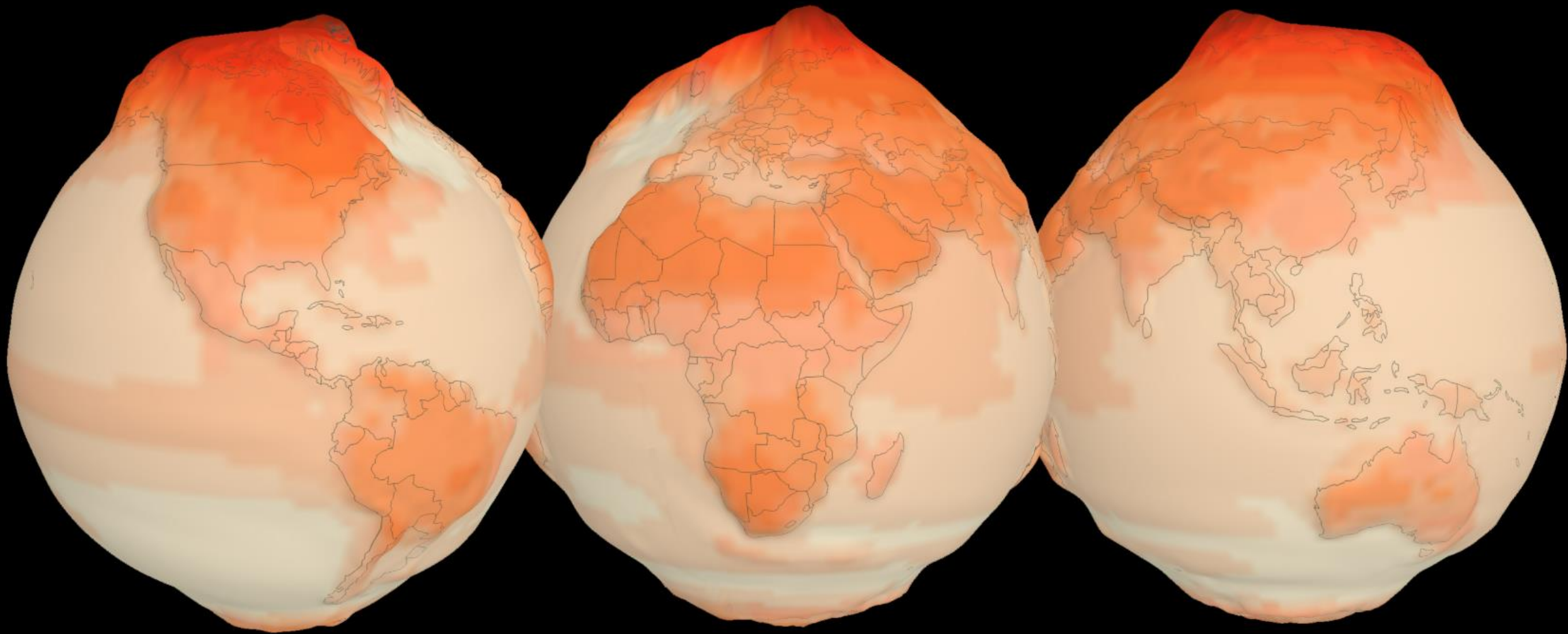
