Water Resources Planning Committee

Maine Department of Agriculture, Conservation, and Forestry

April 7, 2022

Agenda

1. Introductions
2. Review of WRPC mandate and organization
3. Discussion of bills in the Maine Legislature
4. Updates from the Maine Geological Survey
5. Updates from the Maine Cooperative Snow Survey

5-MINUTE BREAK

6. Pop-up presentations
7. Future meeting topics
8. Public comment period

WRPC Mandate

APPROVED
APRIL 30, 2019
BY GOVERNOR

CHAPTER
67
PUBLIC LAW

STATE OF MAINE

IN THE YEAR OF OUR LORD

TWO THOUSAND NINETEEN

H.P. 162 - L.D. 199

An Act To Create the Water Resources Planning Committee

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 5 MRSA Pt. 15-C is enacted to read:

PART 15-C

WATER RESOURCES PLANNING COMMITTEE

CHAPTER 357

WATER RESOURCES PLANNING COMMITTEE

§6401. Water Resources Planning Committee

1. Water Resources Planning Committee. The Water Resources Planning Committee, as established in section 12004-I, subsection 68-C and referred to in this subsection as "the committee," is established in the Department of Agriculture, Conservation and Forestry.

Summary of WRPC Goals

Plan for the sustainable use of water resources. The committee shall focus on:

1. Collecting and reviewing information regarding water withdrawal activities;
2. Coordinating state water resources information; and
3. Identifying watersheds at risk by refining the most recent analysis of watersheds at risk performed by the . . . Maine Geological Survey, including:
    a) Conducting appropriate water resources investigations in watersheds at risk;
    b) Considering projected increased water use by population, agricultural irrigation, commercial users, industrial users and other users;
    c) Considering seasonal use;
    d) Considering potential effects of climate change;
    e) Considering the effects of anticipated future water quality classification changes on the availability of water for withdrawal;
    f) In establishing priorities for further investigations, seeking input from the user community, from towns dealing with multimunicipal aquifers and from towns with significant local aquifers; and
    g) Developing guidelines for consistency in further investigations.

Summary of WRPC Goals

Review state policy with regard to:

1. Conservation of water resources;
2. Development of regional sources and solutions to water use issues;
3. Incentives for stewardship of water resources; and
4. Effects of surface water quality improvements on water withdrawal opportunities.

The committee shall provide guidance to municipalities and water districts and develop and disseminate educational materials on water resources and the regulatory regime.

A. The committee's membership must include, at a minimum:

(1) Personnel from:

(a) The Department of Agriculture, Conservation and Forestry, Bureau of Resource Information and Land Use Planning, Division of Geology, Natural Areas and Coastal Resources, Maine Geological Survey;

(b) The Department of Agriculture, Conservation and Forestry, Maine Agricultural Water Management Board;

(c) The Public Utilities Commission;

(d) The Department of Environmental Protection;

(e) The Maine Land Use Planning Commission; and

(f) The drinking water program of the Department of Health and Human Services; and

(2) Members of the public with expertise in:

(a) Agriculture;

(b) Public water utilities;

(c) Water bottling and the sale of bottled water;

(d) The use of water by private domestic well owners;

(e) The environment and conservation;

(f) The use of water by commercial entities;

(g) Water conservation education; and

(h) Stormwater management or wastewater management. [PL 2019, c. 67, §1 (NEW).]

Bills in the Maine Legislature

Second Session of the 130th Maine Legislature

-A couple bills carried over from last session, plus new PFAS legislation.

- LD 1569, “Resolve, Establishing the Commission To Study the Role of Water as a Resource in the State of Maine”
- LD 1911, “An Act To Prevent the Further Contamination of the Soils and Waters of the State with So-called Forever Chemicals”
- LD 2013, “An Act Relating to Perfluoroalkyl and Polyfluoroalkyl Substances Contamination in the State”

LD 1569

“Resolve, Establishing the Commission To Study the Role of Water as a Resource in the State of Maine” (Taxation)

- Originally an excise tax on bottled water
- Amended last session to create a commission to study water resources and extraction taxes
- Passed by the House, carried over by the Senate to this session
- No other action

LD 1911

"An Act To Prevent the Further Contamination of the Soils and Waters of the State with So-called Forever Chemicals"
(Environment and Natural Resources)

- Carried over from last session, then amended in committee
- Allows the DEP to require PFAS testing of wastewater discharges
- Outlaws spreading/sale of municipal or industrial wastewater sludge
- Landfill fees?

LD 2013

"An Act Relating to Perfluoroalkyl and Polyfluoroalkyl Substances Contamination in the State"
(Agriculture, Conservation, and Forestry)

- Establishes a $100 million fund and advisory committee within DACF to address PFAS contamination on agricultural land:
  - Health monitoring
  - Transferring contaminated land
  - Additional research and education
  - Long-term monitoring of contaminated sites, with central data repository

Updates from the Maine Geological Survey

Water Use Data

- Domestic water withdrawal data and population estimates

Maine Cooperative Snow Survey

- Flood and drought risks for this spring and summer

Domestic water use and population estimates

- Funded through USGS Water Use Data and Research (WUDR) Program

Goals:

- Improve the collection of public utility data from the PUC
- Improve estimates of population served by public water versus those who are self-supplied
- Develop per-capita water use rates

Public Utility Data

Worked with staff at the PUC to:

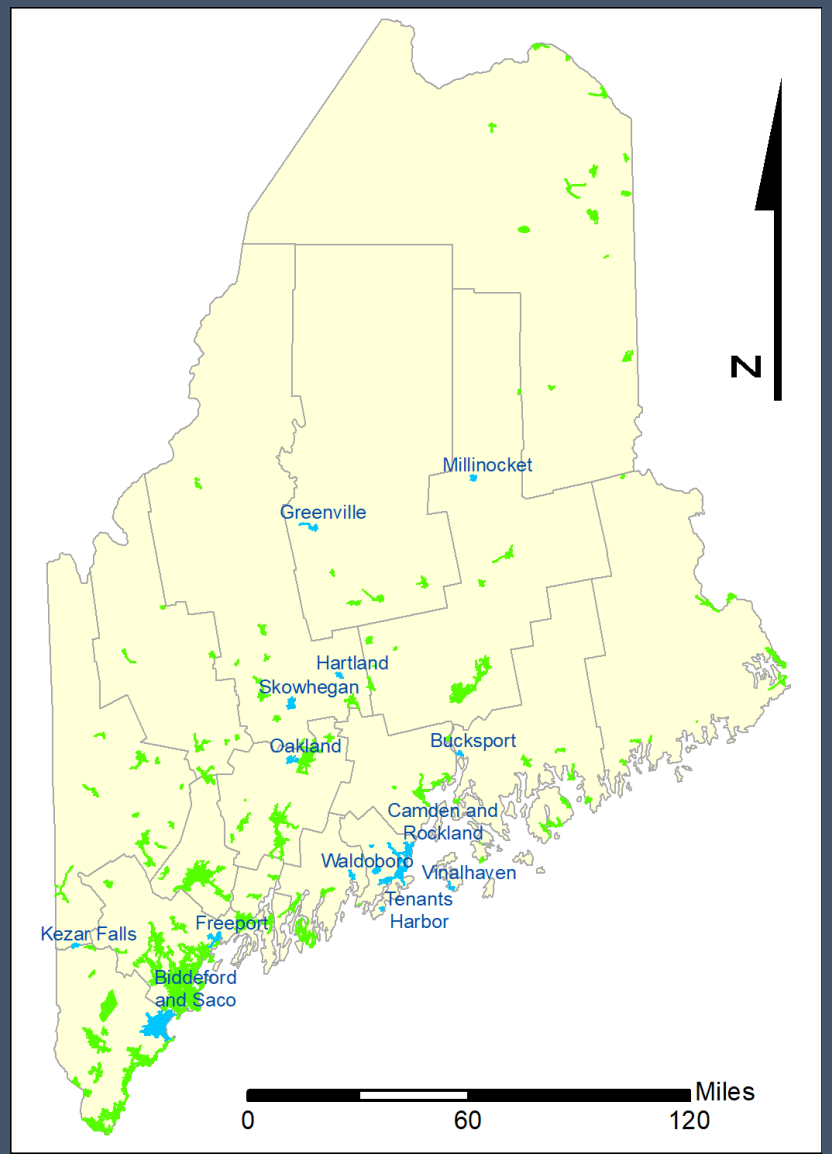
- Improve the annual report forms
- Batch download of filed reports
- New database tool to import and store data at MGS:
  - Total withdrawals
  - Residential volumes
  - Customer counts
  - Source information
  - etc.

