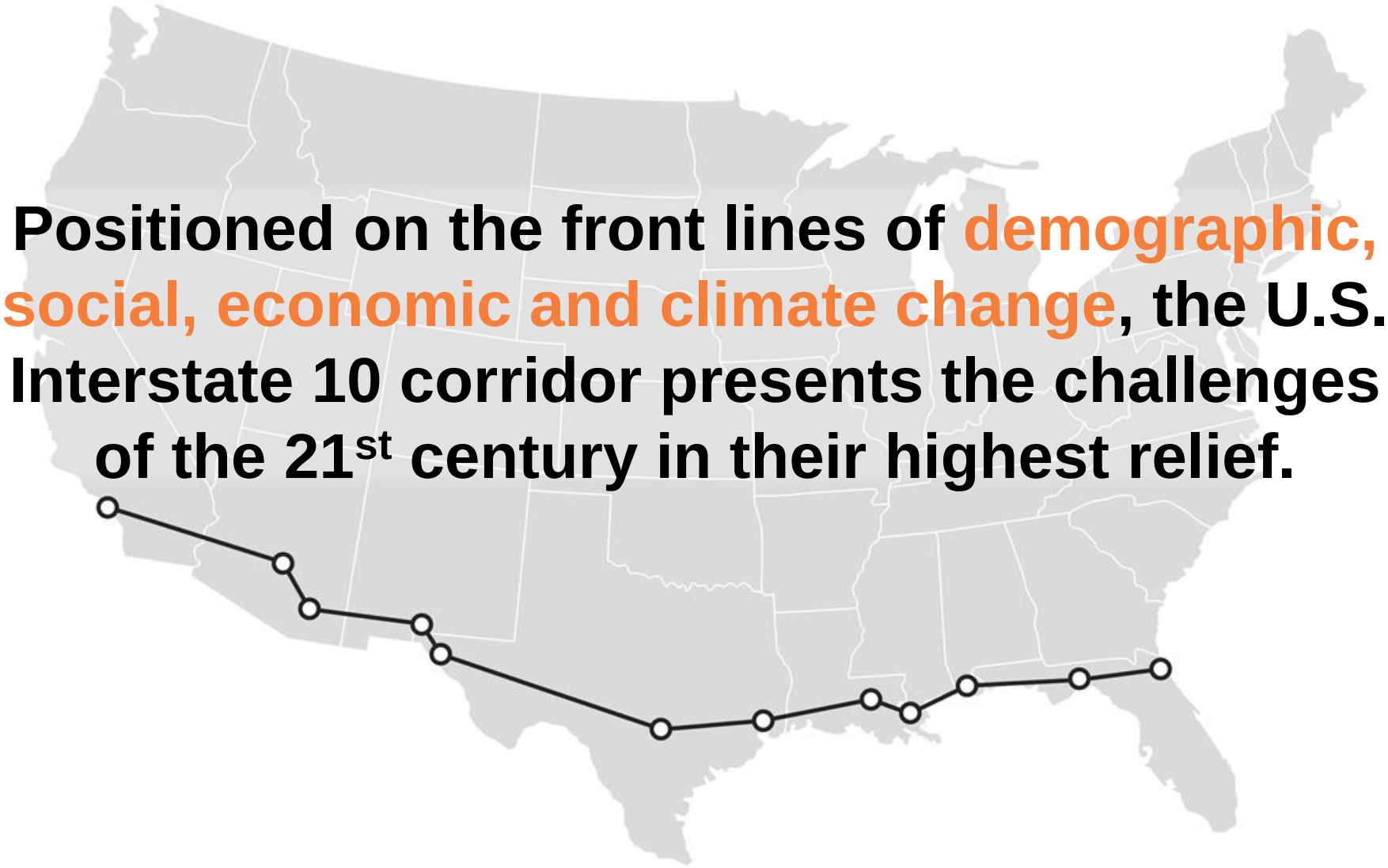
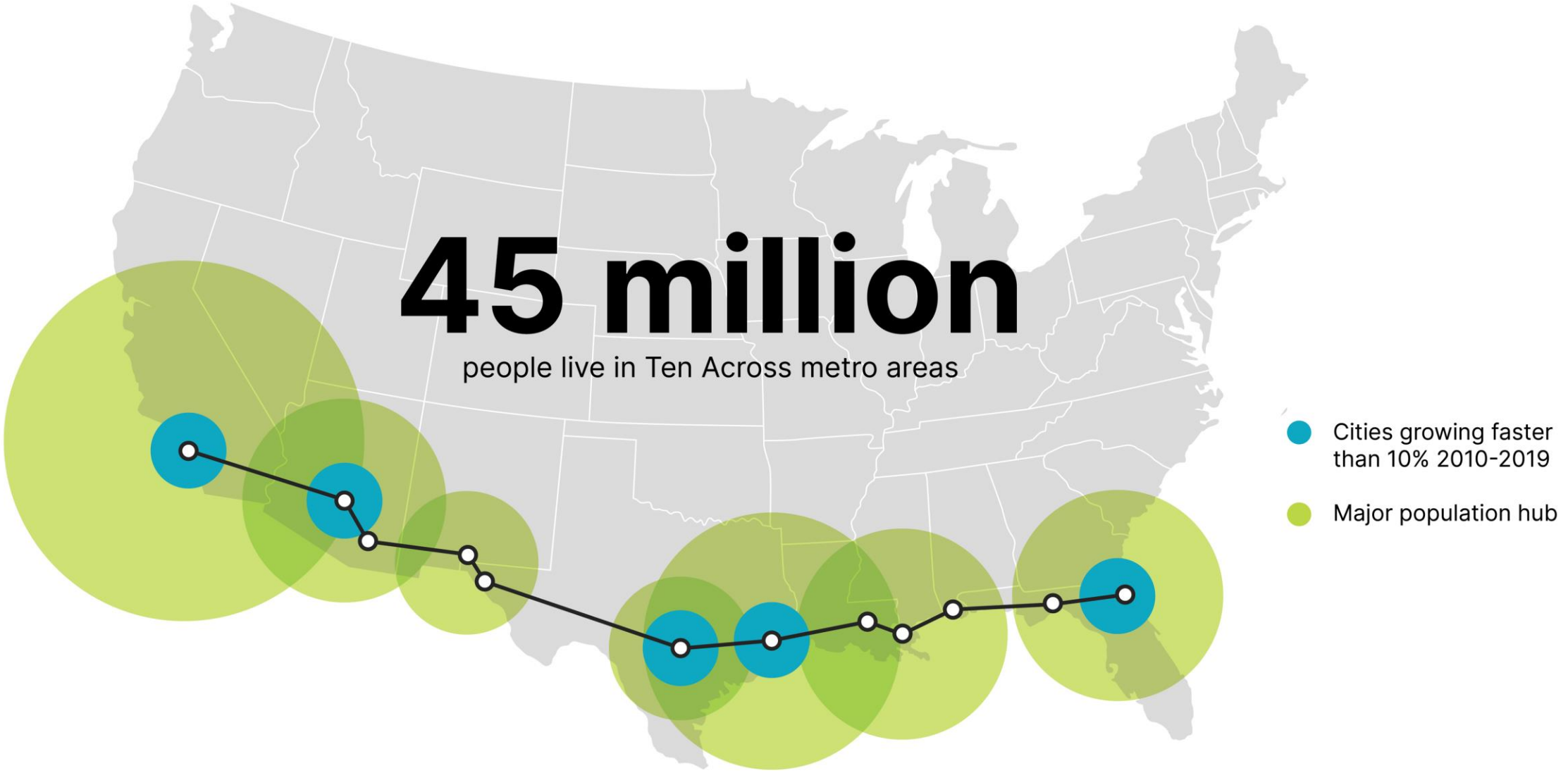
TEN ACROSS™ CURRICULUM