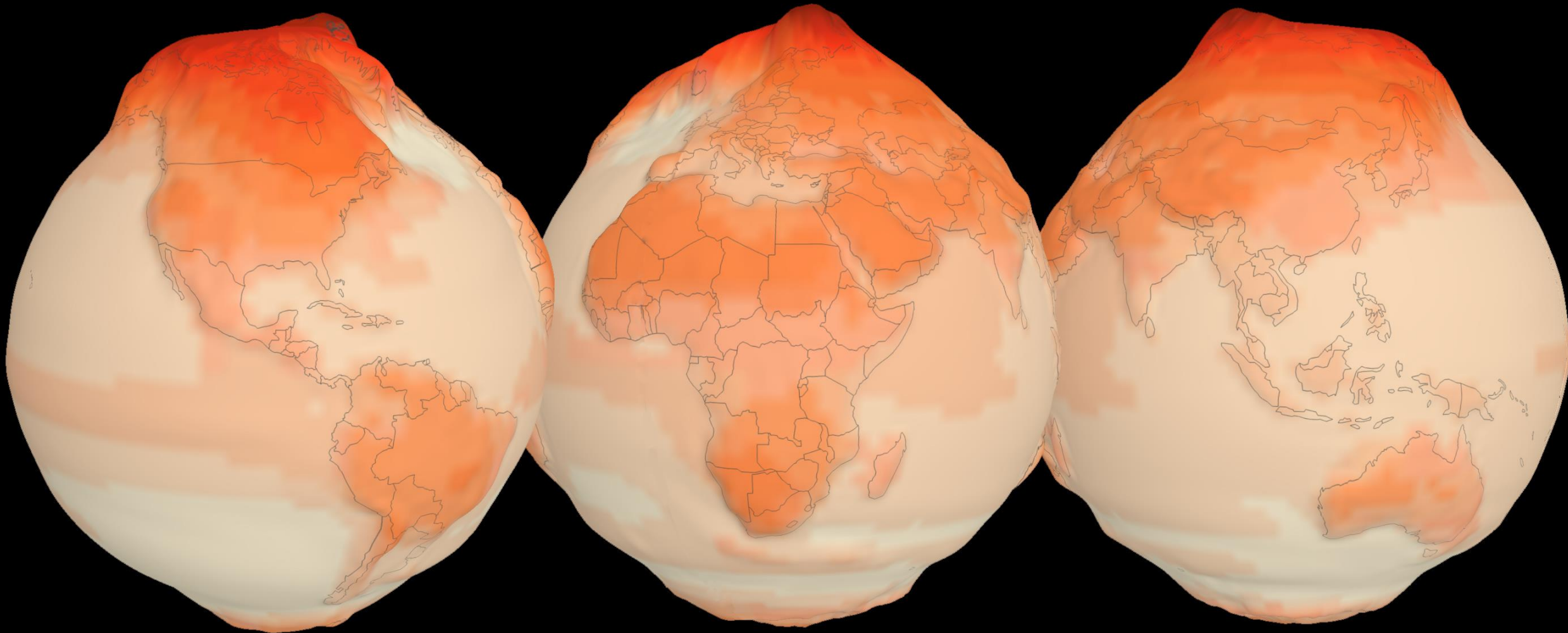