WATER PRODUCTION AND CONSUMPTION

1. Show quantities of water produced and purchased and the quantities delivered to consumers and lost or unaccounted for during the year. Where estimates are used, the basis thereof should be set forth in a footnote.

Line Number	Month	Thousand Gallons Delivered to Mains				
		Purchased	Groundwater		Surface Water	
			By Pumping	By Gravity	By Pumping	By Gravity
	(a)	(b)	(c)	(d)	(e)	(f)
1	January					
2	February					
3	March					
4	April					
5	May					
6	June					
7	July					
8	August					
9	September					
10	October					
11	November					
12	December					
13	Totals	0	0	0	0	0
14						THOUSAND GALLONS
15	Total PRODUCTION WATER					0

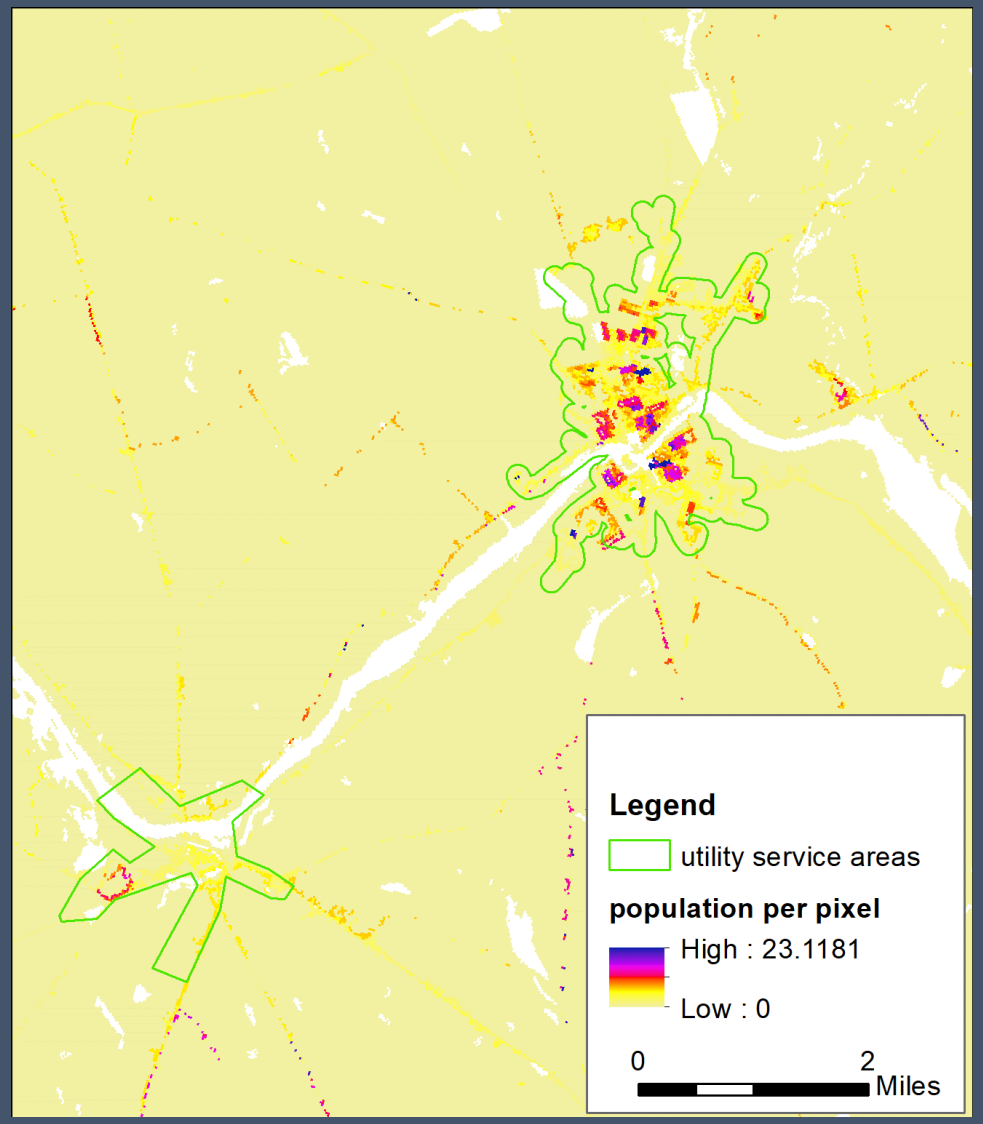
Population served estimates



Inputs:

- 131 utility service areas (green and blue)

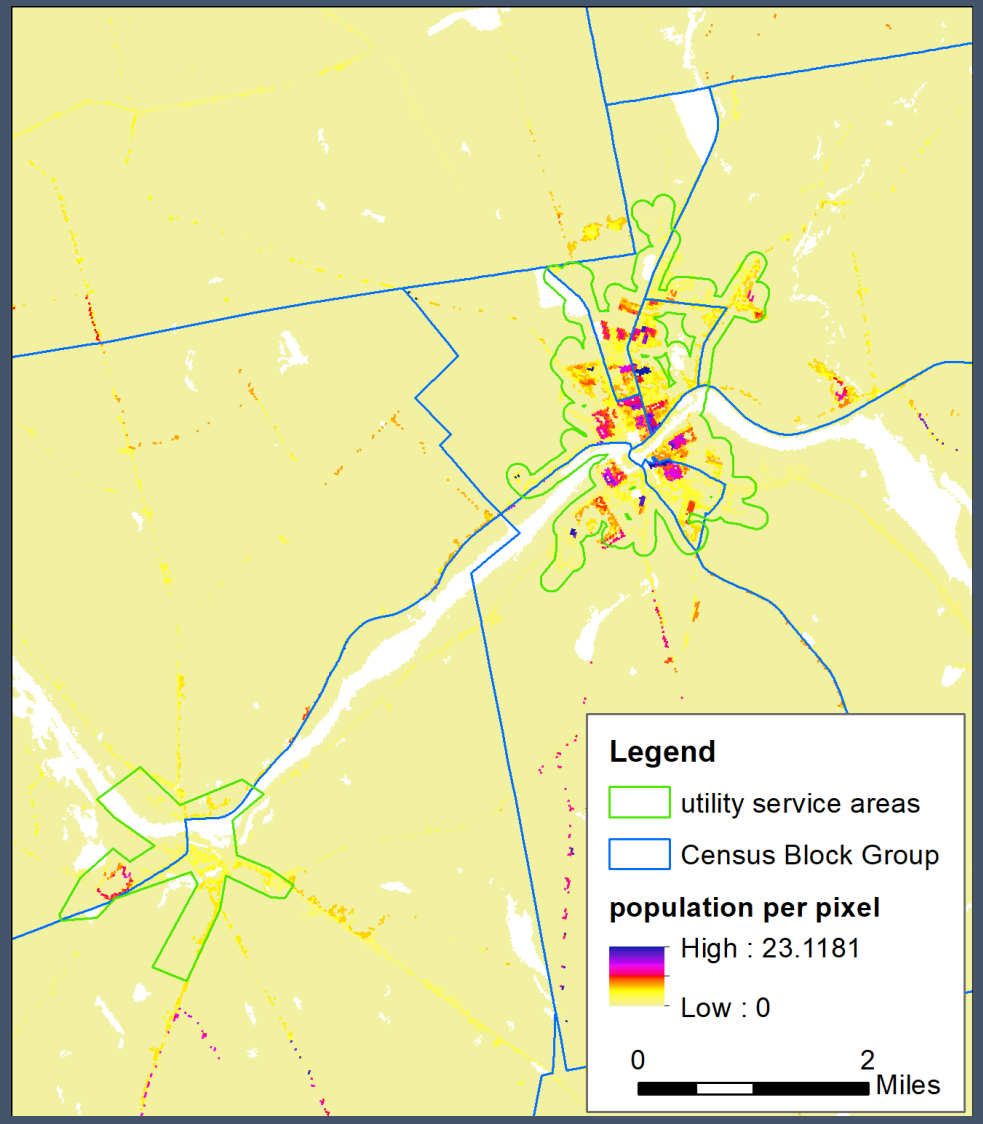
Population served estimates



Inputs:

- 131 utility service areas (green lines)
- Dasymetric population grid (modified from EPA using up-to-date Census data)

Population served estimates



Inputs:

