Water Quality for Communities and Conservation - with GRLT

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Today's Conversation:

1. Why might land trusts be interested in water quality?

2. Why a regional organization is useful in addition to local water monitoring?

3. What is MCOA?

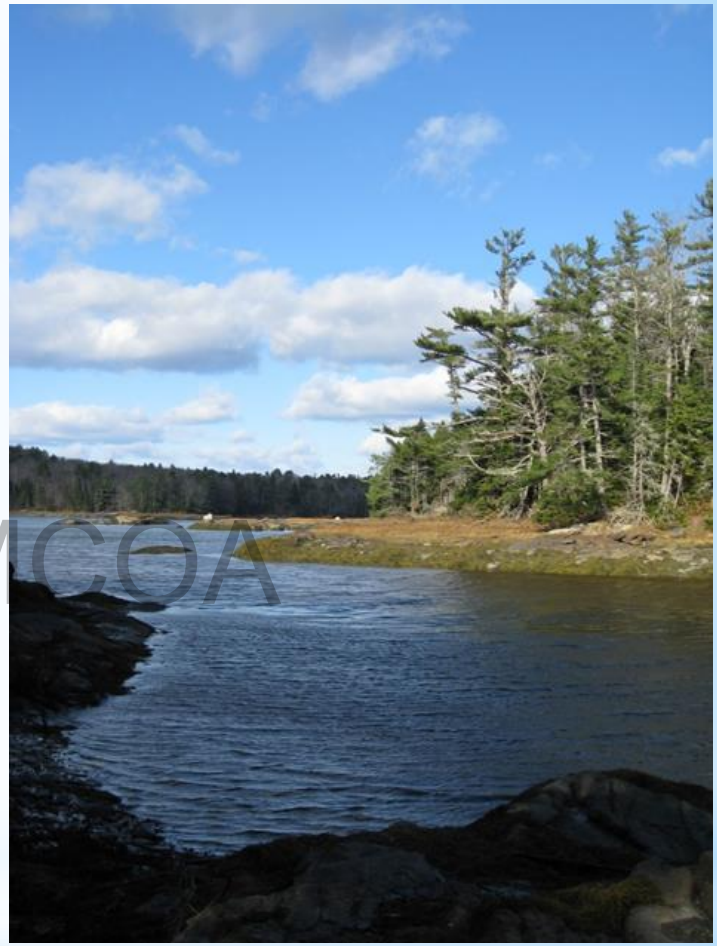
4. What does MCOA do? And how do they do it?

5. Data and information (Kathleen)

6. What does it cost?

7. New website and our contact info

8. Questions and Discussion



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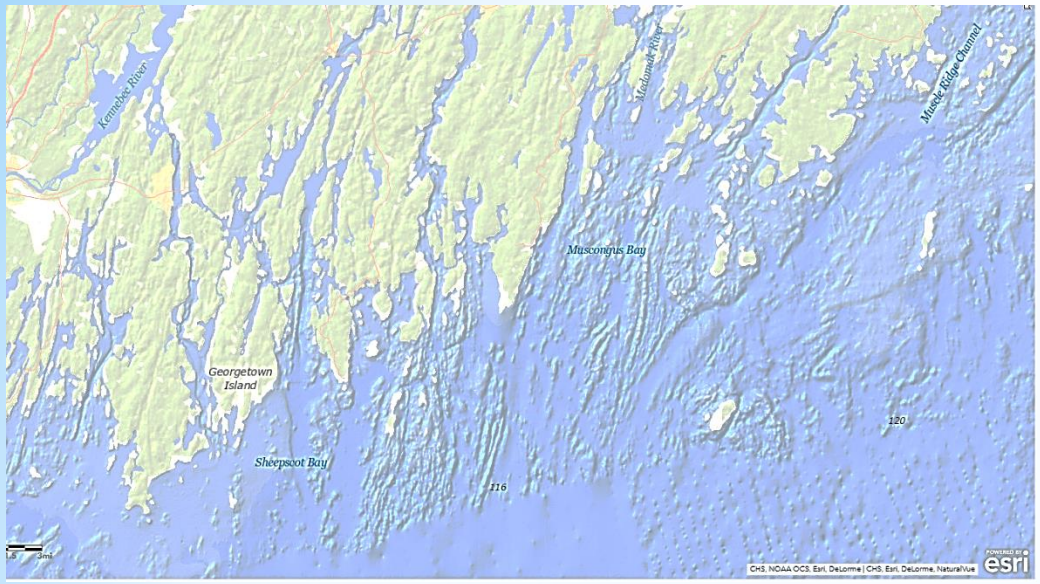
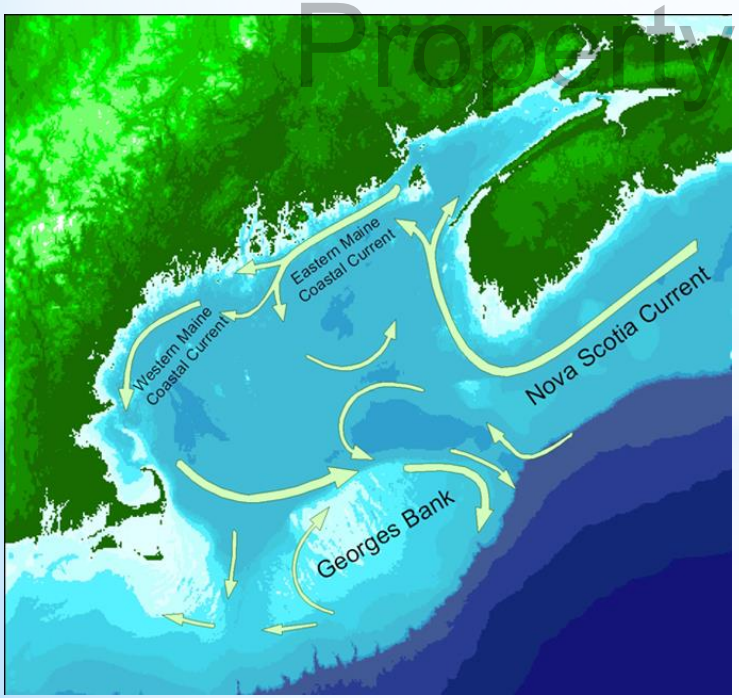


Why would a LAND trust be interested in water quality?

