

# Redistricting System Public Training

September 13, 2021

# Agenda

1. General System Overview & Fundamentals
2. Getting Started
3. Creating your first plan
4. Editing an existing plan
5. What to expect after submitting a plan
6. Demo

# Links of Interest

- IRC Homepage: <https://irc.az.gov/>
- IRC Redistricting Hub: <https://redistricting-irc-az.hub.arcgis.com/>
- Redistricting System: <https://maps.azredistricting.gov/redistricting/>

ARIZONA Maps and Apps Grid Map Redistricting System Draft Maps Final Maps

**ARIZONA** INDEPENDENT REDISTRICTING COMMISSION

Welcome to the Arizona Independent Redistricting Commission Hub

A new Arizona Independent Redistricting Commission (IRC) was appointed in January 2021 to adopt new congressional and legislative districts for Arizona. This website is being used to specifically display geographic and other related information to inform the public about IRC's work.

Visit IRC Homepage >>>

**Maps & Apps**

Explore our growing library of static and interactive maps and apps aimed to help the public better understand the geography of Arizona and the demographics of the people that live across the state.

Start Exploring >>>

1. African-American CVAP
2. Asian-American CVAP
3. Latino CVAP
4. Native American CVAP
5. Non-Hispanic White CVAP
6. Speak Spanish at Home
7. Other Language at Home
8. Children at Home
9. Renter-Occupied Housing
10. Multi-Family Housing
11. Income Above \$75K
12. Bachelors Degree or Higher

Percent of Census Black Group Population

- 70% - 100%
- 60% - 70%
- 50% - 60%
- 40% - 50%
- 30% - 40%
- 20% - 30%
- 0% - 20%
- No 2019 Population

Arizona Independent Redistricting Commission - Redistricting 2021

Note and Certification: According to Arizona law, all communications with and submissions to the Independent Redistricting Commission are considered public records and may be requested by and provided to members of the public or to media unless an authorized privilege or exception applies. By submitting the below information and any attachments, you are certifying the information is true and correct to the best of your knowledge.

Learn More About Esri Redistricting

**Sign into the Redistricting System**

Please login using your Redistricting System Account

Create a Redistricting account

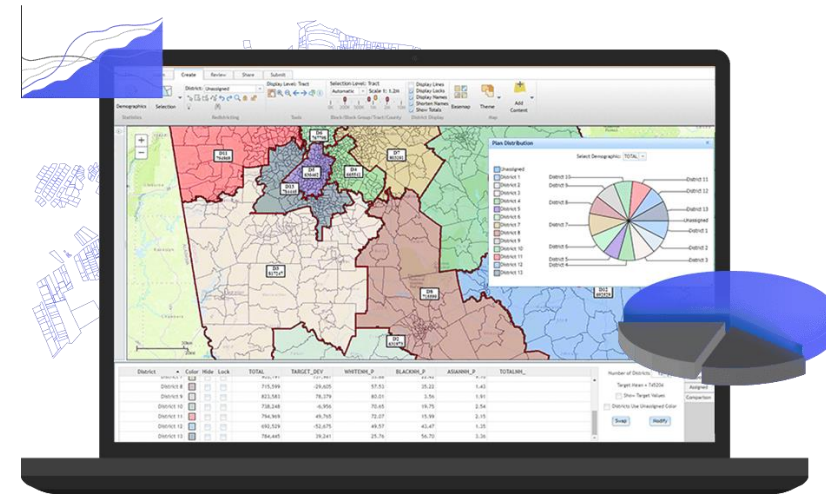
Forgot Your Password? Click here to reset

**ARIZONA** INDEPENDENT REDISTRICTING COMMISSION

# General System Overview

## What is the Redistricting System?

The Redistricting System is a free tool available to anyone interested proposing changes to the Arizona legislative and congressional grid maps. The System provides users comprehensive data, features and functionality for plan management, visualization, editing, and community collaboration using the latest available Census and State data to draw maps and submit those plans to the Commission.

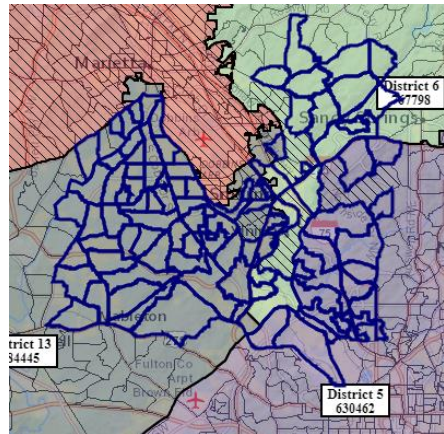


- Browser-based software for web GIS
- Facilitates collaboration, sharing and community building
- Intuitive interface
- No GIS experience required
- Connects legislators, professionals and the public in the redistricting process
- Provides transparency

Redistricting Page: <https://redistricting-irc-az.hub.arcgis.com/pages/redistricting-system>

Esri Documentation: <https://www.esri.com/en-us/arcgis/products/esri-redistricting/overview>

