The following was presented at DMT'11
(May 22-25, 2011).

The contents are provisional and will be
superseded by a paper in the
DMT'11 Proceedings.

See also earlier Proceedings (1997-2010)
http://ngmdb.usgs.gov/info/dmt/

Community Maps

Implications for the Geologic Community

Larry Batten

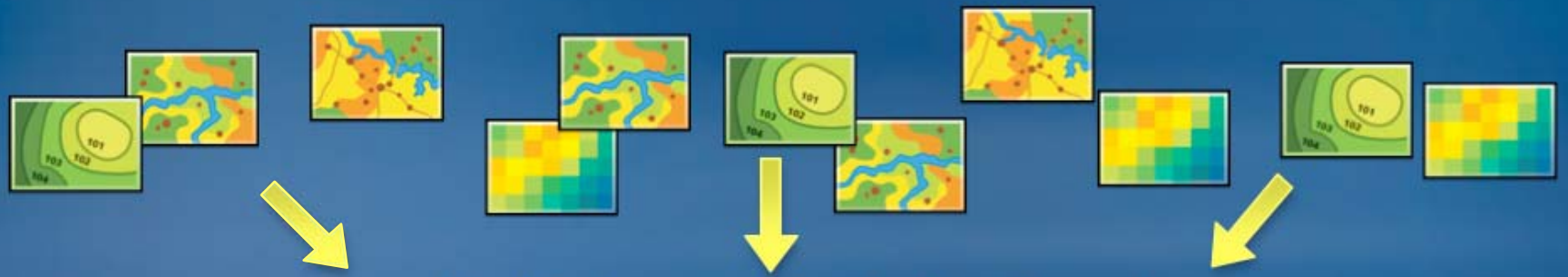
Esri Account Manager – USGS & BLM

What is a community map?

- It includes the basic information that the community uses most often to build its maps and do its work
- A small number of basic components, nicely presented
- A tiled, raster service at multiple scales
- Available free and all the time for desktop, web and mobile
- Is it a basemap? Yes and no

Community maps = a new level of collaboration

Many users from many organizations contributing data



…that is harmonized via shared standards, data models, and templates

…into a comprehensive, multi-scale online map

Community maps enable and connect many things

The benefits of community maps

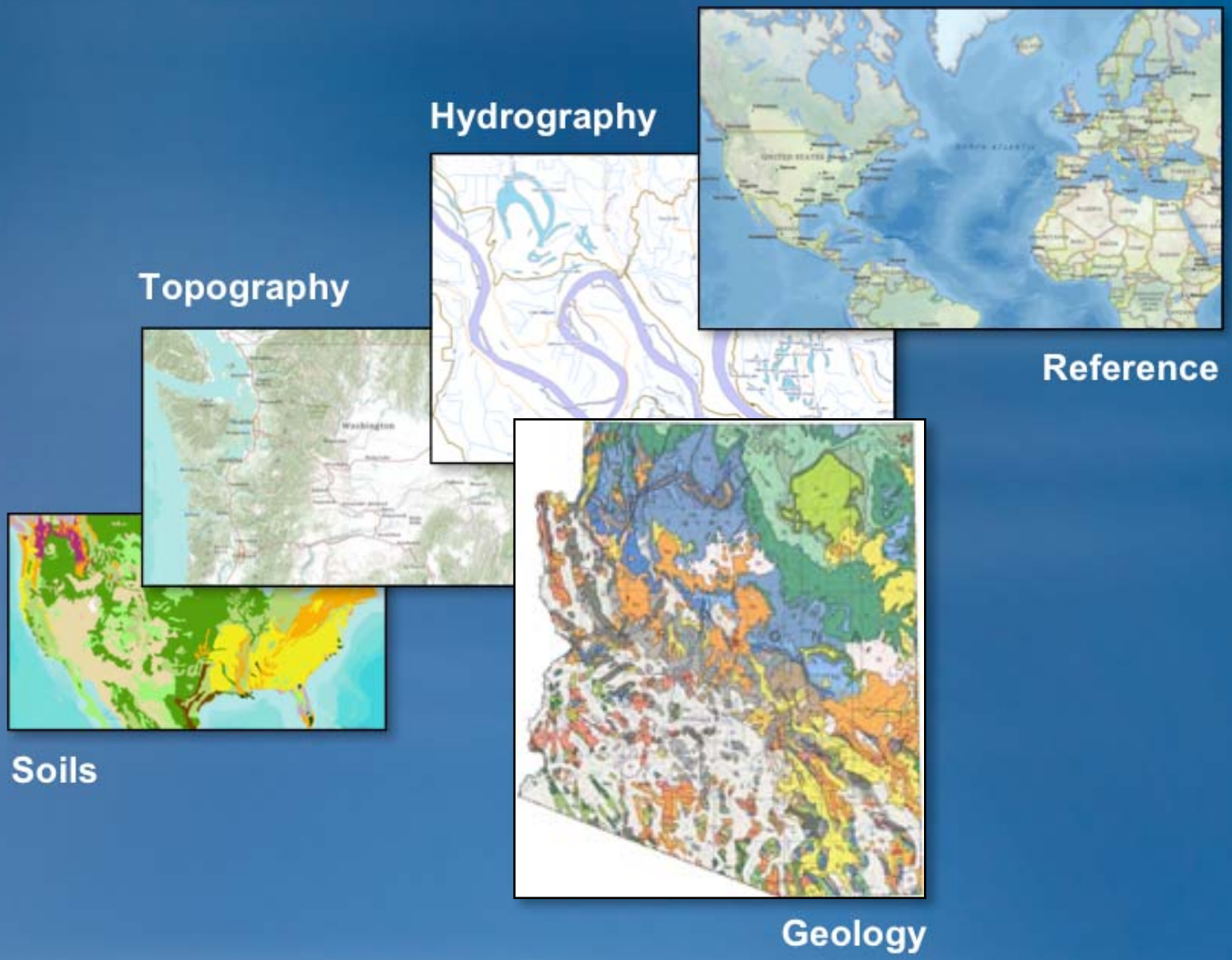
- They save time and money
- They help make beautiful maps
- They cross boundaries and scales
- They encourage and enable collaboration