Thesis



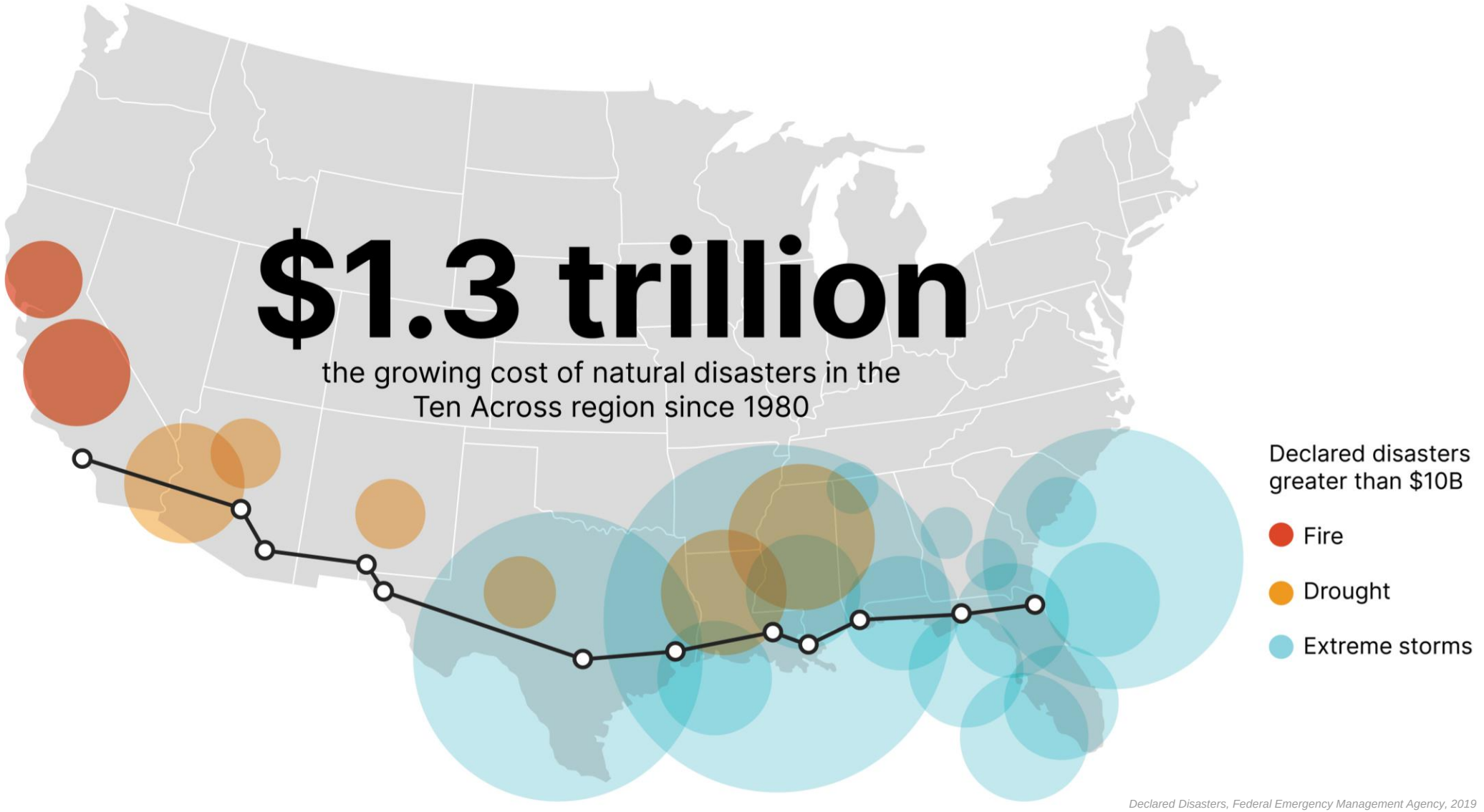
Positioned on the front lines of demographic, social, economic and climate change, the U.S. Interstate 10 corridor presents the challenges of the 21st century in their highest relief.

Scale + Growth



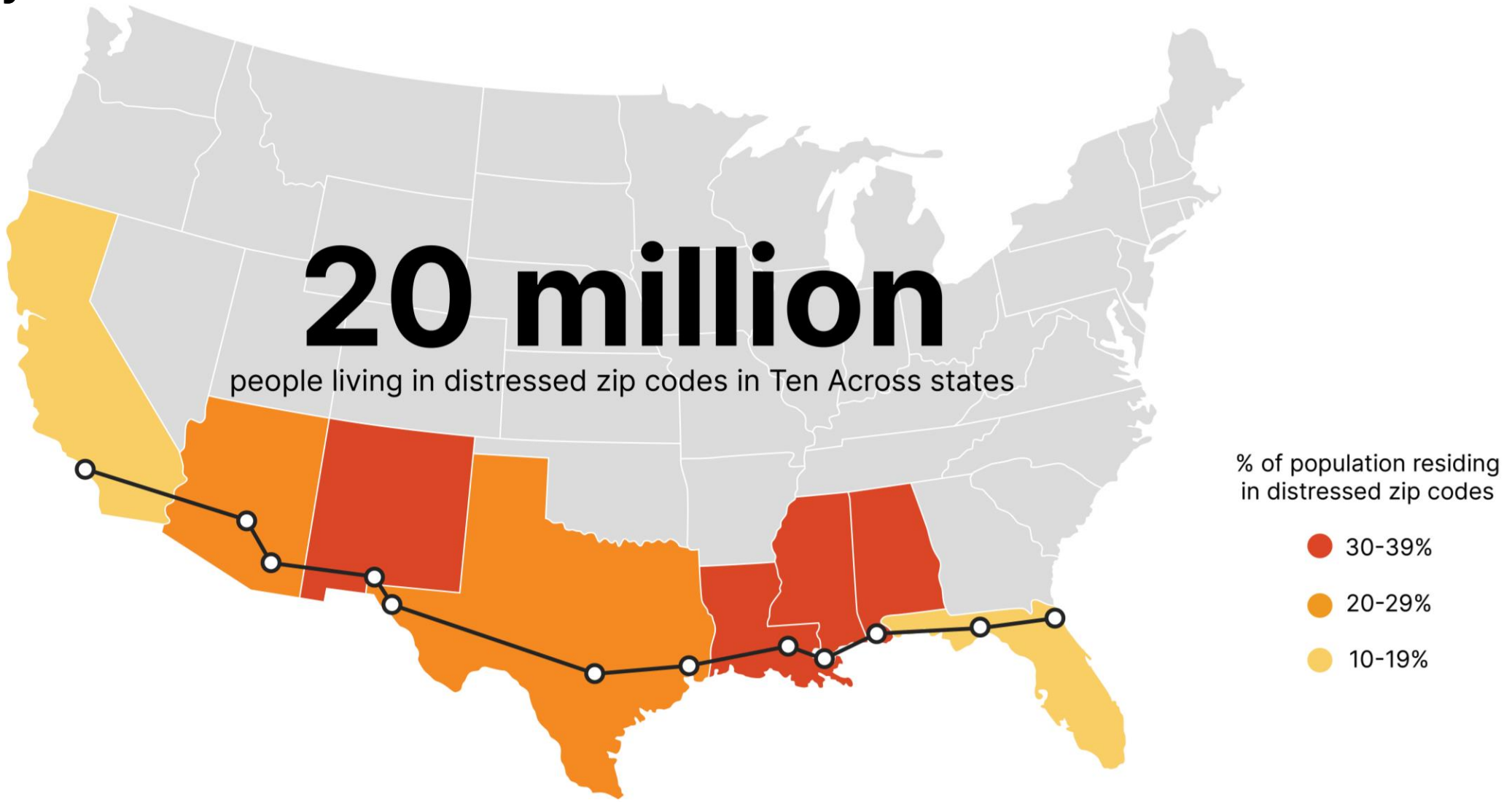
Analysis of U.S. Census Bureau data, 2019 estimates

Risk + Resilience



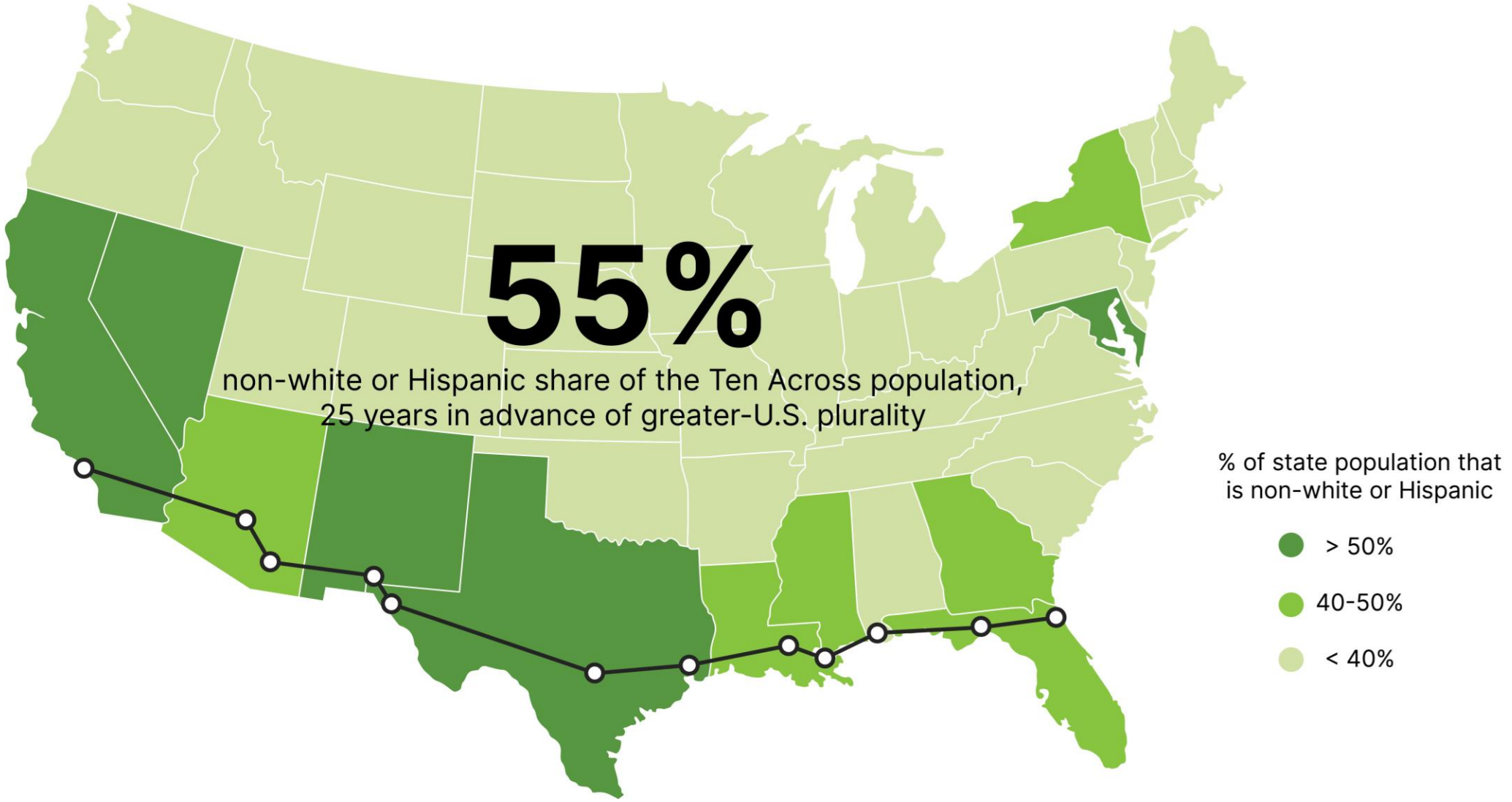
Declared Disasters, Federal Emergency Management Agency, 2019