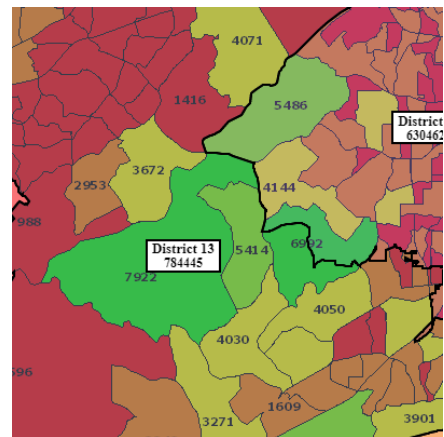
# General System Overview



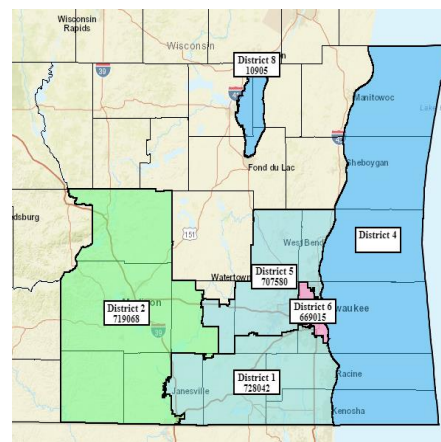
Two-stage Assignments



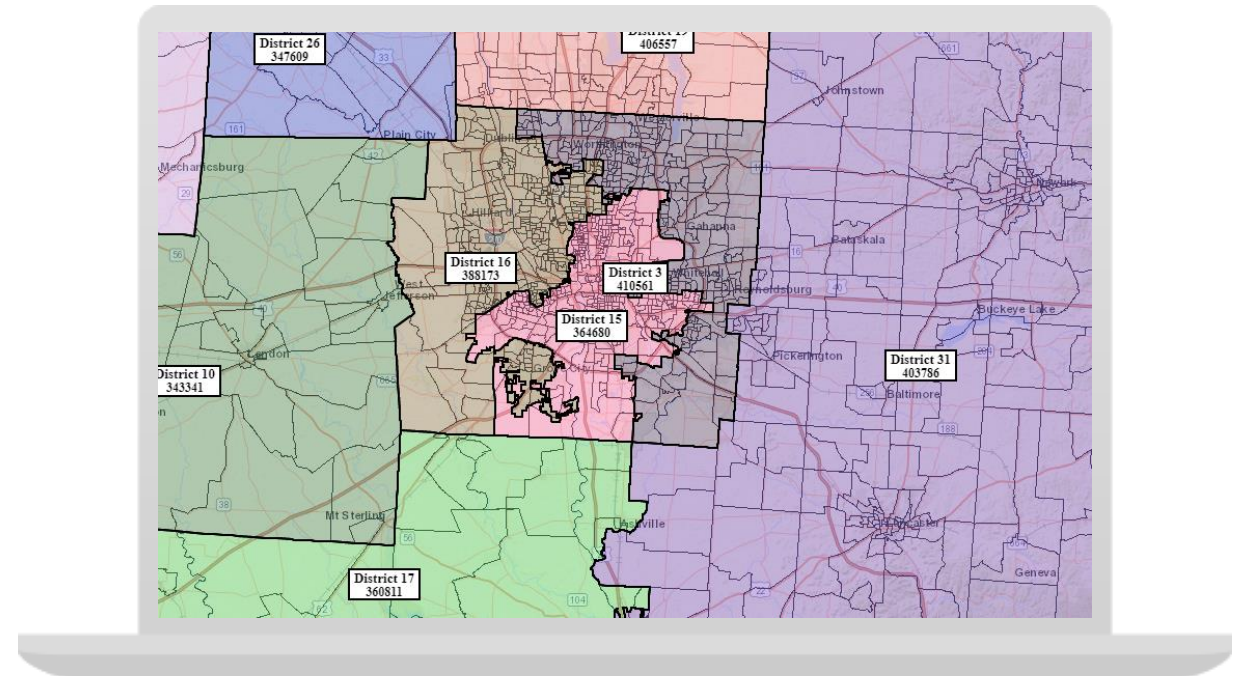
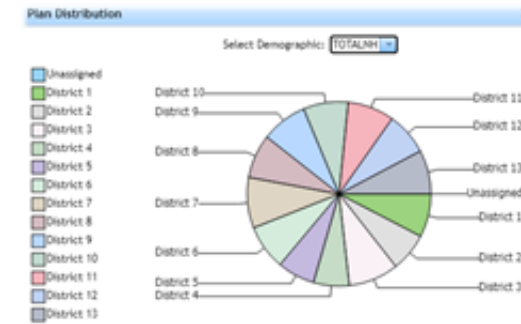
Integrated Basemaps



Thematic Maps

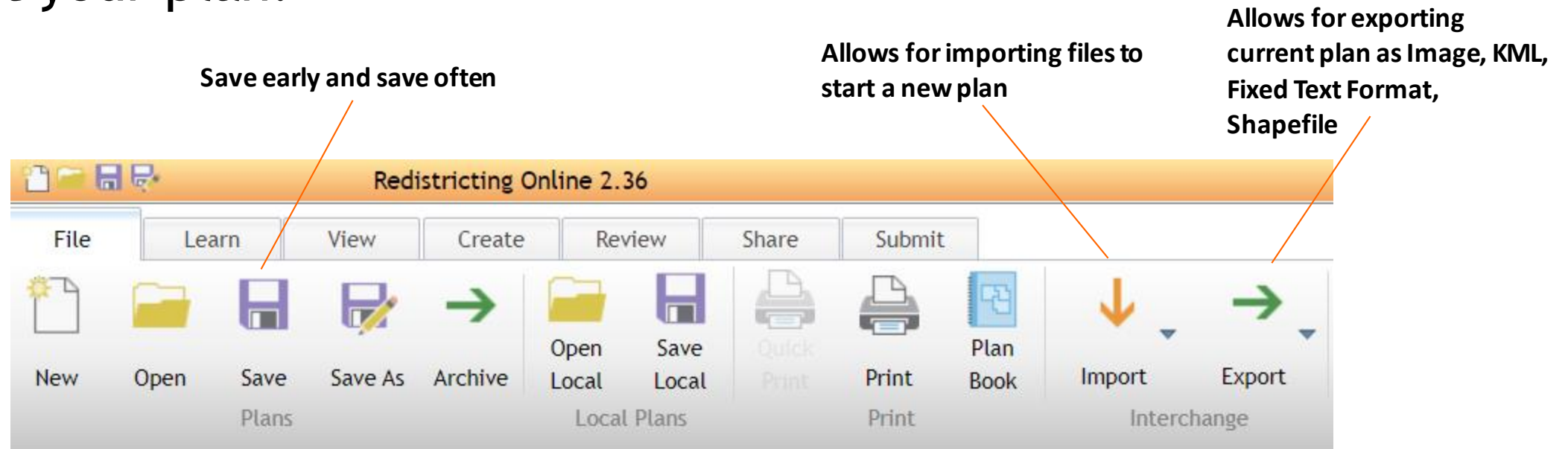


Regional View



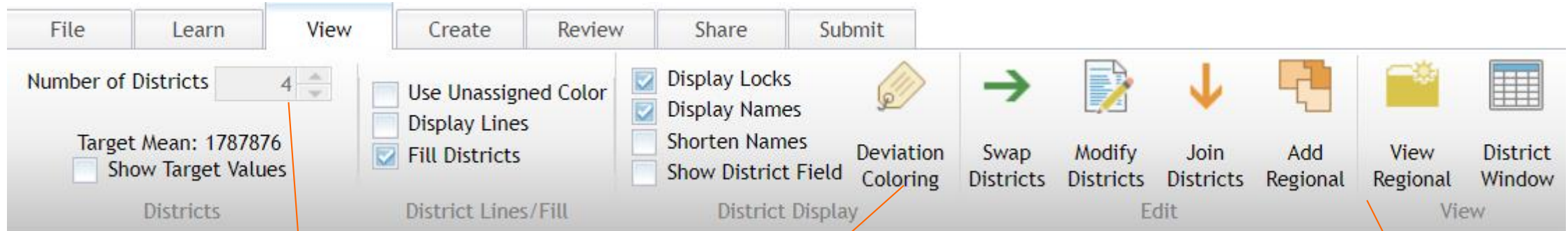
# General System Overview: File

- The File tab allows you to save and open plans you have created, open plans that people have shared with you, and print your plan.

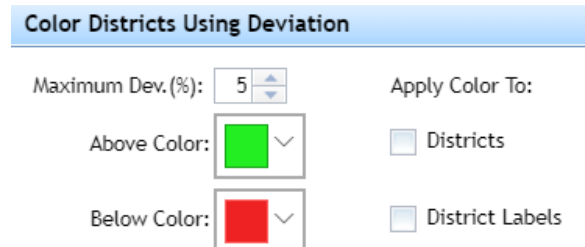


# General System Overview: View

- The View tab allows you to change how the districts you create appear as well as allowing you to easily modify the districts by swapping and merging.

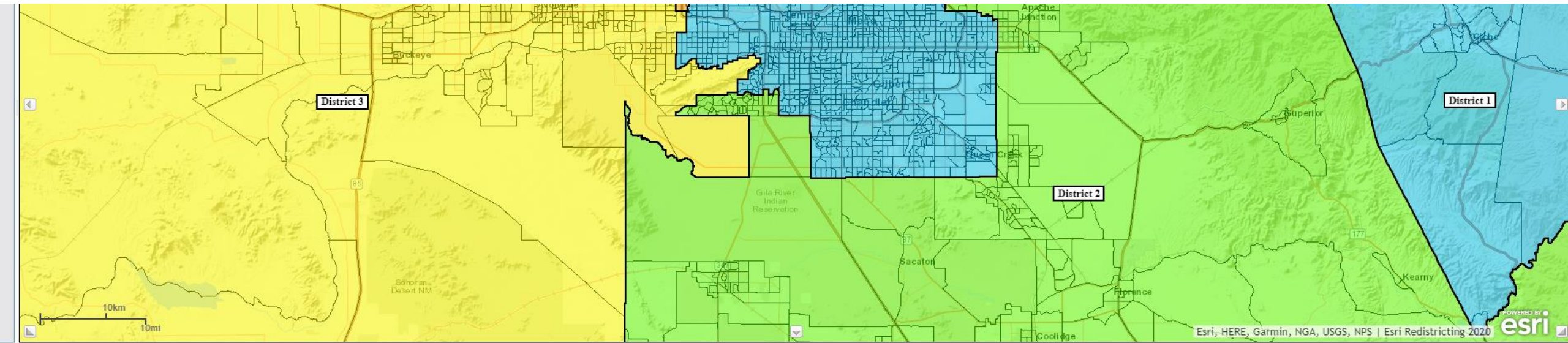


This will be set to 9 or 30 depending on which template is chosen.