Community Map

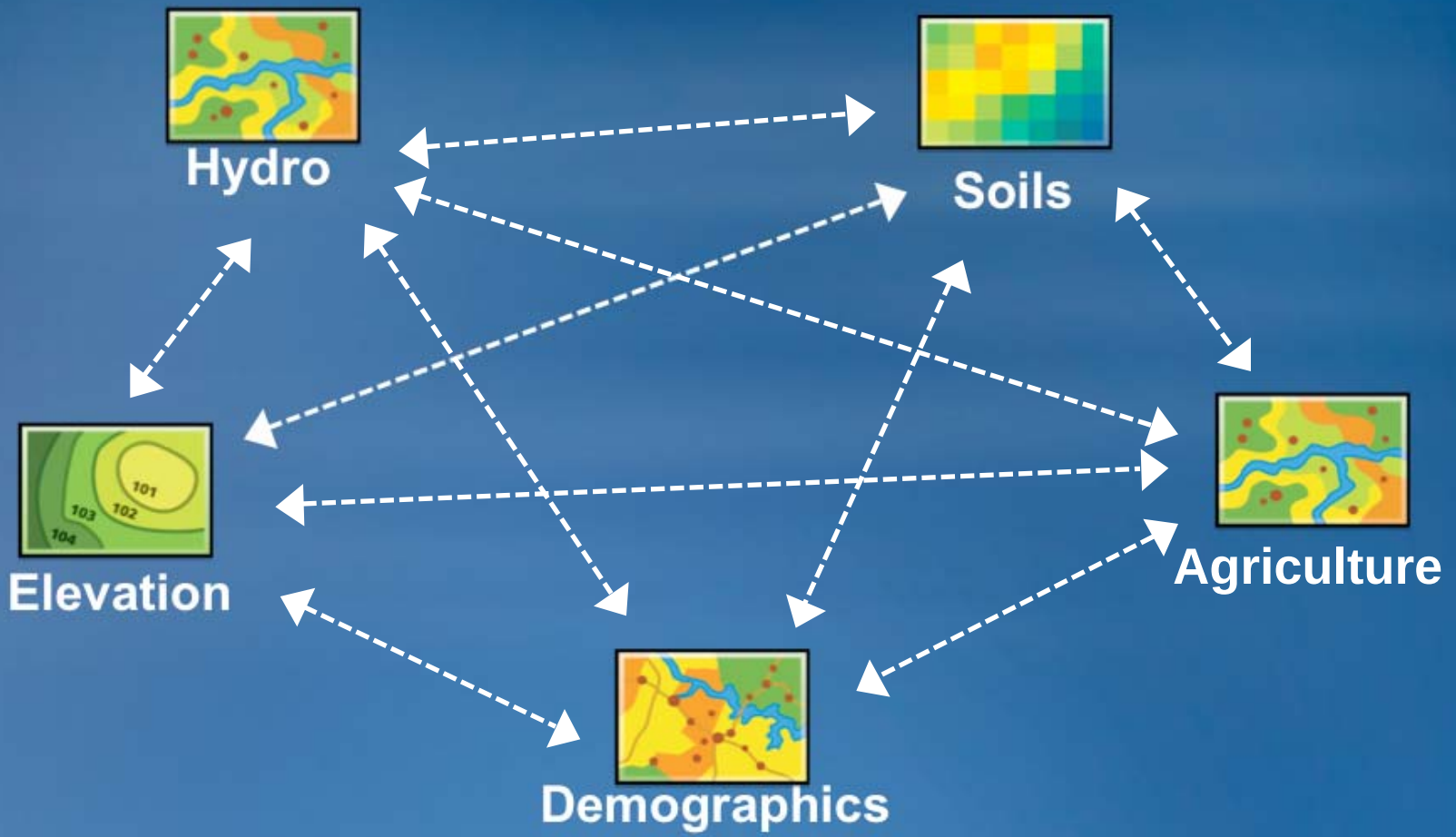
They can connect to citizens via apps and stories

Community Map

There will be many community maps



Community maps can connect to one another



Geologic Community Maps

ArcGIS Explorer Online Demo

Click to run:

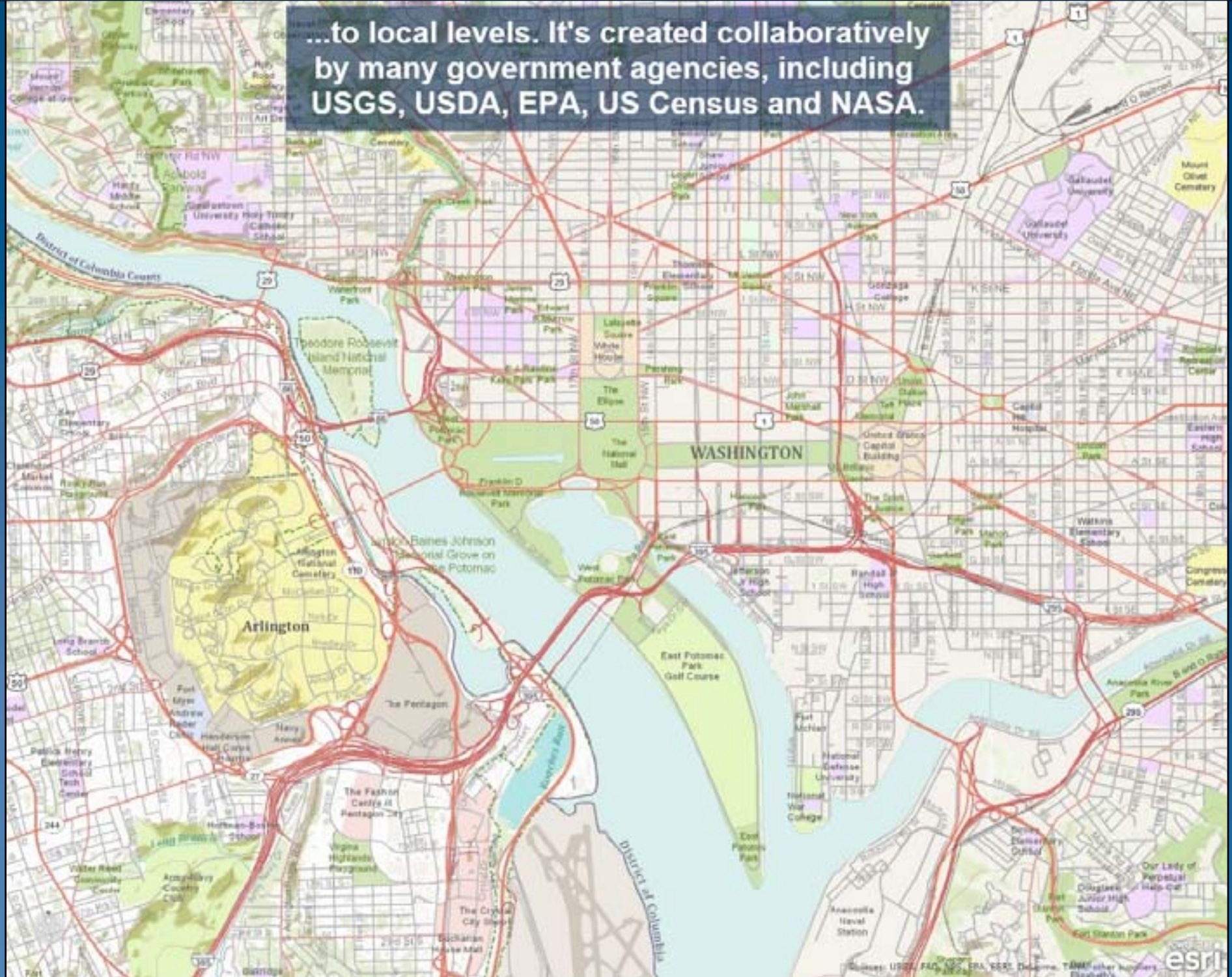

What is a Community Map?
It's a constellation of government and citizen communities across the nation
esri