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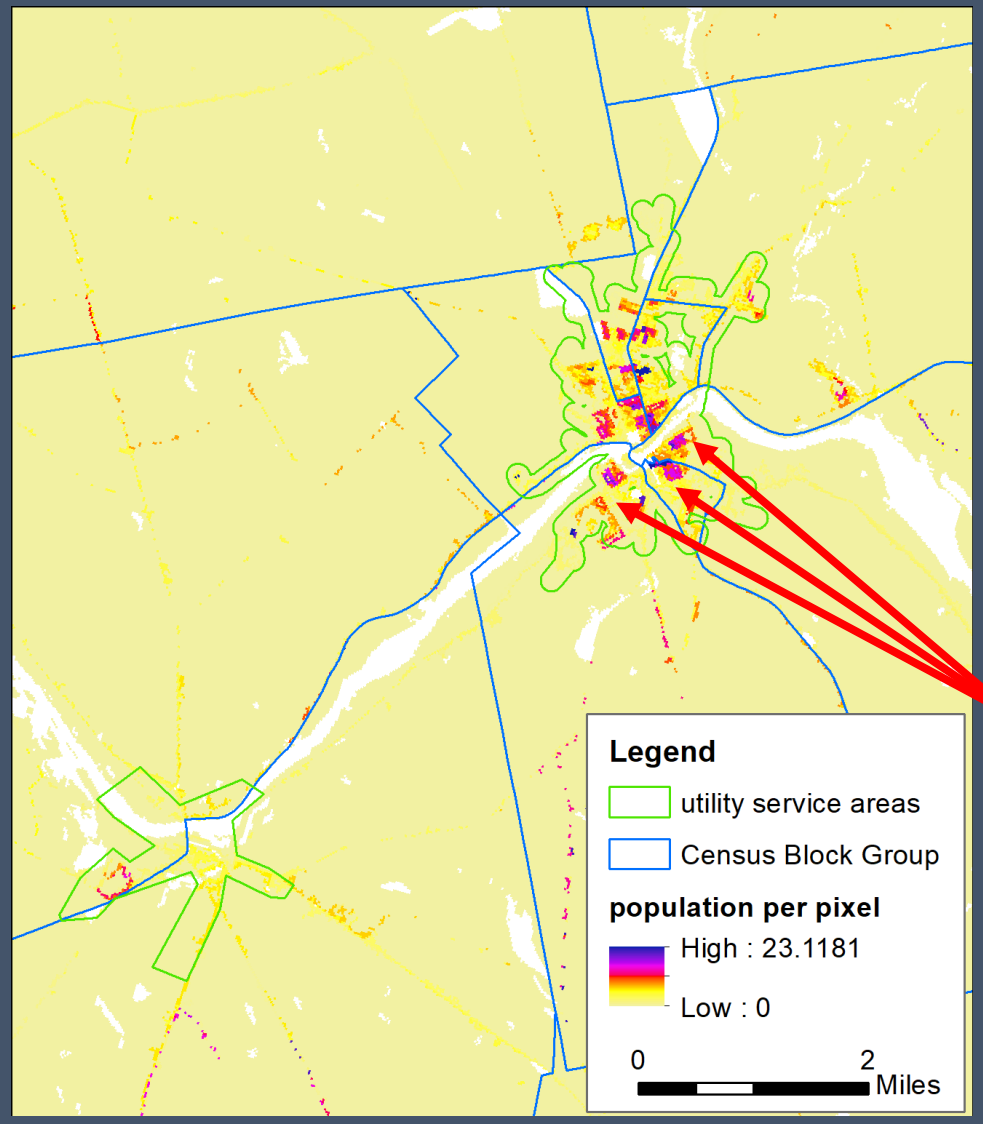
- Dasymetric population grid (modified from EPA using up-to-date Census data)
- Census block groups with ACS demographic data (blue lines)

Population served estimates



Inputs:

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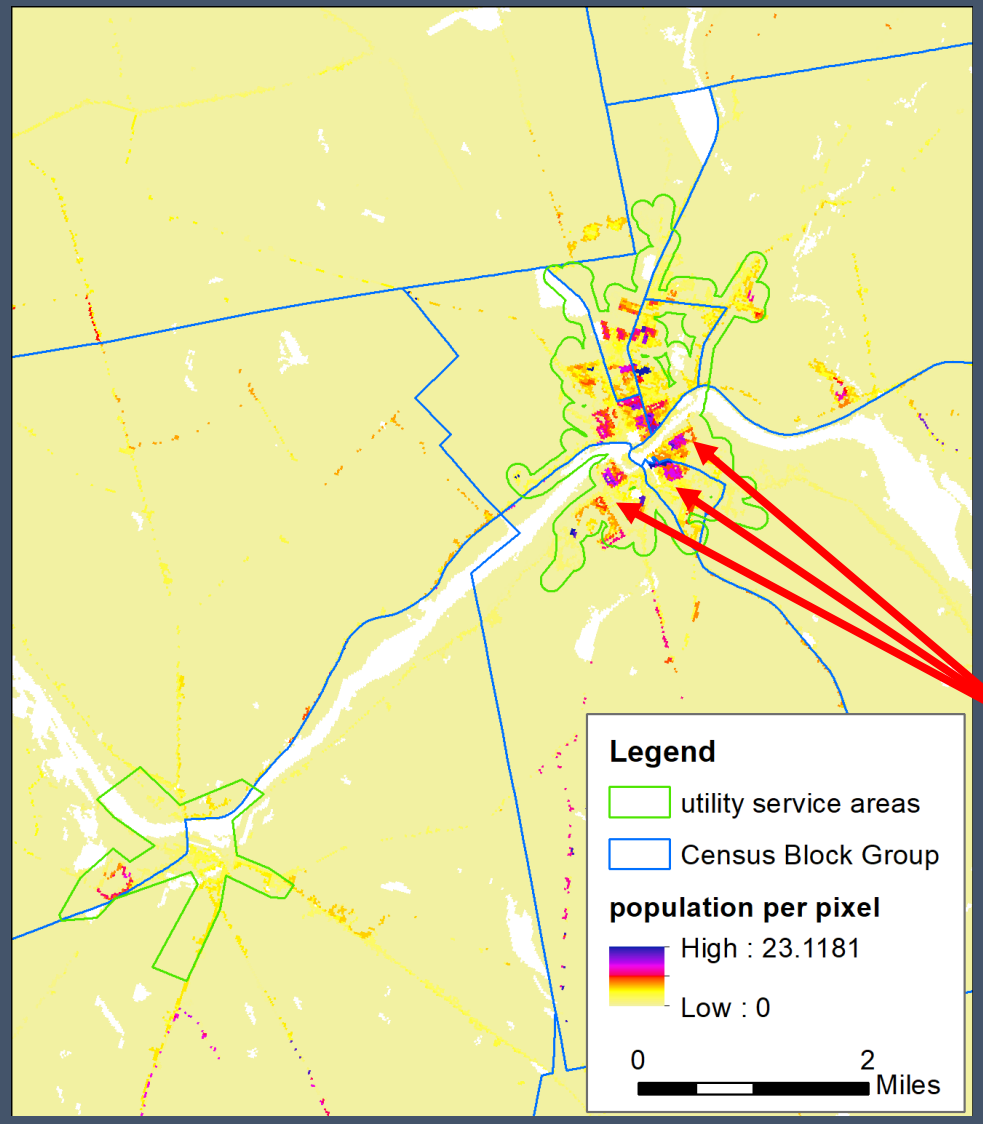
- Dasymetric population grid (modified from EPA using up-to-date Census data)
- Census block groups with ACS demographic data (blue lines)
- Intersection areas were weighted and summed

Population served estimates



Inputs:

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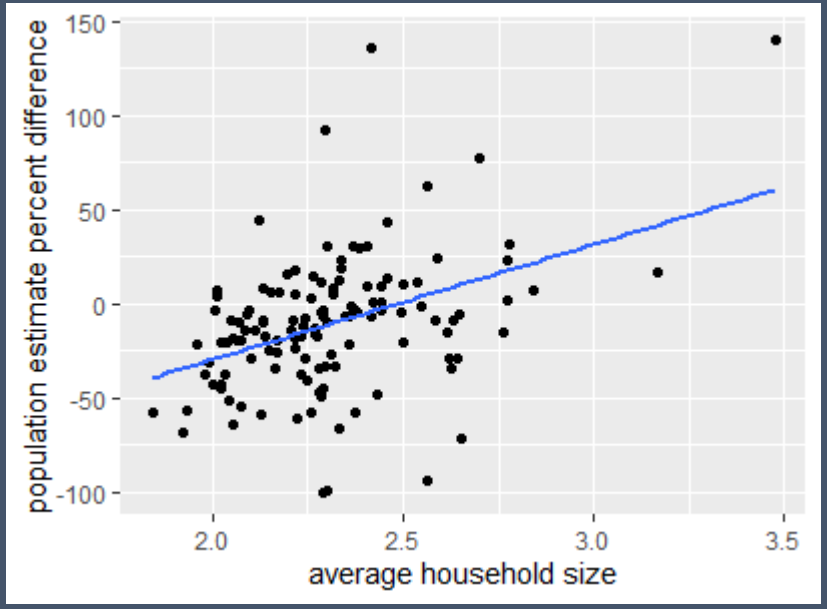
- Census block groups with ACS demographic data (blue lines)
- Intersection areas were weighted and summed