The Value of Data Visualization in Decision- Making & Public Outreach

Sunny Fleming
Industry Lead, Environment & Conservation







1.5

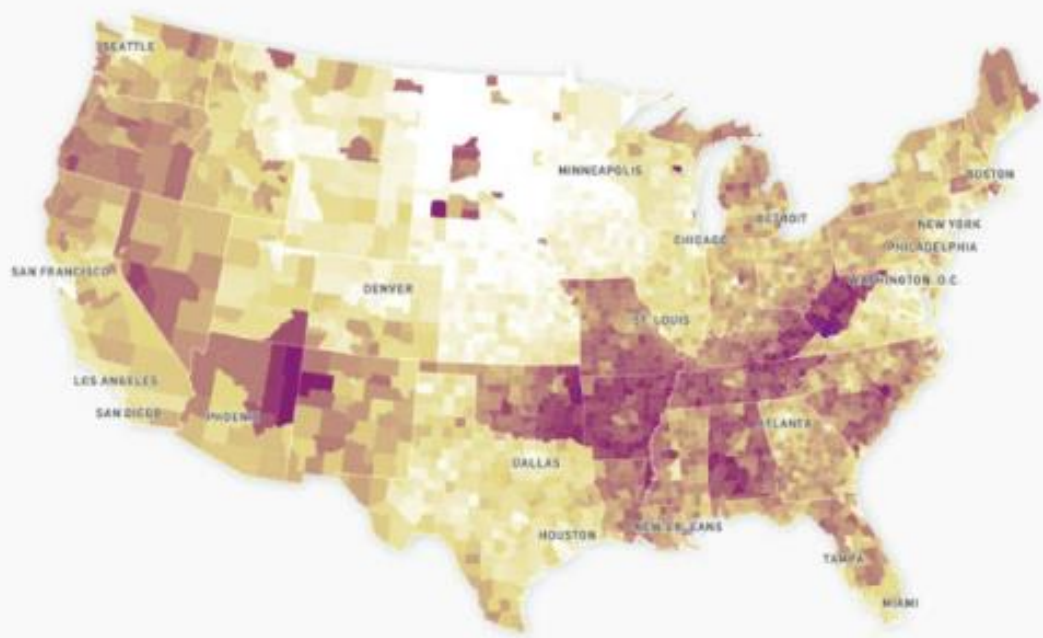
3

5

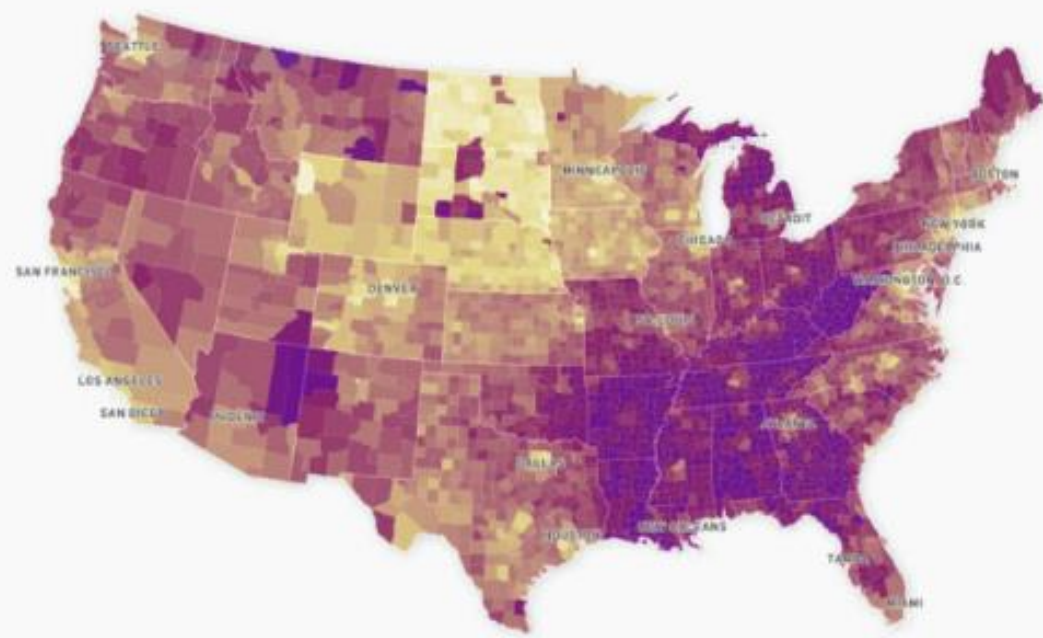
7.5° C

@greg.fiske
@woodwellclimateresearchcenter

Values represent projected 2040-2060 temperatures (RCP 8.5) minus 1880-1920.