A Community Map includes online maps featuring authoritative information...
Canada
ROCKY MOUNTAINS
GREAT PLAINS
United States
Mexico
Pacific Ocean
Atlantic Ocean
The Bahamas
Jamaica
Nicaragua
Panama
Venezuela
Guyana
Colombia
Ecuador
Peru
AMAZON BASIN
Brazil
esri

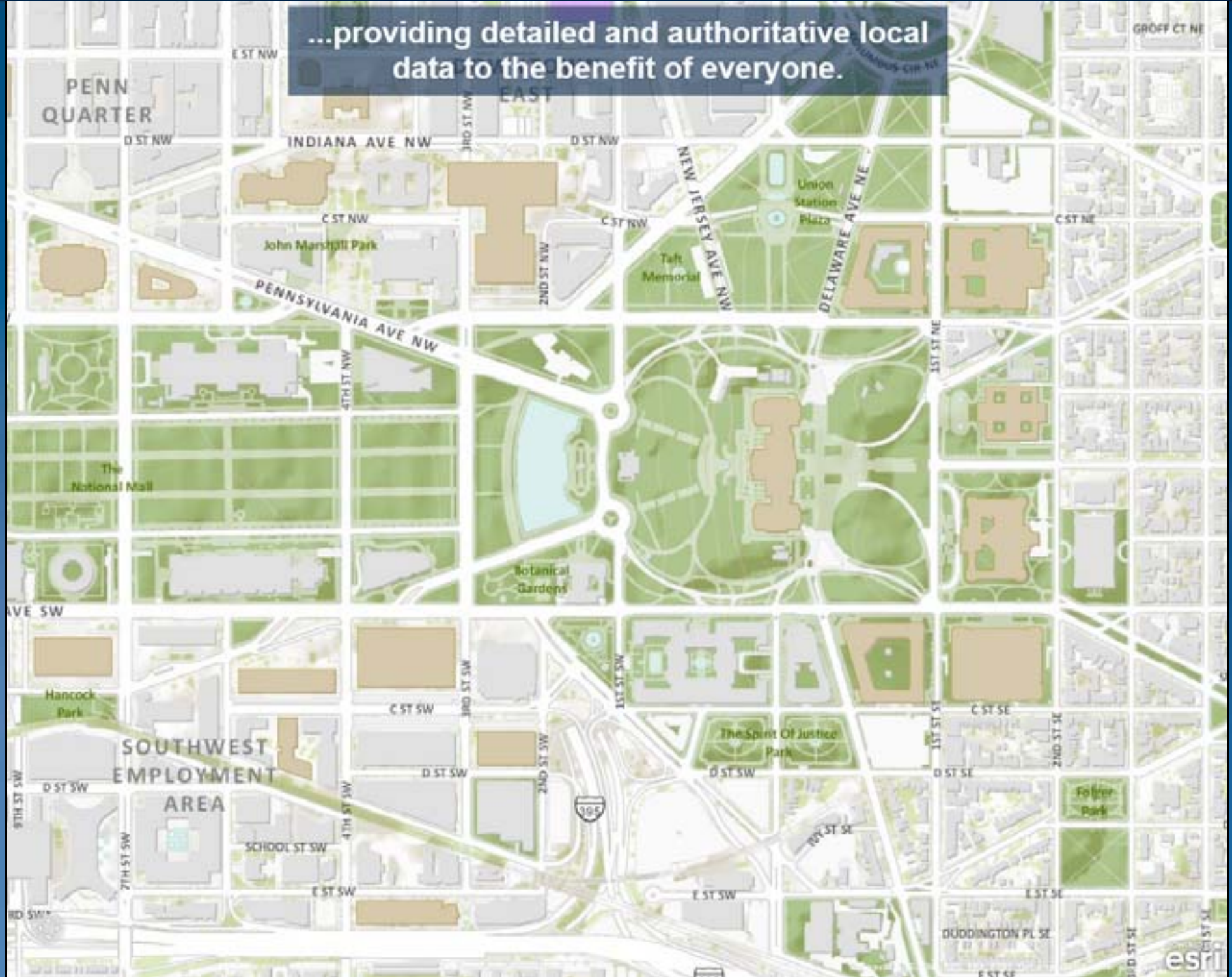

...compiled and shared by many federal, state and local agencies.
Manitoba
Saskatchewan
Ontario
Quebec
Newfoundland And Labrador
Newfoundland and Labrador
Gulf of St. Lawrence
North Dakota
Minnesota
South Dakota
Wisconsin
Michigan
New Brunswick
Maine
Nova Scotia
Nebraska
Iowa
Illinois
Indiana
Ohio
Pennsylvania
New York
VT
NH
MA
CT
RI
NJ
MD
DE
United States of America
Colorado
Kansas
Missouri
Kentucky
West Virginia
Virginia
Oklahoma
Tennessee
North Carolina
Arkansas
New Mexico
Mississippi
South Carolina
Alabama
Georgia
Texas
Louisiana
Florida
Chihuahua
Coahuila
Durango
Gulf of Mexico
The Bahamas
GREAT PLAINS
APPALACHIAN MOUNTAINS
esri