- Science-based decision making land acquisition and stewardship;
- Serve communities with data to information capacity;
- Provide place-based, science education and policy with regional context to community members.



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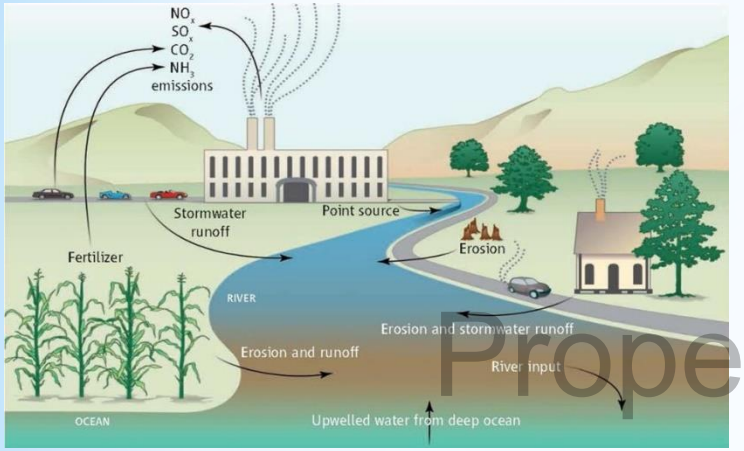
- **The Gulf of Maine is particularly susceptible to ocean acidification because it is cold and has lower buffering capacity.**
- **Coastal acidification is the process where coastal sources modify and enhance ocean acidification.**



Doney et al. PNAS 2007; Doney Science 2010; Kelly et al. Science 2011

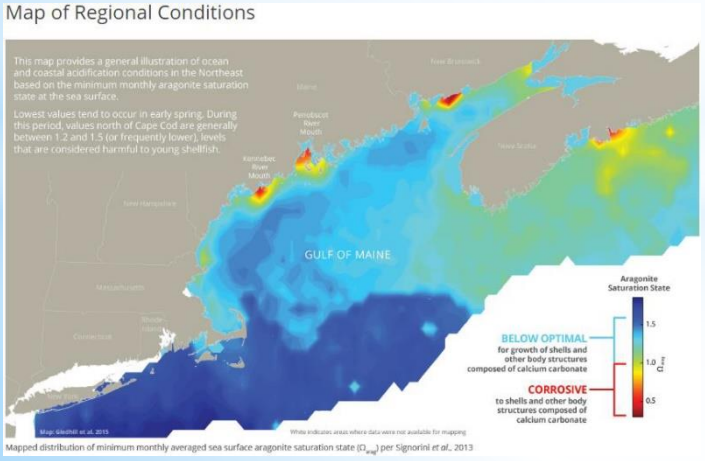
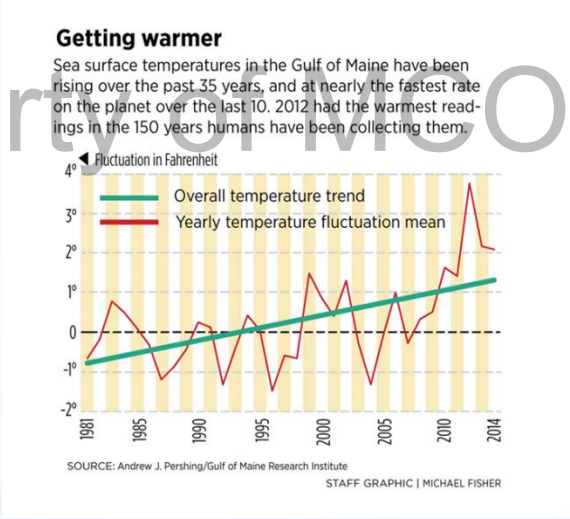


Figure from NECAN oceanography journal article (Gledhill et al., 2015) modified for NECAN website



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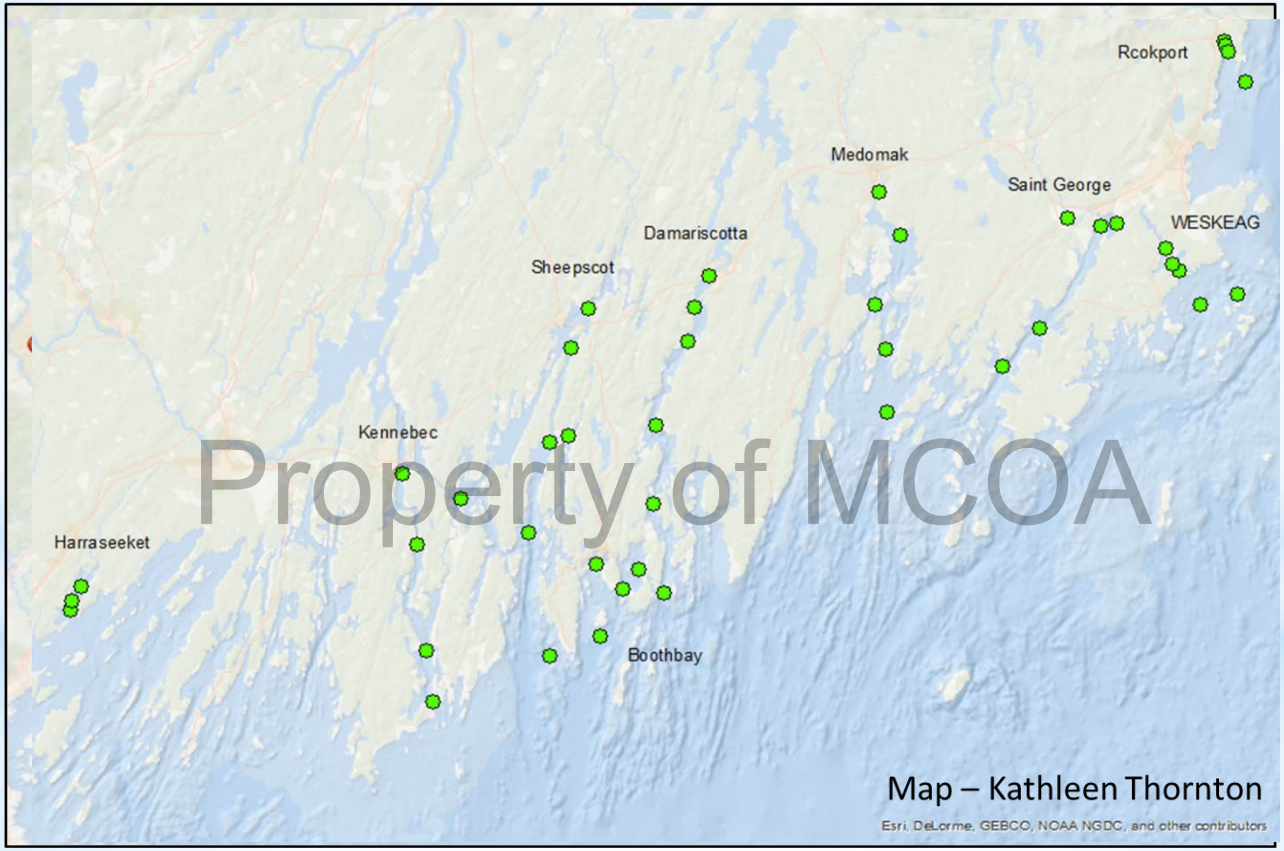
1. **What is happening over time?**
2. **What is coming by sea and what by land?**
3. **What can we do? And if we do it - what impact is it having?**