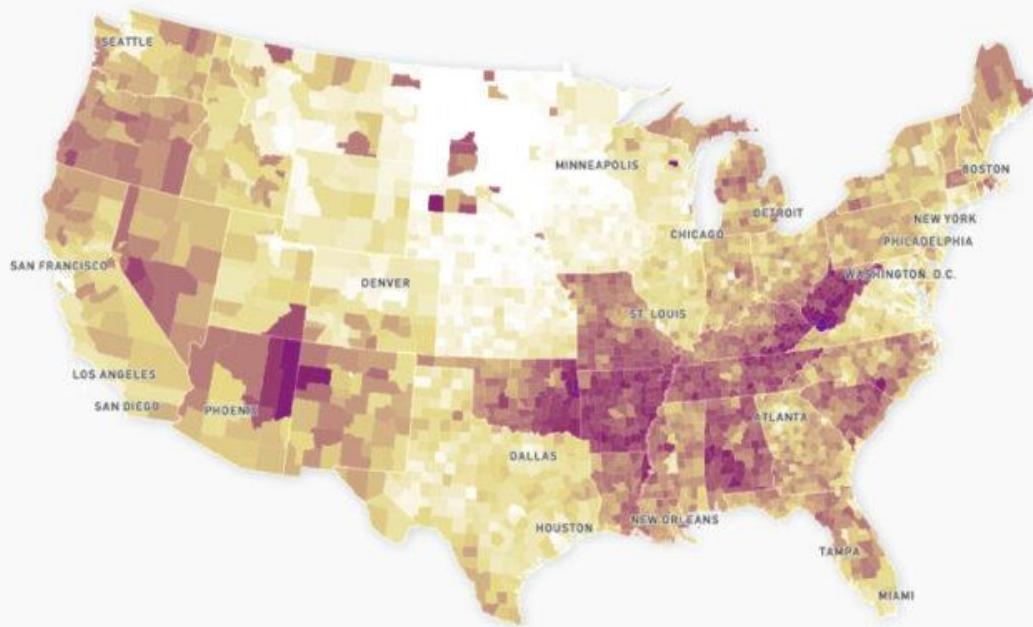


2015

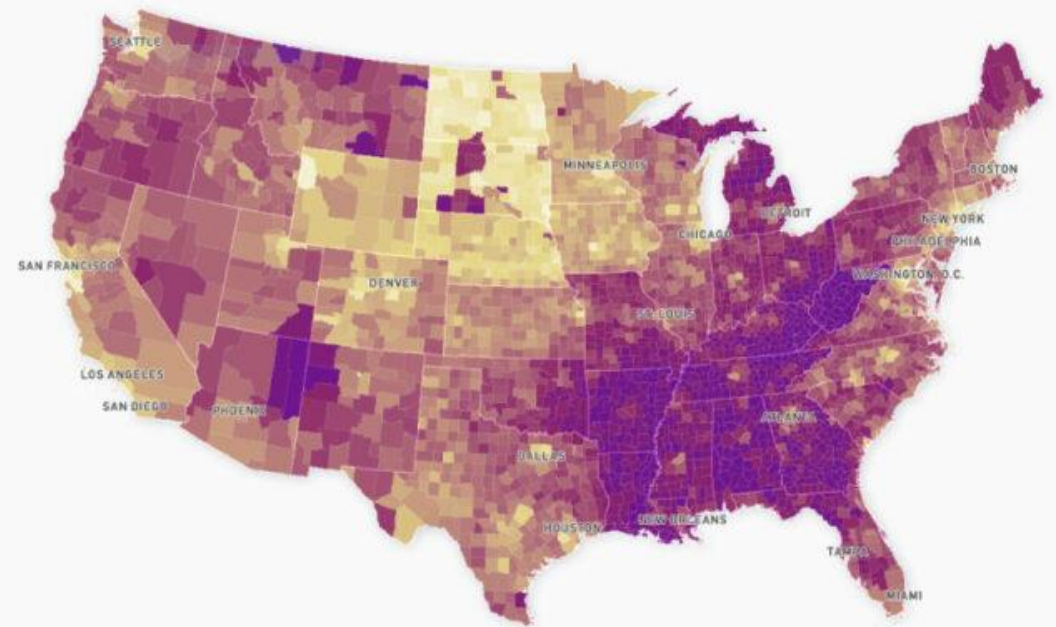


2019