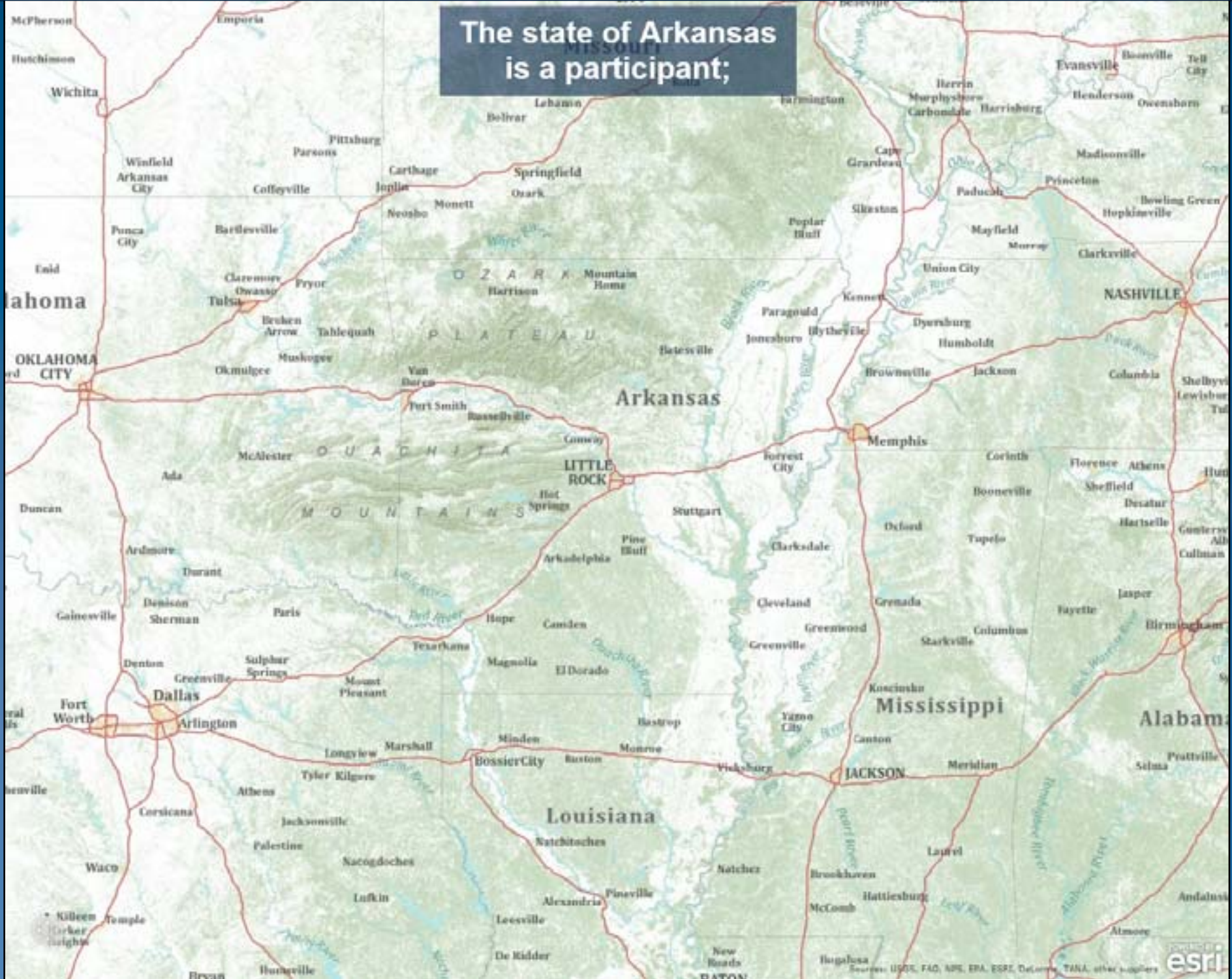

This topographic map, for example, incorporates content from national...
Michigan
North York
Scarborough
Toronto
Vermont
MONTPELIER
Buffalo
Rochester
NewYork
ALBANY
Detroit
LANSING
Grand Rapids
Flint
Cleveland
Pennsylvania
HARTFORD
CT
New York City
Newark
Trenton
Philadelphia
NJ
HARRISBURG
Pittsburgh
COLUMBUS
INDIANAPOLIS
Indiana
Ohio
Cincinnati
West Virginia
CHARLESTON
Baltimore
WASHINGTON
ANNAPOLIS
DOVER
DE
FRANKFORT
Kentucky
Virginia
RICHMOND
Newport News-Hampton
Virginia Beach
NASHVILLE
Tennessee
North Carolina
RALEIGH
Charlotte
Chicago
esri


to state...
Baltimore
ANNAPOLIS
WASHINGTON
Arlington
Alexandria
Virginia
esri


...to local levels. It's created collaboratively by many government agencies, including USGS, USDA, EPA, US Census and NASA.
WASHINGTON
Arlington
esri


Collaborative maps are compiled for many critical themes, including elevation, hydrology, land cover, boundaries, transportation, and place names.
TRUXTON CIRCLE
MOUNT VERNON SQUARE
NORTH CAPITOL STREET
DOWNTOWN
CHINATOWN
PENN QUARTER
DOWNTOWN EAST
NEW YORK AVE NW
MASSACHUSETTS AVE NW
PENNSYLVANIA AVE NW
INDIANA AVE NW
Georgetown Law School
McPherson Square
Franklin Square
Mt Vernon Square
Pershing Park
Samuel Gompers Memorial Park
New York Avenue Park
CHURCH ST NW
BATES ST NW
O ST NW
NAILORS ALY NW
N ST NW
RIDGE ST NW
M ST NW
PIERCE ST NW
L ST NW
K ST NW
I ST NW
H ST NW
G ST NW
F ST NW
E ST NW
D ST NW
14TH ST NW
13TH ST NW
12TH ST NW
11TH ST NW
10TH ST NW
9TH ST NW
8TH ST NW
7TH ST NW
6TH ST NW
5TH ST NW
4TH ST NW
3RD ST NW
2ND ST NW
1ST ST NW
HIGHLAND TER NW
HOBART PL NW
esri


...providing detailed and authoritative local data to the benefit of everyone.
PENN QUARTER
EAST
INDIANA AVE NW
D ST NW
C ST NW
John Marshall Park
PENNSYLVANIA AVE NW
2ND ST NW
3RD ST NW
4TH ST NW
NEW JERSEY AVE NW
DELAWARE AVE NE
Union Station Plaza
Taft Memorial
C ST NE
1ST ST NE
The National Mall
Botanical Gardens
Hancock Park
SOUTHWEST EMPLOYMENT AREA
C ST SW
D ST SW
E ST SW
SCHOOL ST SW
2ND ST SW
4TH ST SW
7TH ST SW
9TH ST SW
1ST ST SW
C ST SE
D ST SE
E ST SE
1ST ST SE
2ND ST SE
The Spirit Of Justice Park
Folger Park
DUDDINGTON PL SE
GROFF CT NE
esri


