very few publicly available data sources are available.

CAPACITY AREA

Industry Composition

Capacity	Indicator Name	Directionality
Industry Composition	Advanced Industry Employment Ratio	Positive
	Establishment Entry Rate	Positive
	Establishment Exit Rate	Negative
	Location Quotient (LQ) cluster establishments above 1.0	Positive
	LQ cluster employment above 1.0	Positive
	Shannon-Weiner Employment Index (Diversity)	Positive
	Shannon-Weiner Establishment Index (Diversity)	Positive

CAPACITY AREAS

Infrastructure

Capacity	Indicator Name	Directionality
Infrastructure	National Pollutant Discharge Elimination System (NPDES) Permits per 1,000 kilometers of stream	Negative
	Percentage of Bridges in Poor Condition	Negative
	Mean distance to nearest Transit Stop	Negative
	Total Train Miles	Positive
	Electricity Affordability	Negative
	Percent of household income to transit	Negative
	Electricity Reliability	Negative
	Percent of Self-Supply water	Negative
	Number of Mines per land area	Negative
	Number of Brownfield Sites per land area	Negative
	Percentage of county classified as Superfund	Negative
	Percent of streams impaired	Negative
	Distance to nearest Airport	Negative
	Distance to nearest Water Port	Negative
	Percent of Population near green space	Positive
	Ookla Median User Download Speed	Positive
	Mean County Internet Access Index Value	Positive

CAPACITY AREAS

Institutions and Partnerships

Capacity	Indicator Name	Directionality
Institutions and Partnerships	Percent county budget as grants	Positive
	Cultural centers establishments per capita	Positive
	Workforce training establishments Ratio	Positive
	Non-Profits per capita	Positive
	Libraries per capita	Positive
	Local government employees per Capita	Positive
	Number of College / Universities	Positive
	Distance to nearest EDA University Center	Positive
	Membership organization establishment Ratio	Positive
	County in EDD?	Positive
	Economic development organizations ratio	Positive

CONTACT US!

- Data requests.
- Technical assistance for using our tools.
- Feedback and recommendations for improvement.
- NERRC@anl.gov or rnta@eda.gov

LIVE DEMONSTRATIONS

