

2016-2018 Water Quality Standards Indicator Notes, Discussion

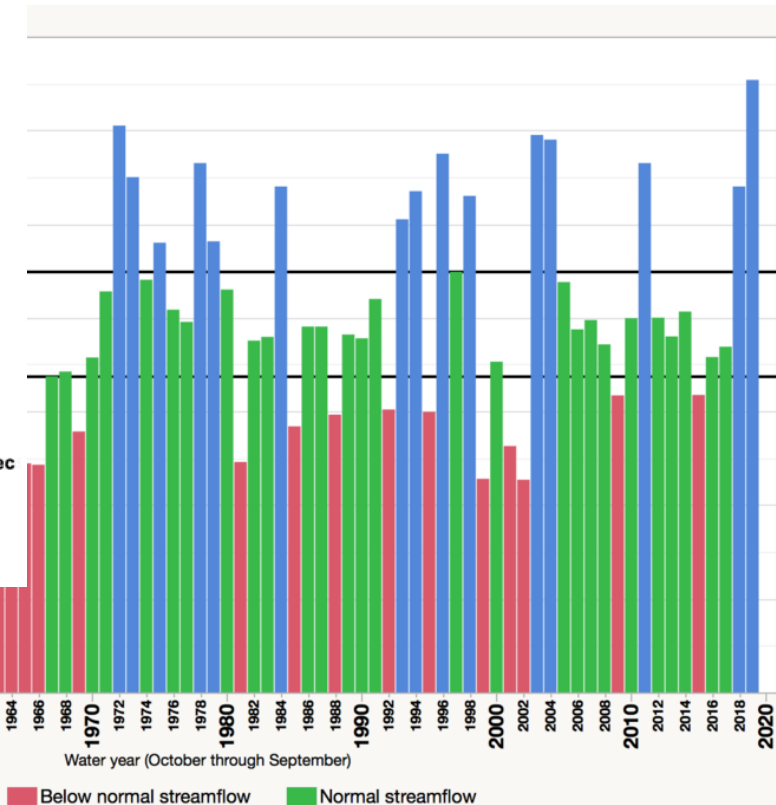
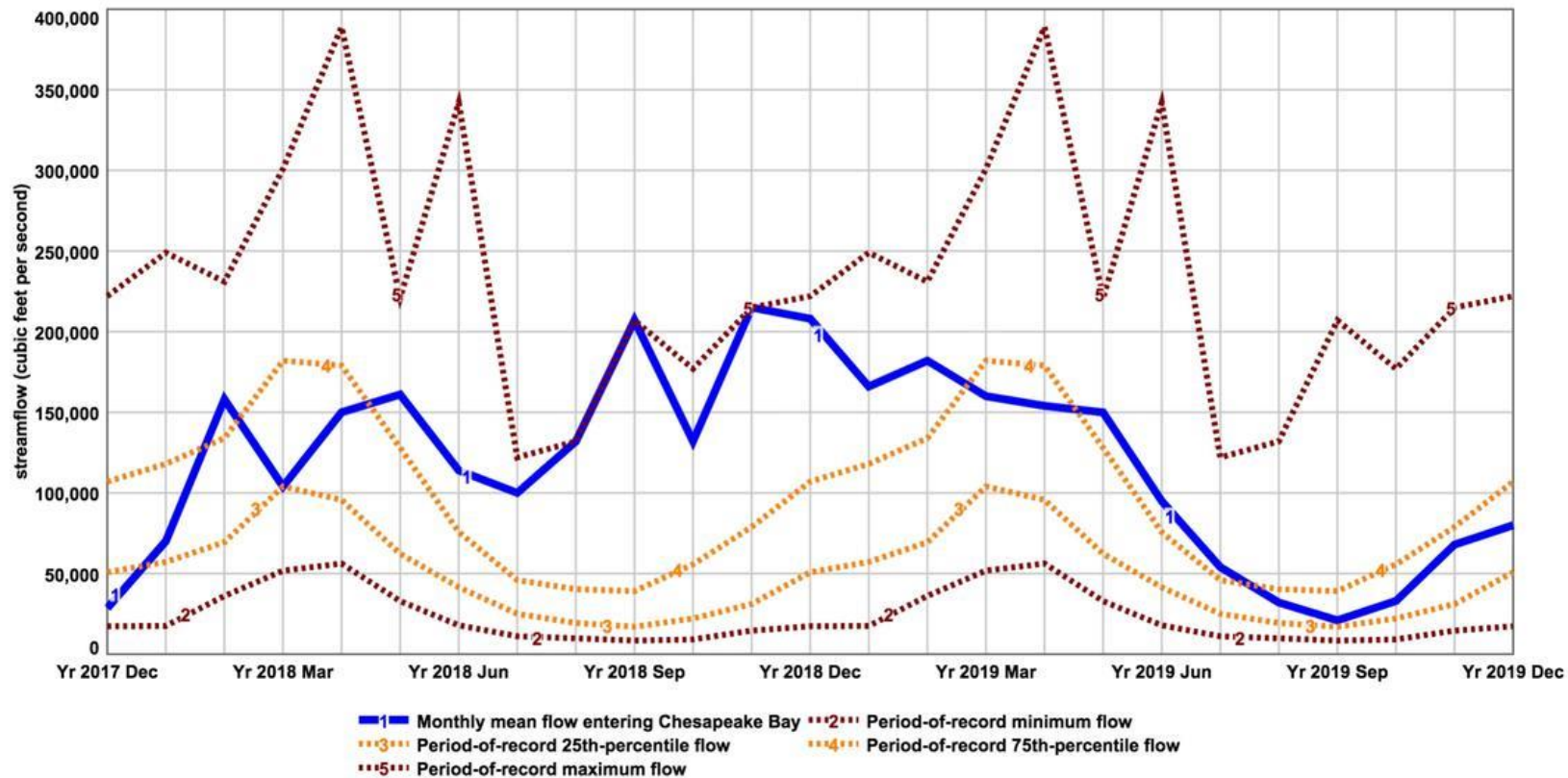
Presenter: Peter Tango