The state of Arkansas is a participant;
Arkansas
Louisiana
Mississippi
Alabama
Missouri
Oklahoma
Tennessee
OKLAHOMA CITY
LITTLE ROCK
Memphis
NASHVILLE
JACKSON
Dallas
Fort Worth
Arlington
Shreveport
Texarkana
Tulsa
Wichita
Springfield
Jonesboro
Batesville
Fayetteville
Fort Smith
Pine Bluff
Hot Springs
Monroe
Meridian
Tupelo
Columbus
Greenville
Vicksburg
Natchez
Hattiesburg
Laurel
Gulfport
Biloxi
Pascagoula
Mobile
Birmingham
Huntsville
Florence
Decatur
Sheffield
Corinth
Jackson
Clarksville
Paducah
Evansville
Henderson
Owensboro
Bowling Green
Hopkinsville
Madisonville
Princeton
Cape Girardeau
Poplar Bluff
Sikeston
Dyersburg
Union City
Humboldt
Brownsville
Columbia
Lewisburg
Shelbyville
Murfreesboro
Tullahoma
Cookeville
Knoxville
Chattanooga
Gadsden
Anniston
Tuscaloosa
Selma
Montgomery
Andalusia
Dothan
Enterprise
Foley
Gulf Shores
Pensacola
Destin
Fort Walton Beach
Panama City
Tallahassee
Valdosta
Albany
Thomasville
Bainbridge
Moultrie
Tifton
Douglas
Waycross
Brunswick
Jesup
Savannah
Hilton Head Island
Beaufort
Charleston
Myrtle Beach
Florence
Columbia
Greenville
Spartanburg
Asheville
Hickory
Statesville
Salisbury
Greensboro
Winston-Salem
High Point
Burlington
Durham
Chapel Hill
Raleigh
Rocky Mount
Wilson
Goldsboro
New Bern
Jacksonville
Wilmington
Fayetteville
Lumberton
Pembroke
Rockingham
Laurinburg
Hamlet
Cheraw
Bennettsville
Dillon
Florence
Sumter
Orangeburg
Aiken
Augusta
Waynesboro
Statesboro
Vidalia
Swainsboro
Dublin
Eastman
Cochran
Hawkinsville
Perry
Fort Valley
Warner Robins
Macon
Milledgeville
Eatonton
Madison
Monticello
Covington
Conyers
Decatur
Atlanta
Marietta
Kennesaw
Acworth
Cartersville
Rome
Calhoun
Dalton
Chatsworth
Ellijay
Blue Ridge
Jasper
Canton
Ridgeland
Clinton
Brandon
Pearl
Flowood
Madison
Ridgeland
Hernando
Southaven
Olive Branch
Horn Lake
Collierville
Germantown
Bartlett
Millington
Arlington
Lakeland
Covington
Brighton
Somerville
Oakland
Jackson
Trenton
Dyersburg
Union City
Martin
Paris
Camden
Benton
Bryant
Sherwood
North Little Rock
Conway
Russellville
Clarksville
Fayetteville
Springdale
Rogers
Bentonville
Siloam Springs
Gentry
Pea Ridge
Eureka Springs
Berryville
Harrison
Mountain Home
Flippin
Yellville
Mountain View
Batesville
Newport
Jonesboro
Paragould
Blytheville
Osceola
Wynne
Forrest City
West Memphis
Marion
Helena
Dumas
McGehee
Monticello
Crossett
Hamburg
El Dorado
Magnolia
Arkadelphia
Hope
Nashville
Texarkana
Ashdown
De Queen
Mena
Waldron
Hot Springs
Malvern
Benton
Bryant
Sherwood
Little Rock
North Little Rock
Conway
Russellville
Clarksville
Fayetteville
Springdale
Rogers
Bentonville
Siloam Springs
Gentry
Pea Ridge
Eureka Springs
Berryville
Harrison
Mountain Home
Flippin
Yellville
Mountain View
Batesville
Newport
Jonesboro
Paragould
Blytheville
Osceola
Wynne
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Benton
Bryant
Sherwood
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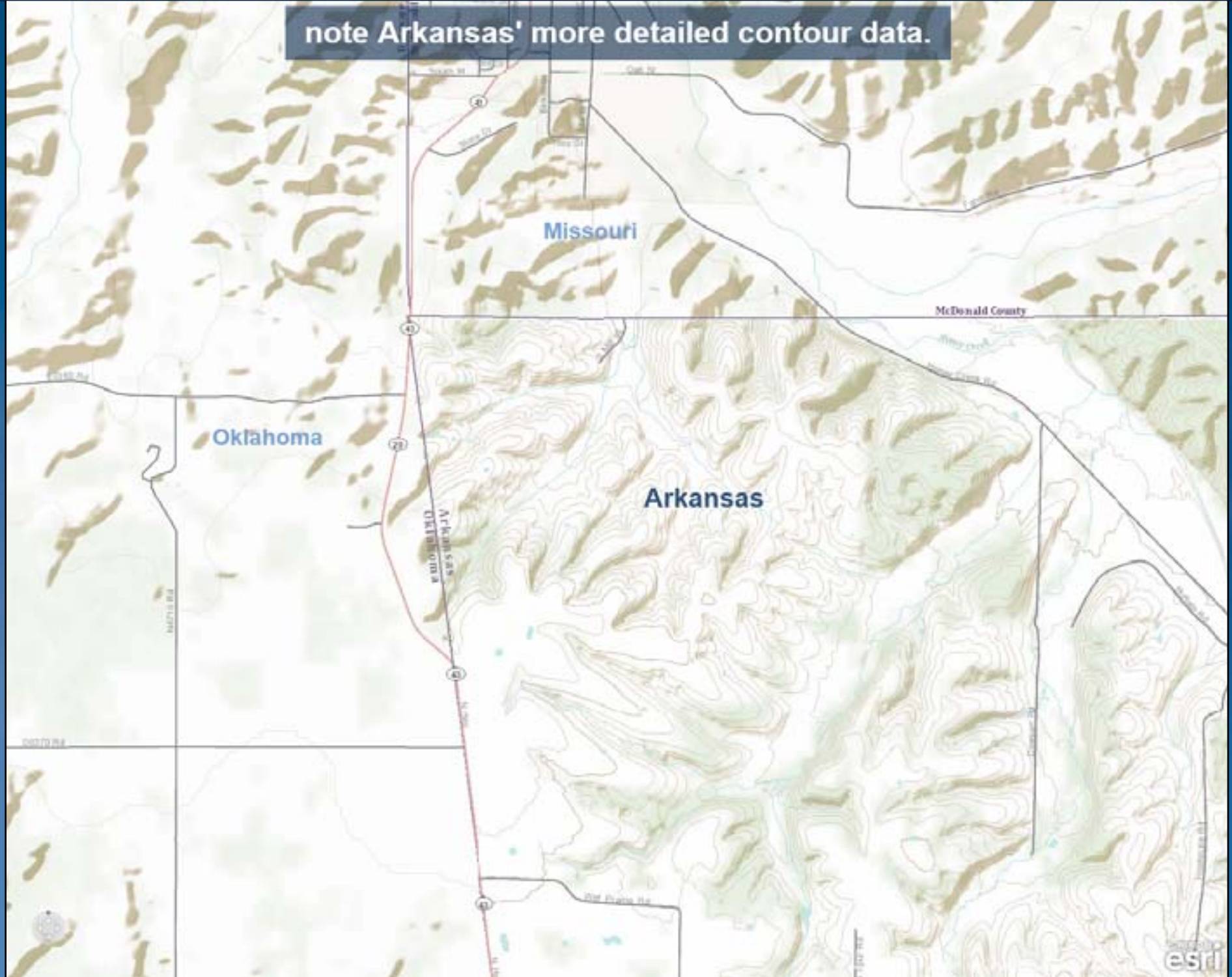
Nashville
Texarkana
Ashdown
De Queen
Mena
Waldron
Hot Springs
Malvern
esri