Vulnerability



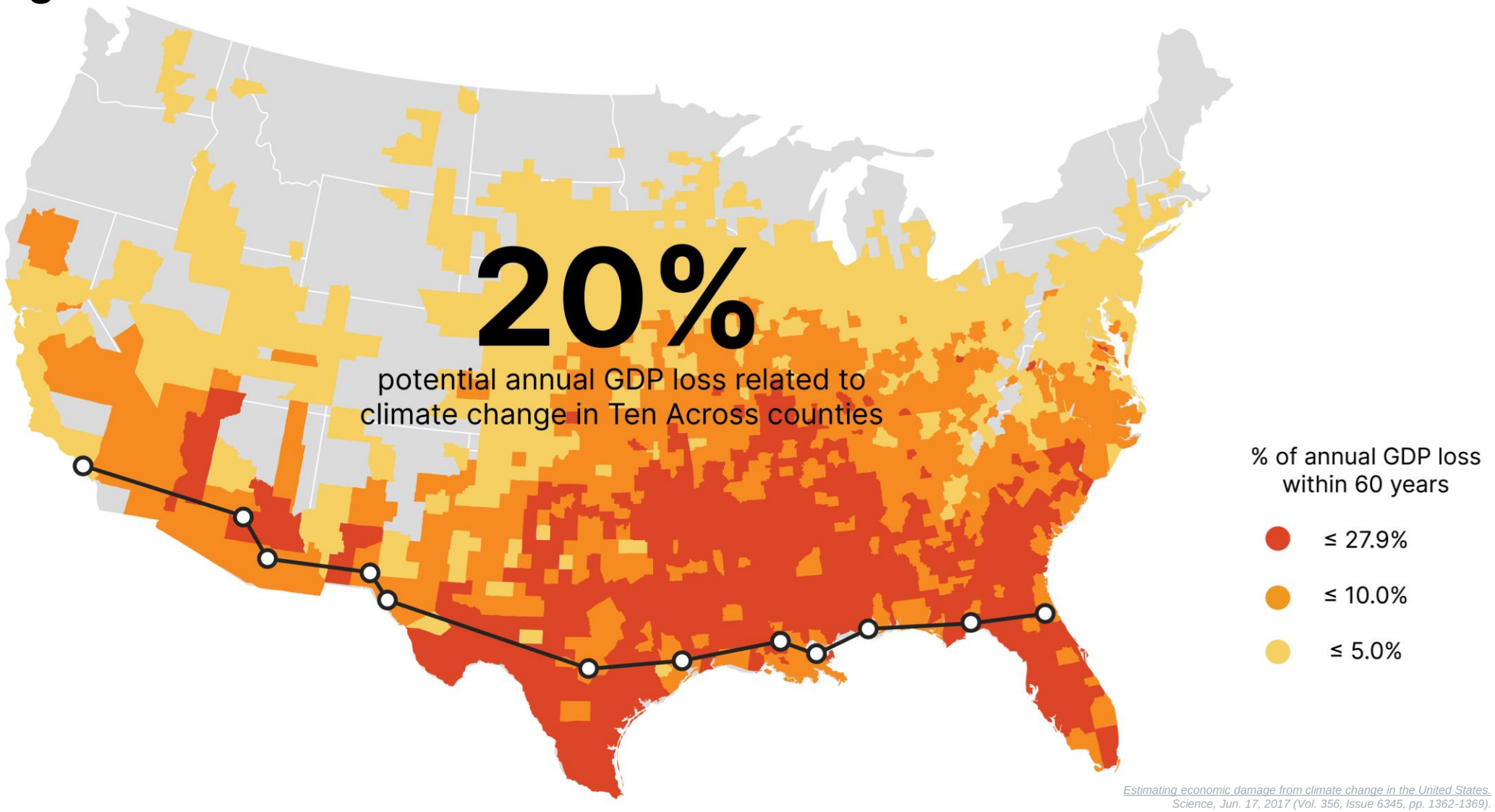
Analysis of U.S. Census Bureau data, 2019 estimates

Plurality



Analysis of U.S. Census Bureau data, 2019 estimates

Futurecasting



Estimating economic damage from climate change in the United States. Science, Jun. 17, 2017 (Vol. 356, Issue 6345, pp. 1362-1369).

10X Summits


@ THE WATER CAMPUS
TEN ACROSS WATER
ASU Arizona State University
Baton Rouge Area Foundation
THE WATER INSTITUTE OF THE GULF
PHX WATER SMART
Visit BATON ROUGE
CSRS

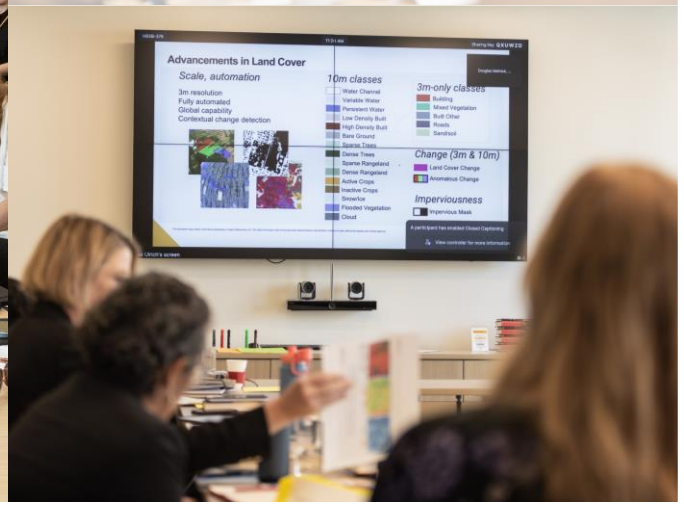

TEN ACROSS WATER


TEN ACROSS

10X Chief Resilience Officers Network (LA)

"I took a lot of new ideas and energy home to Phoenix and suspect the same is true for everyone else who was there. I am looking forward to continuing the dialogue with the network!"
Dave Hondula, Director of Heat Response and Mitigation, City of Phoenix

Abena Ojetayo, Assistant City Manager, City of Tallahassee



climate communications workshop (LA)

APM + 10X partnership

APM RESEARCH LAB

About | Data Viz | Surveys | Topics | COVID-19 | Ten Across | Mood of the Nation | In The News | Blog | DONATE

THE LAB'S PARTNERSHIP WITH TEN ACROSS

What is 10X?

The Ten Across initiative frames the U.S. Interstate 10 corridor, stretching from Los Angeles to Jacksonville, as the premier observatory for our collective capacity to imagine a more resilient future and inclusive society.

APM + 10X partnership

Points of reference: Anti-boycott legislation and Texas' ESG Blacklist

In August, Texas Comptroller Glenn Hegar released a "blacklist" of financial firms with plans to divest state pension funds from those companies based on the state's 2021 anti-boycott law. This legislation, which now may be serving as a model for similar legislation in other states, prohibits state investment with firms that boycott energy companies.

Back to school: Expansive Arizona program puts universal school choice under the microscope

With notable growth in state- and tax-funded financial aid just in the last year, school choice has become increasingly political. Questions regarding its accountability and effectiveness have been studied for years, but Arizona's new legislation, set to take effect Sept. 24, has produced additional scrutiny. There is already a mounting effort to repeal this law.

Insurance aflame: Coverage inequities rage as population grows in wildfire regions

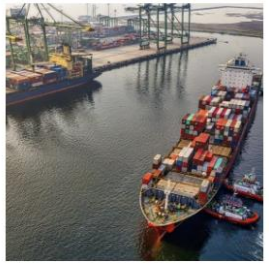
A 2015 study confirmed that fire seasons have lengthened by more than a month in parts of the western U.S. compared to 35 years ago. But just as wildfires have increased, so have the number of people moving to high-risk fire areas along the West Coast. Meanwhile, adequate insurance for wildfire damage appears to be harder to come by in recent years.

Following the demand: The ins and outs of warehouse automation

Last month, Amazon announced a major milestone in warehouse automation – the introduction of a robotic system that can recognize and handle distinct objects. With recent strides in automation like those made by Amazon, will warehouse automation have a role in the growing supply chain? Like any technology, warehouse automation has its critics, who question its efficiency, safety and impact on workers.

Autonomous trucking: Is it steering technology in the right direction?

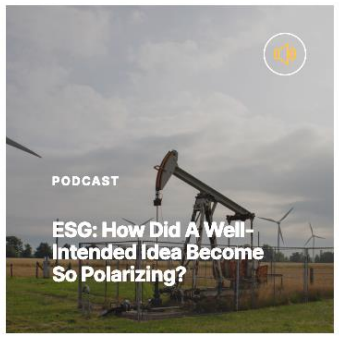
Autonomous trucks are quickly beginning to infiltrate America's roadways. The technology has made most gains in light trucking and has been more slowly implemented in heavy trucks, with many companies using Interstate Highway 10 to test it. But just how feasible and safe is autonomous trucking technology? And how will automation impact the industry's inability to recruit and retain truck drivers?