= On-going, Regional *and* Local Water Monitoring

Maine Coastal Observing Alliance (MCOA)



Friends of the Weskeag

Figure 12. 2014 MCOA sampling stations. HR – Harraseeket , KB – Kennebec, SH – Sheepscot, DR – Damariscotta, MED – Medomak, SG – Saint George, RH – Rockport Harbor.

GEORGES RIVER LAND TRUST
Discover the River. Care for the Land.

Friends of Casco Bay
Casco BAYKEEPER

What Does MCOA Do?

- Dissolved Oxygen - Sonde
- Temperature - Sonde
- Salinity – Sonde
- Transparency – Secchi Disk
- pH – Sonde
- Total Nitrogen – water sample for lab analysis

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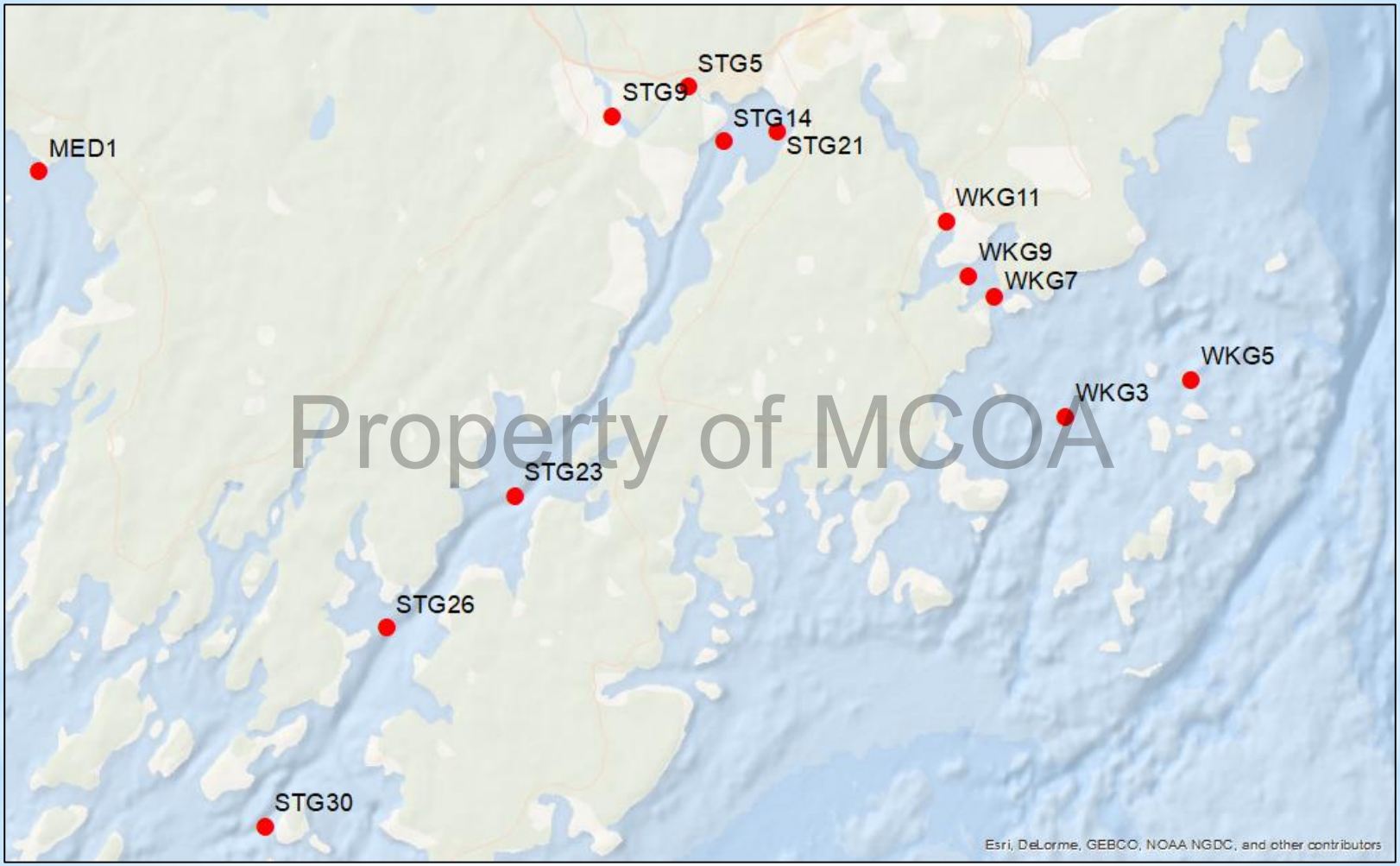
MCOA Partners Benefit From:

- Shared technology
- Technical support – Calibration, Analysis
- Communication
- Standardization of methodology to ensure quality data



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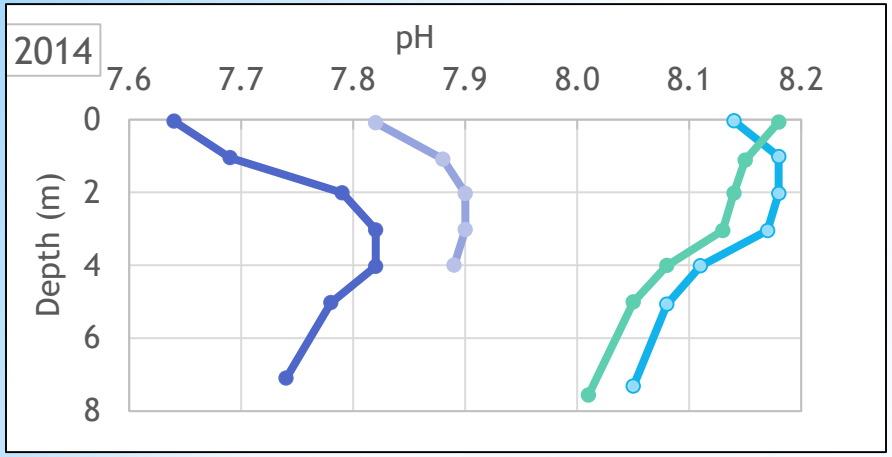

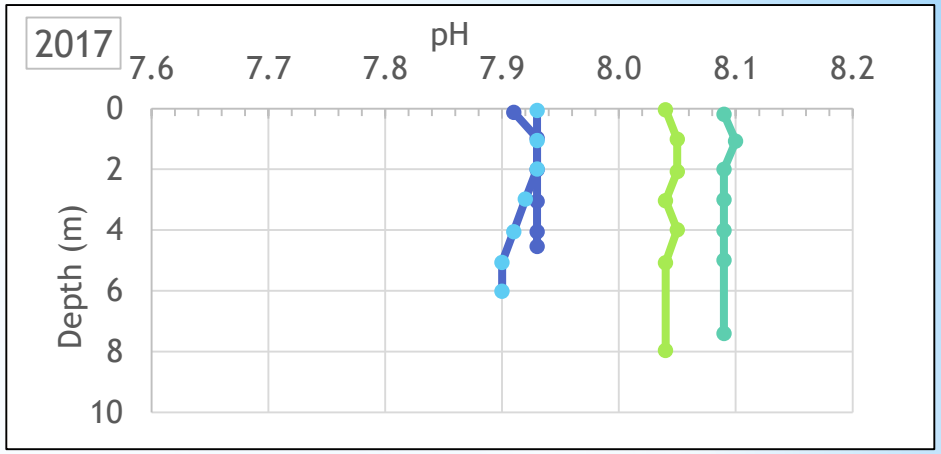

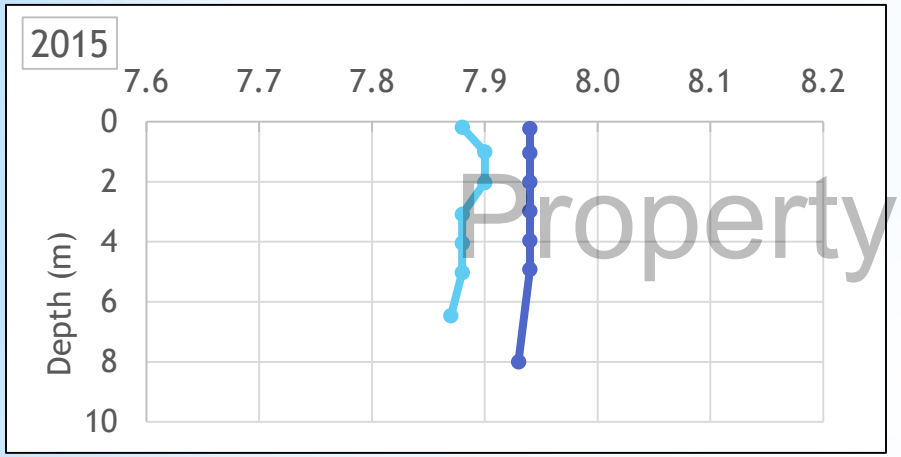

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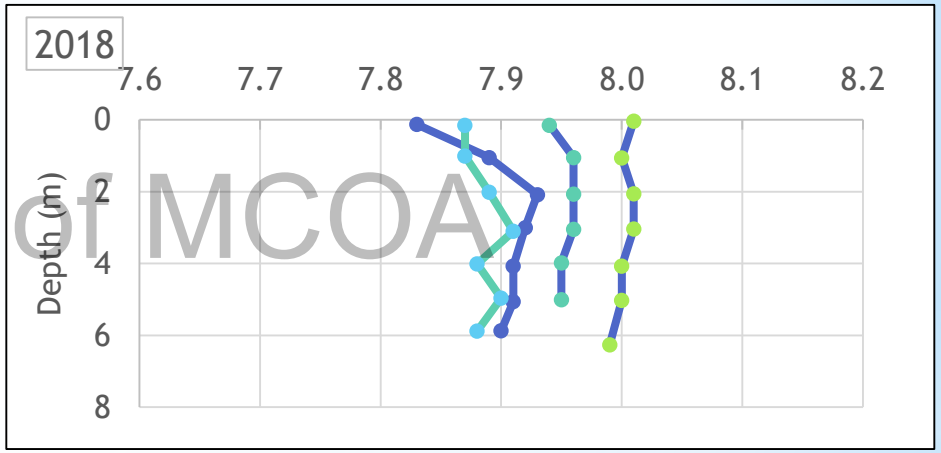