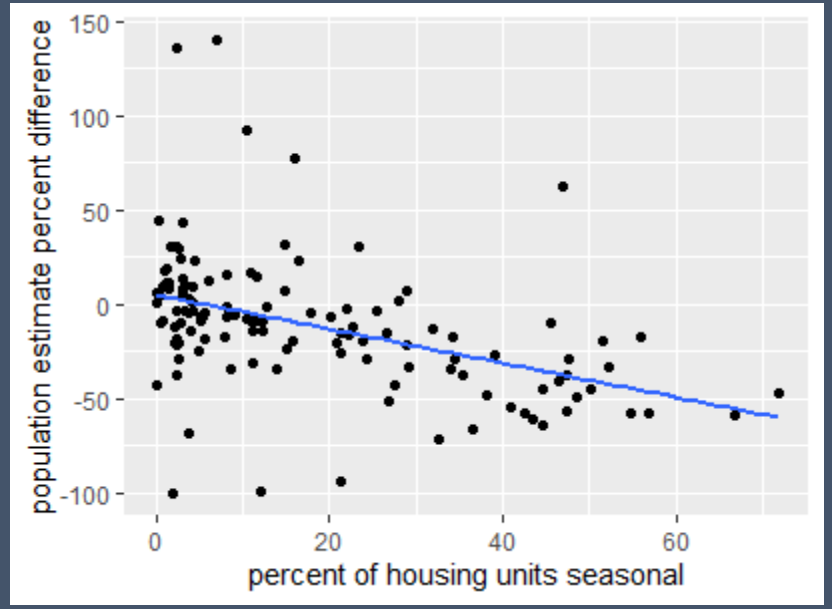
→ total population and weighted demographics for each utility

Comparing our estimates to utility estimates

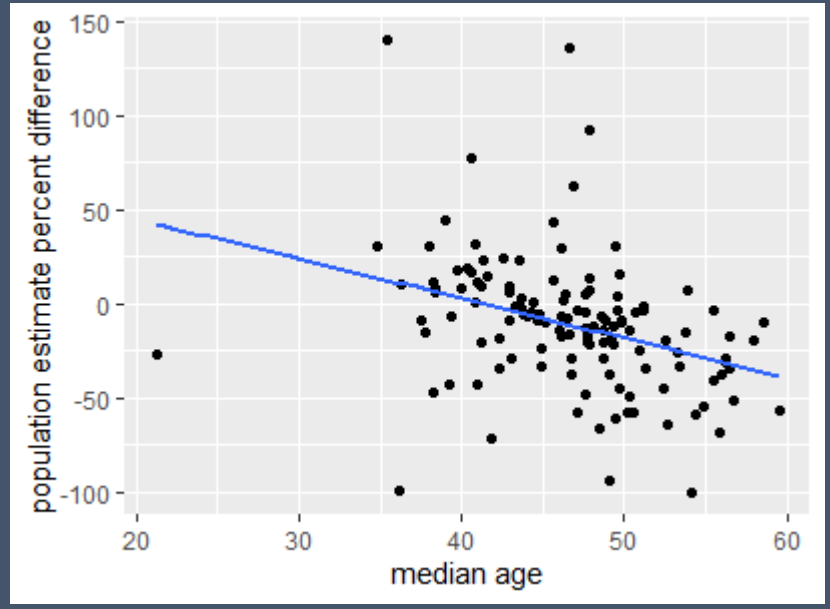
- Utilities estimate population by multiplying connections by a standard coefficient (x2.5)



Utilities under-estimate→



Utilities over-estimate→



Utilities over-estimate→

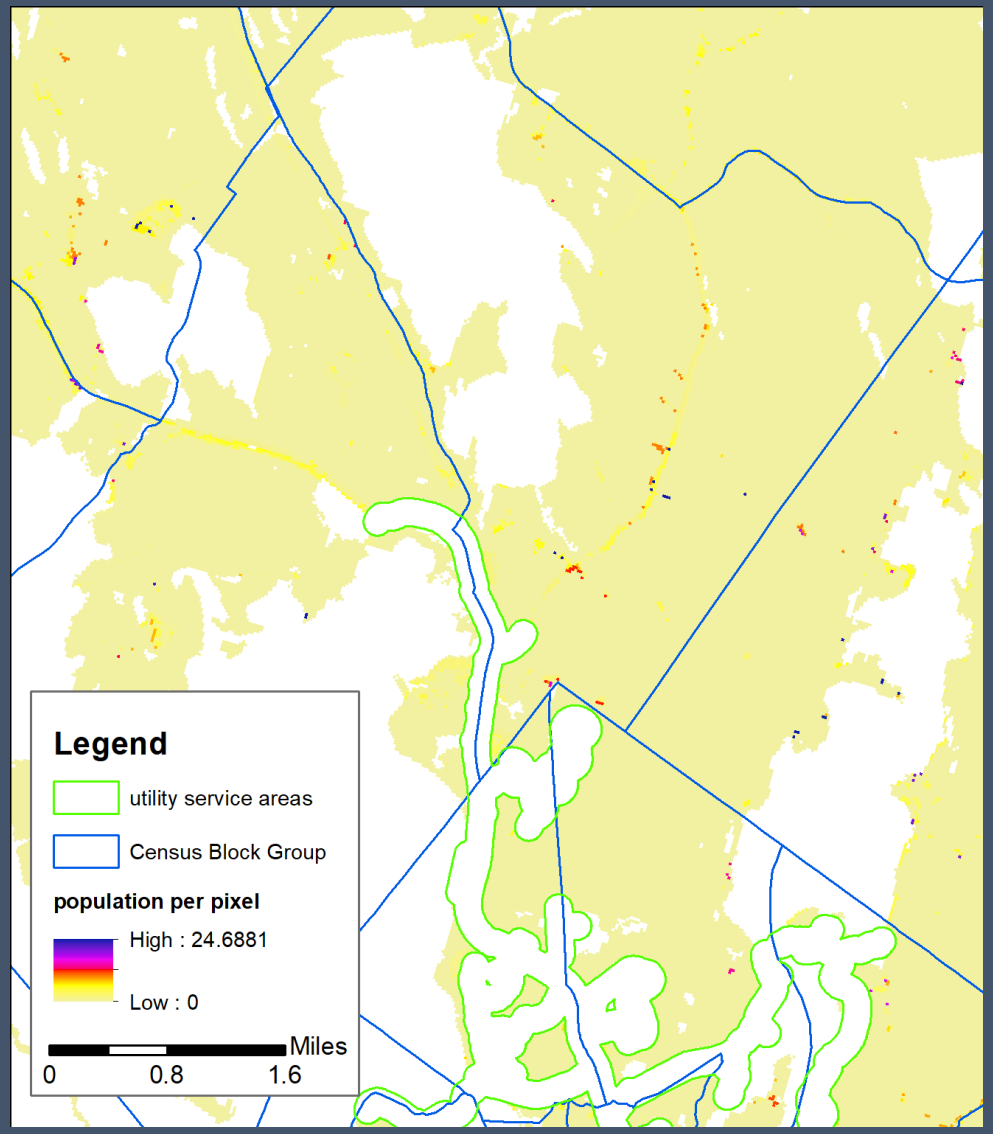
240 unmapped community water systems

- Small municipal systems with populations < 10,000
- Privately owned systems (institutional living, mobile home parks, etc.)

Used a regression analysis to estimate population using:

- Number of connections
- Demographic ACS data (average household size, percent seasonal, etc.)