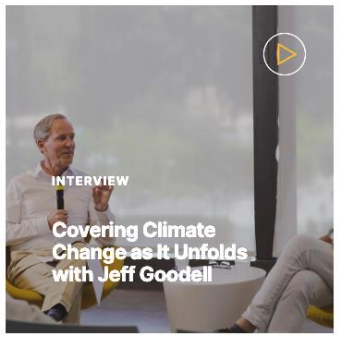


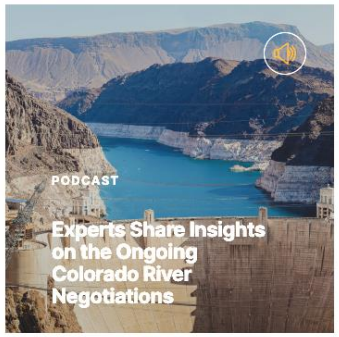
Why does the U.S. lag other nations so badly in the automations of its ports? (And is that good or bad?)

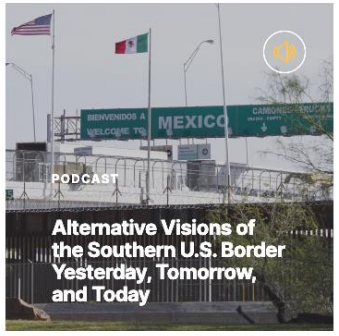
Supporters of automation praise its eco-friendly efficiency. However, according to the 2021 Container Port Performance Index, three of four American ports that incorporate automated technologies rank low for overall efficiency compared to both automated and unautomated ports in other countries. So, why is that the case?

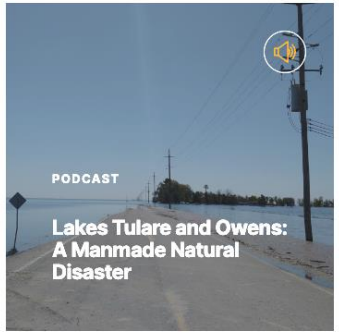
10X in Conversation podcast

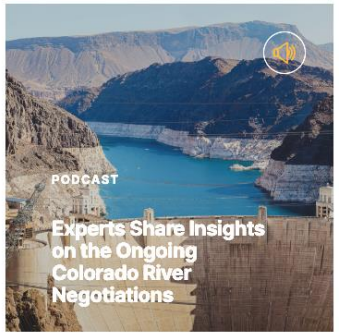


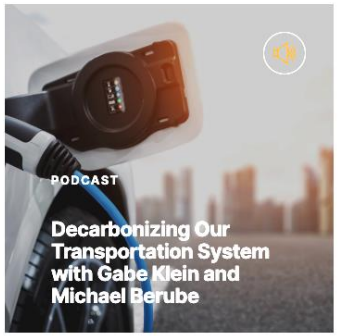












TEN ACROSS™

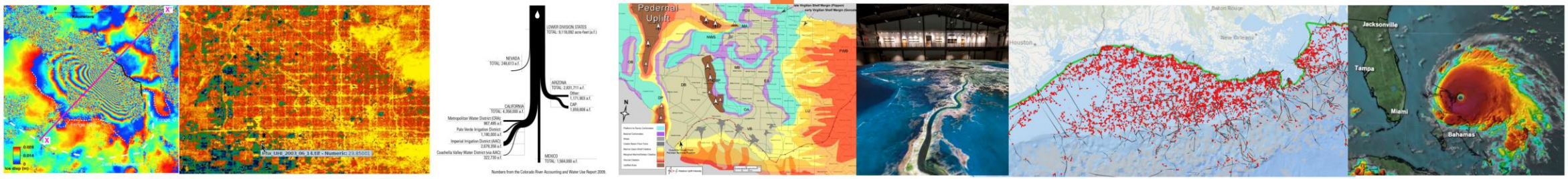

Chapter 2
Phoenix: Growth + the Emergence of Community
EDUCATION
Chapter 4
Las Cruces: Farming + the Flow
Chapter 5
El Paso: Migration + the Flow of Culture
Chapter 6
Chapter 8


HWY 110
HWY 101
HWY 10
OBSERVATORY


MEDIA


STAKEHOLDER NETWORKS

LIVED EXPERIENCE + MEDIA NARRATIVES



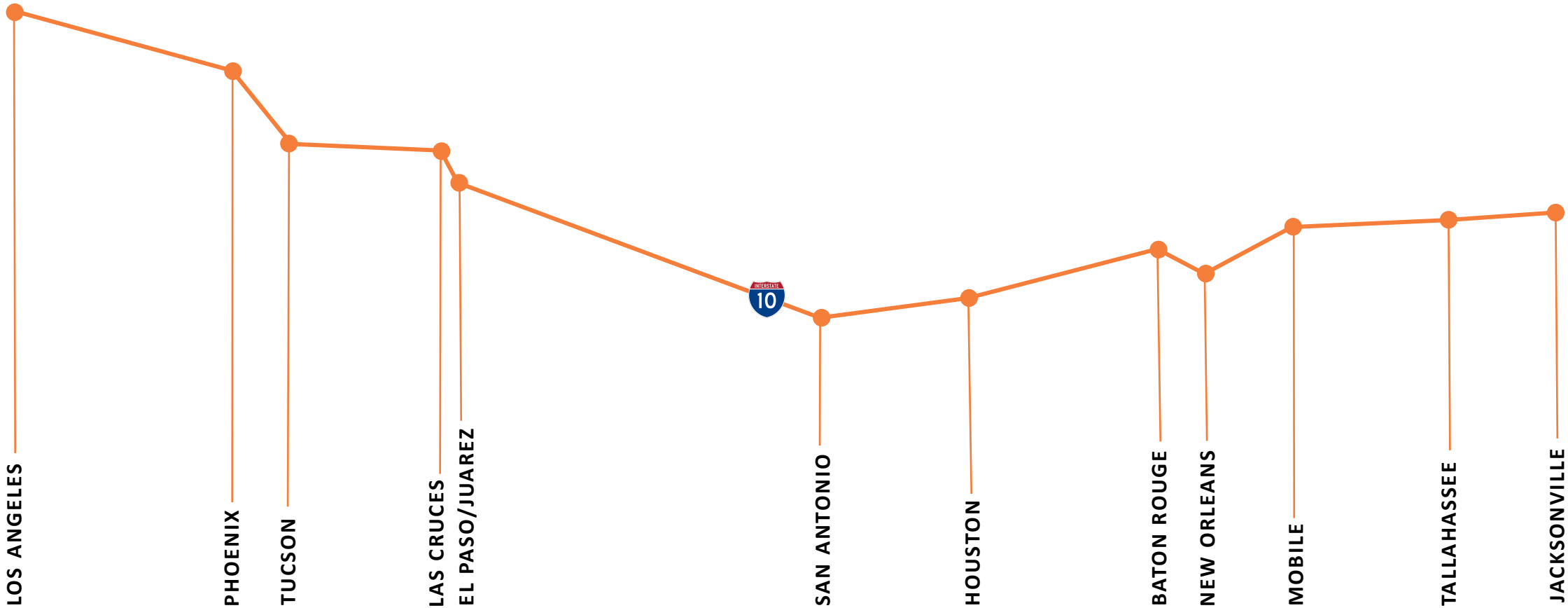
DATA-DRIVEN VISUALIZATIONS

CGF 110

Resilient American Futures: An academic roadtrip

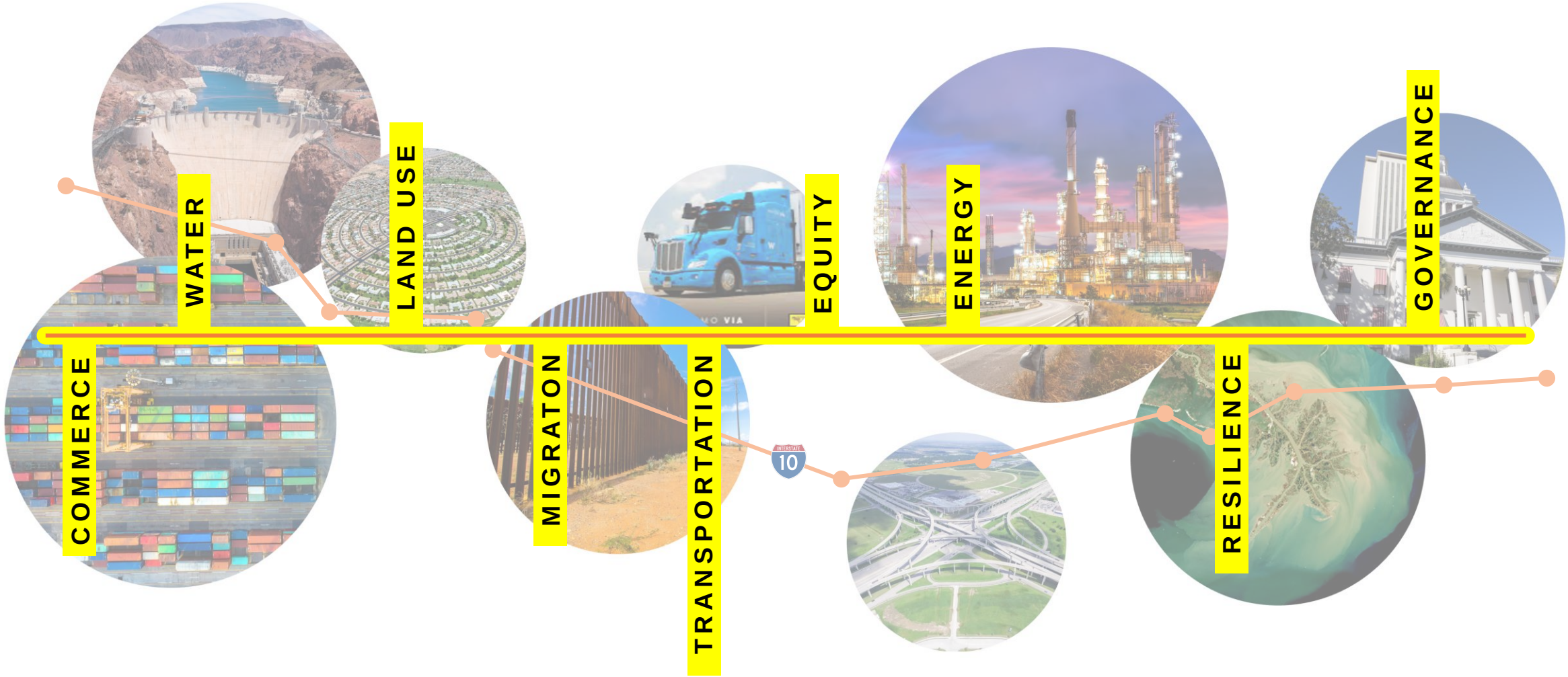
Audience: **High school** (grades 11-12), **college** (1st years), **lifelong learners** (ULC students) in I-10 corridor and beyond