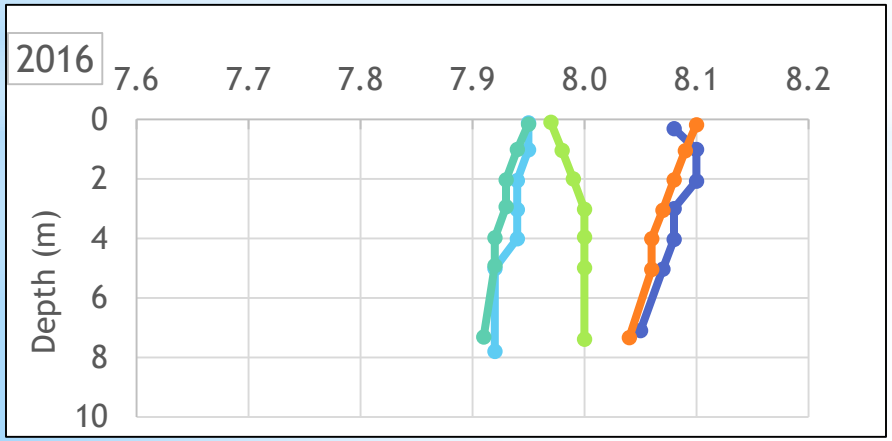

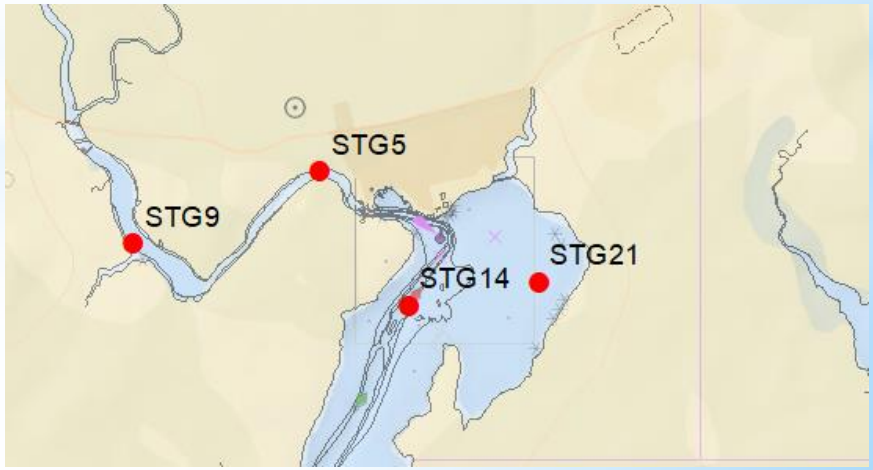

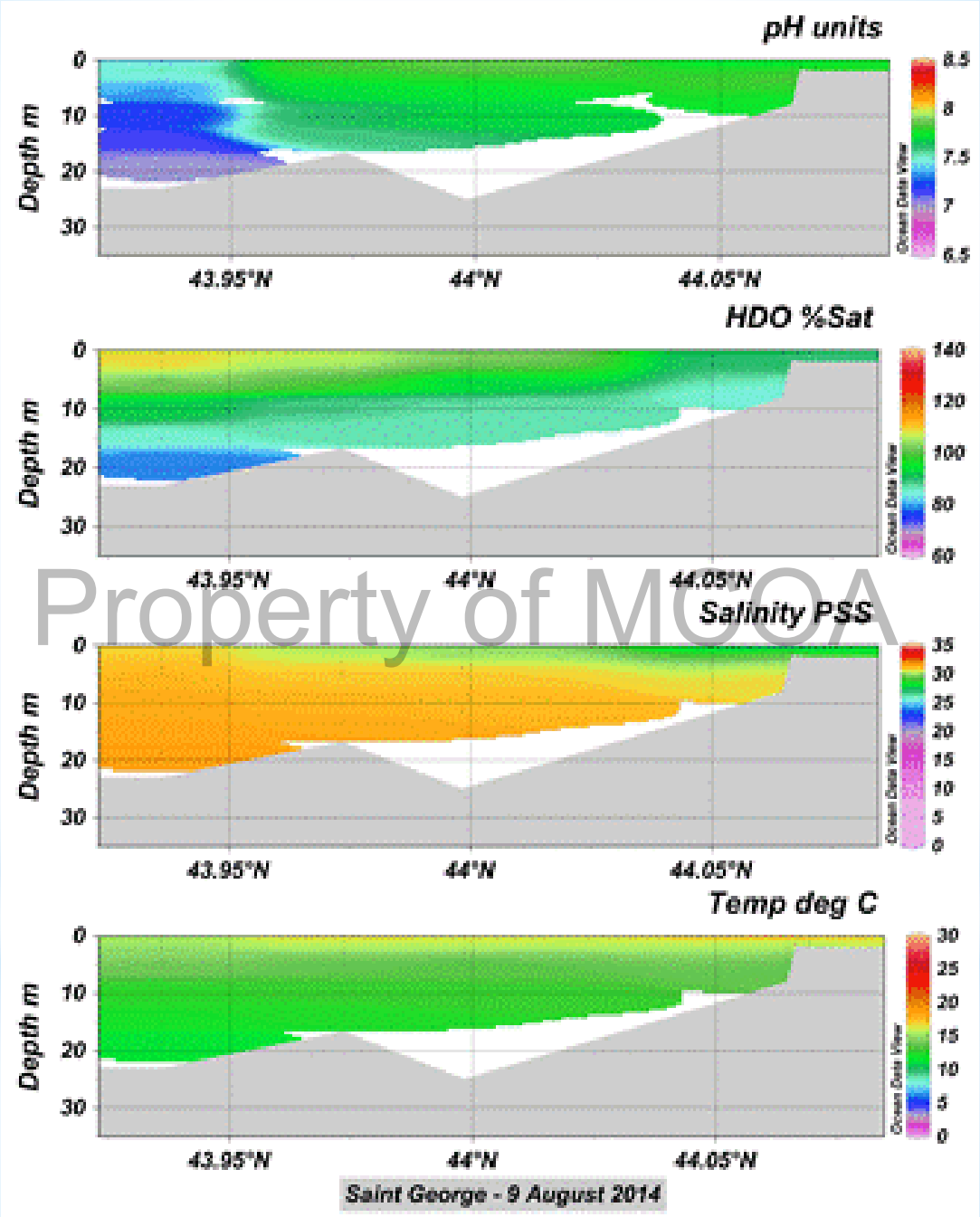