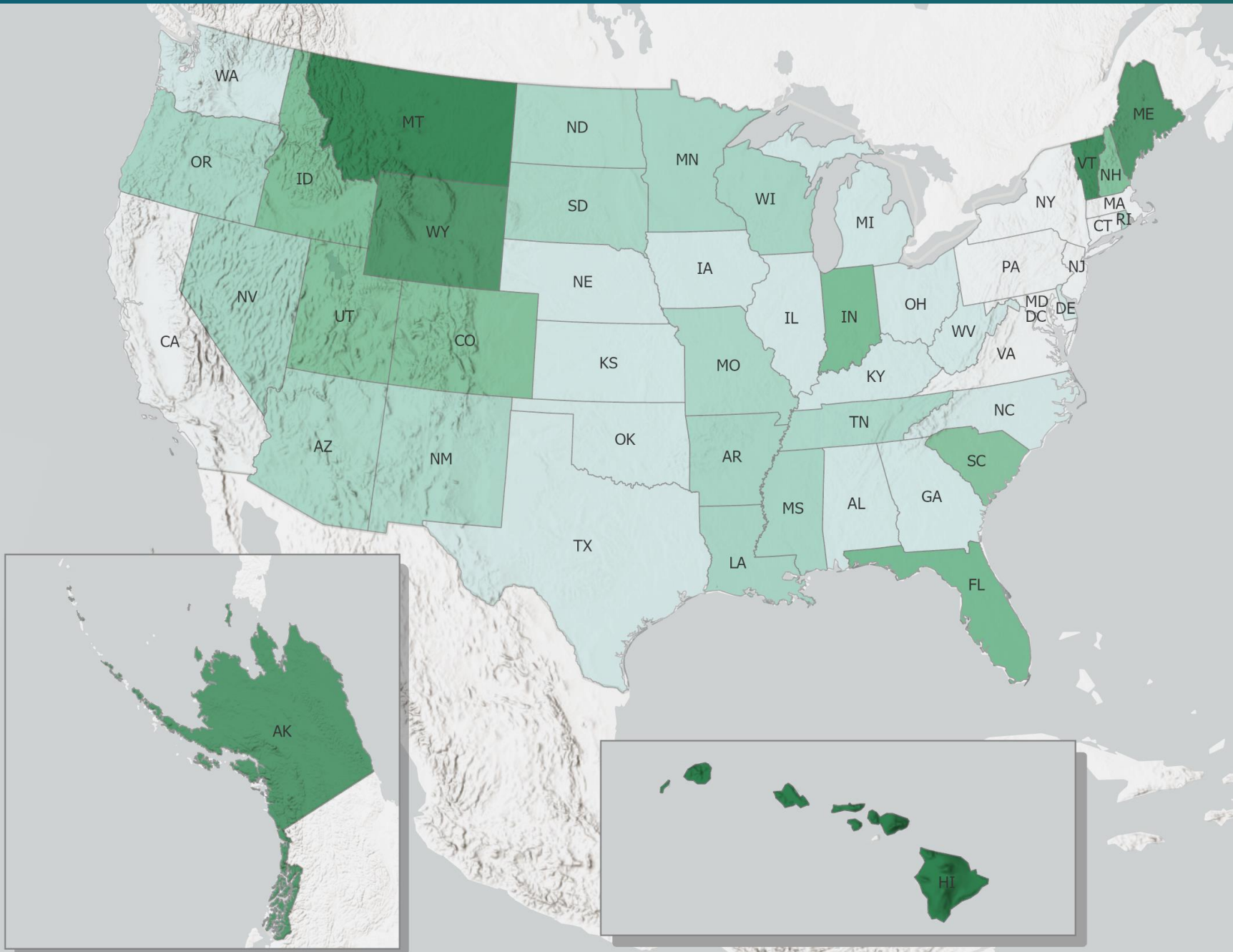
Average number of poor mental health days per month