Regions allow you to work within a subset of geographies for a given plan.

# District Window



District	Color	Hide	Lock	TOTAL	TARGET_DEV	TOTALHISP	TOTALNH	WHITENH	BLACKNH	AIANNH	ASIANNH	HPINH	OTHERNH	MLTMNH
Unassigned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	0	0	0	0	0	0	0	0	0	0
District 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,838,310	50,434	475,139	1,363,171	1,015,560	108,825	88,803	112,736	6,875	19,487	10,885
District 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,847,438	59,562	608,767	1,238,671	954,589	77,999	112,580	58,497	4,990	20,276	9,740
District 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,699,096	-88,780	773,691	925,405	688,345	114,593	35,427	57,565	4,583	15,712	9,180
District 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1,766,658	-21,218	334,656	1,432,002	1,158,053	67,639	94,677	76,121	3,971	23,252	8,289

Allows for color toggling

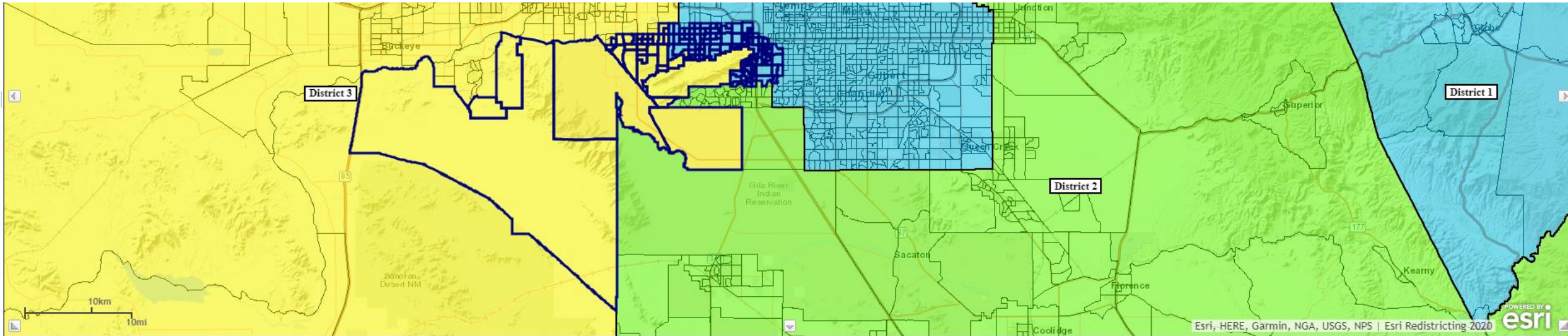
Temporarily hides the district on the map

Another way to lock a district



# District Window

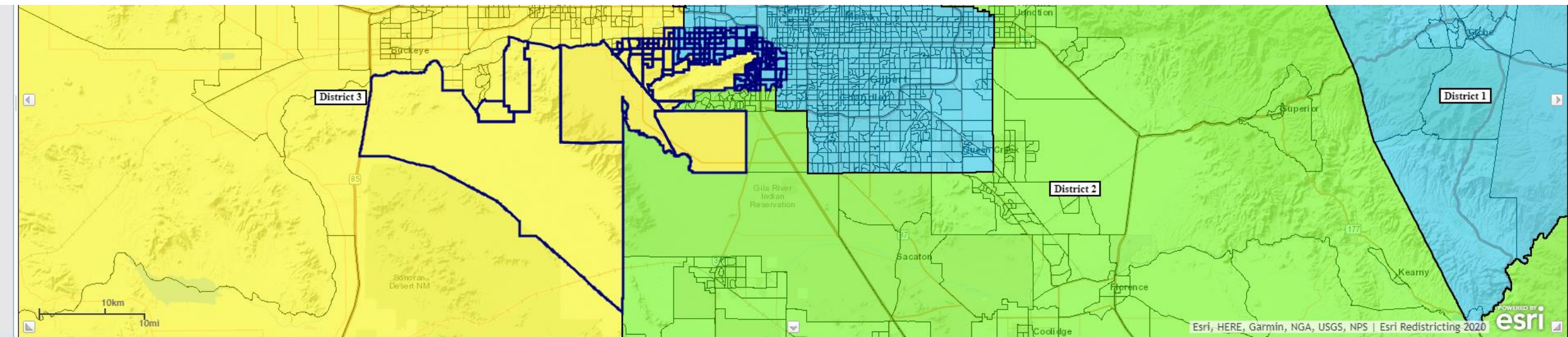
- Proposed Tab shows how demographics would be different if two-stage selection is assigned.



District	TOTAL	TARGET_DEV	TOTALHISP	TOTALNH	WHITENH	BLACKNH	AIANNH	ASIANNH	HPINH	OTHERNH	MLTMNNH
1	1,664,966 (-173,344)	-122,910	394,202 (-80,937)	1,270,764 (-92,407)	964,369 (-51,191)	86,061 (-22,764)	82,310 (-6,493)	104,213 (-8,523)	6,208 (-667)	17,985 (-1,502)	9,618 (-1,267)
2	2,087,639 (+240,201)	299,763	720,069 (+111,302)	1,367,570 (+128,899)	1,021,262 (+66,673)	112,525 (+34,526)	123,455 (+10,875)	70,371 (+11,874)	5,892 (+902)	22,400 (+2,124)	11,665 (+1,925)
3	1,632,239 (-66,857)	-155,637	743,326 (-30,365)	888,913 (-36,492)	672,863 (-15,482)	102,831 (-11,762)	31,045 (-4,382)	54,214 (-3,351)	4,348 (-235)	15,090 (-622)	8,522 (-658)

# District Window

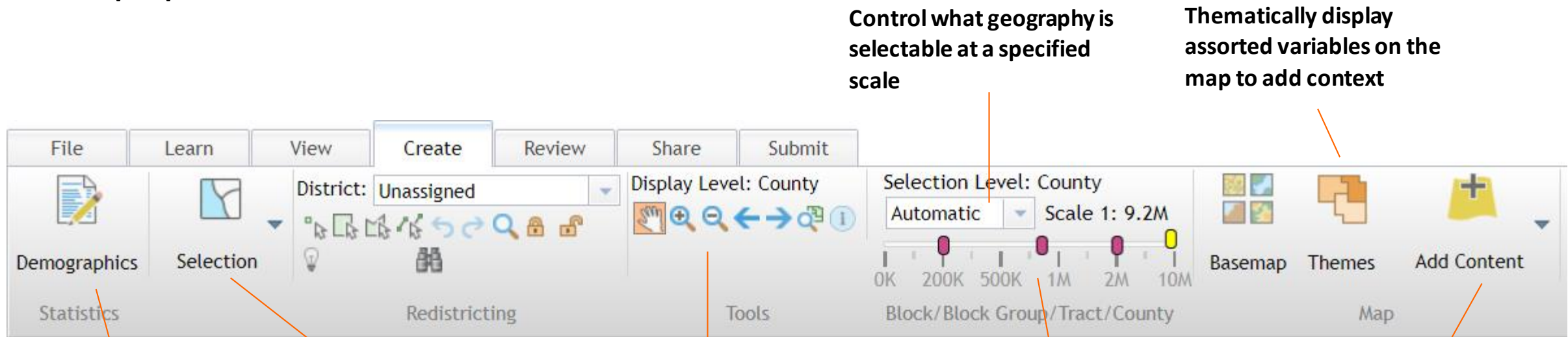
- Assigned tab shows similar information as proposed, but without the change indicators
- Comparison tab shows differences between active plan and plan brought in for comparison
- Attributes tab pulls up attributes for external layers, accessed by the contents pane.