TEN ACROSS


LOS ANGELES
PHOENIX
TUCSON
LAS CRUCES
EL PASO/JUAREZ
SAN ANTONIO
HOUSTON
BATON ROUGE
NEW ORLEANS
MOBILE
TALLAHASSEE
JACKSONVILLE


LOS ANGELES
PHOENIX
TUCSON
LAS CRUCES
EL PASO/JUAREZ
SAN ANTONIO
HOUSTON
BATON ROUGE
NEW ORLEANS
MOBILE
TALLAHASSEE
JACKSONVILLE
10

TEN ACROSS™


WATER
LAND USE
EQUITY
ENERGY
GOVERNANCE
COMMERCE
MIGRATON
TRANSPORTATION
RESILIENCE
10

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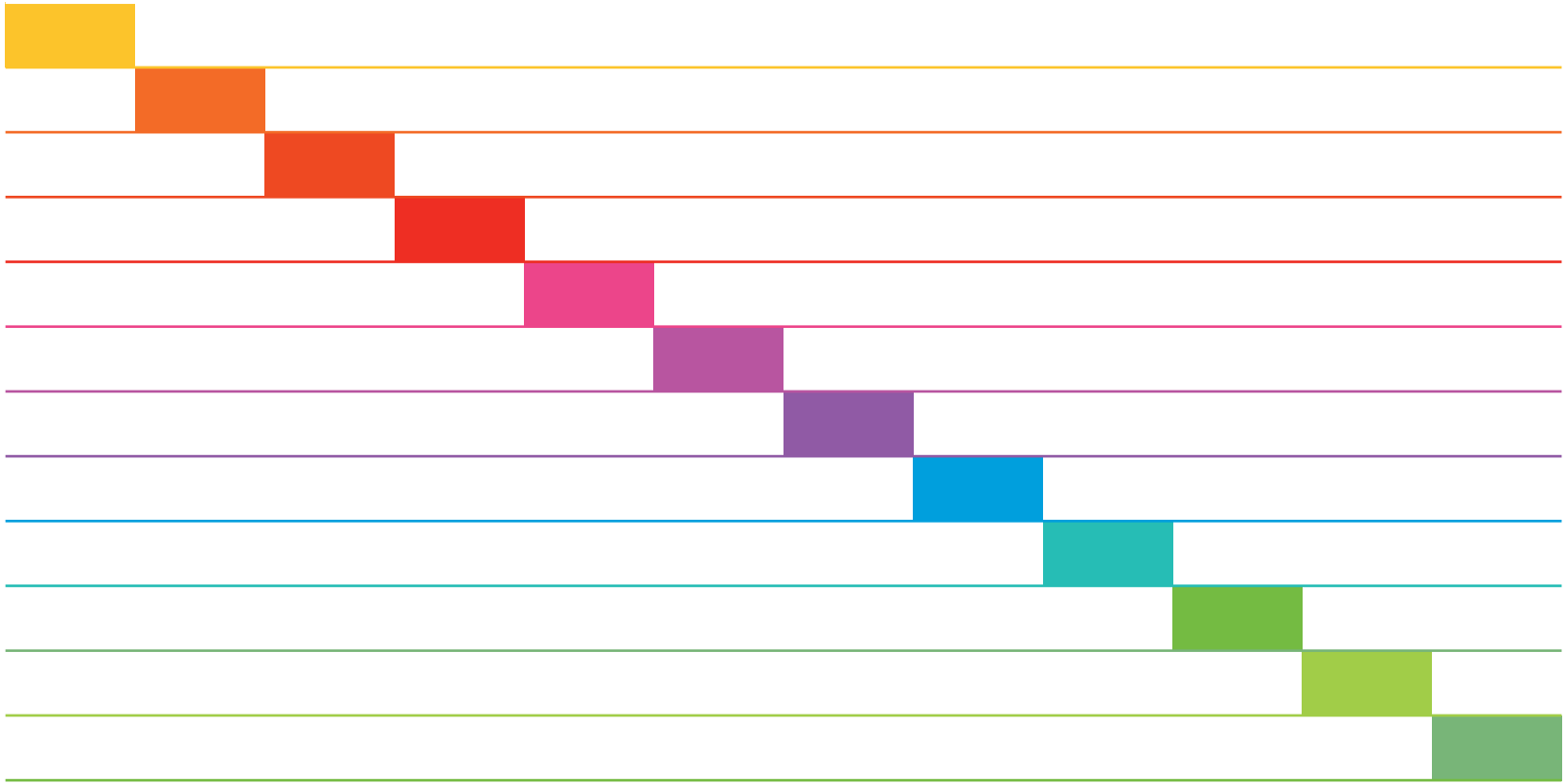
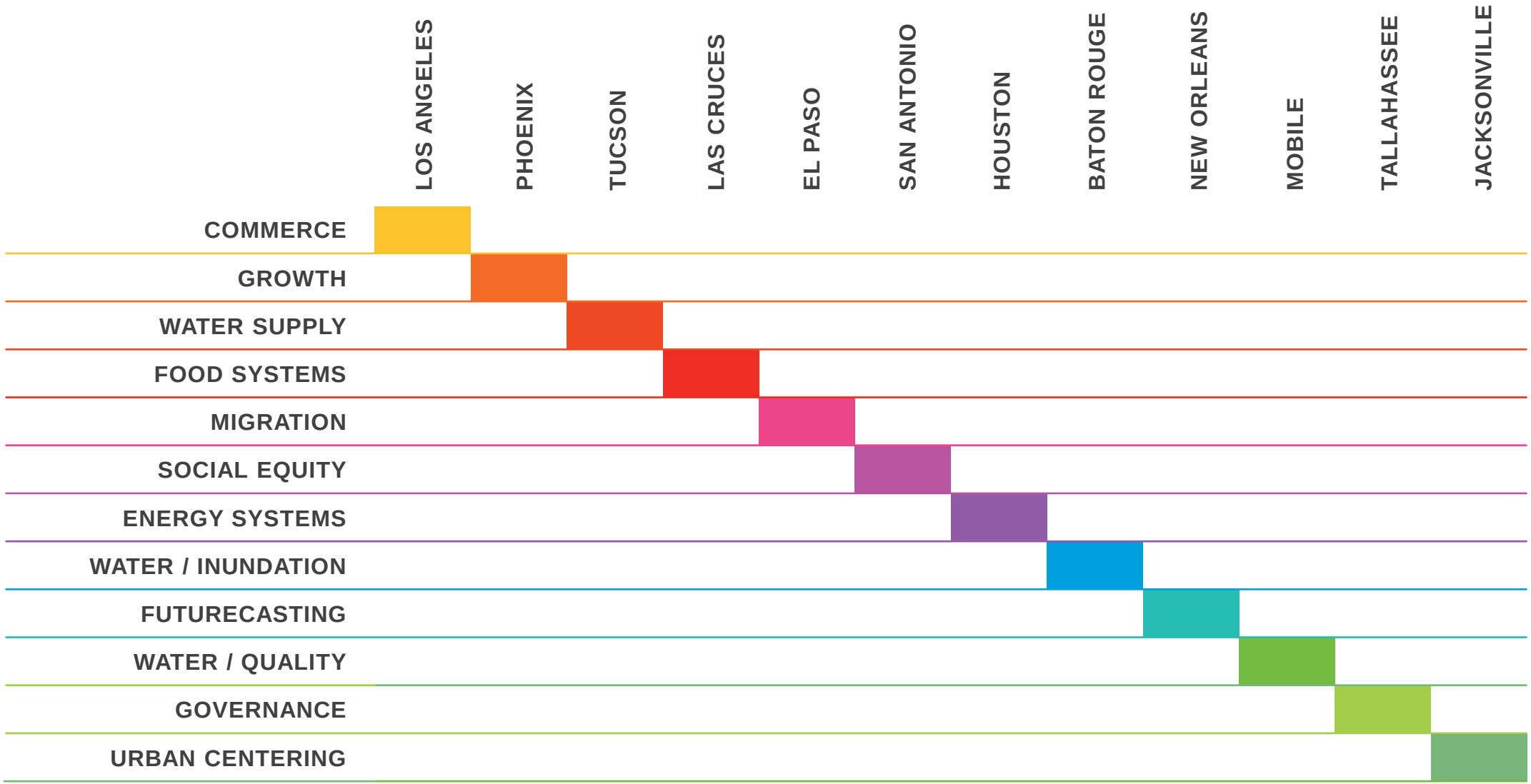
ISSUE + PLACE