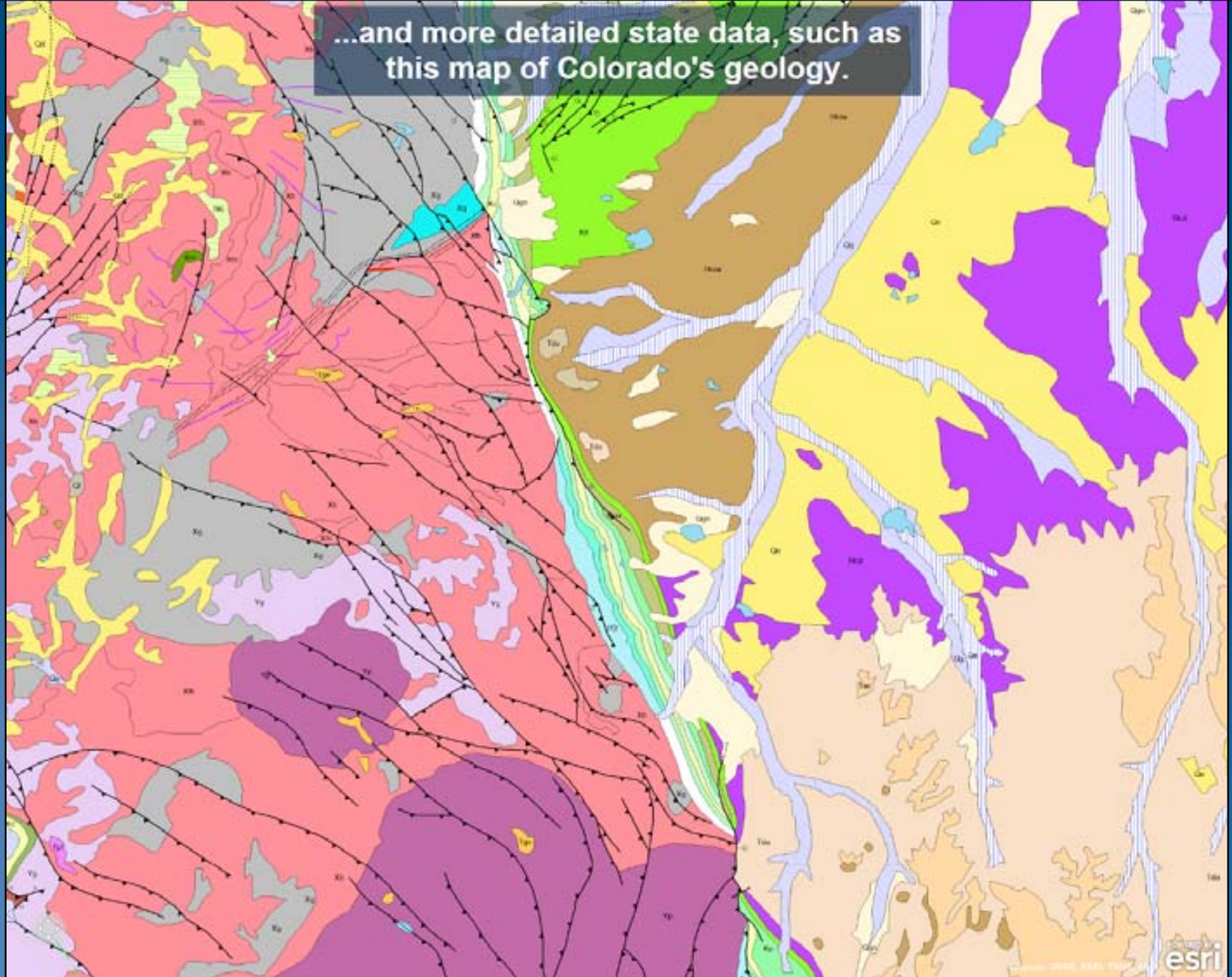

note Arkansas' more detailed contour data.
Missouri
McDonald County
Oklahoma
Arkansas
Arkansas
Oklahoma
esri


The topographic map is just one of many community maps that collectively enable GIS for the nation.
Canada
Gulf of Alaska
ROCKY MOUNTAINS
GREAT PLAINS
Pacific Ocean
United States
Atlantic Ocean
Gulf of Mexico
The Bahamas
Mexico
Cuba
Jamaica
Honduras
Caribbean Sea
Nicaragua
Panama
Venezuela
Guyana
Colombia
Ecuador
esri