District	TOTAL	TARGET_DEV	TOTALHISP	TOTALNH	WHITENH	BLACKNH	AIANNH	ASIANNH	HPINH	OTHERNH	MLTMNNH
2	2,087,639	299,763	720,069	1,367,570	1,021,262	112,525	123,455	70,371	5,892	22,400	11,665

# General System Overview: Create

- Use the select tools and choose geographies to make district assignments. As you make assignments, the goal is to create balanced populations between districts.



Access an assortment of authoritative variables

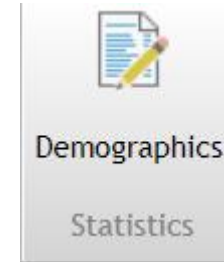
1. Select by Attributes
2. Select by Location

Basic map navigation

Indicates when a type of geography will start to draw on the map

1. Search for an address
2. Search ArcGIS Online
3. Add a Rest Service directly

# Demographic Variables



- Redistricting system comes with a variety of Census demographic datasets
- Sum and Percent for all variables
- Also allows for creation of custom variables
- Likely will not use all categories
- Key Terms
  - Universe: Total Population
  - OMB: Federal Office of Management and Budget
  - VAP: Voting Age Population

Demographics		
Name	Sum	Percent
▶ Key Elections Data	<input type="checkbox"/>	<input type="checkbox"/>
▶ AZ Standard Demographics	<input type="checkbox"/>	<input type="checkbox"/>
▶ Universe	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▶ Standard	<input type="checkbox"/>	<input type="checkbox"/>
▶ Standard VAP	<input type="checkbox"/>	<input type="checkbox"/>
▶ Alternative	<input type="checkbox"/>	<input type="checkbox"/>
▶ Alternative VAP	<input type="checkbox"/>	<input type="checkbox"/>
▶ OMB	<input type="checkbox"/>	<input type="checkbox"/>
▶ OMB VAP	<input type="checkbox"/>	<input type="checkbox"/>
▶ OMB Non-Hispanic	<input type="checkbox"/>	<input type="checkbox"/>
▶ OMB Non-Hispanic VAP	<input type="checkbox"/>	<input type="checkbox"/>
▶ Any Part Demographics	<input type="checkbox"/>	<input type="checkbox"/>
▶ Alternative Tabulation	<input type="checkbox"/>	<input type="checkbox"/>
▶ American Community Survey (ACS)	<input type="checkbox"/>	<input type="checkbox"/>
▶ supplemental Elections Data	<input type="checkbox"/>	<input type="checkbox"/>

# Basic Selection

- Dropdown menu indicates which district you are adding selected geographies to
- Four drawing selection tools
  - Point
  - Rectangle
  - Polygon
  - Polyline
- Undo/Redo
- Zoom to selected district