CONTENT NARRATIVES

TEN ACROSS™



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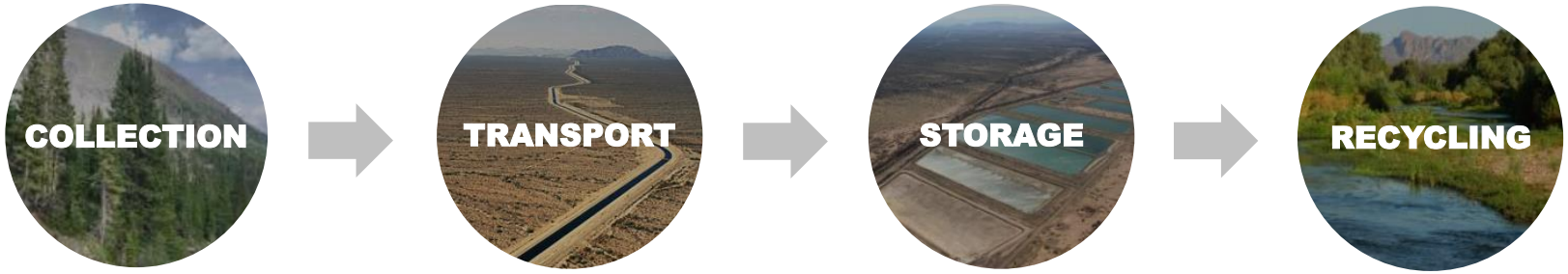
TUCSON

RESOURCE FLOW



Chapter 3: Tucson and the Flow of Water

Section 3.1

COLLECTION

Dependence on a distant climate

3.1.1
Earth Science - Climatology

3.1.2
Sustainability - Complex Adaptive Systems

Section 3.2

TRANSPORT

Water flows uphill

3.2.1
Political Science – Political Development/Comparative Politics

3.2.2
Engineering – Civil/Electrical

Section 3.3

STORAGE

Nature's underground water tank

3.3.1
Earth Science – Geology

3.3.2
Public Service – Water Policy

Section 3.4

RECYCLING

Dumping wastewater becomes helpful

3.4.1
Chemistry – Environmental

3.4.2
Life Science – Ecology

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Chapter narratives introduce 70+ essential professional roles:

Anthropology – Archaeology
Anthropology – Cultural
Anthropology/Sociology – Social/Cultural Analysis
Art – Film Production
Art – Visual
Business – Agribusiness
Business – Entrepreneurship
Business – Global Management
Business – Marketing
Business – Supply Chain Management
Real Estate Development
Chemistry – Environmental
Communication – Government/Public
Communication – Technical
Computer Science – Data Science & Analytics
Design – Architecture
Earth Science – Climatology
Earth Science – Geology
Earth Science – Geomorphology
Earth Science – Meteorology
Economics – Microeconomics
Education – Teaching
Engineering – Civil/Electrical
Engineering – Environmental Hydrology
Engineering – Environmental Waste
English – Film and Media Studies
English – Literary Studies
Ethnic Studies – African and African-American
Ethnic Studies – American Indian
Ethnic Studies – Asian Pacific American Studies
Geography – Cartography
Geography – Economic
Geography – Energy
Global Studies – International Relations
Global Studies - Transborder Studies
History – Urban
Journalism – Feature
Journalism – Hard News
Justice Studies – Migration Policy
Language – Spanish
Law – Civil/Criminal
Law – Government
Life Science – Agricultural Science/Genetics
Life Science – Ecology
Life Science – Marine Biology
Medical Science – Healthcare
Military Science – Public/Private Partnerships
Philosophy – Political
Political Science – Government
Political Sci –Developmental/Comparative Politics
Psychology – Behavioral
Public Health – Kinesiology
Public Health – Population Health/Nutrition
Public Service – Emergency Management
Public Service – Land Use Policy
Public Service – Nonprofit Management
Public Service – Parks & Recreation Management
Public Service – Social Work
Public Service – Tourism Management
Public Service – Water Policy
Sociology – Environmental Justice
Sustainability -- Complex Adaptive Systems
Sustainability – Energy Futures
Sustainability – Food Systems
Sustainability – Planning/Futurecasting
Sustainability – Waste Systems
Urban Planning – Community Development
Urban Planning – Environmental
Sustainable Urban Development
Women and Gender Studies – Social Justice

ESRI STORYMAPS

Chapter 1
Los Angeles: Commerce + the Flow of Goods

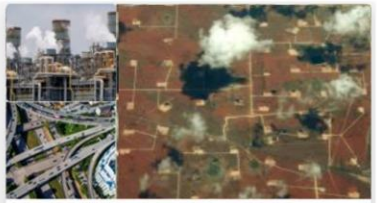
Chapter 2
Phoenix: Growth + the Emergence of Community

Chapter 3
Tucson: The Flow of Water

Chapter 4
Las Cruces: Farming + the Flow of Food

Chapter 5
El Paso: Migration + the Flow of Culture

Chapter 6
San Antonio: Neighborhoods + the Flow of Opportunity



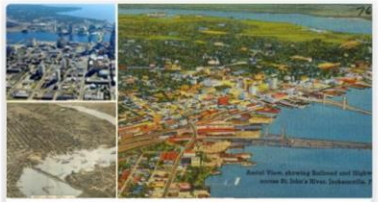
Chapter 7
Houston: The Flow of Energy

Chapter 8
Baton Rouge: The Overflow of Water

Chapter 9
New Orleans: Future + the Emergence of Resilience

Chapter 10
Mobile: Water Resources + the Flow of Economic Prosperity

Chapter 11
Tallahassee: Government + the Flow of Power



Chapter 12
Jacksonville: Governance + the Emergence of Community

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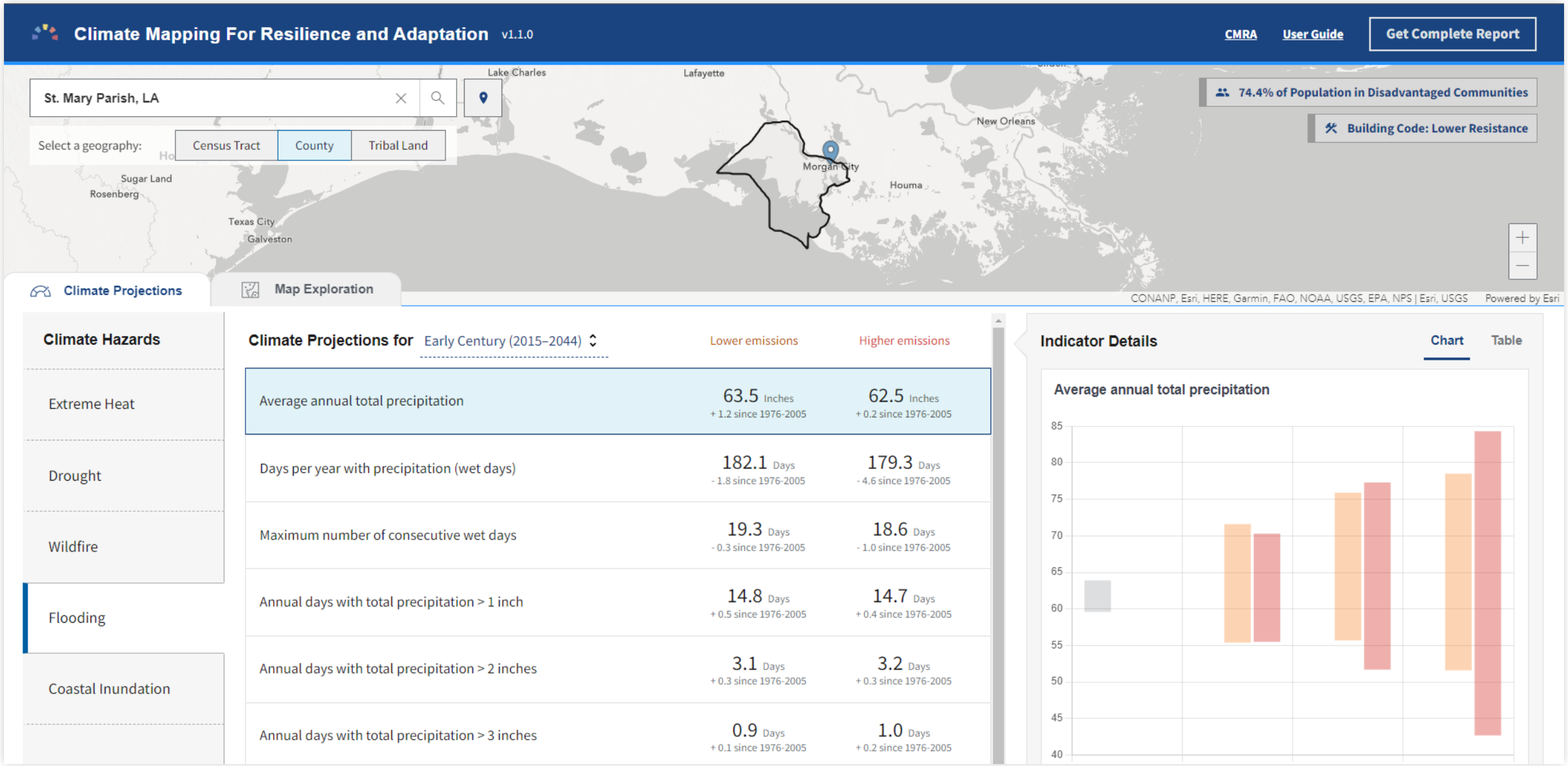
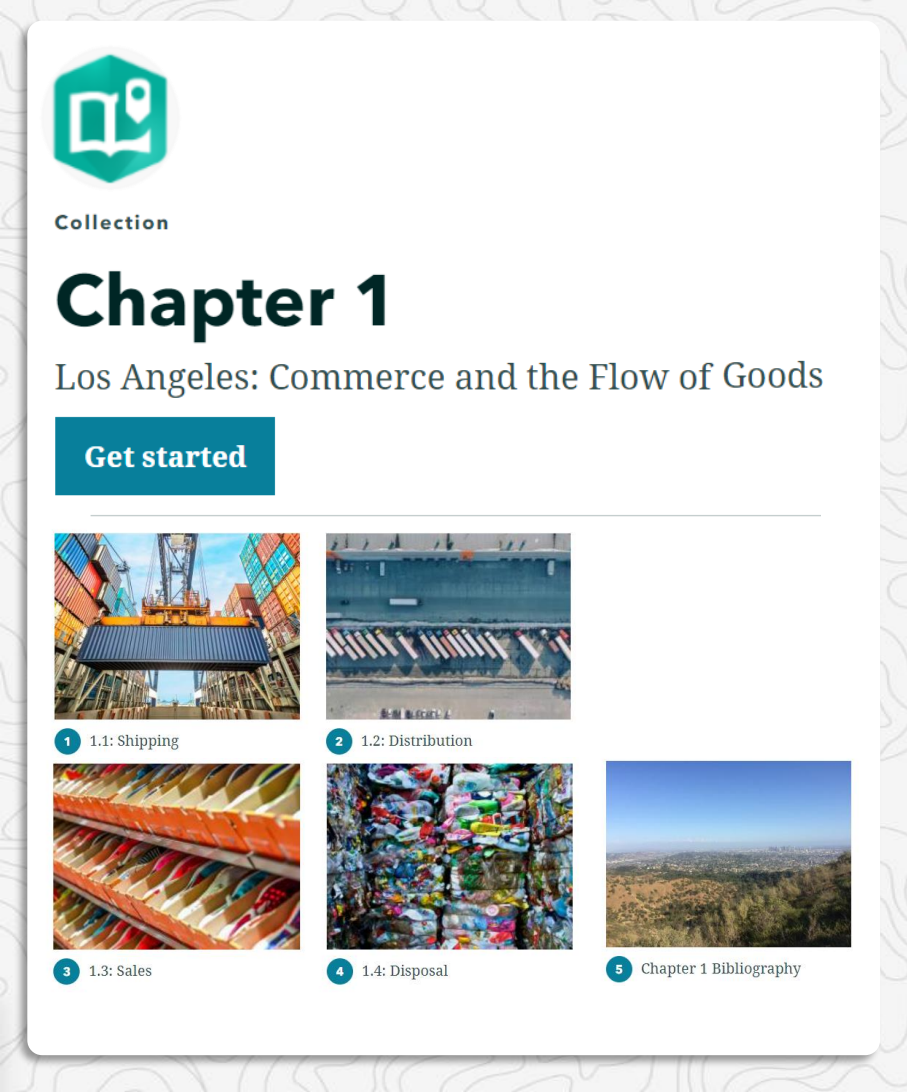