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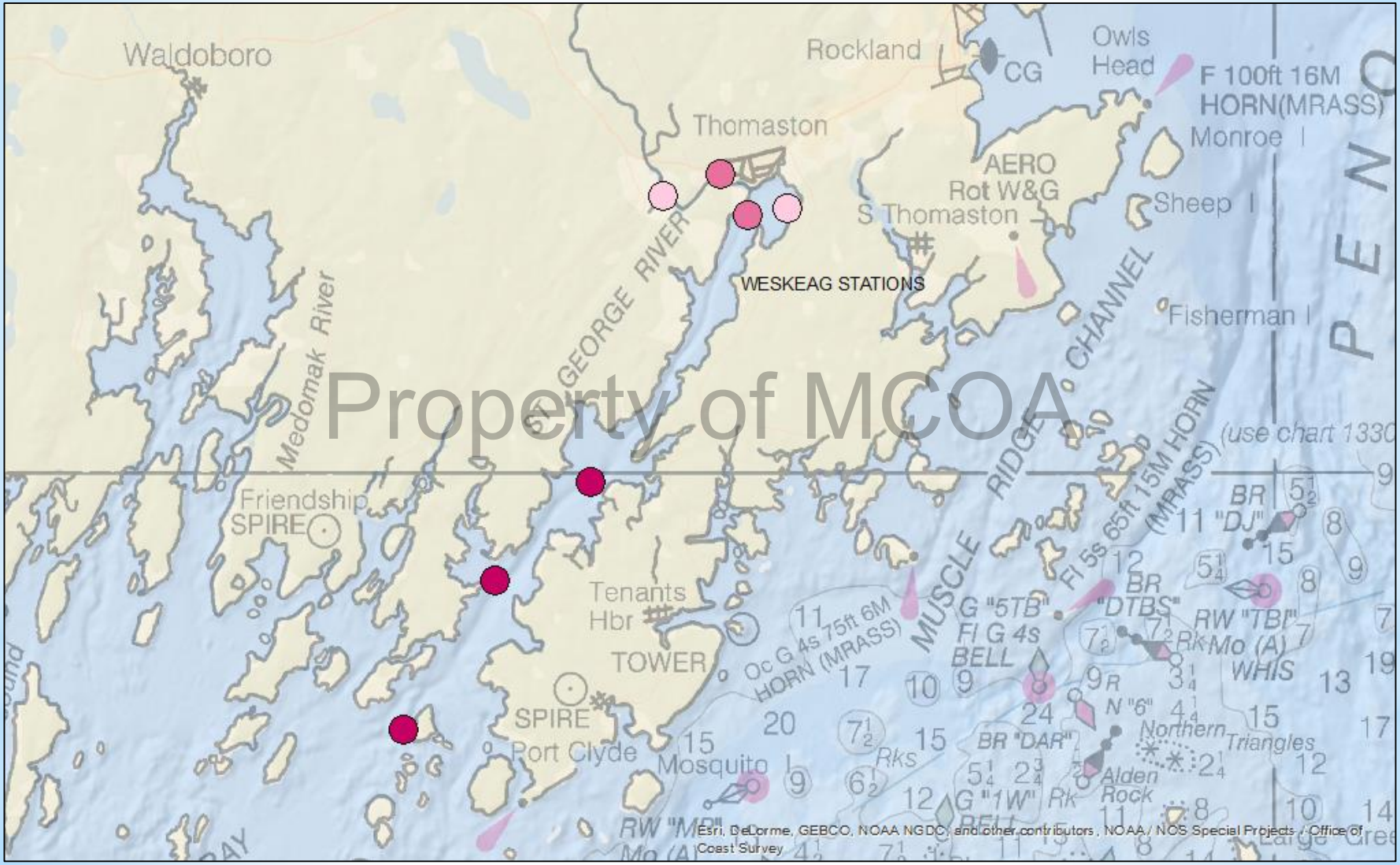
Stations with pH below 7.7



