

Streamflow and Groundwater Conditions in Massachusetts (Cape Cod and the Islands)

Massachusetts Drought Task Force Meeting

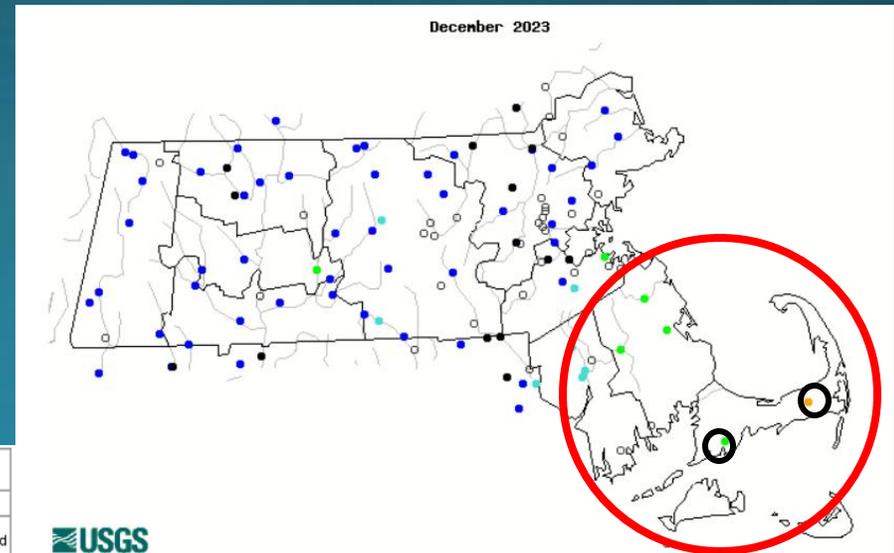
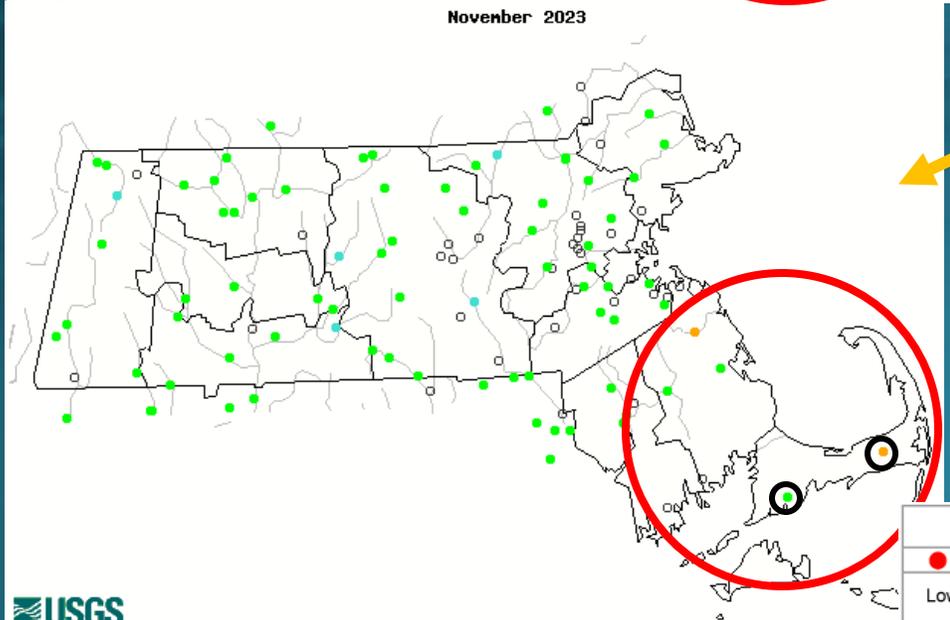
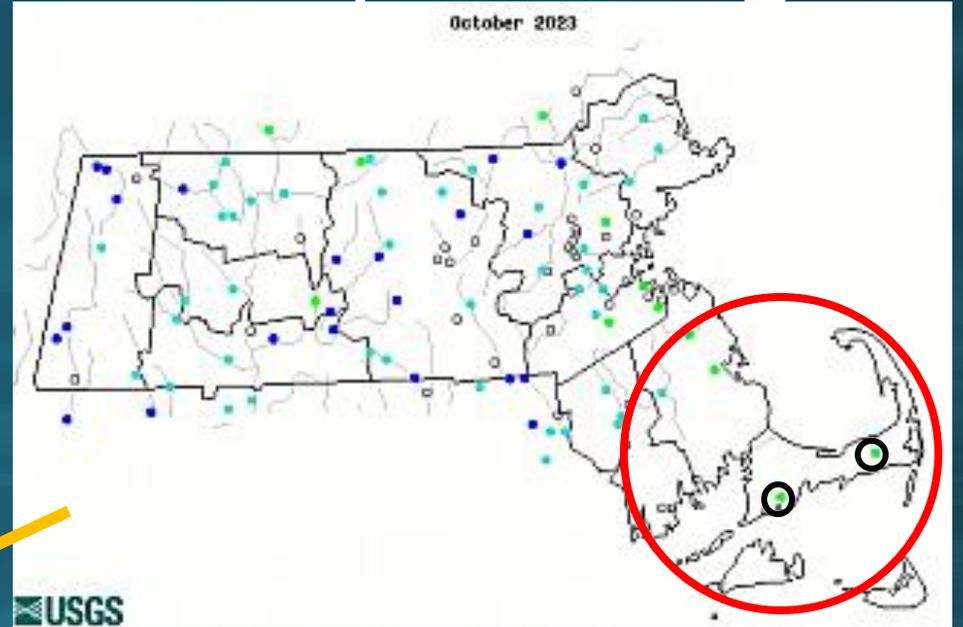
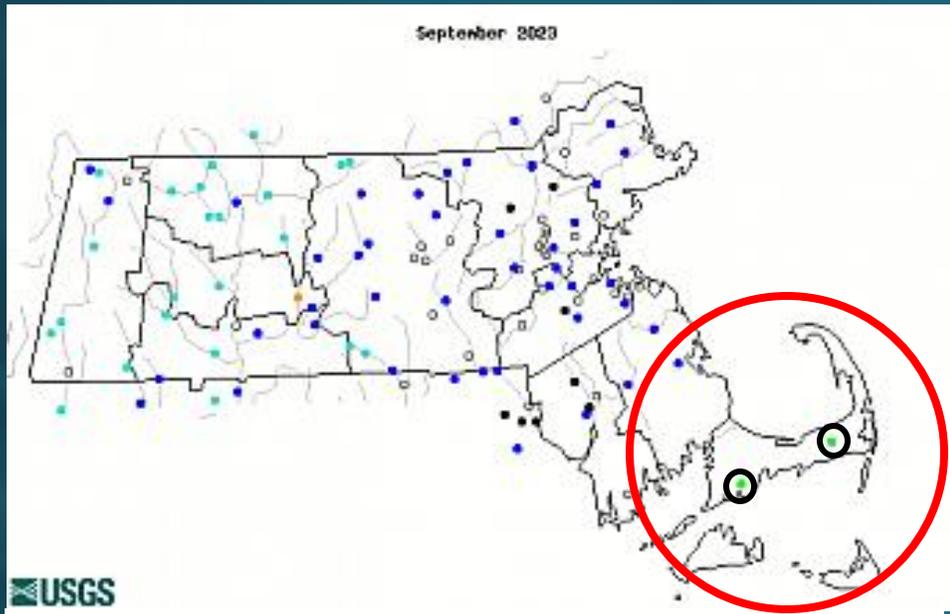
January 9, 2024