2015



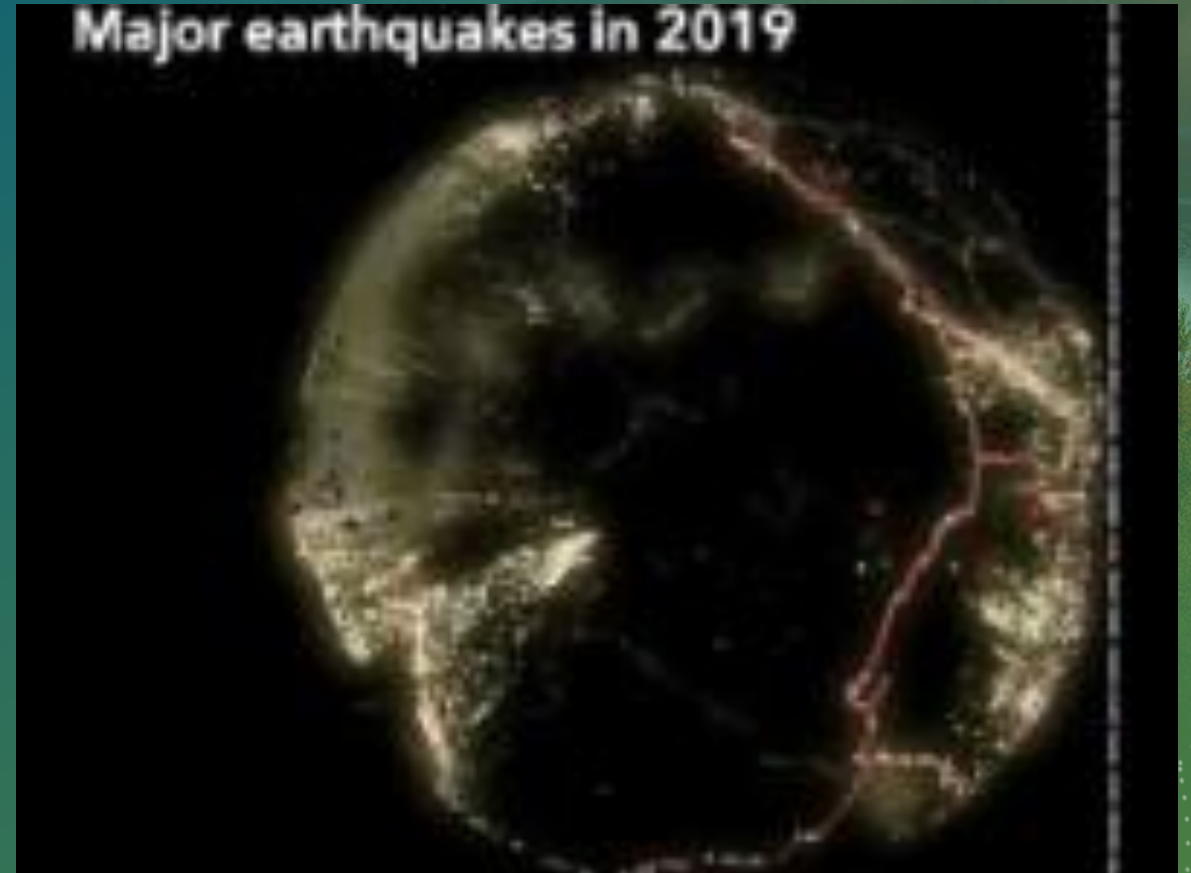
2019



Visual Storytelling

Ensuring Greater Accessibility

- 60,000X faster*
- Multiple concepts at once*
- WHERE is intuitive
- Mitigate the language barrier
- Interactive; invites exploration



What Is a GIS?

A System for Managing, Sharing and Applying Geographic Information



*Delivering Value Across Organizations
Improving Efficiency, Communications, Decision Making and Collaboration*

Environmental Regulation



Environmental Regulation

Customer Examples

MT DNR ARPA Hub

ARPA Water & Sewer Grant - Project Applications

DNR ARPA Round 2 Competitive Applications Dashboard (Best viewed on a desktop monitor)

Total ARPA Available Grant: \$24,475,918

Total ARPA Requested: \$221,381,033

Amount Recommended for Min. Allocation Grant: \$17,230,664

Total Project Match: \$276,357,866

Total Project Cost: \$522,214,816

AMERICAN RESCUE PLAN ACT
Water & Sewer Grants

ARPA Grant Management

Schedule time to speak with a Grant Manager

Subrecipients of ARPA Water & Sewer Infrastructure grant funds are responsible for administering their projects in accordance with all applicable state and federal statutory and regulatory requirements. This page and its resources are intended to help DNR's subrecipients through that process.

TDEC Septic Permitting

Septic Permitting Process Flowchart

My Survey 123 Dashboard

- Monthly Activity Report Survey
- Permit Inspection - Staging
- Septic Service Request - Staging
- Staging - CDC
- Staging - Compliance Investigation Survey
- Staging - COV Survey
- Staging - Inspection Letter Survey
- Staging - Permit Inspection
- Staging - Permit Investigation Survey
- Staging - Septic Service Request

SC DNR Enterprise Site for Environmental Review

South Carolina Department of Natural Resources

South Carolina Natural Heritage Program

How to create a SC Natural Heritage Species Review Report

The South Carolina Natural Heritage Program (SCNHP), as part of the South Carolina Heritage Trust, strives to consolidate and maintain information about hundreds of rare species and natural communities within the state.

MI EGLE EV Infrastructure

Traveling Michigan in an Electric Vehicle

EGLE's Charge Up Michigan program showcases charging station installations across the state.

MI EGLE Electric Schoolbuses

Ohio EPA PFAS Dashboard

PFAS Public Water System Sampling

Water Treatment Plants Tested: 1,512

MT DEQ Abandoned Mine Lands Hub

Engaging Montana About Burning Coal Seams

An Effort Led by the Montana DEQ Abandoned Mine Lands Program

Kim Wells & Nat Carter

How to report an Abandoned Mine or Mine Problem?