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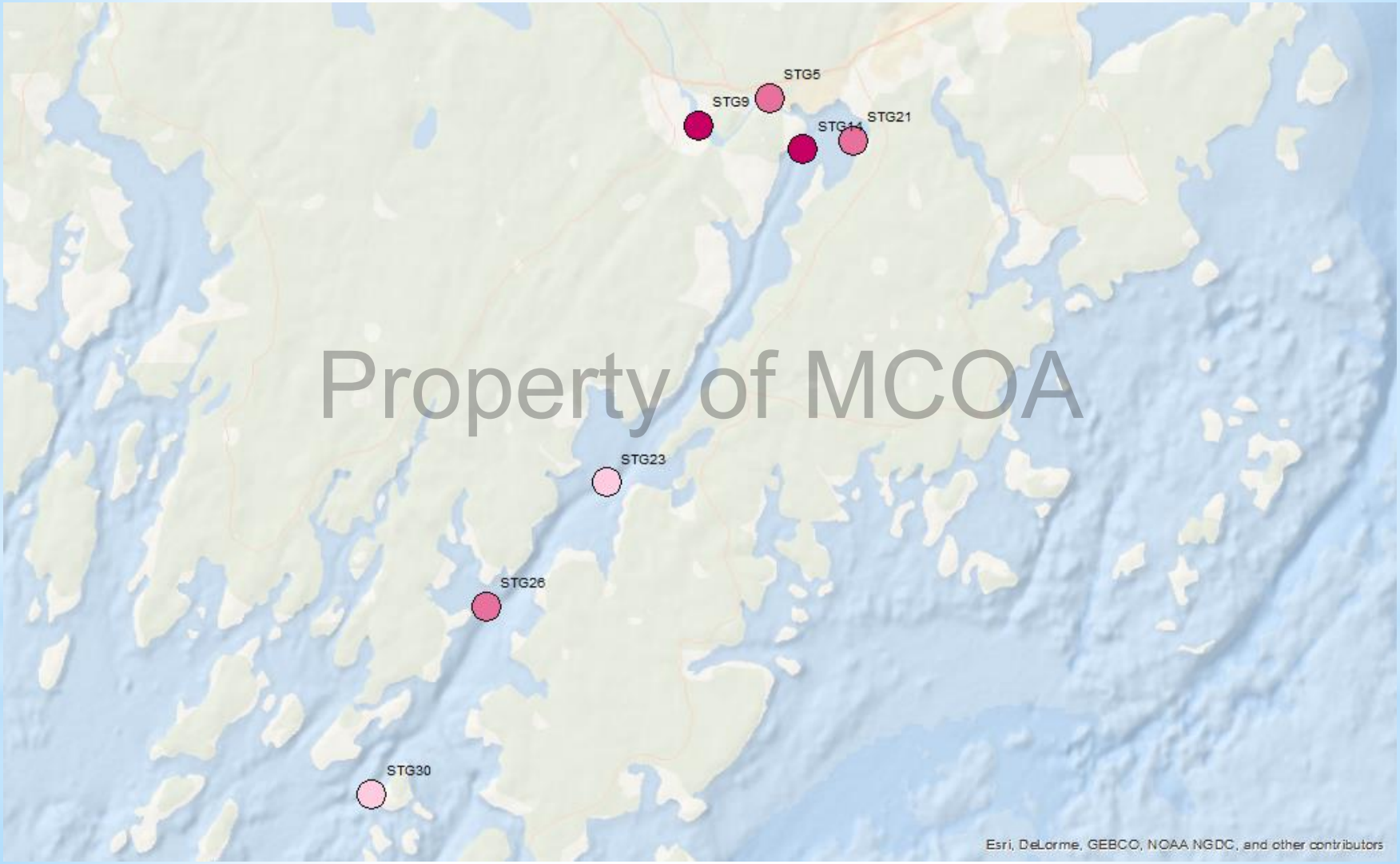
Stations with Total Nitrogen Above 0.3 mg/l



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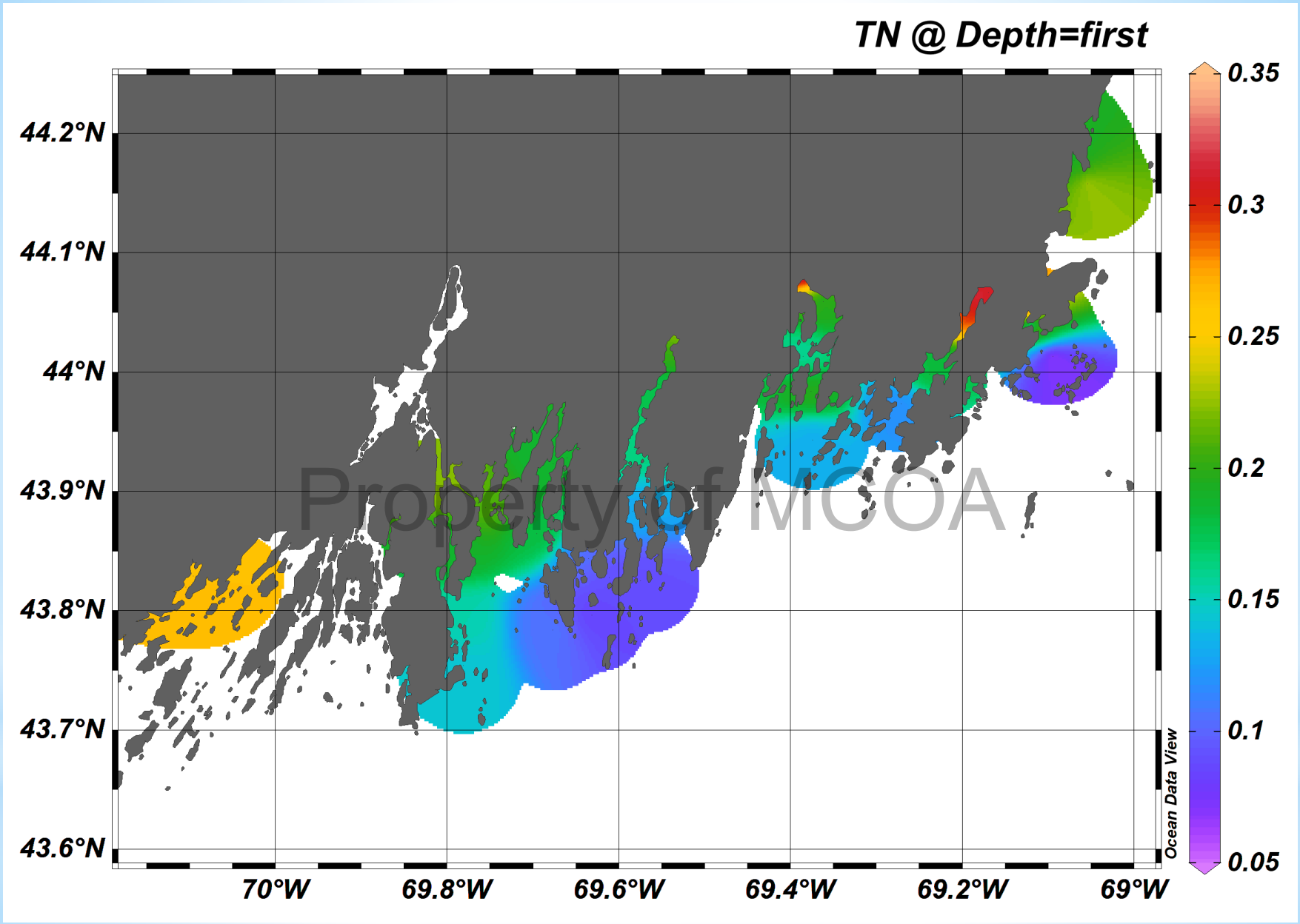
TN @ Depth=first
44.2°N
44.1°N
44°N
43.9°N
43.8°N
43.7°N
43.6°N
70°W
69.8°W
69.6°W
69.4°W
69.2°W
69°W
0.35
0.3
0.25
0.2
0.15
0.1
0.05
Ocean Data View
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Funding…