Climate Mapping For Resilience and Adaptation v1.1.0
CMRA
User Guide
Get Complete Report
St. Mary Parish, LA
Select a geography:
Census Tract
County
Tribal Land
74.4% of Population in Disadvantaged Communities
Building Code: Lower Resistance
Lake Charles
Lafayette
New Orleans
Morgan City
Houma
Sugar Land
Rosenberg
Texas City
Galveston
Climate Projections
Map Exploration
CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS | Esri, USGS
Powered by Esri
Climate Hazards
Extreme Heat
Drought
Wildfire
Flooding
Coastal Inundation
Climate Projections for Early Century (2015–2044)
Lower emissions
Higher emissions
Average annual total precipitation
63.5 Inches
+ 1.2 since 1976-2005
62.5 Inches
+ 0.2 since 1976-2005
Days per year with precipitation (wet days)
182.1 Days
- 1.8 since 1976-2005
179.3 Days
- 4.6 since 1976-2005
Maximum number of consecutive wet days
19.3 Days
- 0.3 since 1976-2005
18.6 Days
- 1.0 since 1976-2005
Annual days with total precipitation > 1 inch
14.8 Days
+ 0.5 since 1976-2005
14.7 Days
+ 0.4 since 1976-2005
Annual days with total precipitation > 2 inches
3.1 Days
+ 0.3 since 1976-2005
3.2 Days
+ 0.3 since 1976-2005
Annual days with total precipitation > 3 inches
0.9 Days
+ 0.1 since 1976-2005
1.0 Days
+ 0.2 since 1976-2005
Indicator Details
Chart
Table
Average annual total precipitation
85
80
75
70
65
60
55
50
45
40



Inclusionary course delivery features:

- 7.5-week, 3-credit online course structure designed to be **asynchronous and scalable** to large audience, **accessible** by ASU students working full-time and non-student learners (Universal Learner @ ASU)
- **No textbook costs** (students only need basic computer, internet connection and ASU ID)
- **All textbook references accessible in full-text online format** through ASU Libraries links in ArcGIS StoryMaps bibliography

Offered jointly by ASU College of Global Futures (on-campus/online students) and ASU Learning Enterprise (high school/non-degree learners)

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journalism and communications courses

TEN ACROSS™

AMERICAN PUBLIC MEDIA®

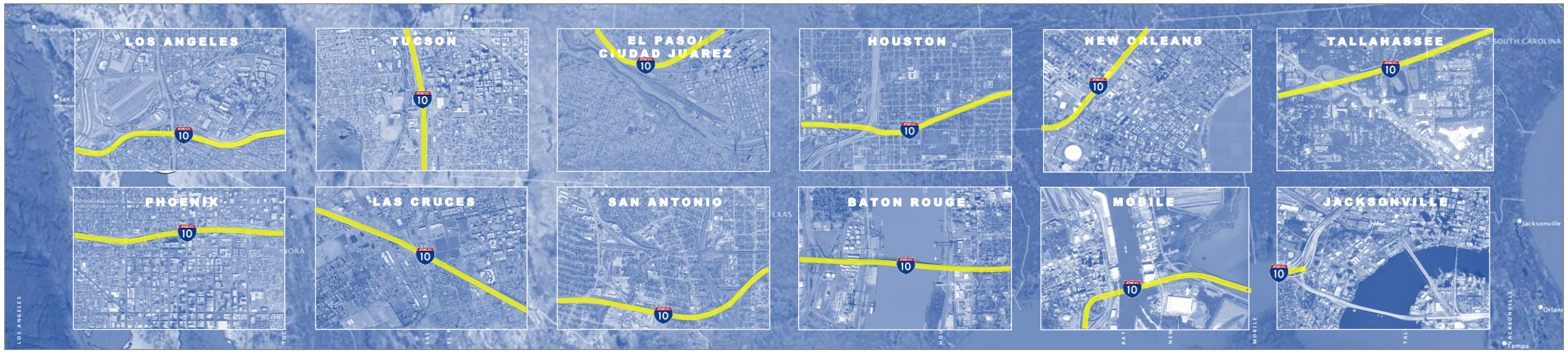
MCO 394: Resilient American Futures + Media

ASU Walter Cronkite School of Journalism and Mass Communication
ARIZONA STATE UNIVERSITY