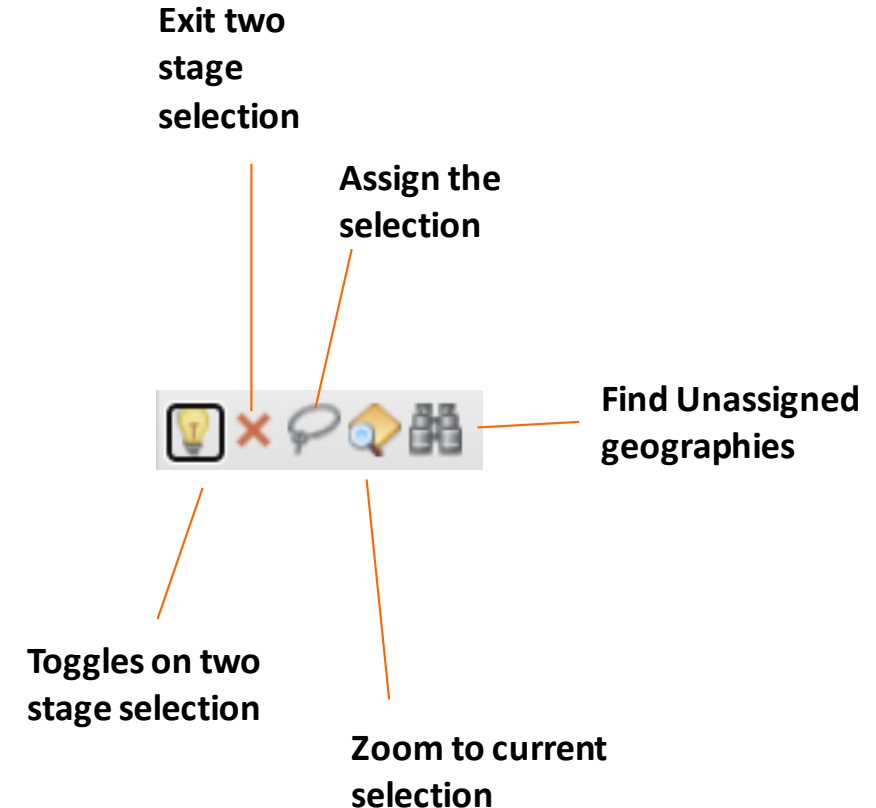
Toggles on two stage selection



Allows you to lock/unlock geographies, preventing them from being changed

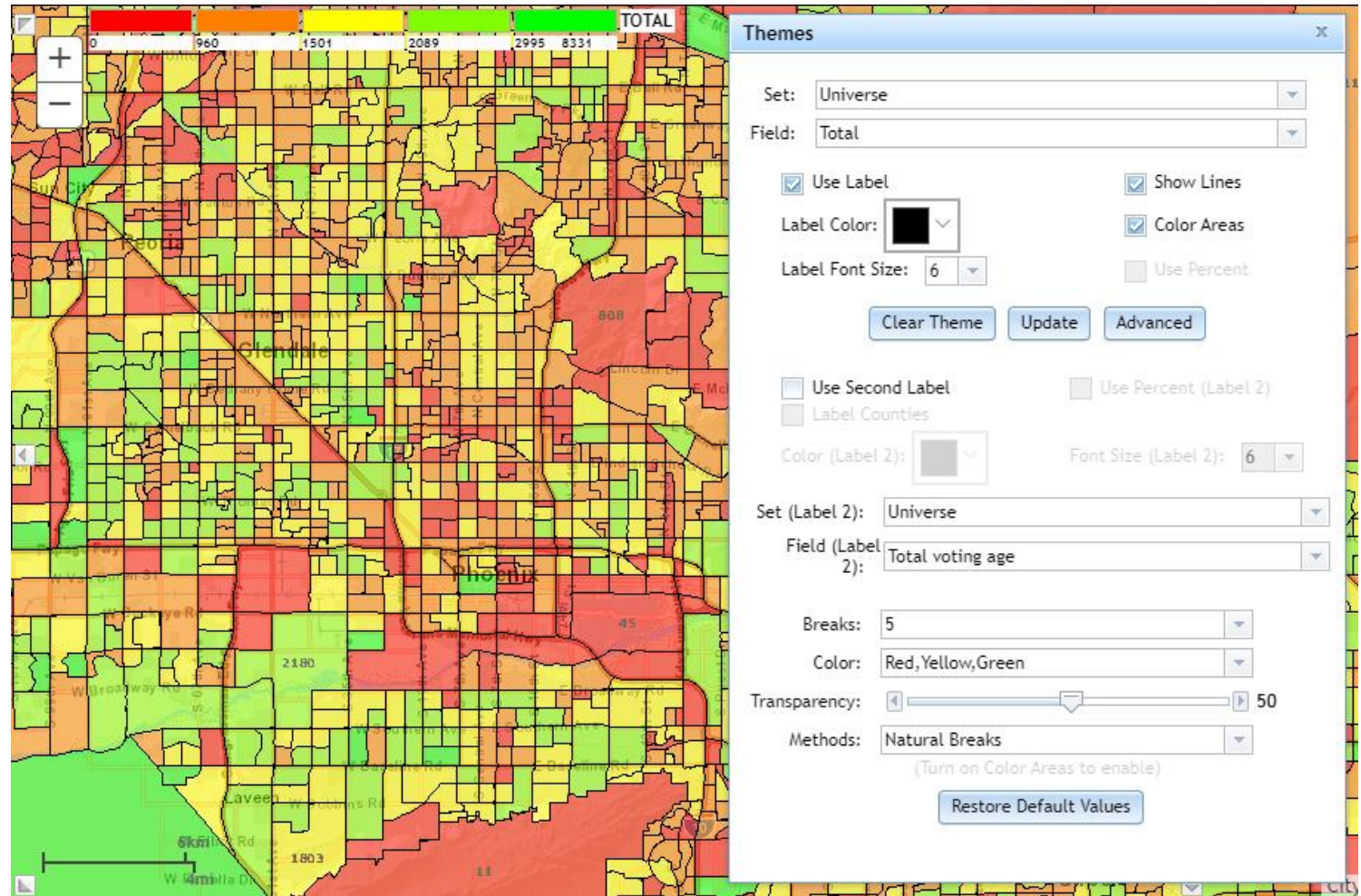
# One Stage vs. Two Stage Selection

- One Stage: Will automatically assign the chosen geography to the chosen district
- Two Stage: Will allow you to preview before assigning geographies to districts. Pair with District Window Proposed Tab for best results



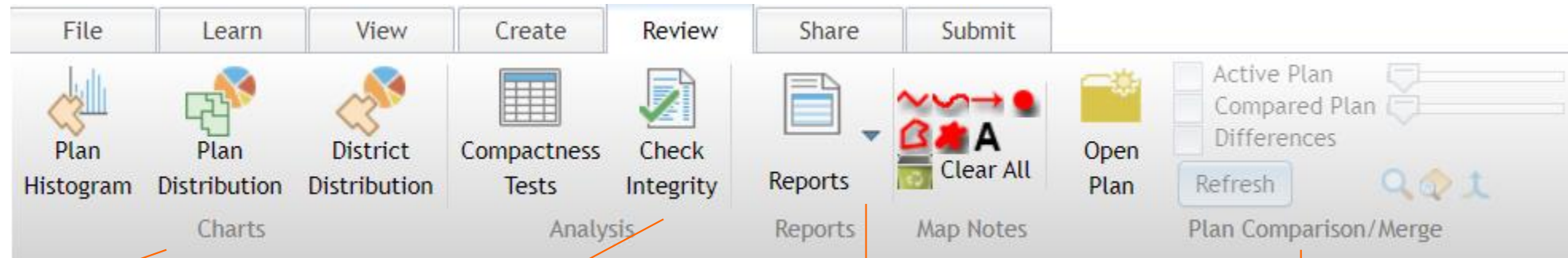
# Themes

A thematic map allows you to convey information about a single topic or theme, such as voting population or a demographic variable.



# General System Overview: Review

- View tables/charts that show the distribution of population within the districts you have created. The tables/charts are updated as you select and move populations between districts.



Visualize your district plans as you make them

A necessary step to finalize and submit a plan

Display Census demographic information by geography

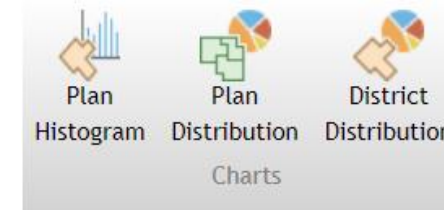
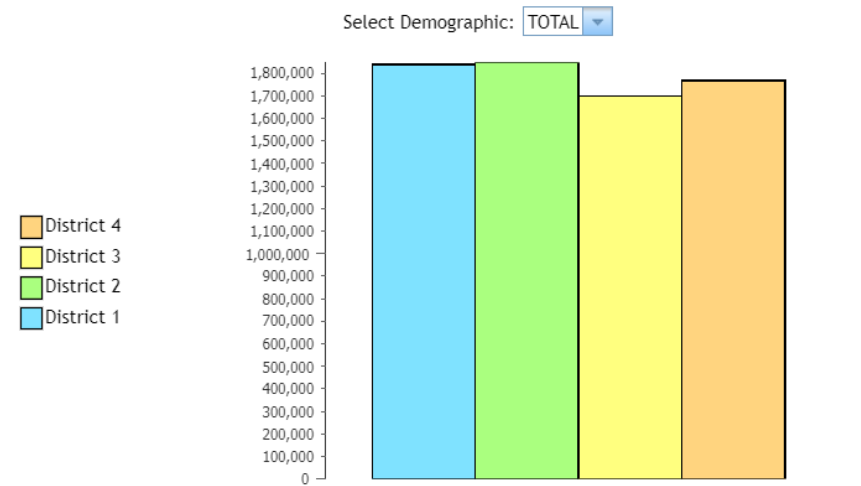
Able to compare your plans as well as others and see differences



# Charts

As you make geography or district assignments, any opened charts update dynamically based on the changes made to districts and reflect up-to-date population changes.