Self-supplied population



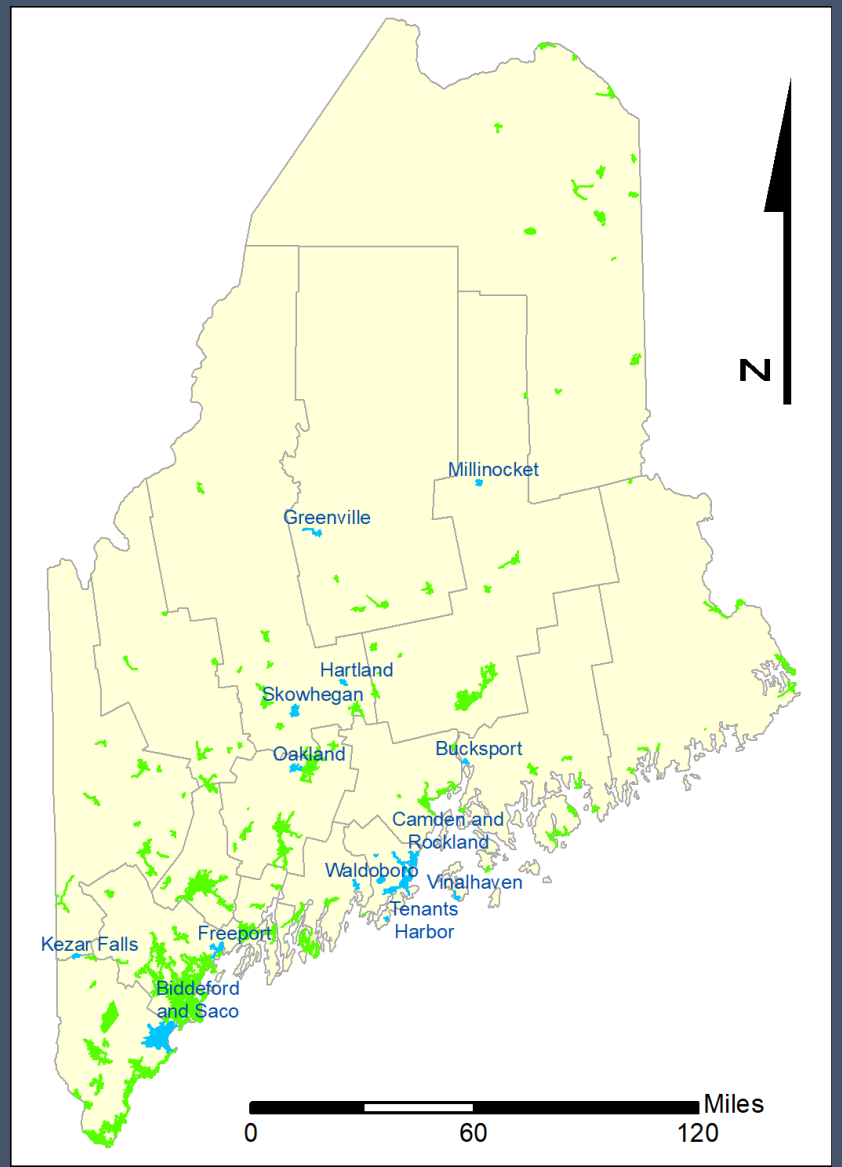
- Dasymetric population grid set to zero inside the utility service areas
- Values reduced uniformly in each Census area to account for people served by unmapped systems

→ 30-meter grid of the self-supplied population

Table 5. Population served by public water and population that is self-supplied in 2018, summarized by county. Total population is from the US Census county population estimate for 2018.

county	total population	self-supplied population	population served by public water
Androscoggin	107,914	40,116	67,798
Aroostook	67,318	38,987	28,331
Cumberland	293,673	90,124	203,549
Franklin	29,915	17,479	12,436
Hancock	54,734	42,750	11,984
Kennebec	122,044	69,655	52,389
Knox	39,717	20,478	19,239
Lincoln	34,399	25,729	8,670
Oxford	57,754	39,679	18,075
Penobscot	151,817	77,387	74,430
Piscataquis	16,746	9,620	7,126
Sagadahoc	35,690	19,677	16,013
Somerset	50,489	30,548	19,941
Waldo	39,657	32,213	7,444
Washington	31,321	22,907	8,414
York	205,869	89,422	116,447
Maine	1,339,057	666,772	672,285

Per-capita water use



Detailed analysis of billing data from 13 districts of Maine Water Company (blue):

- Found seasonal patterns of use
- No significant demographic correlations (*when using our population estimates*)

For all 131 mapped districts (green and blue):

	gallons of water per person per day							
usage type	residential usage				total utility withdrawal			
year	2015	2017	2018	three years	2015	2017	2018	three years
n	54	55	46	155	106	104	73	283
mean	48.7	50.1	49.1	49.3	126	133	134	131
median	47.7	47.5	46.3	47.4	117	115	114	115

Table 10. Best estimates of 2018 annual residential water use by self-supplied households, residential water delivered via community water systems, and total system withdrawal volumes for community water systems, in thousand gallons, by county.

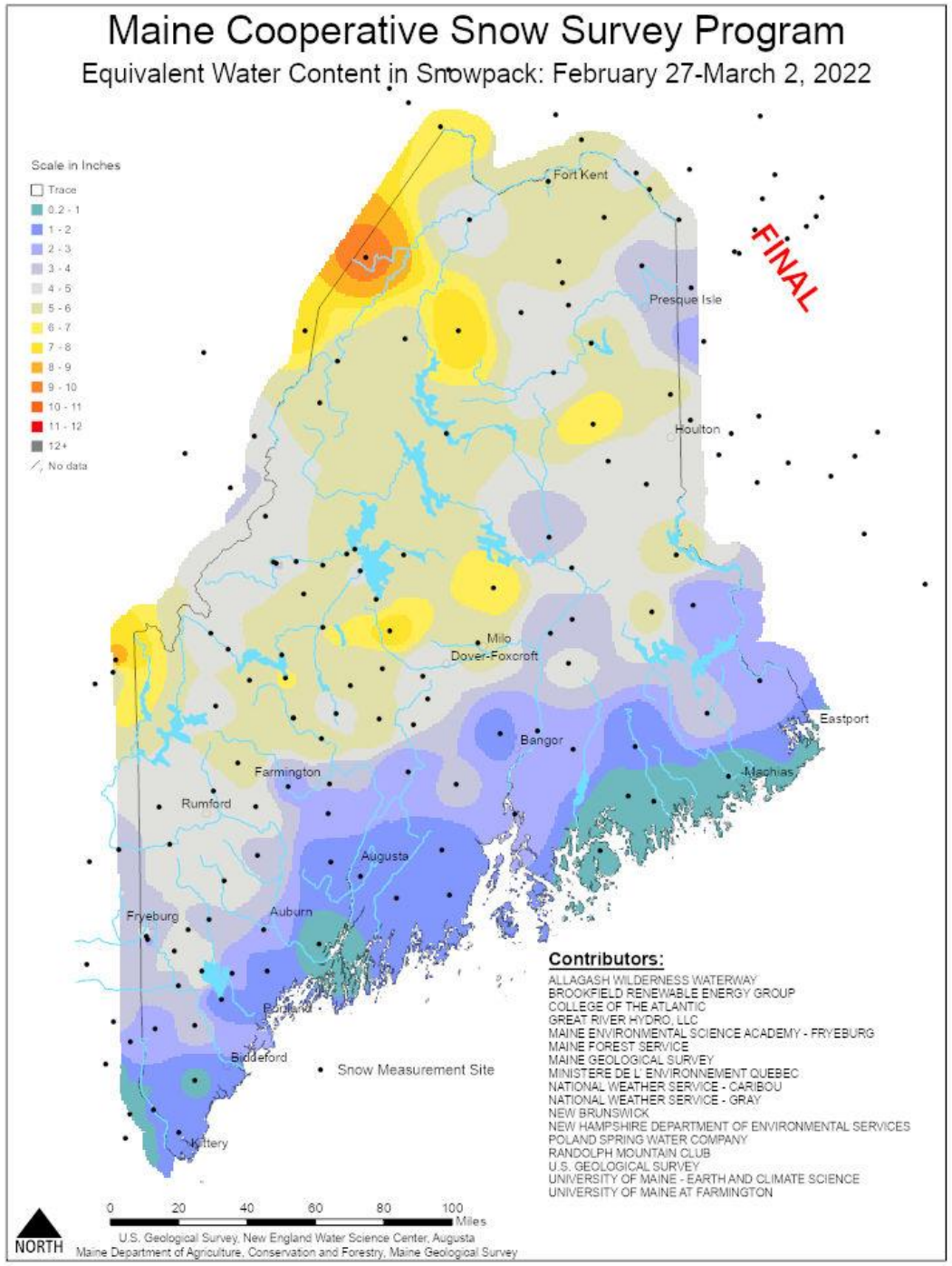
county	self-supplied residential water use	community water systems	
		residential water use	total system withdrawals
Androscoggin	718,290	1,122,394	3,129,180
Aroostook	698,081	424,620	1,572,925
Cumberland	1,613,703	4,030,477	9,333,287
Franklin	312,975	217,546	589,180
Hancock	765,455	242,864	927,264
Kennebec	1,247,202	1,034,815	2,491,682
Knox	366,662	314,993	1,156,866
Lincoln	460,686	153,955	330,282
Oxford	710,458	385,435	824,838
Penobscot	1,385,640	1,251,968	3,138,002
Piscataquis	172,253	110,308	307,664
Sagadahoc	352,329	214,720	601,000
Somerset	546,975	301,648	699,566
Waldo	576,788	133,643	394,116
Washington	410,166	155,857	487,904
York	1,601,130	2,623,702	5,061,864
Maine	11,938,795	12,718,944	31,045,619