U.S. Geological Survey

New England Water Science Center



Streamflow Conditions – Monthly Average



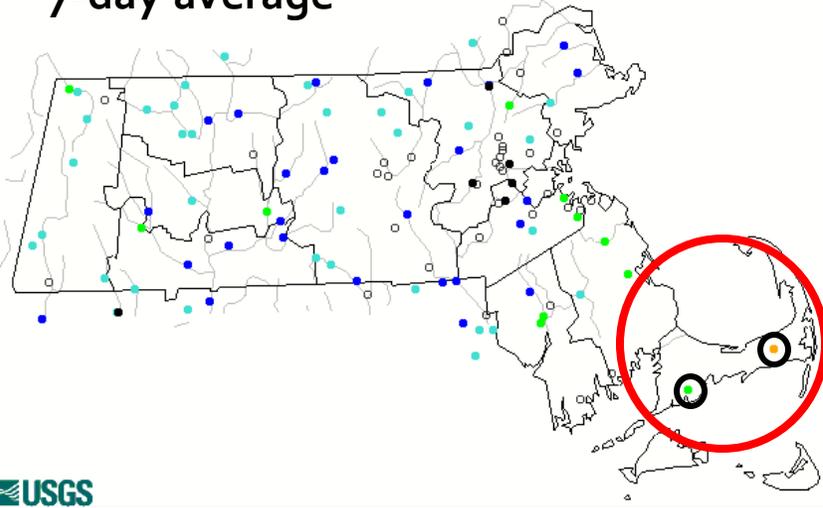
Explanation - Percentile classes

●	●	●	●	●	●	●	○
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Streamflow Conditions 7-, 14-, and 28-Day Average

