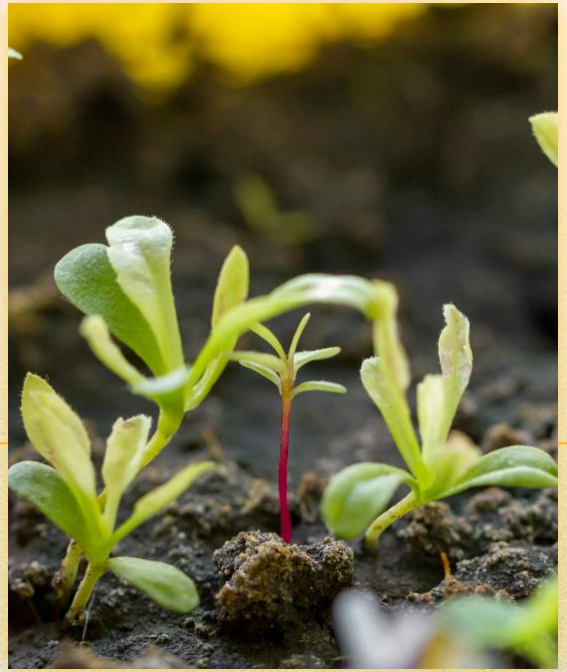
Rural and Urban Agriculture Census Data GIS Story Map



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Project Overview

Introduction

- Agriculture is always evolving in Maryland. Over the years, Maryland has become more urban. Our project explores number of farms, average farm size (acres), and land in farms (acres) in urban and rural areas using interactive maps and storyboard built by ArcGIS.

Project Outcomes

- Display evolution of agriculture in Maryland
- Show rural and urban change in Maryland
- Growth of Maryland farms and land use

Deliverables

- MD farm data: an excel file displaying: number of farms, land in farms (acres), and average number of farms (acres)
- Project final report
- Storyboard and map visualizations.
- Documentation for data, storymap, and map visualizations.

Project Significance

Purpose of the Project

- Highlight the significance of Maryland agriculture
- Compare the development of rural and urban agriculture in Maryland
- Maps/storyboard are able to be added onto UME website

How it can be used

- Users will be able to see the number of farms, farm size, and average farm size in each Maryland county over the past 50 years
- Provide context on how Maryland has and can be developed
- Formatted data into a readable/processable format that can be easily transferred

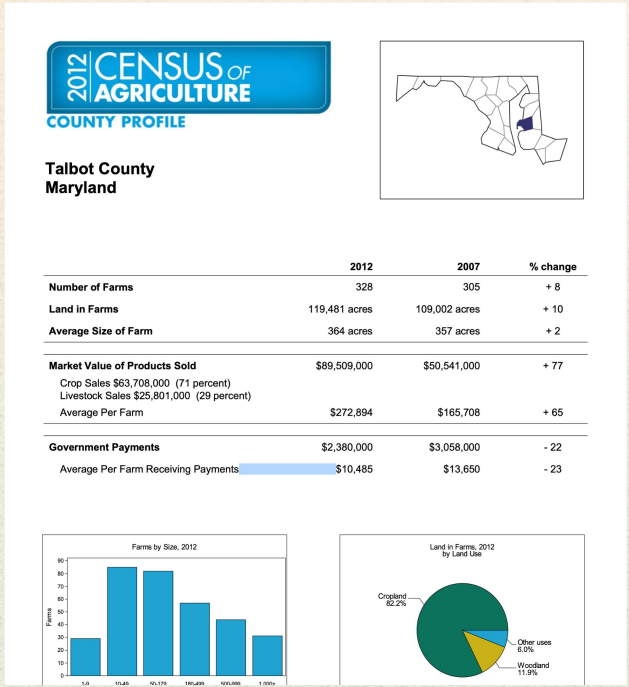
Possible Stakeholders

- Maryland Department of Agriculture
- Maryland Agricultural Commission
- Maryland Department of the Environment
- College of Agriculture and Natural Resources (AGNR) at the University of Maryland

Data

Analysis & Conversion

- Data is based of USDA Census of Agriculture
  - Land in farms
  - Avg farm size
  - Number of farms
- Converted PDF three main statistics to an Excel spreadsheet