Maine Cooperative Snow Survey

https://www.maine.gov/dacf/mgs/hazards/snow_survey/

2022 Survey schedule

- First week of January (Jan 2-5)
- First week of February (Jan 30-Feb 2)
- First week of March (Feb 27-March 2)
- and each week thereafter.


Maine Cooperative Snow Survey Program
Equivalent Water Content in Snowpack: February 27-March 2, 2022
Scale in Inches
Trace
0.2 - 1
1 - 2
2 - 3
3 - 4
4 - 5
5 - 6
6 - 7
7 - 8
8 - 9
9 - 10
10 - 11
11 - 12
12+
No data
FINAL
Fort Kent
Presque Isle
Houlton
Milo
Dover-Foxcroft
Bangor
Eastport
Machias
Farmington
Rumford
Augusta
Fryeburg
Auburn
Portland
Biddeford
Kittery
Snow Measurement Site
Contributors:
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RANDOLPH MOUNTAIN CLUB
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UNIVERSITY OF MAINE - EARTH AND CLIMATE SCIENCE
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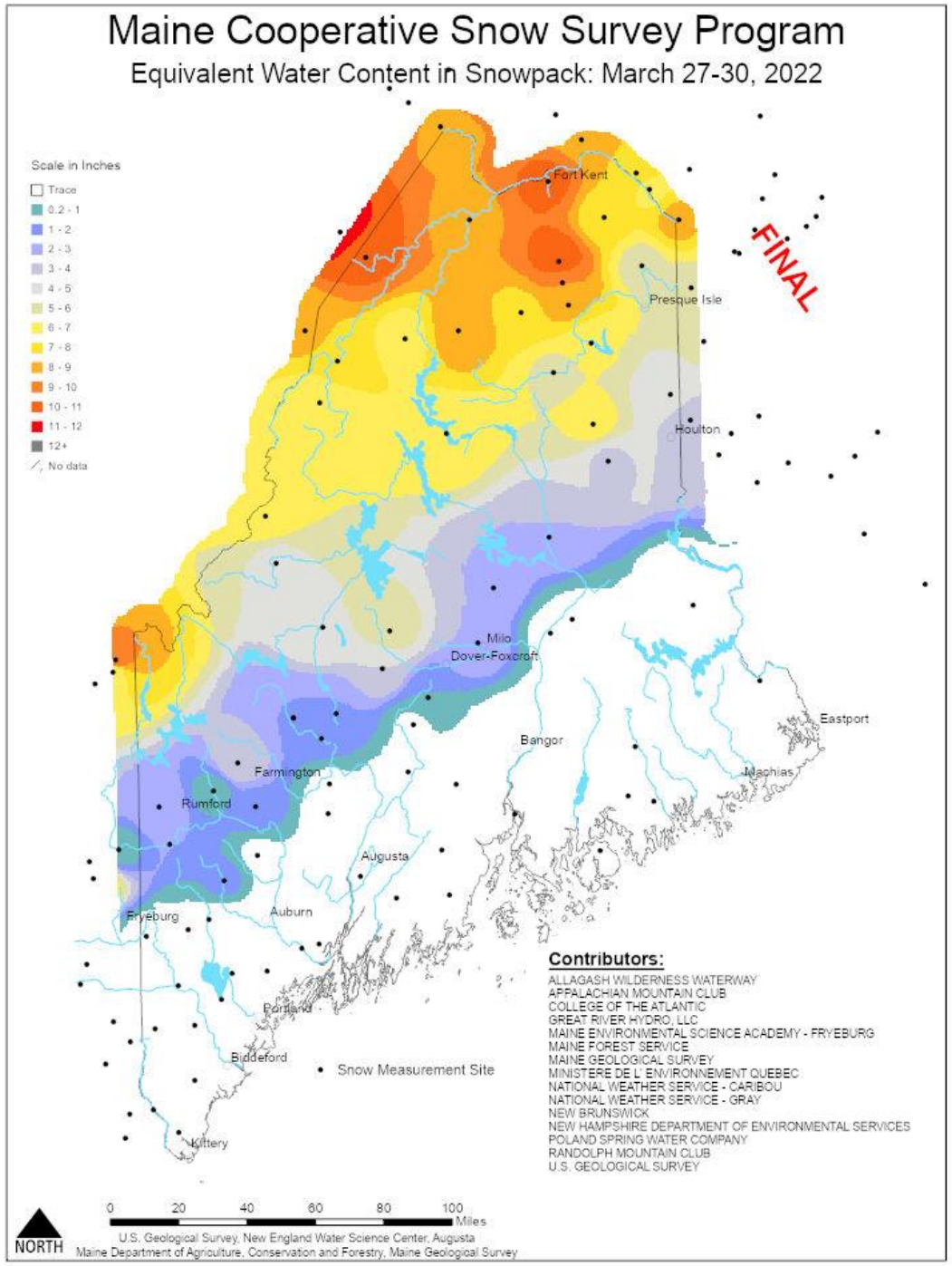
U.S. Geological Survey, New England Water Science Center, Augusta
Maine Department of Agriculture, Conservation and Forestry, Maine Geological Survey