1. Complete the Abandoned Mine or Mine Problem Reporting form in print or use this link to report the survey or another type of problem.
2. Use the Search tool to find places on the map by address or Latitude/Longitude coordinates.
3. Add a point to the map.
4. Attach a photo.
5. In the Comments section, please use the Abandoned Mine Problems Guide AMB, Abandoned Mine Locations to identify the what type of Problem you are reporting.
6. Submit the Submit button.

Report an Abandoned Mine or Mine Problem

Mark the location of the Abandoned Mine or Problem (Required)*

1. Search by address or latitude, longitude coordinates. You can also use the search in and zoom out tools to move the map to the abandoned mine or mine problem.

2. Using the mouse click on the map to add a blue pin to the map. This will be reported where the survey is submitted.



Environmental Justice

MI EGLE

MiEJScreen: Environmental Justice Screening Tool (DRAFT)

NC DENR

NJ DEP

Cal EPA

Data and Additional Materials

- Microsoft Excel spreadsheet and PDF with a Data Dictionary:** There are two files in this zipped folder. 1) a spreadsheet showing raw data and calculated percentiles for individual indicators and combined CalEnviroScreen scores for individual census tracts with additional demographic information. 2) a pdf document including the data dictionary and information on zeros and missing values: [CalEnviroScreen 4.0 Excel and Data Dictionary PDF](#)
- ArcGIS Geodatabase:** Includes CalEnviroScreen 4.0 results by census tract. Additional information describing the data and its limitations is part of the geodatabase (metadata). A zipped file which can be unzipped, then opened using ArcGIS software to view the results in a File Geodatabase Feature Class format (ArcGIS is a paid subscription): [CalEnviroScreen 4.0 GDB file](#)
- Shapefile:** Includes CalEnviroScreen 4.0 results by census tract. Additional information describing the data and its limitations is part of the shapefile (metadata). Zipped file can be unzipped, and then opened in any GIS software: [CalEnviroScreen 4.0 SHP file](#)
- Service URL:** ArcGIS feature service: https://services1.arcgis.com/PCHEdH24GD0NAHb/arcgis/rest/services/CalEnviroScreen_4_0_Results_7/FeatureServer