ARIZONA PBS
ARIZONA STATE UNIVERSITY

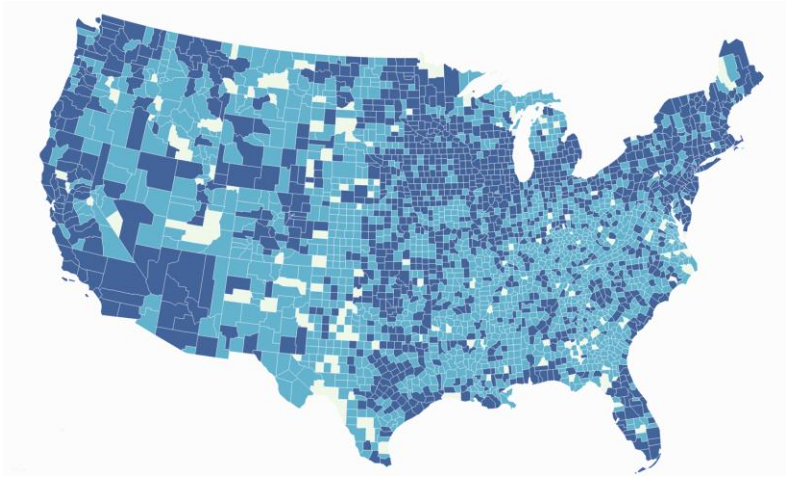
Cronkite News ARIZONA PBS

NEWS21

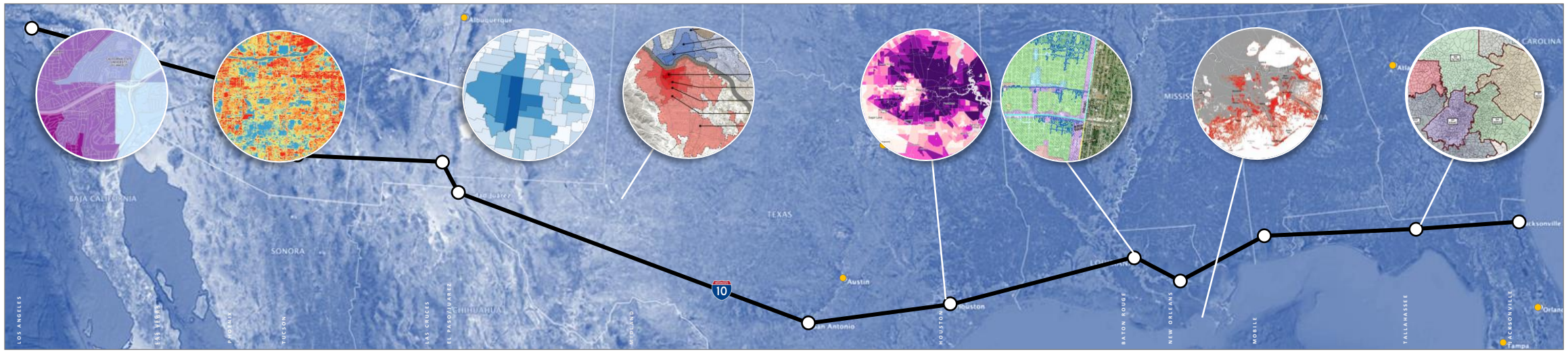


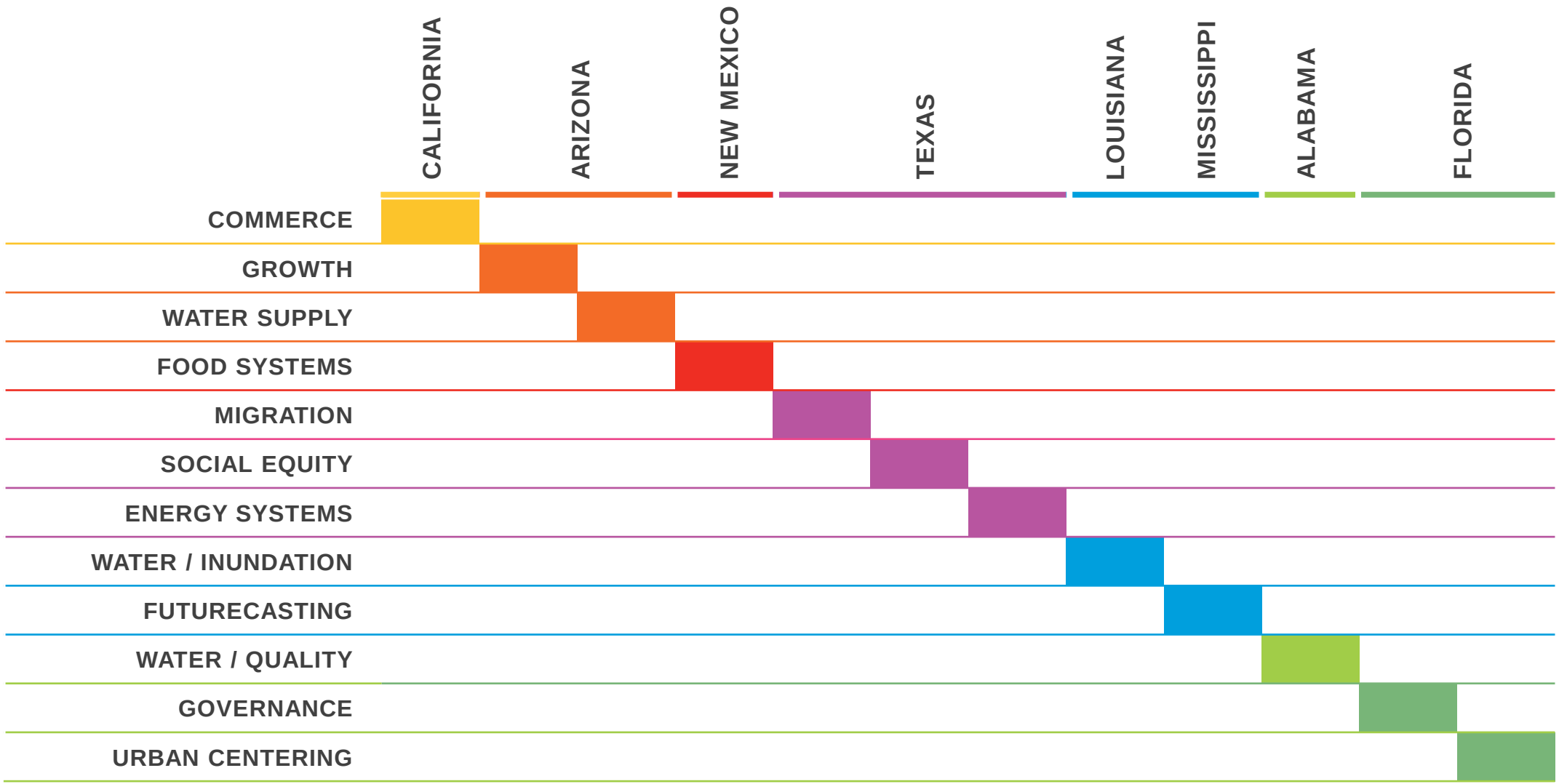
GIS and data journalism courses

GIS 110:
GIS for Resilient American Futures
(in development)



COMMERCE	GROWTH	WATER	FARMING	MIGRATION	OPPORTUNITY	ENERGY	WATER	FUTURES	WATER RESOURCES	GOVERNMENT	URBAN CENTERING
I-10 EQUITY	HAZARDS + ENVIRONMENTAL JUSTICE			POLICY SOLUTIONS 1		I-10 EQUITY 2	HAZARDS + ENVIRO JUSTICE 2			POLICY SOLUTIONS 2	
I-10 + community division 1	ag labor + health hazards	urban heat vulnerability	water policy + access	food deserts + public health	I-10 + community division 2	flood exposure	petrochemical pollution	land loss + displacement	racial community privilege	gerrymandering + preemption	past/future of social equity




CALIFORNIA
ARIZONA
NEW MEXICO
TEXAS
LOUISIANA
MISSISSIPPI
ALABAMA
FLORIDA
COMMERCE
GROWTH
WATER SUPPLY
FOOD SYSTEMS
MIGRATION
SOCIAL EQUITY
ENERGY SYSTEMS
WATER / INUNDATION
FUTURECASTING
WATER / QUALITY
GOVERNANCE
URBAN CENTERING

GIS curriculum example: water + growth

ARIZONA

- COMMERCE
- GROWTH
- WATER SUPPLY
- FOOD SYSTEMS
- MIGRATION
- SOCIAL EQUITY
- ENERGY SYSTEMS
- WATER / INUNDATION
- FUTURECASTING
- WATER / QUALITY
- GOVERNANCE
- URBAN CENTERING

AZGeo DATA HUB

ARIZONA STATE LAND DEPARTMENT NATURAL RESOURCES 1915

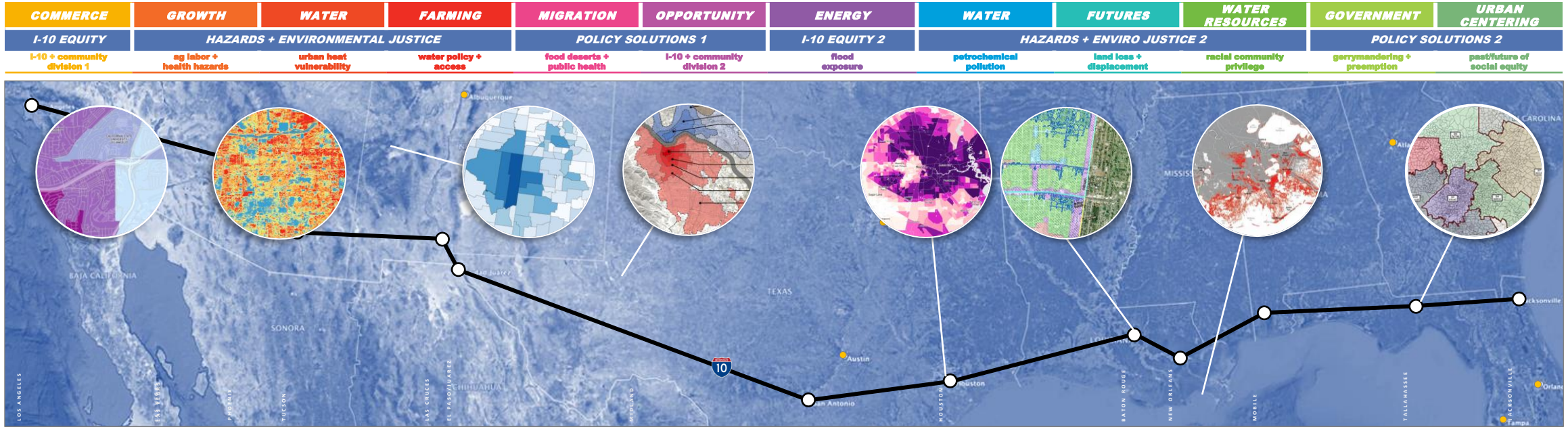
NSGIC

GIS course development

Which GIS careers are related to the chapter narratives?

How did GIS professionals work in GIS software – and collaboratively with others – to help address the local sustainability problem?

What types of local datasets and analyses did they use? Are simplified versions of these datasets available for classroom use?



TEN ACROSS™

Thank you.

Wellington.Reiter@asu.edu

Executive Director, University City Exchange
Arizona State University

Benjamin.W.Stanley@asu.edu

Director of Curriculum, Ten Across Initiative, University City Exchange
Instructor, College of Global Futures
Arizona State University

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