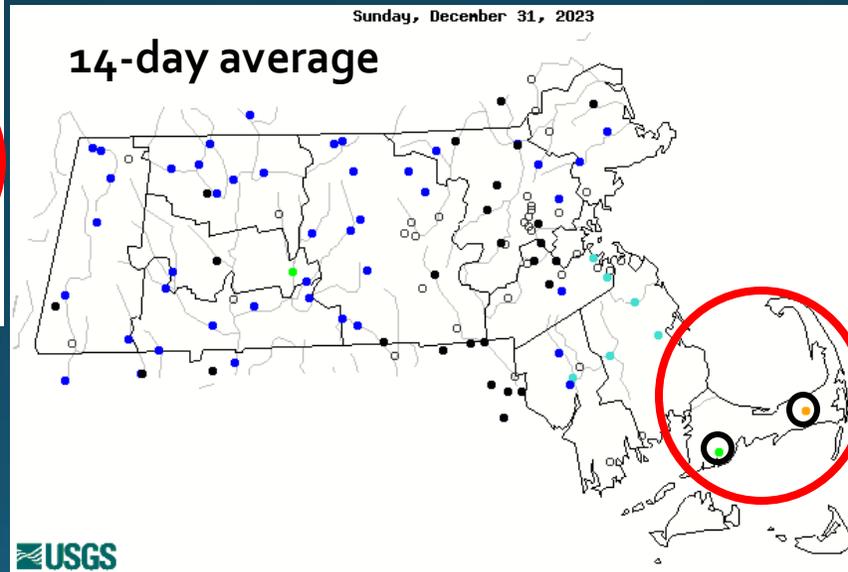
Sunday, December 31, 2023

7-day average



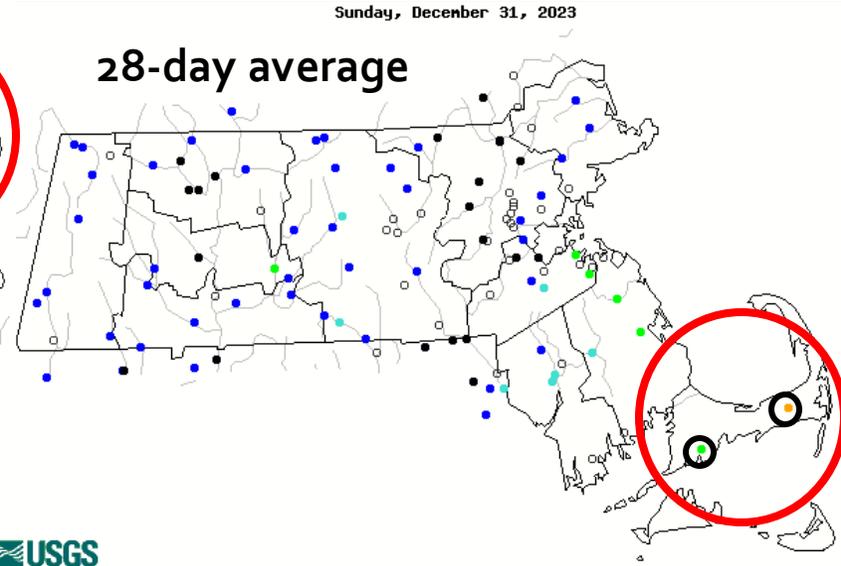
Sunday, December 31, 2023

14-day average



Sunday, December 31, 2023

28-day average



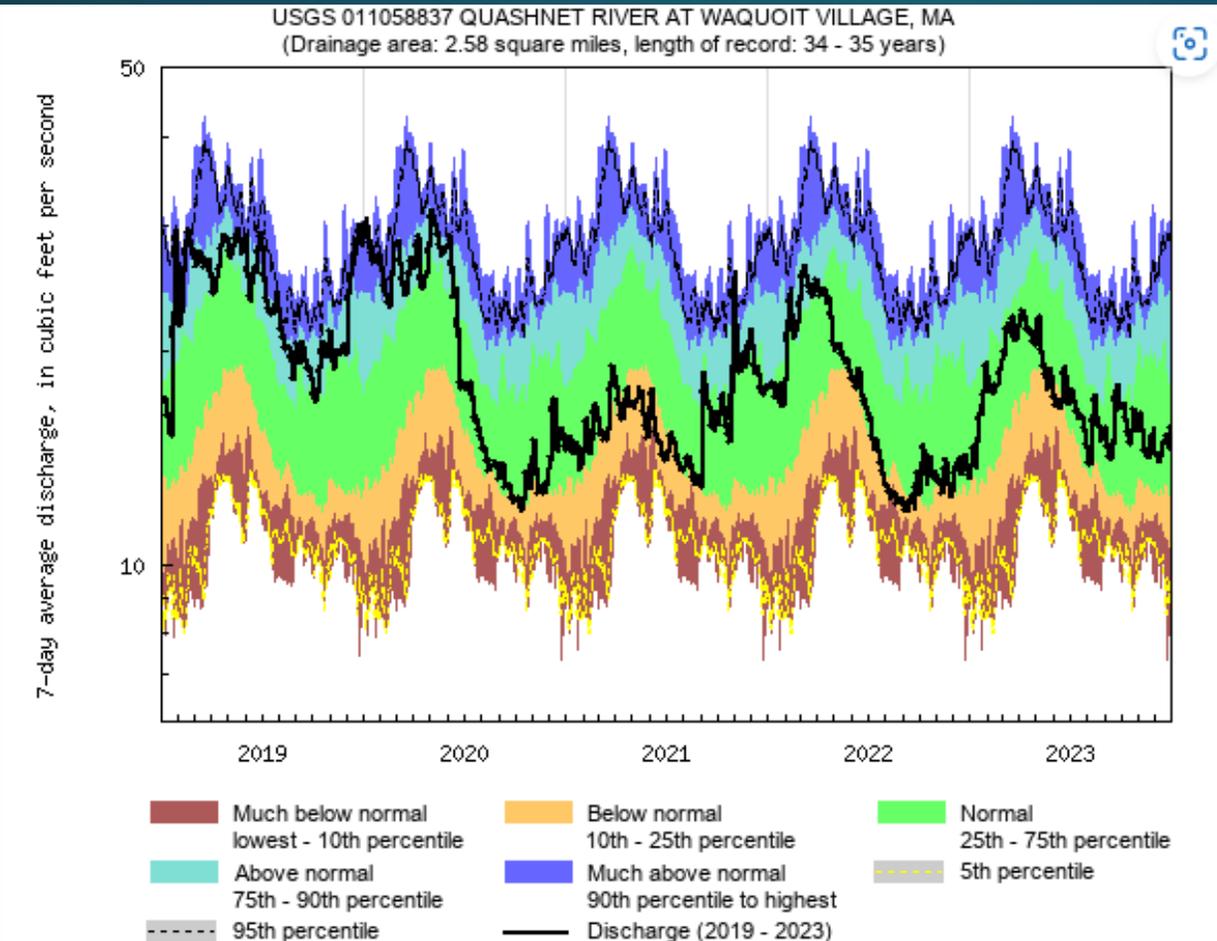
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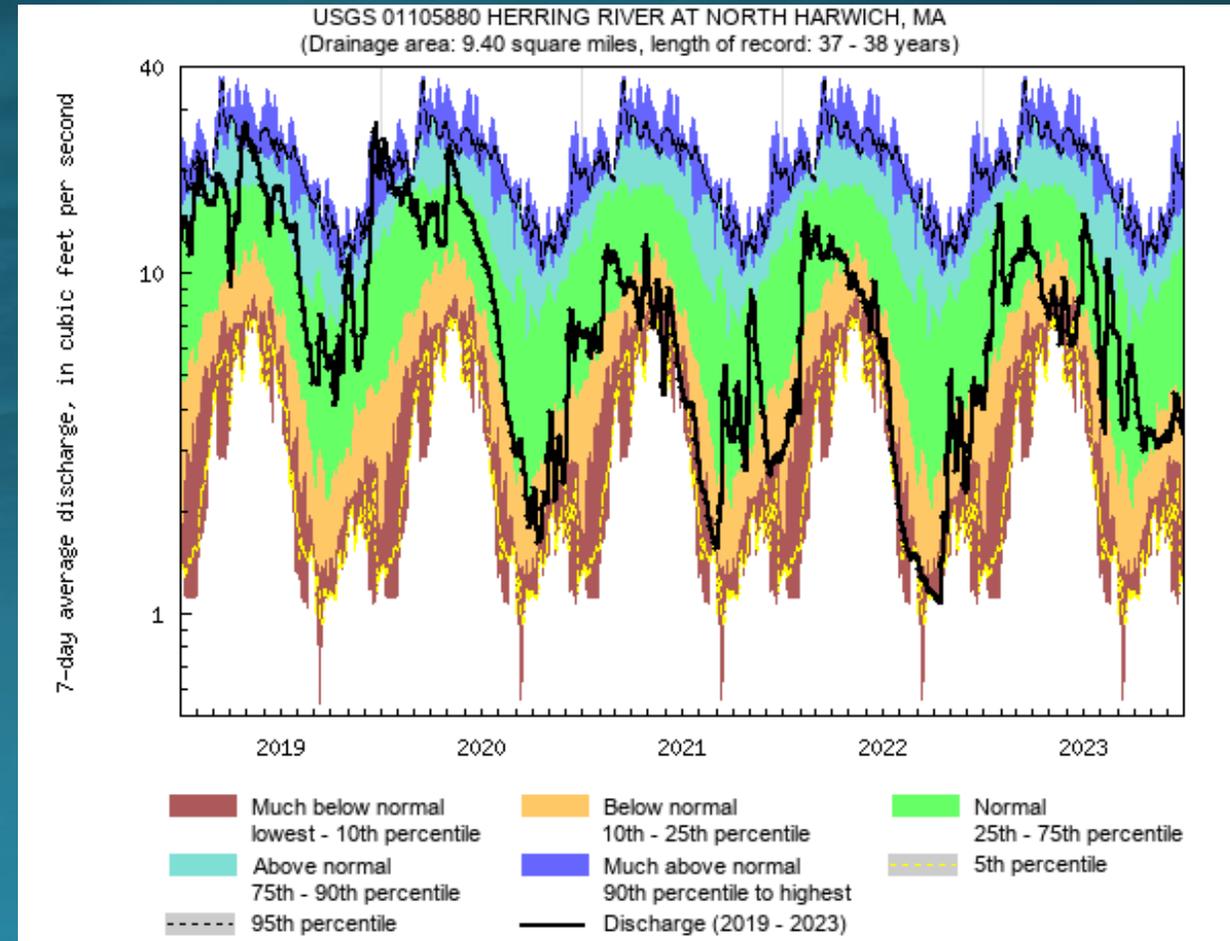
USGS

Cape Cod Region 7-Day Average 5-year period (2019-23)