NYS DEC

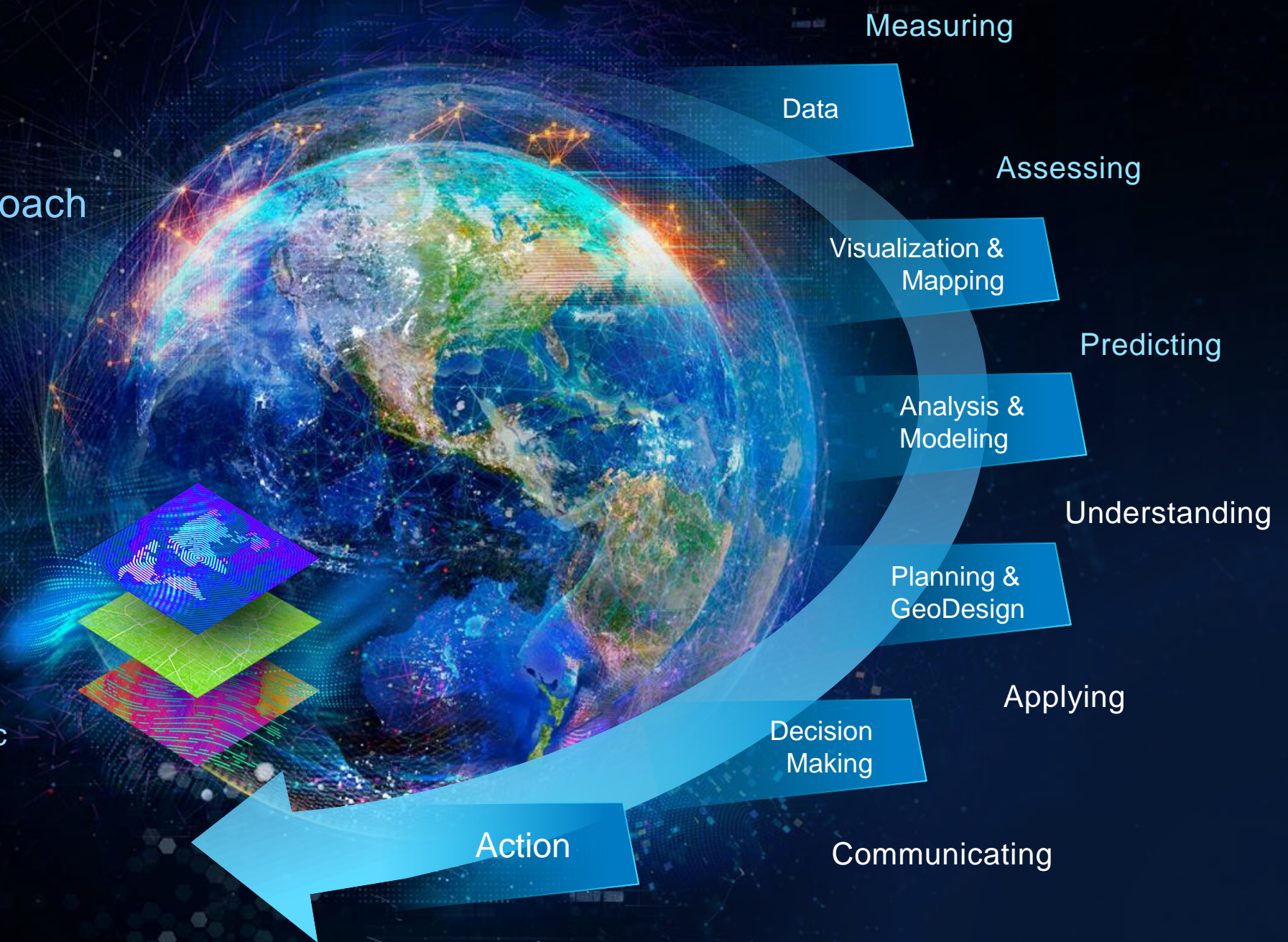
Esri Living Atlas – CEQ Justice 40 Nationwide Dataset

GIS

Enables The Geographic Approach

Providing a Process and Framework . . .

. . . For Applying Geographic Knowledge Widely



Measuring

Data

Assessing

Visualization & Mapping

Predicting

Analysis & Modeling

Understanding

Planning & GeoDesign

Applying

Decision Making

Communicating

Action



Making the Most of Your GIS

Leveraging Your Existing Tech Investment to its Greatest Potential

Making the Most of GIS

Establishing a Geospatial Strategy

A Geospatial Strategy is a **business-oriented** plan that defines how an organization will use GIS to achieve its goals.

An effective geospatial strategy connects your **business needs** with the right **people**, **processes** and **technology** to help you **overcome challenges** and **improve results**.

Geospatial Strategy

App Value Matrix Helps Prioritize Where to Begin

		Level of Effort						
		Low	Med-Low	Med	Med High	High		
Business Value	High	1-3 4-2 8-1 8-10 9-5 10-2 1-5 5-4 8-3 9-1 9-7 1-6 7-7 8-9 9-2 9-8	2-4 2-7 3-3 4-3 5-1 12-2 10-1 3-1 4-1 4-5 12-1 12-5 7-1 7-3 7-4 8-8 9-3 9-6	1-1 12-3 9-4 1-2 7-5 11-4 2-5 7-6 11-7	2-6 8-4 5-5 6-3	2-1 2-2		
	Med High	2-8 5-1 8-5	8-2	8-7				
	Med	11-3	2-3 6-4 3-2 11-5 6-2 11-6	1-4 5-2 7-2				
	Low	3-4 12-6 11-2 4-4 6-1 6-6 11-1	4-6 6-5 8-6 12-4 6-7	5-3				
	Med Low							
	Low							

Incorporate and Operationalize

And succeed!

- GIS Integration as a Requirement for New Business Systems
- Call your GIO, GIS Manager:
 - Assess your organization's existing GIS capacity (the lone wolf problem.)
 - Help with geospatial strategy
 - Develop governance!
- Senior Executive Summit and CIO Summit

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sfleming@esri.com



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SCIENCE
OF
WHERE**[®]