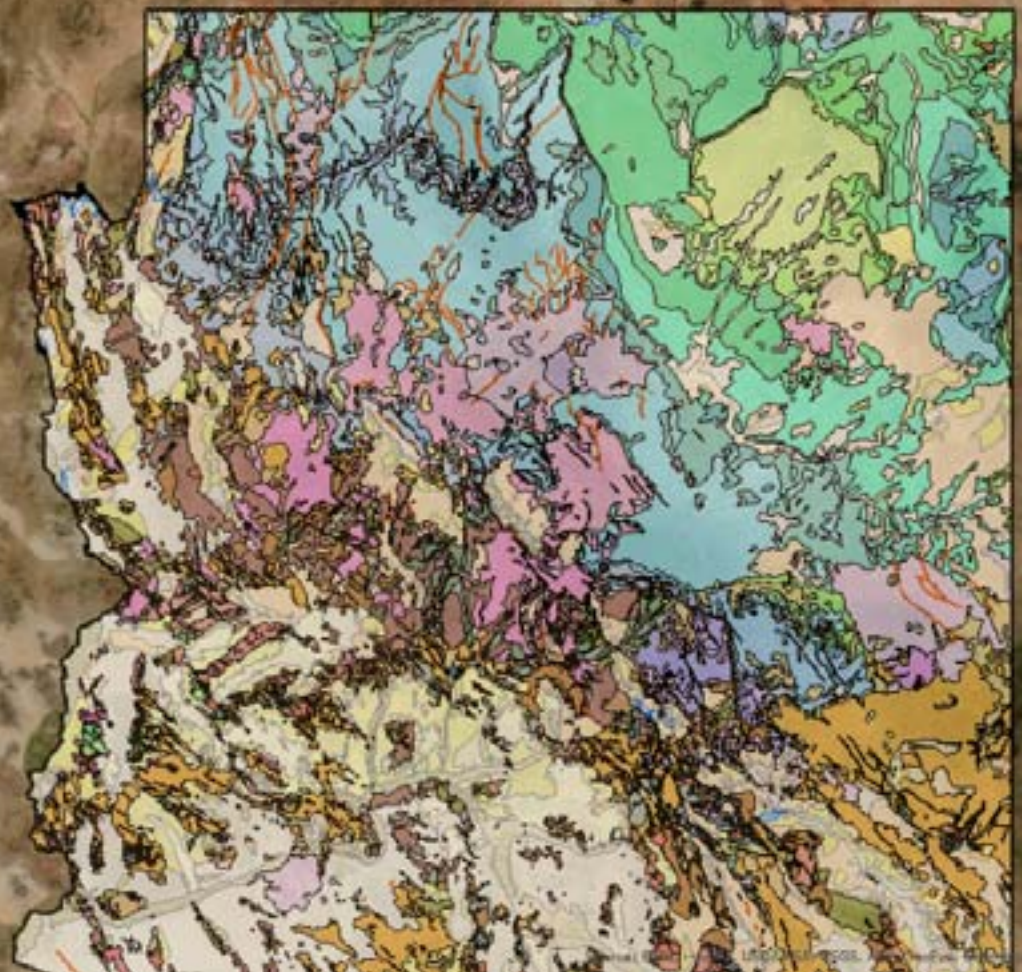

Geologic Community Map
esri

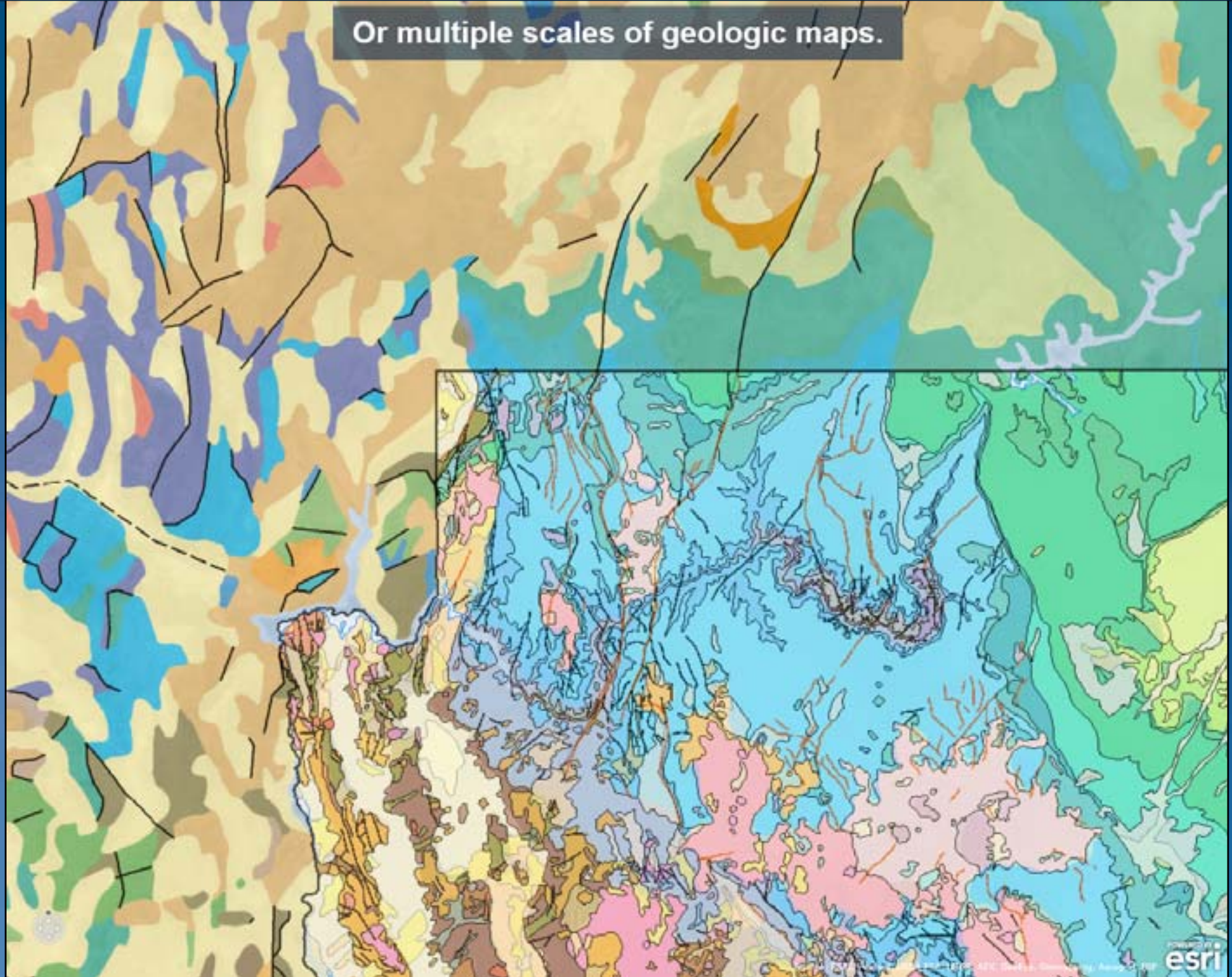

Geologic Community Maps
can be constructed from
multi-agency, multi-scale
groupings of geologic maps


A geology community map
can include national-level data...
Davis
Strait
Hudson
Bay
Gulf of
Alaska
Canada
GREAT
PLAINS
United
States
Pacific Ocean
Atlantic Ocean
Mexico
Gulf of Mexico
Caribbean
Sea
esri


...and more detailed state data, such as this map of Colorado's geology.
esri

Other data may be combined with geologic information.