Western Part of Cape Cod Region



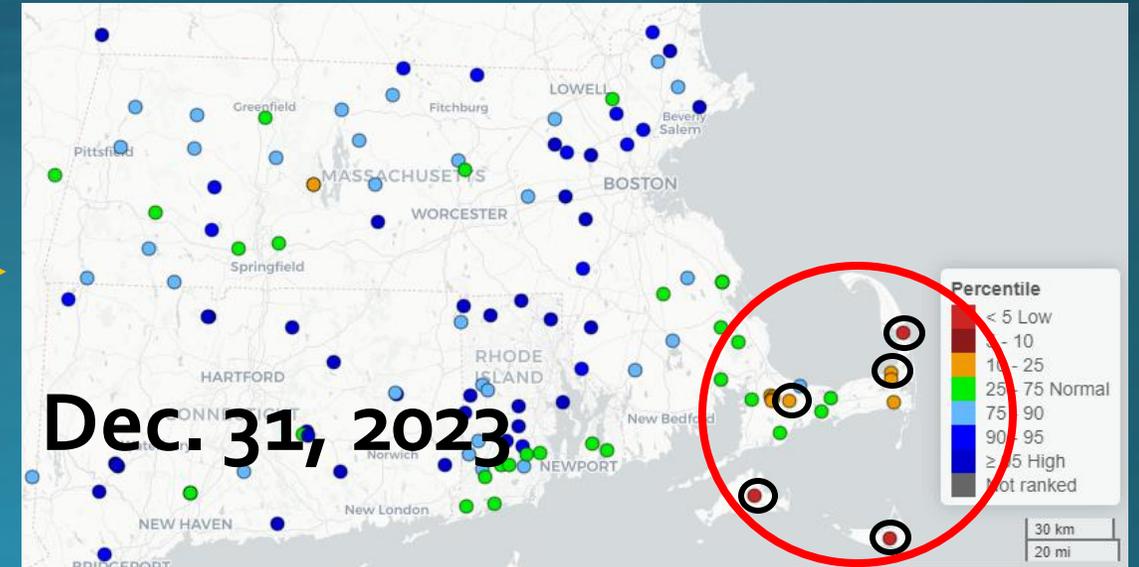
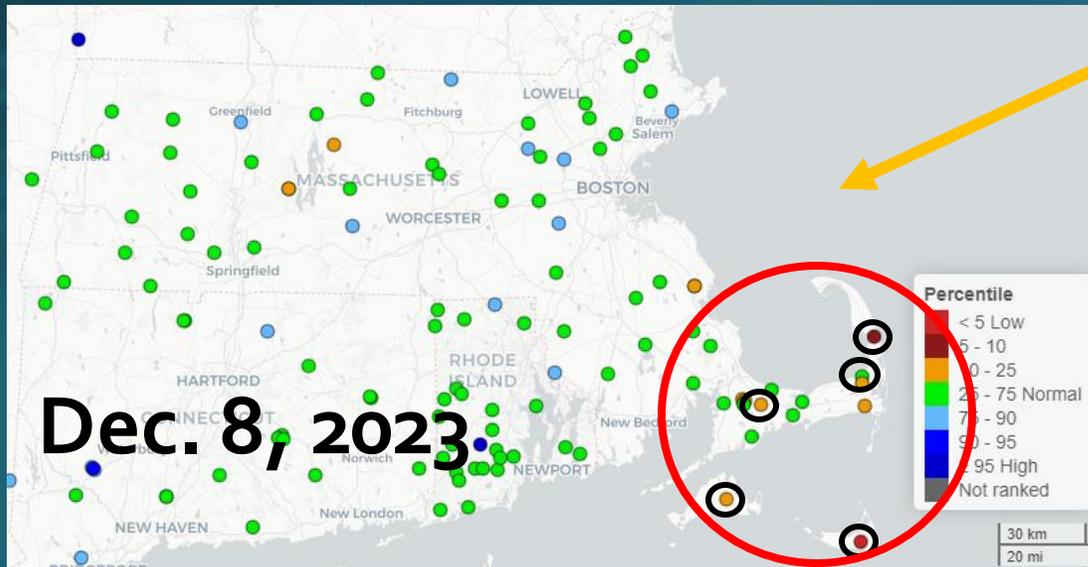
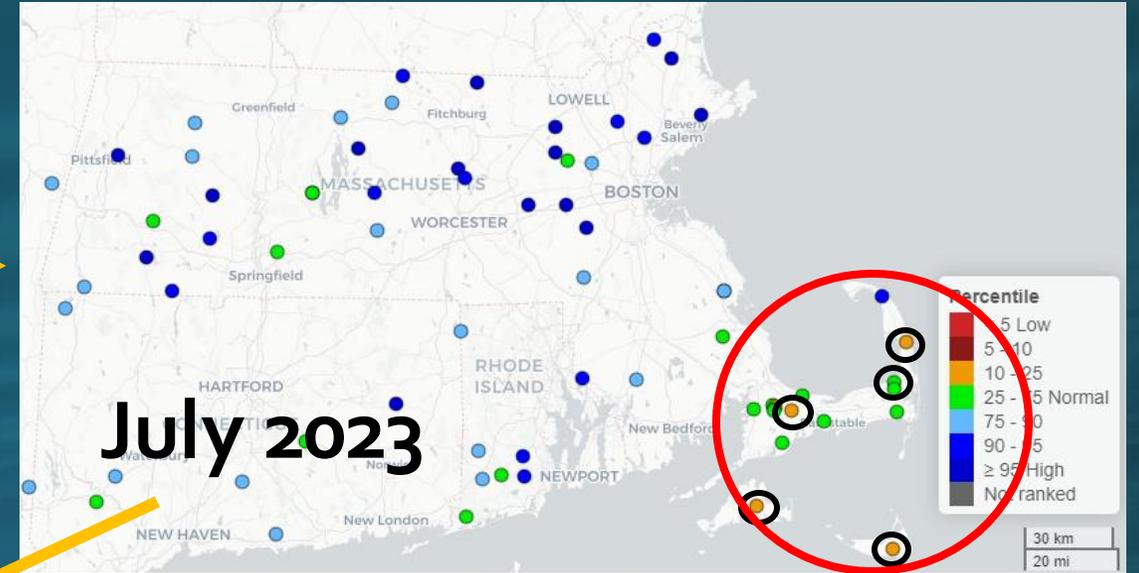
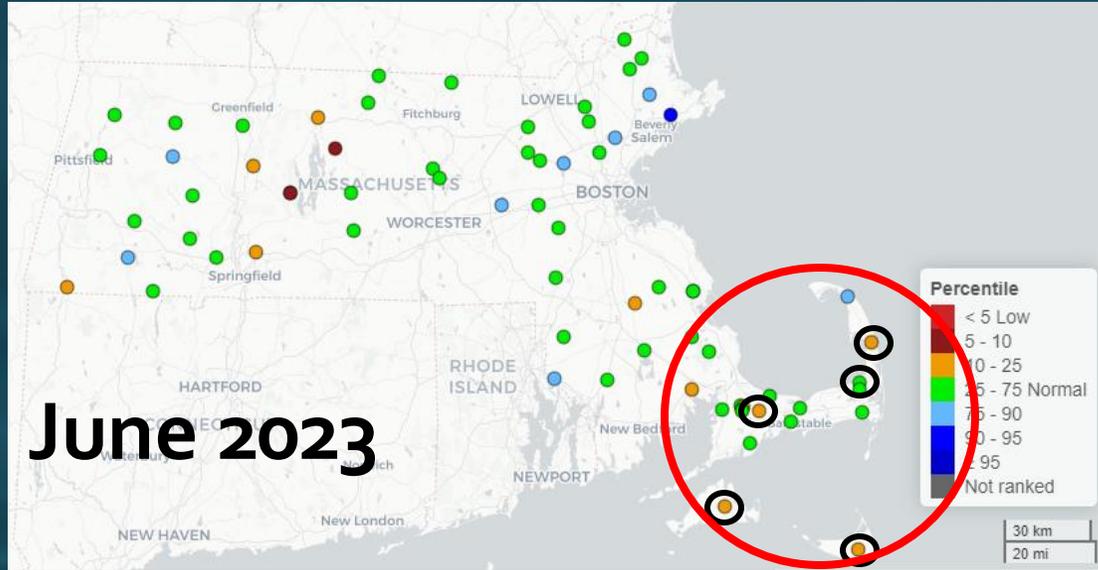
Eastern Part of Cape Cod Region