Maine Cooperative Snow Survey Program
Equivalent Water Content in Snowpack: March 27-30, 2022
Scale in Inches
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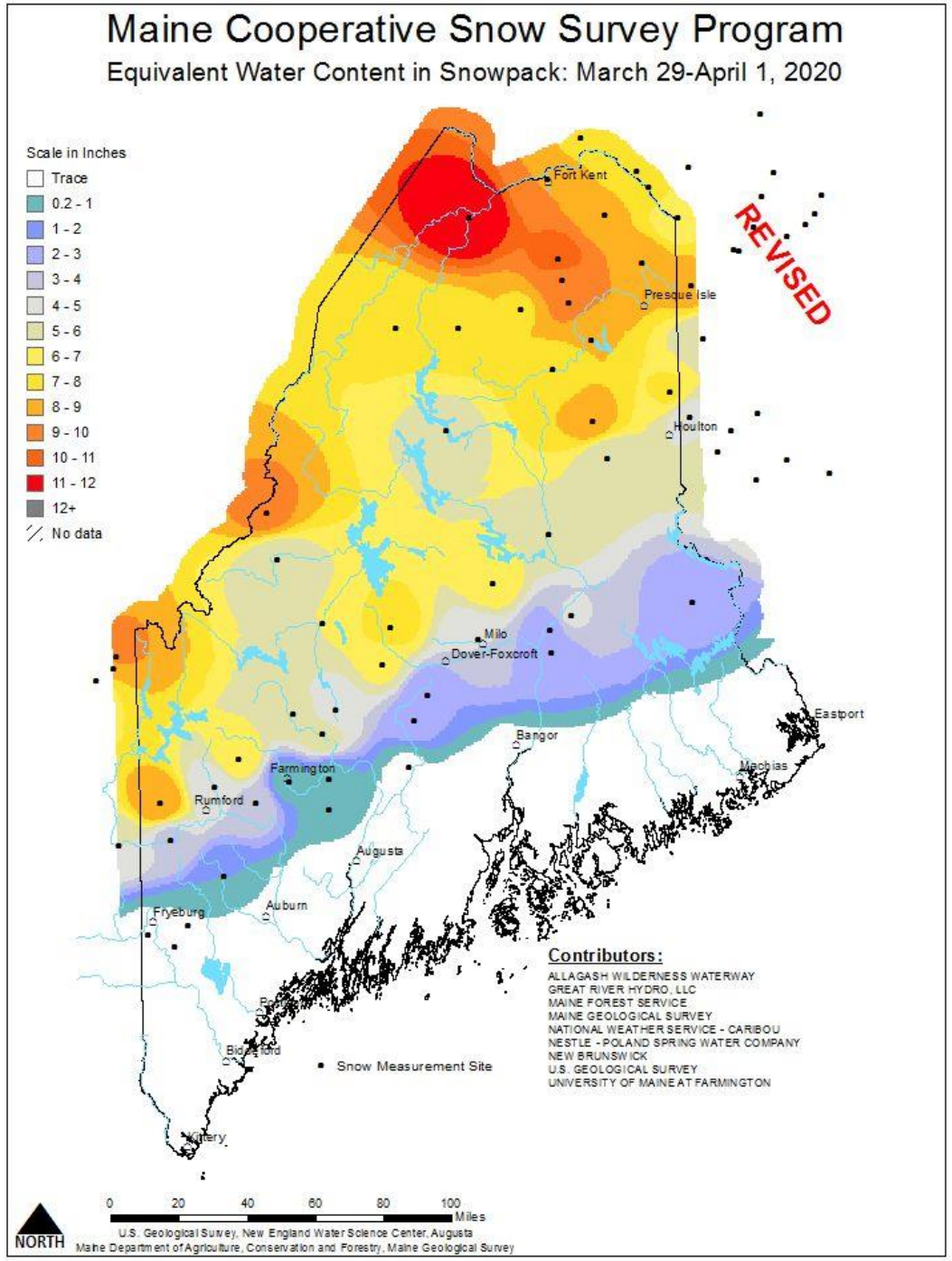
Maine Cooperative Snow Survey Program
Equivalent Water Content in Snowpack: March 29-April 1, 2020
REVISED
Scale in Inches
Trace
0.2 - 1
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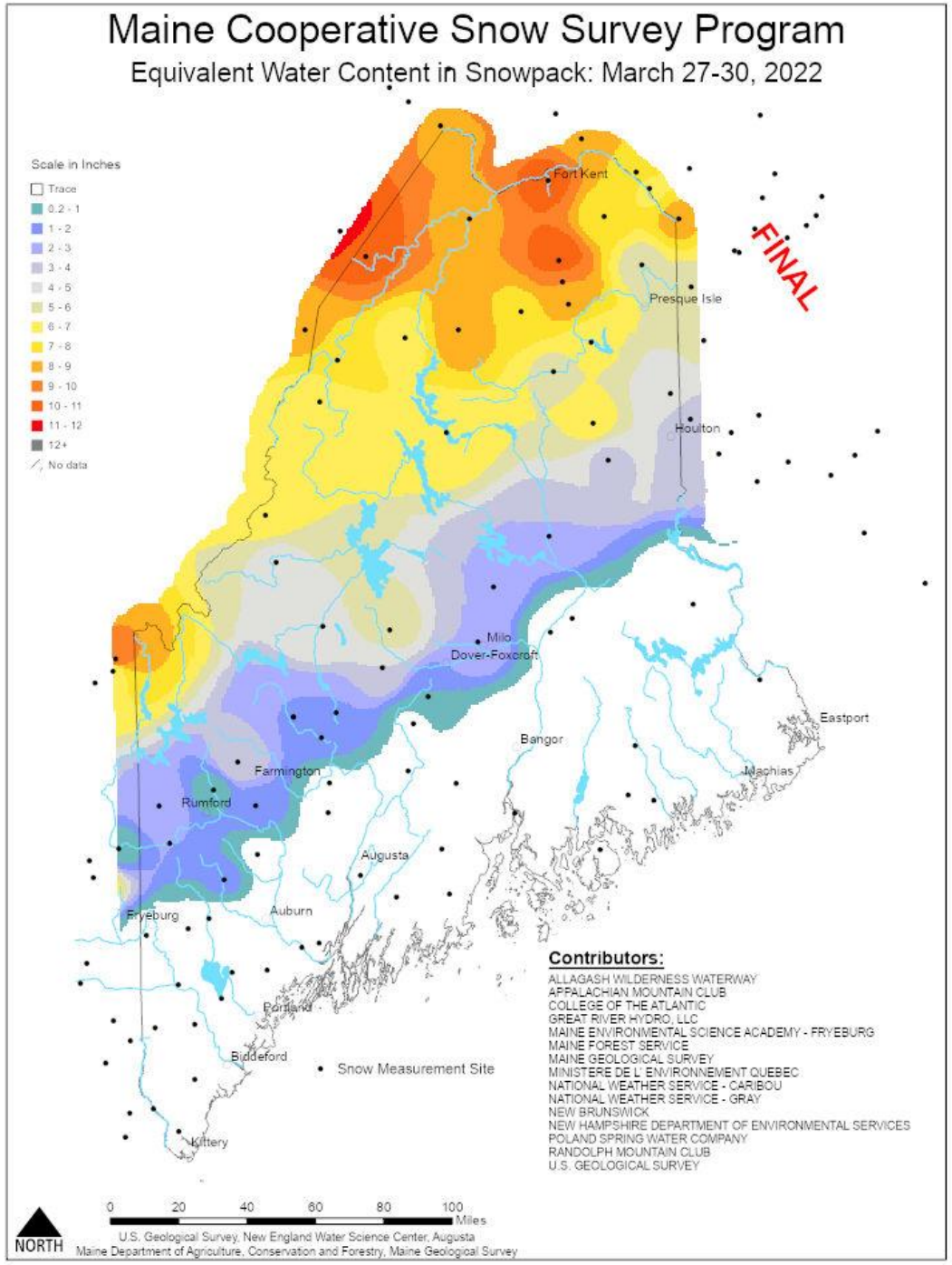
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Equivalent Water Content in Snowpack: March 27-30, 2022
FINAL
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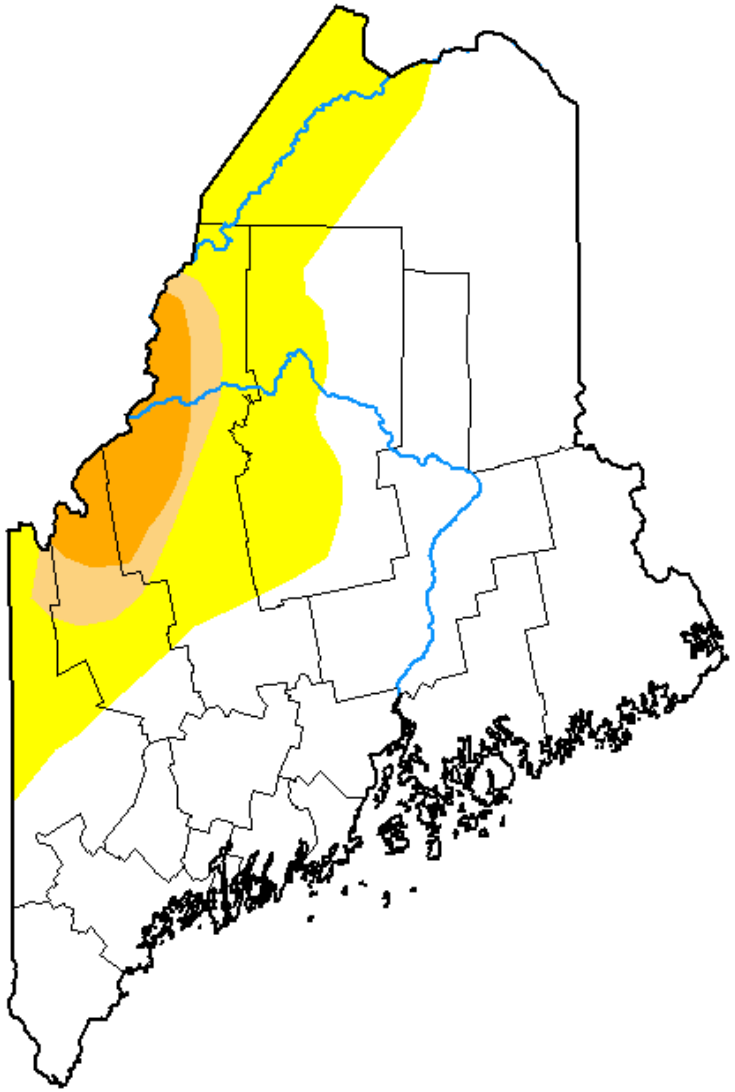
U.S. Drought Monitor