Plan Histogram

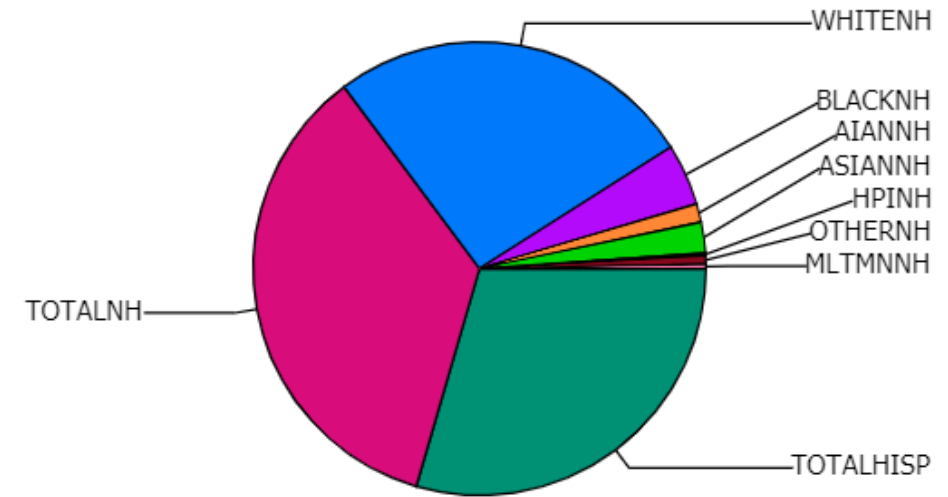


District Distribution

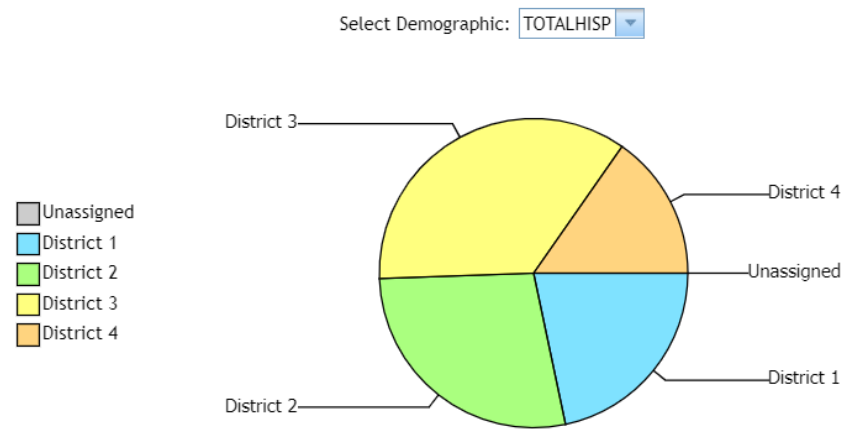
Select District: District 3

Select Category: Standard

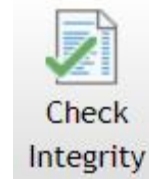
- TOTALHISP
- TOTALNH
- WHITENH
- BLACKNH
- AIANNH
- ASIANNH
- HPINH
- OTHERNH
- MLTMNNH



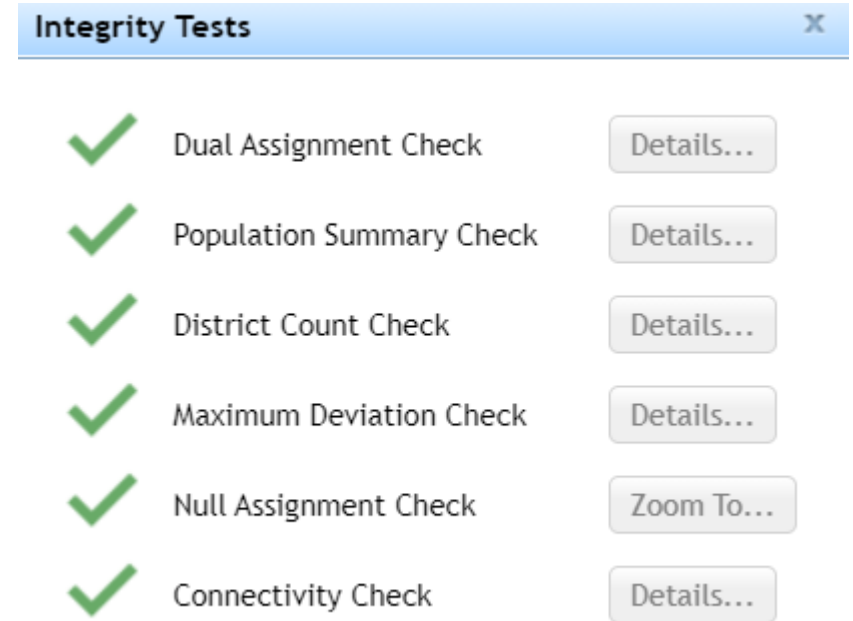
Plan Distribution



# Checking Plan Integrity



- All plans must be checked and valid to be able to be submitted.



## Data Quality Checks

**Dual Assignment Check** verifies that a geography is only assigned to one district.

**Population Summary Check** ensures that the total population count in all districts is equal to the whole area.

**District Count Check** ensures that all districts have at least one assignment.

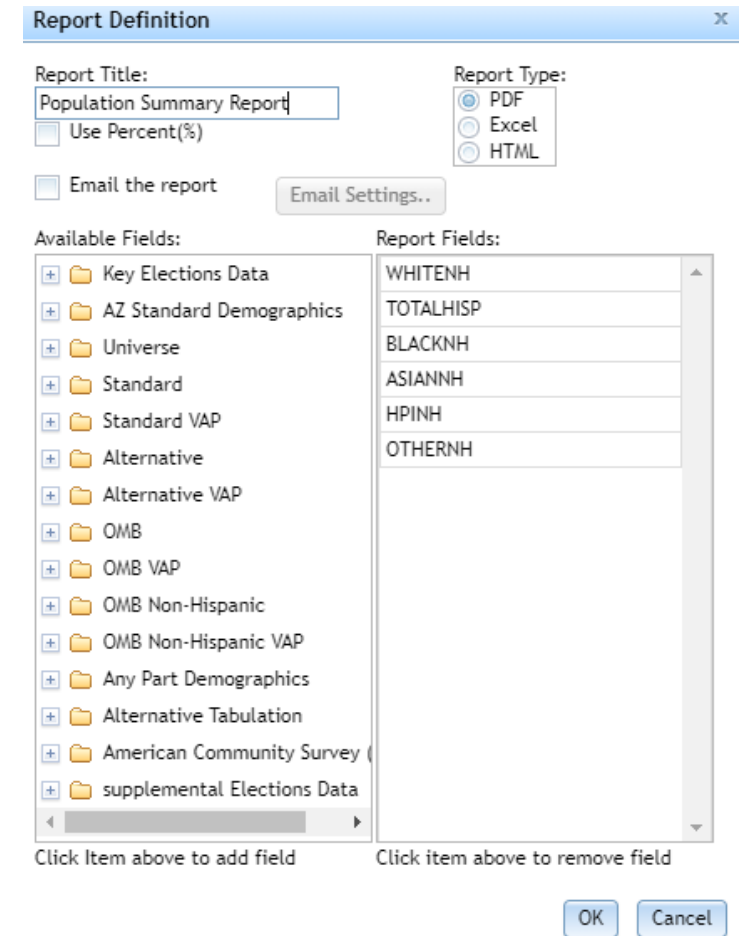
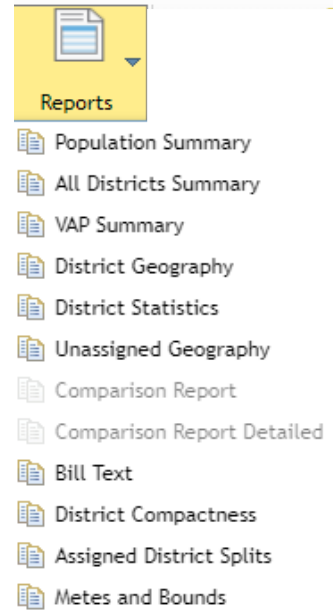
**Maximum Deviation Check** verifies that each district deviation does not exceed the maximum deviation from the target deviation.