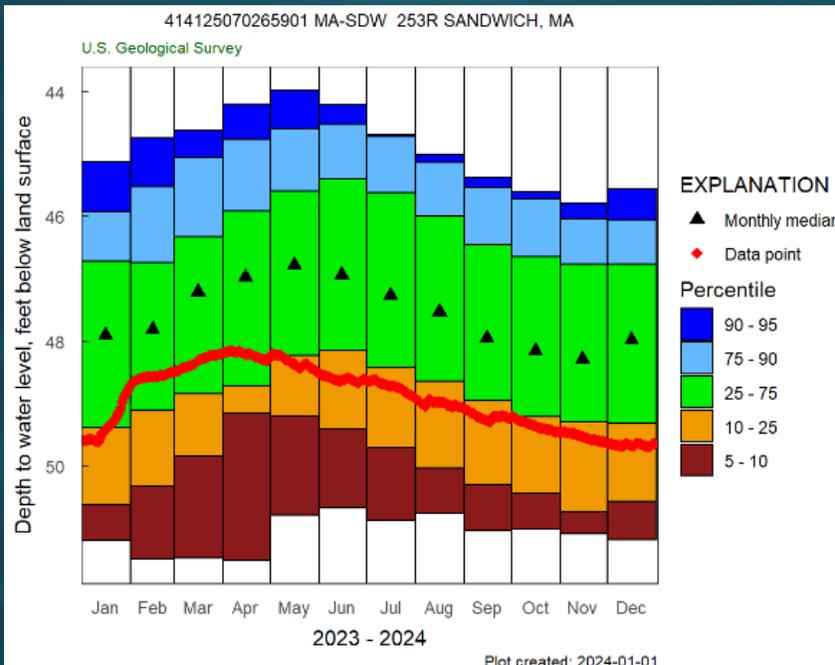
Summary of Streamflows on the Cape

- Western Cape streamflows (Quashnet River at Waquoit Village)
 - are currently normal
 - have been lower the last 3 years, but have still been mainly normal
- Eastern Cape Cod streamflows (Herring River at North Harwich)
 - are currently below normal
 - have been below normal for a significant part of the last 3+ yrs (since fall of 2020)

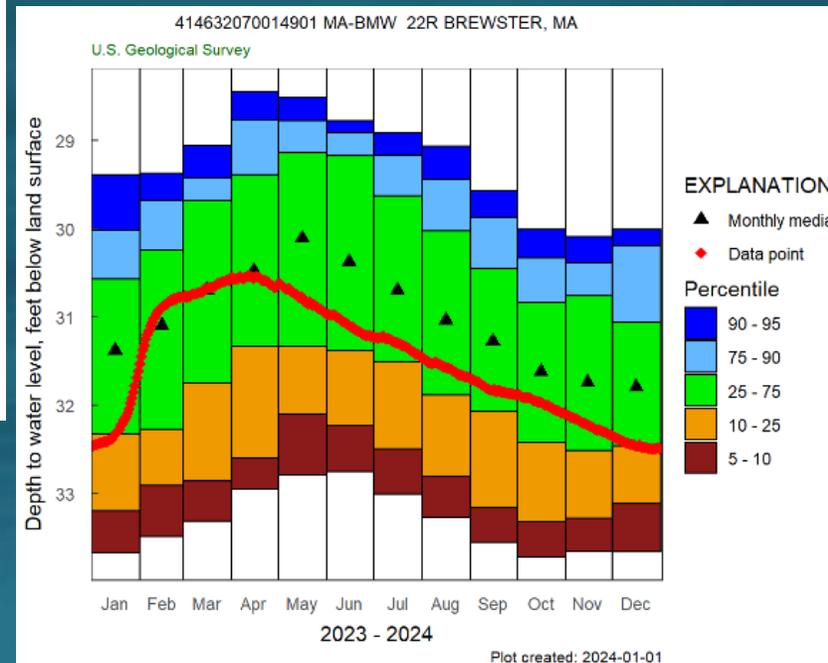
Groundwater Conditions



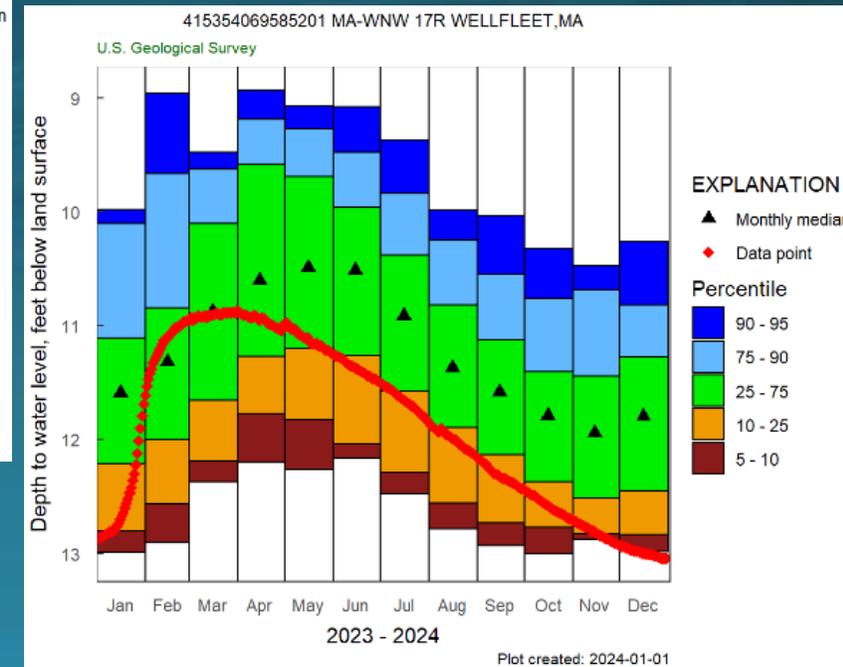
Cape Cod Region (West to East)