Maine



March 29, 2022

(Released Thursday, Mar. 31, 2022)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	69.40	30.60	7.46	4.22	0.00	0.00
Last Week *03-22-2022*	64.43	35.57	7.46	4.22	0.00	0.00
3 Months Ago *12-28-2021*	72.42	27.58	11.82	5.32	0.00	0.00
Start of Calendar Year *01-04-2022*	72.42	27.58	11.82	5.32	0.00	0.00
Start of Water Year *09-28-2021*	66.54	33.46	15.50	4.85	0.00	0.00
One Year Ago *03-30-2021*	86.32	13.68	0.00	0.00	0.00	0.00

Intensity:

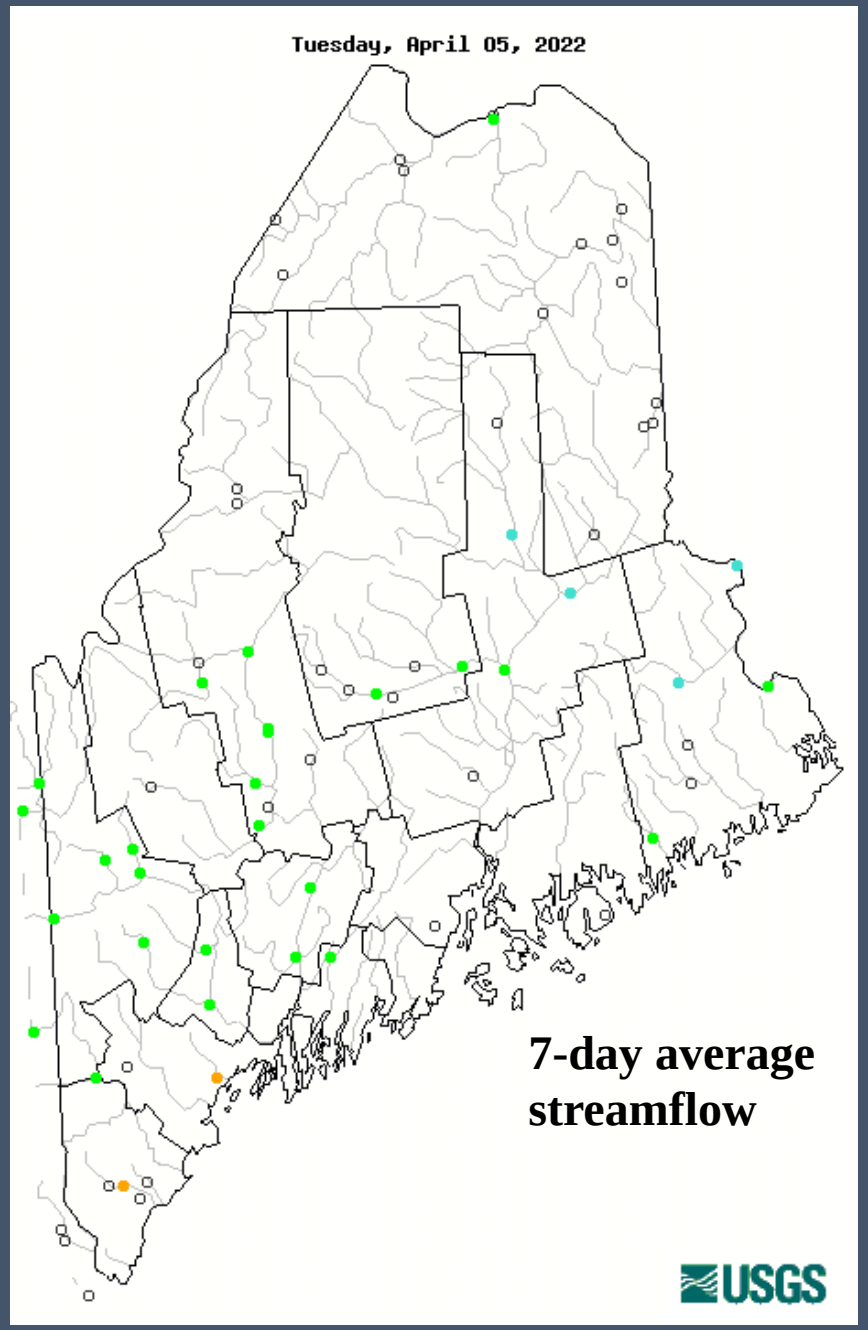
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

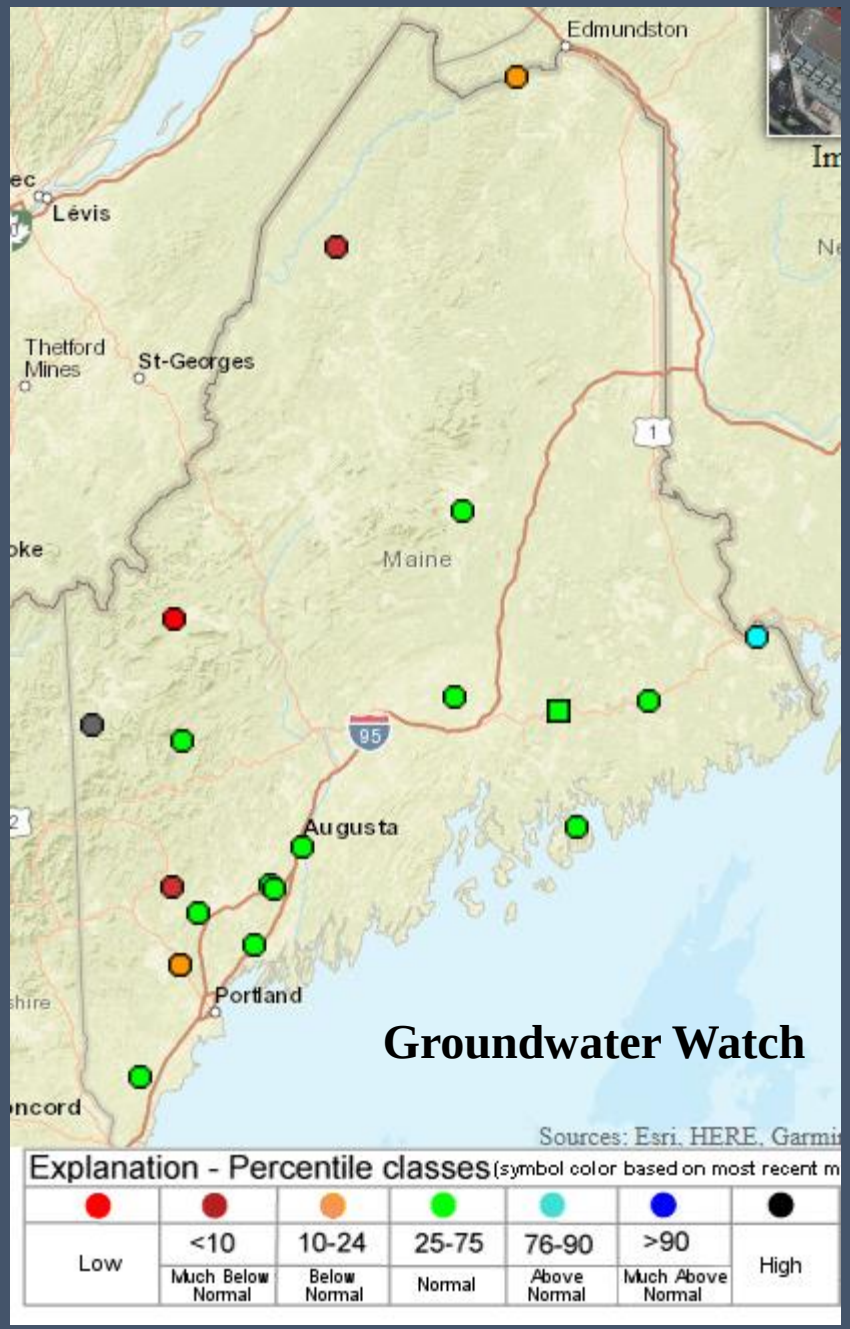
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

Deborah Bathke
National Drought Mitigation Center

droughtmonitor.unl.edu


Tuesday, April 05, 2022
7-day average streamflow
USGS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Lévis
Thetford Mines
St-Georges
Maine
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Portland
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1
Groundwater Watch
Sources: Esri, HERE, Garmin
Explanation - Percentile classes (symbol color based on most recent m
Low
<10
Much Below Normal
10-24
Below Normal
25-75
Normal
76-90
Above Normal
>90
Much Above Normal
High