2012 CENSUS OF AGRICULTURE
COUNTY PROFILE

Talbot County
Maryland

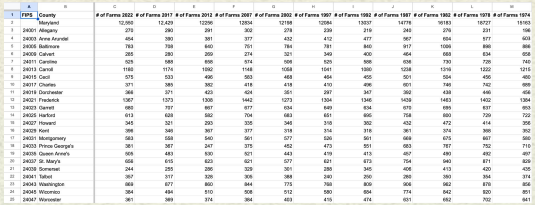
	2012	2007	% change
Number of Farms	328	305	+ 8
Land in Farms	119,481 acres	109,002 acres	+ 10
Average Size of Farm	364 acres	357 acres	+ 2
Market Value of Products Sold	$89,509,000	$50,541,000	+ 77
Crop Sales $63,708,000 (71 percent) Livestock Sales $25,801,000 (29 percent)			
Average Per Farm	$272,894	$165,708	+ 65
Government Payments	$2,380,000	$3,058,000	- 22
Average Per Farm Receiving Payments	$10,485	$13,650	- 23

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	FIPS	County	# of Farms 2022	# of Farms 2017	# of Farms 2012	# of Farms 2007	# of Farms 2002	# of Farms 1997	# of Farms 1992	# of Farms 1987	# of Farms 1982	# of Farms 1978	# of Farms 1974
2		Maryland	12,550	12,429	12256	12834	12198	12084	13037	14776	16183	18727	15163
3	24001	Allegany	270	290	291	302	278	239	219	240	276	231	196
4	24003	Anne Arundel	454	390	381	377	432	412	477	567	604	577	603
5	24005	Baltimore	783	708	640	751	784	781	840	917	1006	898	886
6	24009	Calvert	285	280	269	274	321	349	400	464	668	634	658
7	24011	Caroline	525	588	658	574	506	525	588	636	730	728	740
8	24013	Carroll	1180	1174	1092	1148	1058	1041	1080	1238	1316	1222	1215
9	24015	Cecil	575	533	496	583	468	464	455	501	504	456	480
10	24017	Charles	371	385	382	418	418	410	496	601	746	742	689
11	24019	Dorchester	366	371	423	424	351	297	347	392	438	446	456
12	24021	Frederick	1367	1373	1308	1442	1273	1304	1346	1439	1463	1402	1384
13	24023	Garrett	680	707	667	677	634	649	634	670	695	637	653
14	24025	Harford	613	628	582	704	683	651	695	758	800	729	722
15	24027	Howard	345	321	293	335	346	318	382	432	472	414	356
16	24029	Kent	396	346	367	377	318	314	318	361	374	368	352
17	24031	Montgomery	583	558	540	561	577	526	561	669	675	667	580
18	24033	Prince George's	381	367	247	375	452	473	551	683	767	752	710
19	24035	Queen Anne's	505	483	530	521	443	419	413	457	490	492	497
20	24037	St. Mary's	656	615	623	621	577	621	673	754	940	871	829
21	24039	Somerset	244	255	286	329	301	288	345	406	413	420	435
22	24041	Talbot	357	317	328	305	388	240	250	280	350	354	374
23	24043	Washington	869	877	860	844	775	768	809	906	962	878	856
24	24045	Wicomico	384	494	510	508	512	580	684	774	842	920	851
25	24047	Worcester	361	369	374	384	403	415	474	631	652	702	641

Data

ArcGIS and Map Creation

- Joined Excel data to county shapefiles in ArcGIS
- Create story map that shows progression over the last 50 years
- Farmland spatial patterns and population map