Period of Record: 61 yrs;
continuous 11 yrs

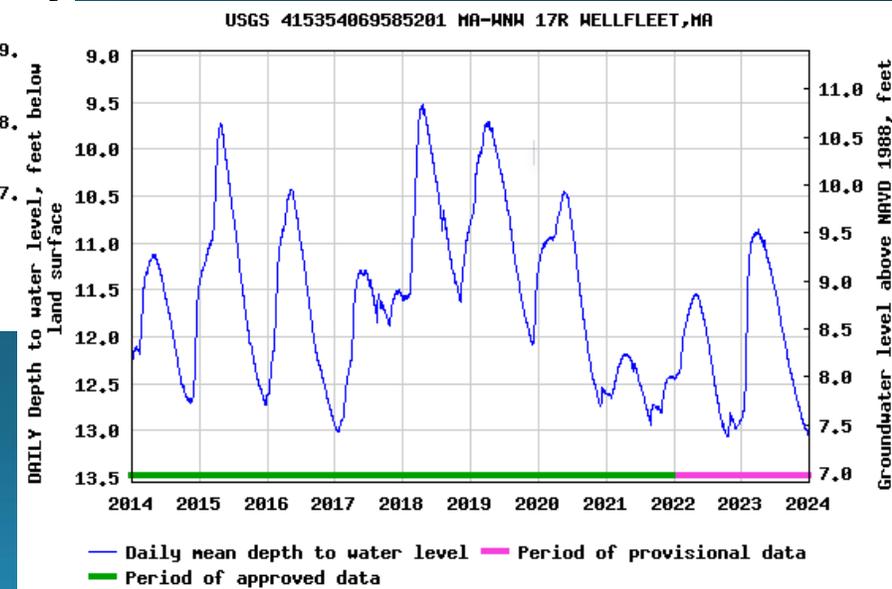
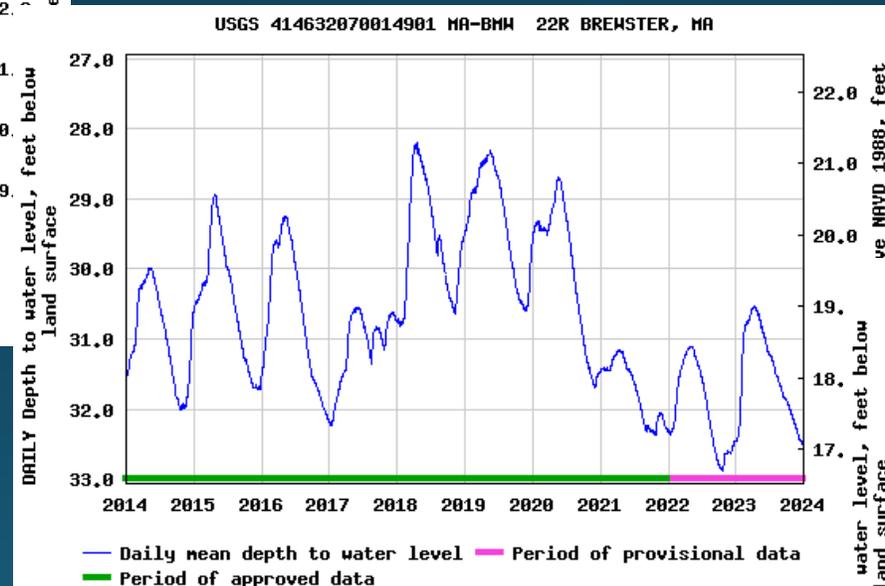
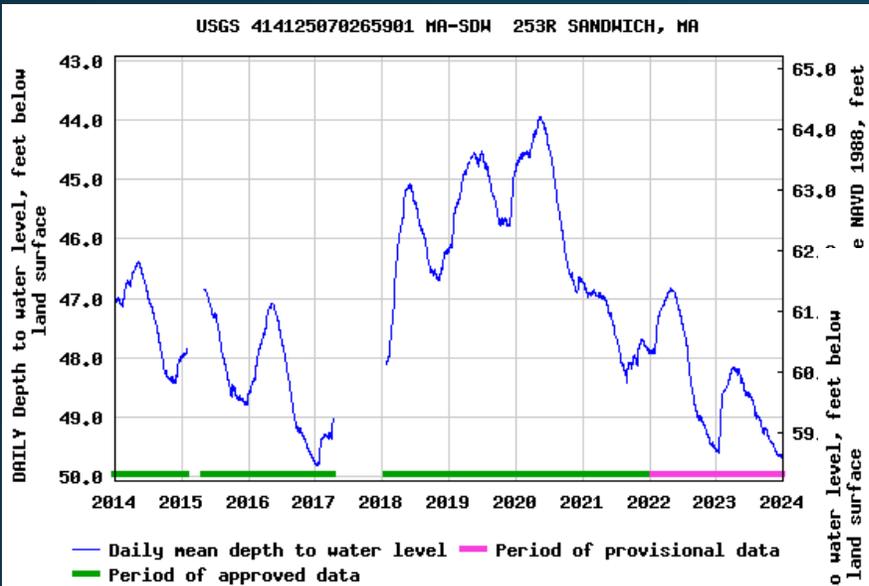