**Null Assignment Check** ensures that there are no unassigned geographies in your district plan.

**Connectivity Check** ensures that all parts of a district are connected with the rest of the district.

# Reports

- Reports can be exported to PDF, Microsoft Excel, or HTML formats
- Reports display census demographic information by geography, by FIPS code, or as a percentage of the total plan population

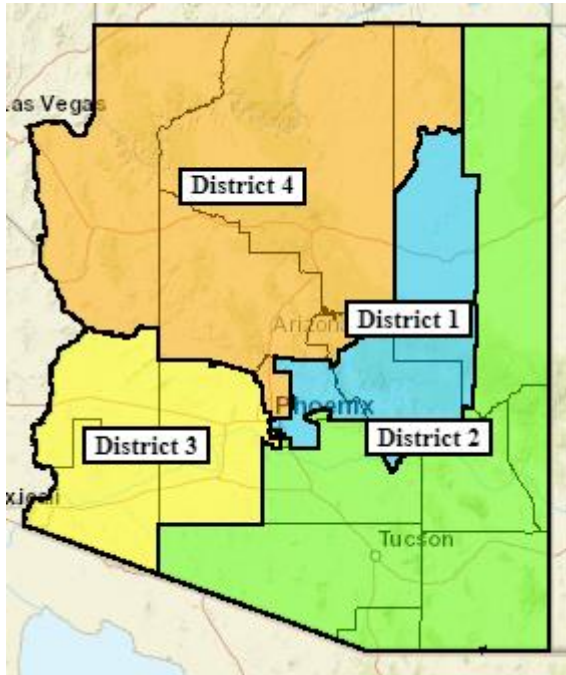
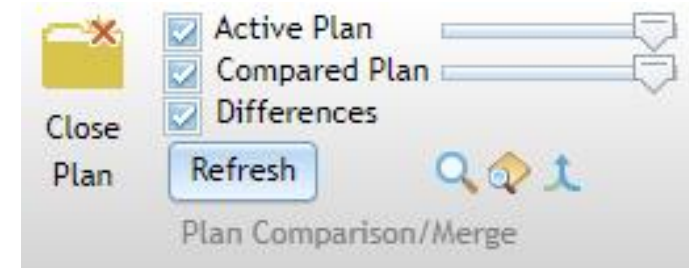


VAP Summary Report

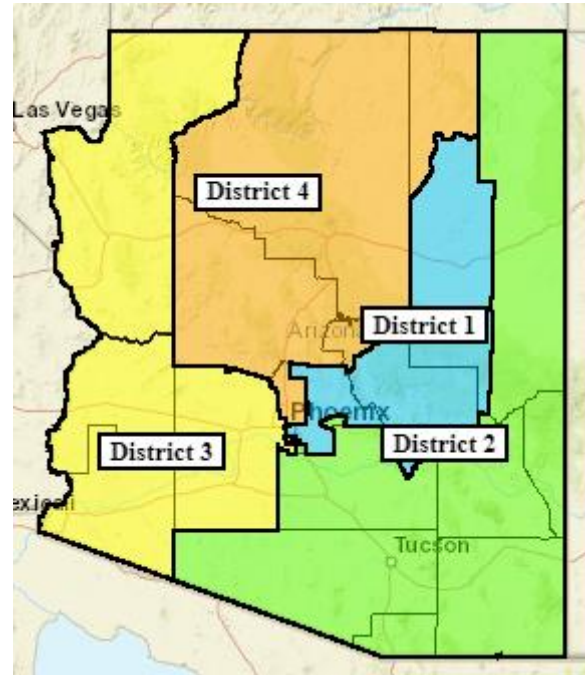
District No.	Total	Total voting age	Non-Hispanic white voting age population	Non-Hispanic black voting age population	Hispanic voting age population	Non-Hispanic American Indian/ Alaskan Native voting age population	Non-Hispanic Asian voting age population	Non-Hispanic Hawaiian or Other Pacific Islander voting age population	Non-Hispanic some other race voting age population
D1	1,838,310	1,410,436	835,751	78,345	321,643	63,084	85,920	4,647	14,320
	25.71%	25.45%	59.25%	5.55%	22.80%	4.47%	6.09%	0.33%	1.02%
D2	1,847,438	1,450,664	814,987	56,636	425,491	82,163	45,681	3,468	15,887
	25.83%	26.18%	56.18%	3.90%	29.33%	5.66%	3.15%	0.24%	1.10%
D3	1,699,096	1,256,645	576,996	79,081	511,050	26,041	42,891	3,305	11,537
	23.76%	22.68%	45.92%	6.29%	40.67%	2.07%	3.41%	0.26%	0.92%
D4	1,766,658	1,424,231	990,360	49,023	231,433	70,128	57,174	2,790	17,981
	24.70%	25.70%	69.54%	3.44%	16.25%	4.92%	4.01%	0.20%	1.26%
TOTALS	7,151,502	5,541,976	3,218,094	263,085	1,489,617	241,416	231,666	14,210	59,725

# Comparison Maps

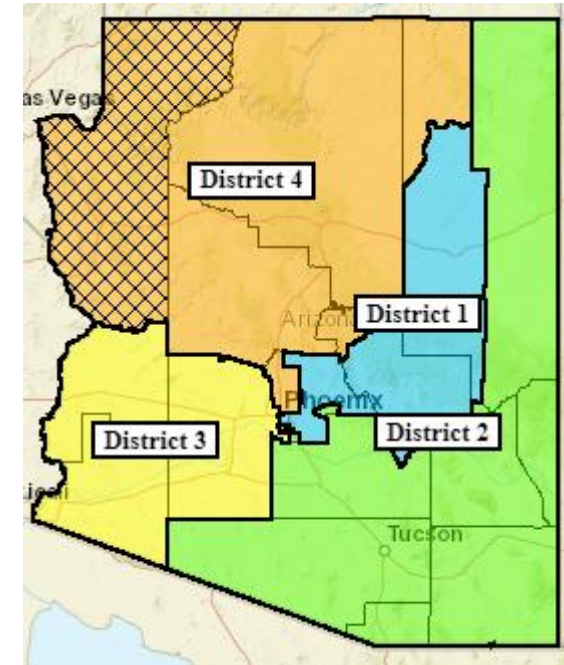
- Open two plans at once for side-by-side comparison



Active Plan



Compared Plan



Difference

# General System Overview: Share

- The share features allow you to invite friends and colleagues to view and/or comment on your plan. You can also invite others to build a plan together.



**Edit the metadata of your plan**

**Log that provides an audit trail about interactions with any plan**

**Create private groups to share your plans and collaborate with others**

# Creating and Managing Groups

- Groups are a good way of managing who has access to specific content
- Key features
  - Creates a new group
  - Modify group name / descriptor
  - Deletes group
  - Add/Remove Users

Manage Groups

Group Name
✖

Test Group 1

**Title:** Test Group 1

**Description:**

**Owner:** Test.AZRedistricting

**Created:** 2021-09-10 10:09

**Members:**

# Getting Started: Create an account

- Navigate to <https://maps.azredistricting.gov/redistricting/>
- Select “Create a Redistricting account”

**Sign into the Redistricting System**

Please login using your Redistricting System Account

[Create a Redistricting account](#)

[Forgot Your Password? Click here to reset](#)

## Create Account


Please enter the following information for your Redistricting Online user account. All fields are required.

First name:	<input type="text"/>
Last name:	<input type="text"/>
Email address:	<input type="text"/>
Username:	<input type="text"/>
Password:	<input type="password"/>
Confirm Password:	<input type="password"/>

Create


Cancel

# Getting Started: Logging in for the first time


Security Question and Answer 


A security question has not been set for your account. Setting a security question and answer allows you to reset your password if needed. Choose a question from the drop down menu below and enter your answer in the input box provided.

Security Question:


Select one 

Answer:

Request for Permission 

 Test.AZRedistricting2

[Sign in with another account](#)

**Redistricting** (Developed by Arizona IRC Redistricting)   
wants to access your ArcGIS Enterprise account information



# Creating your first plan

- Log into the Redistricting System
- Select a Grid Map template\*

Choose Template Plan

Choose a template plan:

Plan Name	Description
Demo Grid Map 4 Districts - Legislative	This is a demo map to be used during training.
Demo Grid Map 4 Districts - Congressional	This is a demo map to be used during training.

*\*Note: The Demo Grid Maps shown during training will be replaced by an approved Grid Map for both sets of districts. These approved Grid Maps will consist of nine (9) districts for Congressional plan and thirty (30) districts for Legislative plan within the allowable target deviation for Total Population of +/- 5%.*

# Creating your first plan

Redistricting Online 2.36 Plan: Demo Grid Map 4 Districts - Congressional(read only) Invites (0) | Test.AZRedistricting | Sign Out | ?