Or multiple scales of geologic maps.
esri


A Geologic Community Map
is a vision that's achievable,
affordable, and essential
in the 21st Century.
esri

The Geologic Mapping Template

A brief history in DMT time

Evolution of the GMT

- Began as an ESRI project to develop, with USGS guidance, Cartographic Representations for the FGDC Digital Cartographic Standard for Geologic Map Symbolization
- Developed into the Geologic Mapping Template
- Serves print and online publishing model

DMT 2008

Presented an ArcGIS cartographic solution to a geologic mapping problem:

- *Consistent symbology based on the FGDC specifications*
- *Geologic map symbol and labeling automation with ArcGIS*

Introduction to Cartographic Representations

DMT 2009

Presented the Geologic Mapping Template, an ArcGIS cartographic solution to a geologic mapping problem:

Demo highlighting recommended workflow

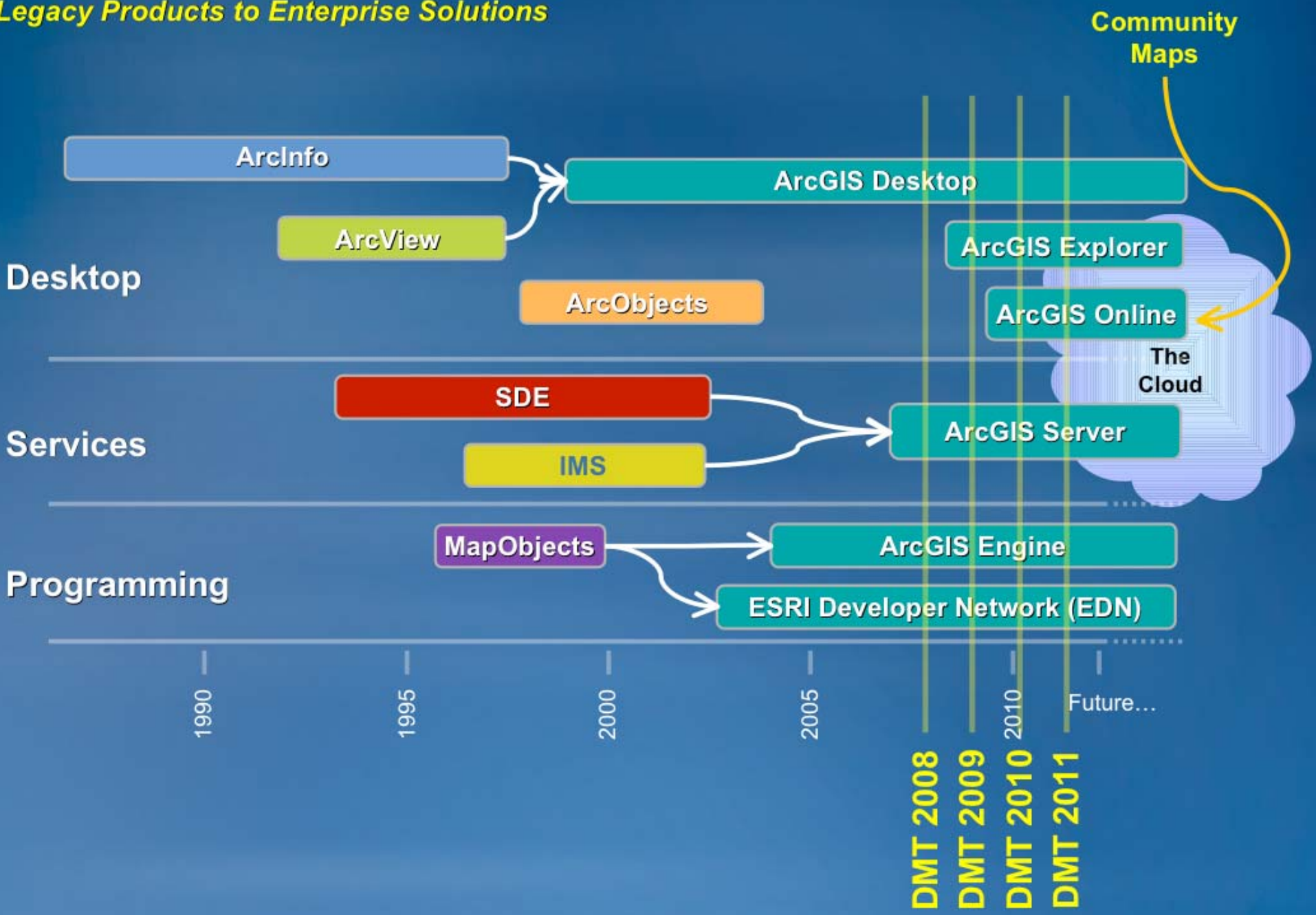
DMT 2010

Presented the Geologic Mapping Template, a solution that supports all evolutionary stages of the geologic map publishing model:

- *Print*
- *Database*
- *Online (as in* **ArcGIS Online***)*

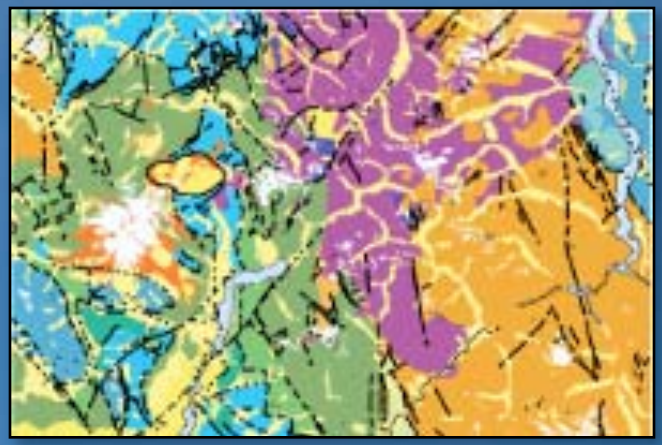
Short History

Legacy Products to Enterprise Solutions



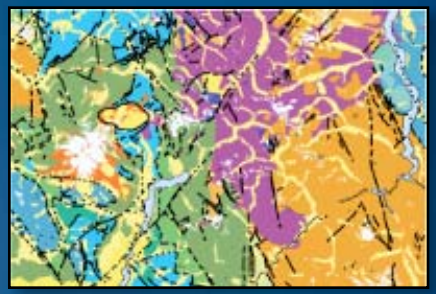
So, what's new in 2011 ?

The Online Geologic Mapping Template



Online Geologic Mapping Template

National Cooperative Geologic Mapping Program



- The **esriNCGMP Online Geologic Mapping Template** is a GIS-based cartographic solution that serves as the foundation for publishing key features of traditional surficial and bedrock geologic map to ArcGIS Server, to eventually be registered on ArcGIS.com or compiled as a web mapping application.
- esriNCGMP Online Geologic Mapping Template brings together the cartography and relevant data structures:
  - FGDC Digital Cartographic Standard for Geologic Map Symbolization
  - Esri Geologic Mapping Template geodatabase schema
  - NCGMP schema

esriNCGMP Online Geologic Mapping Template (v.10 SP1)

http://www.arcgis.com/home/item.html?id=bb02aa75305f40ff87fb6106aa297da9

FGDC:
Geologic Map Symbolization Standard

What are the next steps?