Period of Record: 61 yrs;
continuous 22 yrs

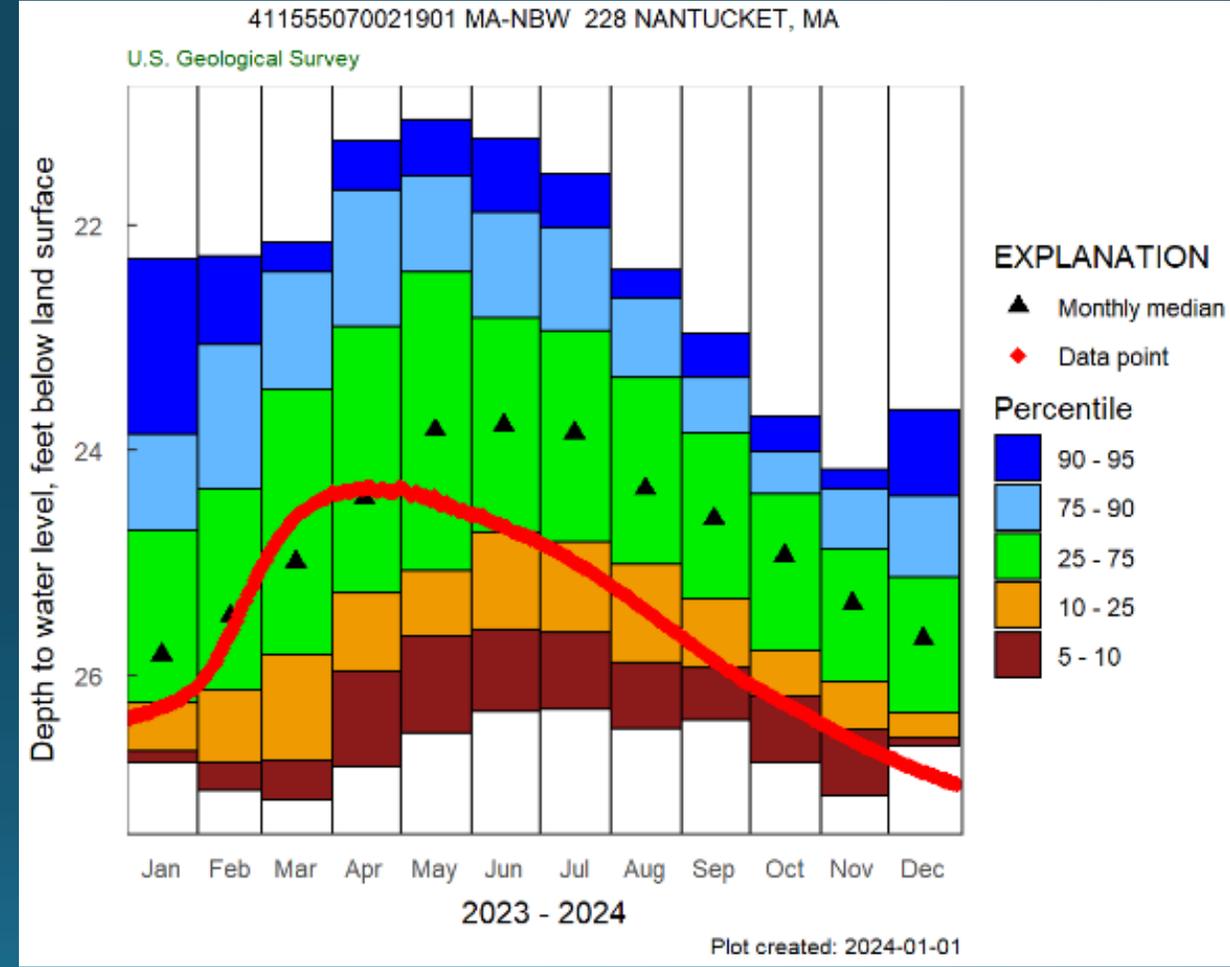
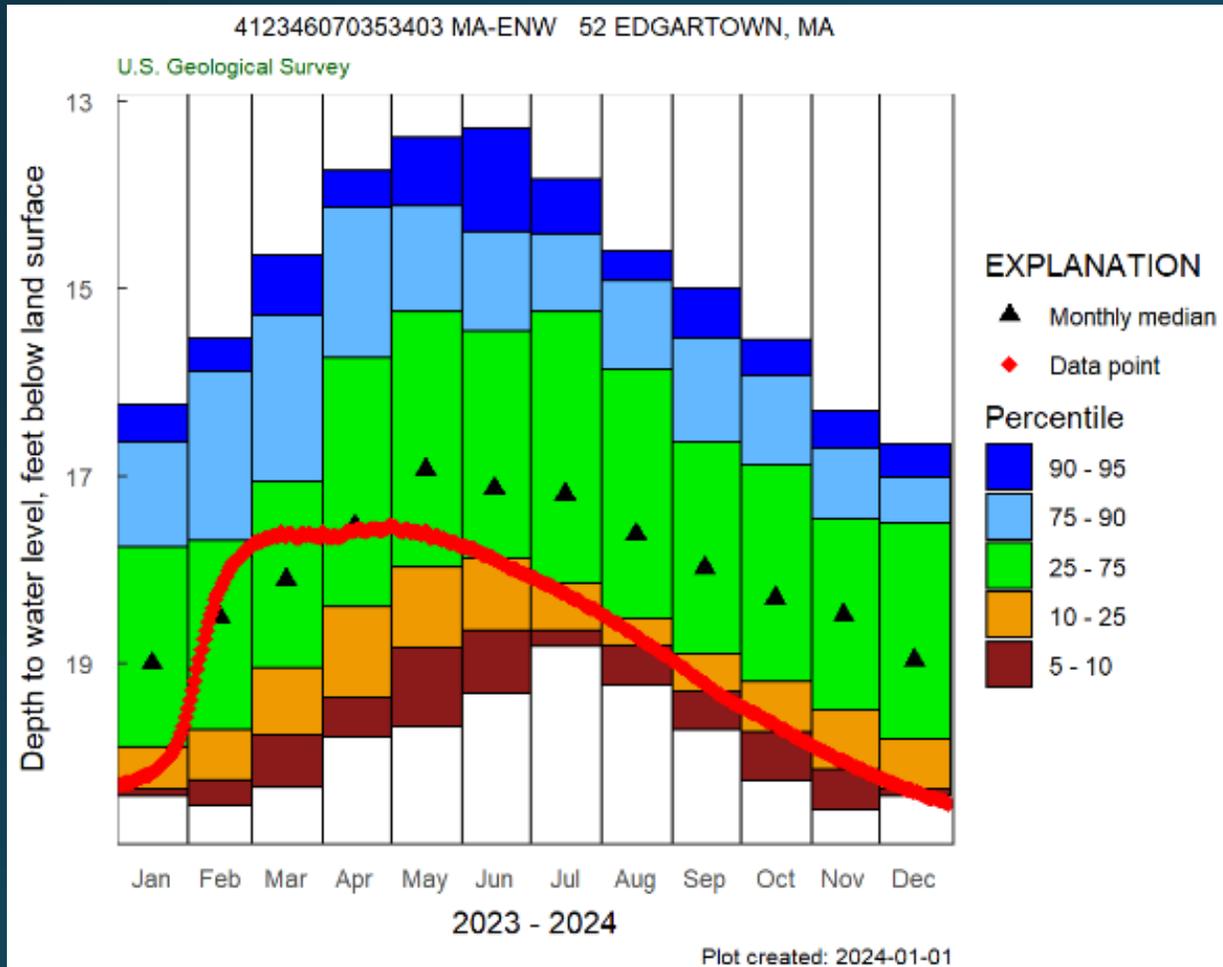


Period of Record: 61 yrs; cont. 11 yrs

Cape Cod Selected Cont. WL Data (West to East) 10-year period (2014-23)