	Match	New 2019 Funding Sought	Sources
MCOA Technician Salary For 'BASE' Monitoring and instrument calibration, scheduling, monitoring and data management ($250/day, 2x for 2 months per estuary) Plus new sites	$4,100	$6,100	MCOA Partners - remaining funds will be sought through grant proposal
Program Coordination (includes grant management, mtgs)		$ 1,000	DRA and Grant Funding TBD
Analysis of Total Nitrogen, Darling Marine Center Lab including new sites		$ 3,700	
Data QA/QC by Water Monitoring Technician Including Metadata		$ 300	
QAPP and Methods Standardization Documentation and research		$ 3,000	
Volunteer Time(72 hrs.x24.69=1,777), Sondes ($2,000) and Boats boat use, boat fuel ($3,600)	$7,377		MCOA partners
Technical Support from University of Maine Darling Marine Ctr.	$2,000		In-kind support from University of Maine and Maine DEP
Data Analysis		$900	
Totals	$13,477	$15,000	Budget: $28,477

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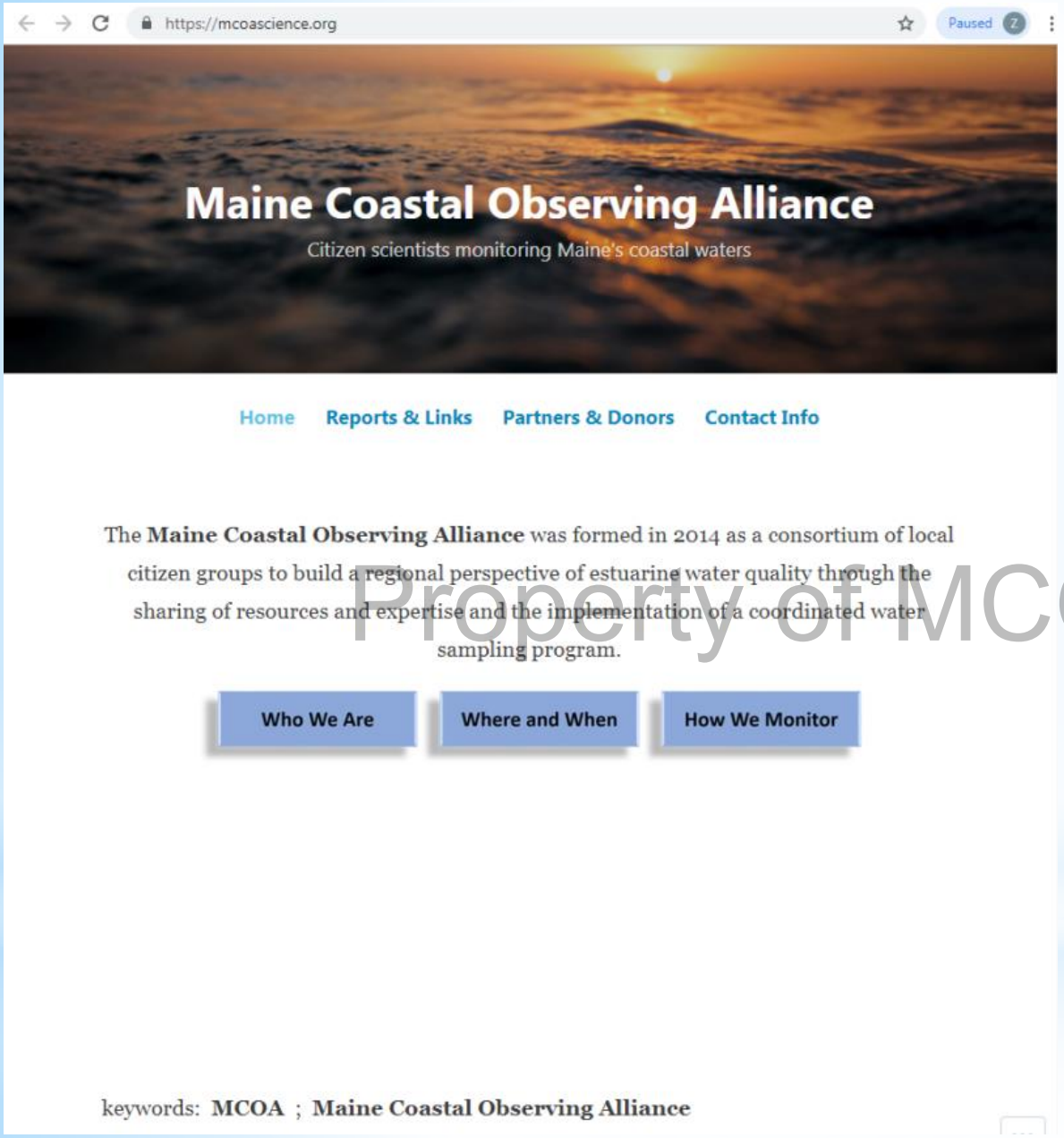

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Thank you to our

- Volunteers,
- Partnering organizations,
- Funders,
- Celeste Mosher MCOA Water Quality Technician
- And our technical team!