File Learn View Create Review Share Submit

New Open Save Save As Archive Open Local Save Local Quick Print Print Plan Book Import Export Interchange

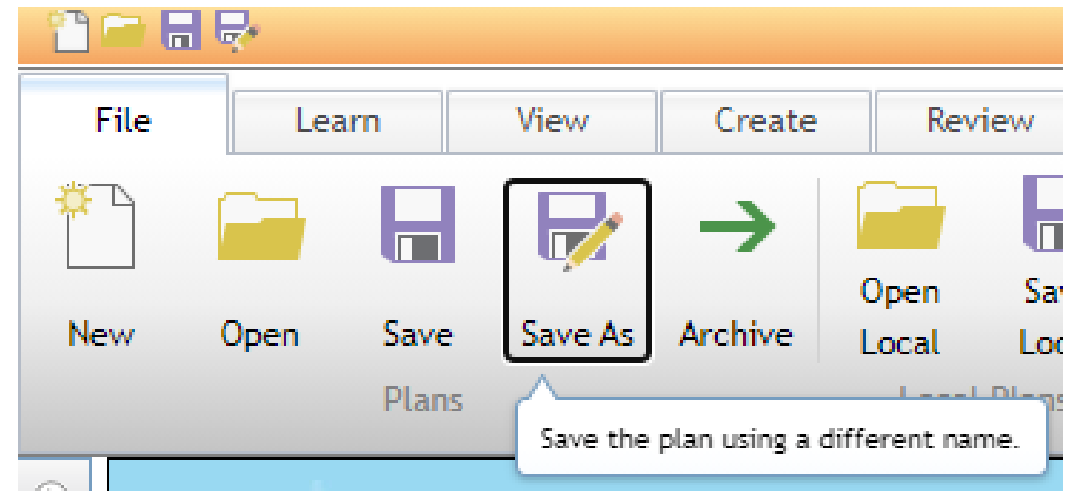
Esri, HERE, Garmin, NGA, USGS, NPS | Esri Redistricting 2020

District	Color	Hide	Lock	TOTAL	TARGET_DEV
Unassigned	<span style="display:inline-block; width:15px; height:15px; background-color:gray;"></span>	<input type="checkbox"/>	<input type="checkbox"/>	0	0
District 1	<span style="display:inline-block; width:15px; height:15px; background-color:lightblue;"></span>	<input type="checkbox"/>	<input type="checkbox"/>	1,838,310	50,434
District 2	<span style="display:inline-block; width:15px; height:15px; background-color:lightgreen;"></span>	<input type="checkbox"/>	<input type="checkbox"/>	1,847,438	59,562
District 3	<span style="display:inline-block; width:15px; height:15px; background-color:yellow;"></span>	<input type="checkbox"/>	<input type="checkbox"/>	1,699,096	-88,780
District 4	<span style="display:inline-block; width:15px; height:15px; background-color:orange;"></span>	<input type="checkbox"/>	<input type="checkbox"/>	1,766,658	-21,218

- Districts
- Proposed
- Assigned
- Comparison
- Attributes

# Creating your first plan

- Select Save As to save the selected Grid Map template as your own plan.
- Provide metadata for your plan.
- Start modifying your plan to reflect your desired input into the redistricting process.

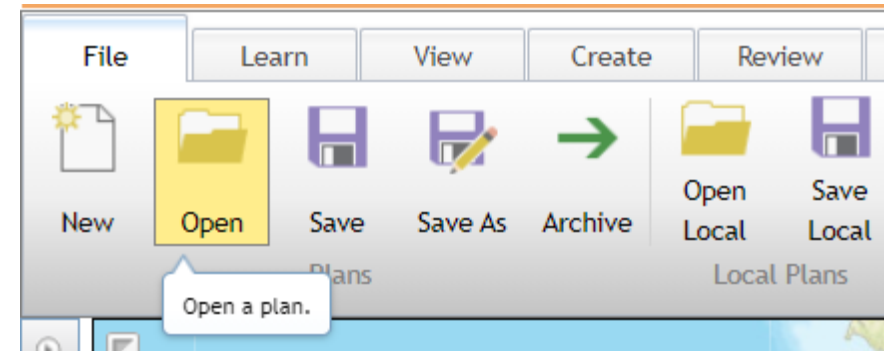


A screenshot of a 'Save Plan' dialog box. The dialog has a title bar with 'Save Plan' and a close button. It contains two input fields: 'Name:' with a text box below it, and 'Description:' with a larger text area below it. At the bottom right, there are 'OK' and 'Cancel' buttons.

# Editing an existing plan

The following steps are necessary to open an existing plan that you are currently editing as well as a plan that has been shared with you through your group memberships.

1. Log into the Redistricting System
2. Select a Grid Map template
3. Select Open
4. Select an existing plan from the list of plans to continue working



# Submission Process

- After validating your plan successfully, you can now submit the plan.
- Submitting the plan makes it final and unable to be edited.
- You can still access the plan and Save As to continue editing the resulting new plan.

Submit Plan

Contact Information

(Required entries are marked with an asterisk \*)

Name: \*

Organization:

Email Address: \*

Confirm Plan Submission x

Are you sure you want to submit your plan? Note: A plan may not be edited once it is submitted.

Explanation of plan objectives:

A plan may not be edited once it is submitted.

# What to expect after submitting a plan

- You will receive an automated email with details about your submitted final plan.
- Your plan will be made publicly available on IRC's AZ Redistricting Hub within 1-2 business days.

<https://redistricting-irc-az.hub.arcgis.com/>

# Demo

The screenshot shows the Arizona Independent Redistricting Commission website. At the top center is a red circle containing a white outline of the state of Arizona. Below this is the main title "Arizona Independent Redistricting Commission - Redistricting 2021". Underneath the title is a "Note and Certification" paragraph. Below the note is a link "Learn More About Esri Redistricting". The central focus is a white login box with a red button labeled "Sign into the Redistricting System". Below the button are links for "Please login using your Redistricting System Account", "Create a Redistricting account", and "Forgot Your Password? Click here to reset". In the bottom left corner of the page, the "ARIZONA INDEPENDENT REDISTRICTING COMMISSION" logo is displayed. The background of the page is a blue-tinted image of the Arizona State Capitol building.

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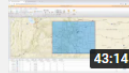






[Create a Redistricting account](#)

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**ARIZONA**  
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# Additional Learning Resources

- IRC Redistricting Training Series: [Link](#) - Coming Soon!
- Esri Redistricting Demos: [YouTube Playlist](#)
- Esri Documentation: [Link](#)
- Esri Redistricting Resources: [Link](#)
- Esri Redistricting Blog Post: [What you need to know about redistricting](#)
- What's new in Esri Redistricting: [Check out the latest news](#)
- Esri Redistricting Learn Lesson: [Learn to draw plans with self-guided instructions](#)
- Understanding Demographic variables: [Description of the demographic variables](#)

1		Esri Redistricting – Administration Console ArcGIS 2:09
2		Bring Clarity to Redistricting with Esri Technology Webinar Esri Industries 43:14
3		Esri Redistricting – Edit a Plan ArcGIS 2:58
4		Esri Redistricting – Integrate Plans and Charts ArcGIS 1:25
5		Esri Redistricting – Modify Markup ArcGIS 1:34
6		Esri Redistricting – Plan with Integrity ArcGIS 1:15
7		Esri Redistricting – Run a Report ArcGIS 1:07
8		Esri Redistricting – Share to Groups ArcGIS 1:42



Thank you



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