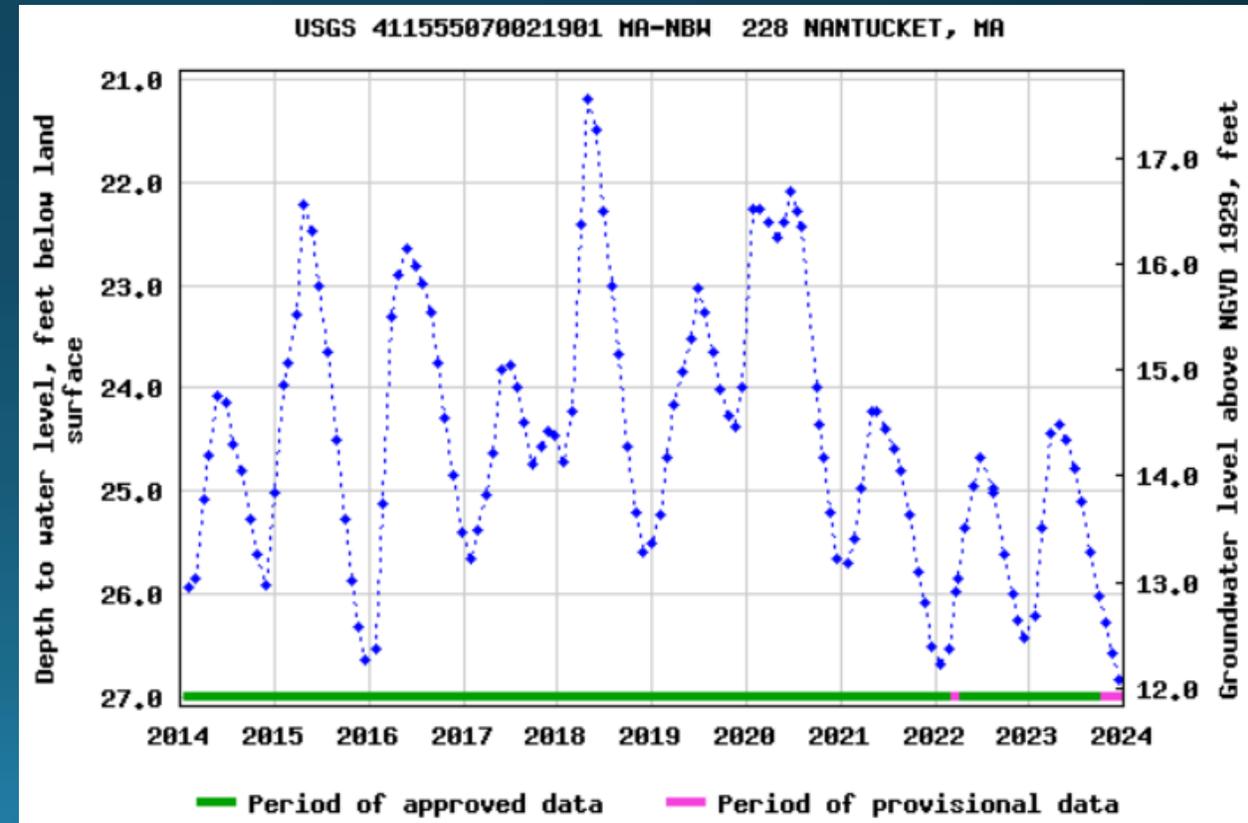
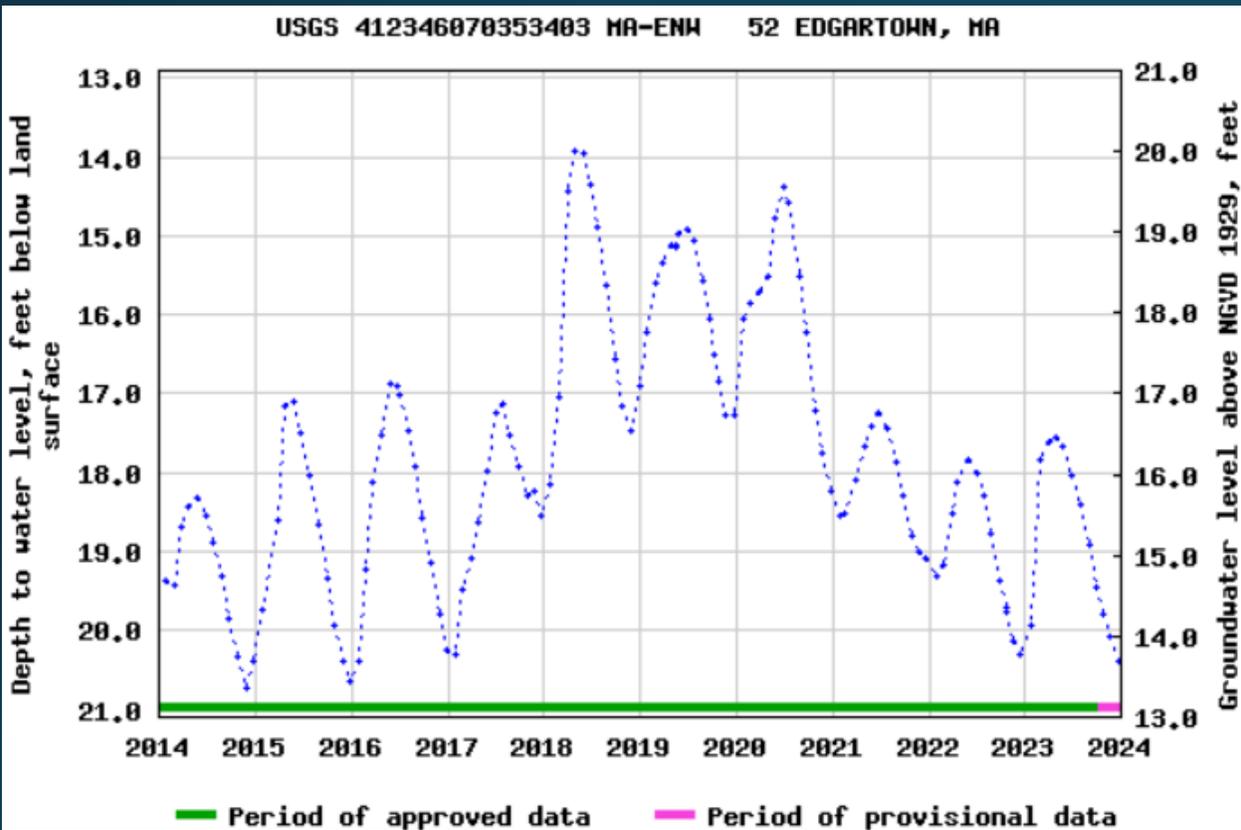
Islands Region



Period of Record: 47 yrs; continuous 4 yrs

Period of Record: 47 yrs; continuous 1 yr

Islands – Martha's Vineyard and Nantucket WL Meas. 10-yrs period (2014-23)



Summary of GW Levels for Cape and the Islands

- Groundwater levels generally start to rise each year starting in December or January (i.e. aquifer is starting to recharge)
- Of the GW wells shown, only Sandwich 253R appears to be leveling off to rise
- The Cape Cod wells shown are currently below the 25th percentile, except Wellfleet 17R which is below the 5th percentile
- The Martha's Vineyard and Nantucket are currently below the 5th percentile and water levels have not started to rise
- Groundwater levels in the Cape Cod, Martha's Vineyard, and Nantucket wells shown - all generally appear to be lower over the last 3 years