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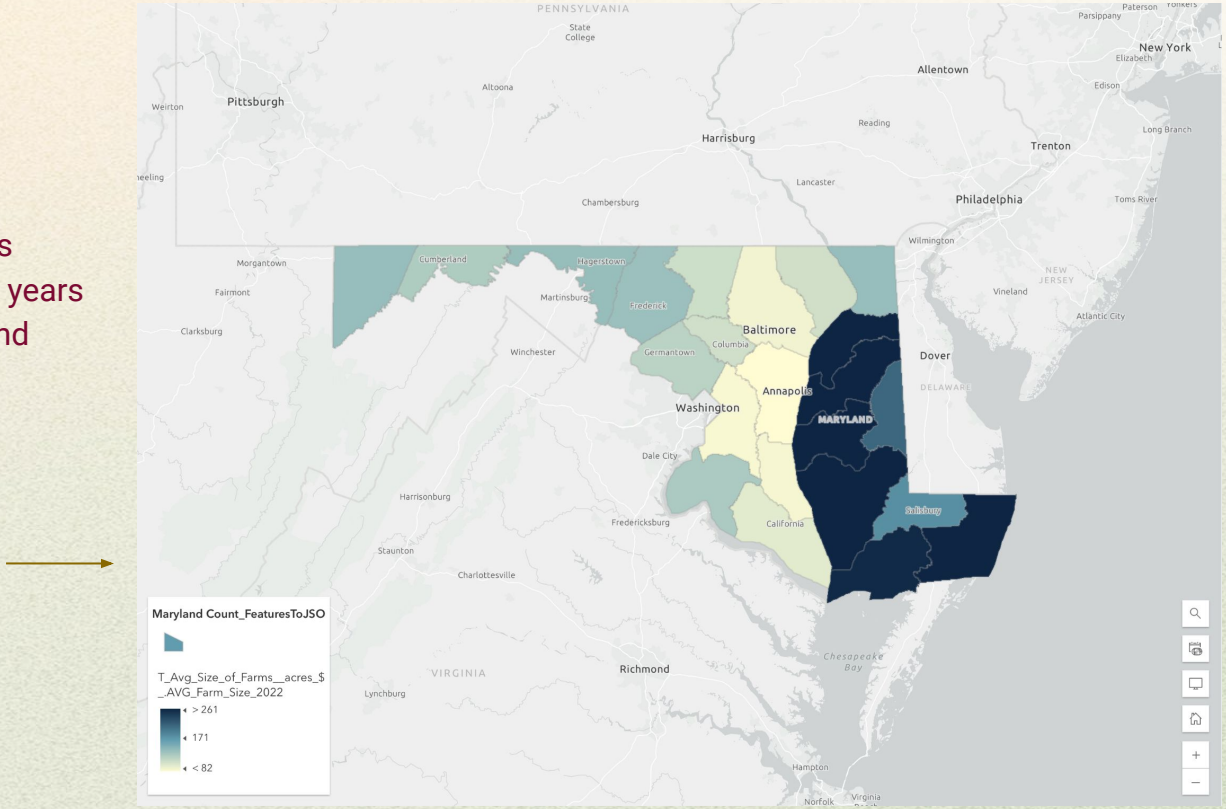


Limitations

Obstacles & Solutions

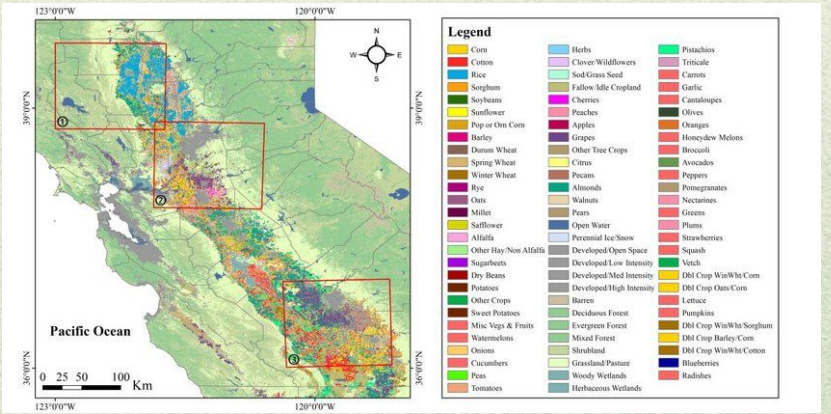
- Collecting and analyzing data from the vast sources and datasets available
  - Selected a few topics to focus on (Number of farms, land in farms, average farm size)
- Defining rural and urban agriculture
  - Used the US Census definition of what is urban and overlaid large agricultural development in urban areas as urban agriculture
- The data spanned over a long period of time that we could not fully analyze
  - Analyzed data up to 1974 (past 50 years) as we believed this would give us a clear enough picture

Outstanding Obstacles

- Find data on more granular data within counties
- Analyze data on the entirety of the US Agricultural Census Data
- Find rural/urban mapping of Maryland

Future Work/Transition to Client

- Populate and display more granular data regarding agriculture in Maryland counties
  - Analyze other agricultural statistics aside from number of farms, land in farms, average farm size
  - Look into different aspects of urban vs. rural agriculture
    - Different types of crops
      - GMU granular crop location data
    - Different farming techniques
    - Profit margins
- Formatted data used in the project



Questions?

Thank you!