Data collections and delivery: MD, VA, DC,

Data management: Mike Mallonee

Programming, Analysis and Reporting: Richard Tian and Qian Zhang

Recall recent years flow conditions from USGS

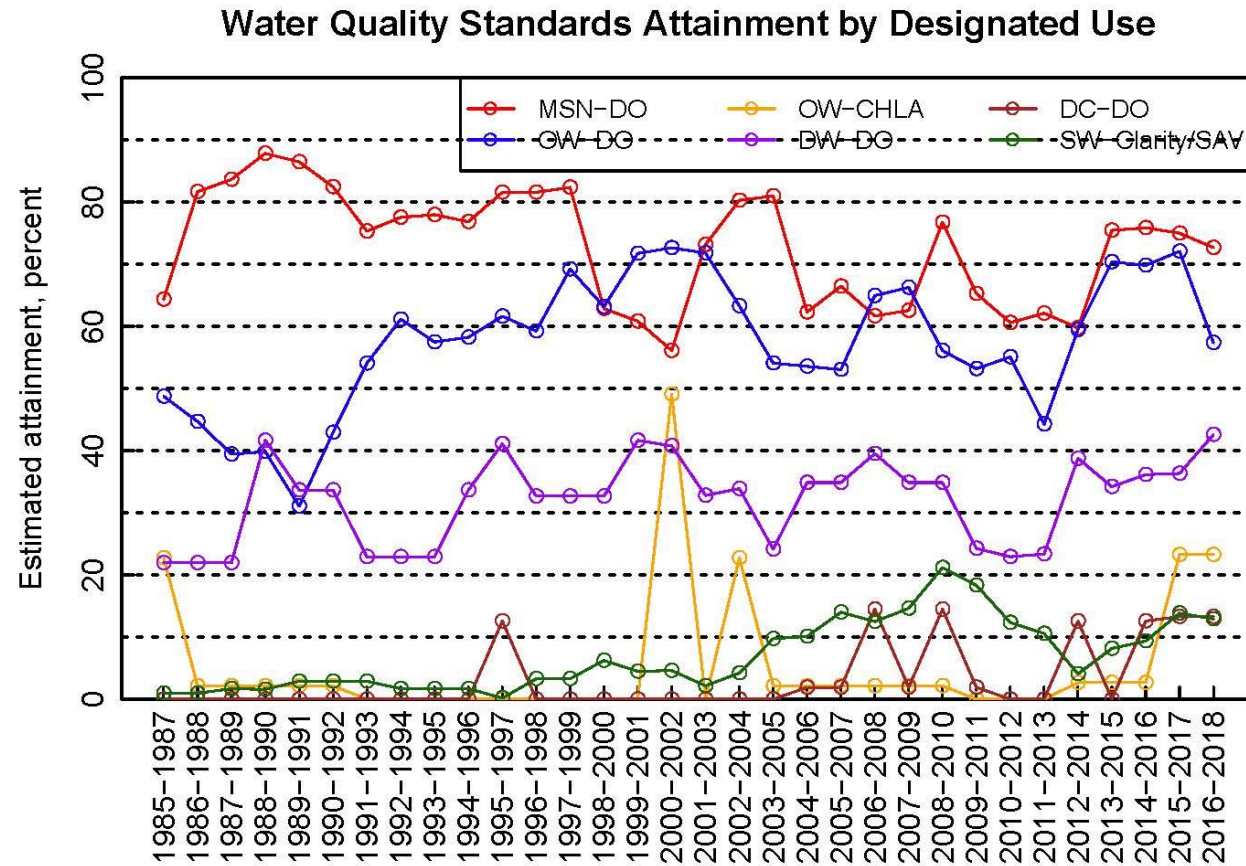


2016-2018 Water Quality Standards score is
5th best on record.

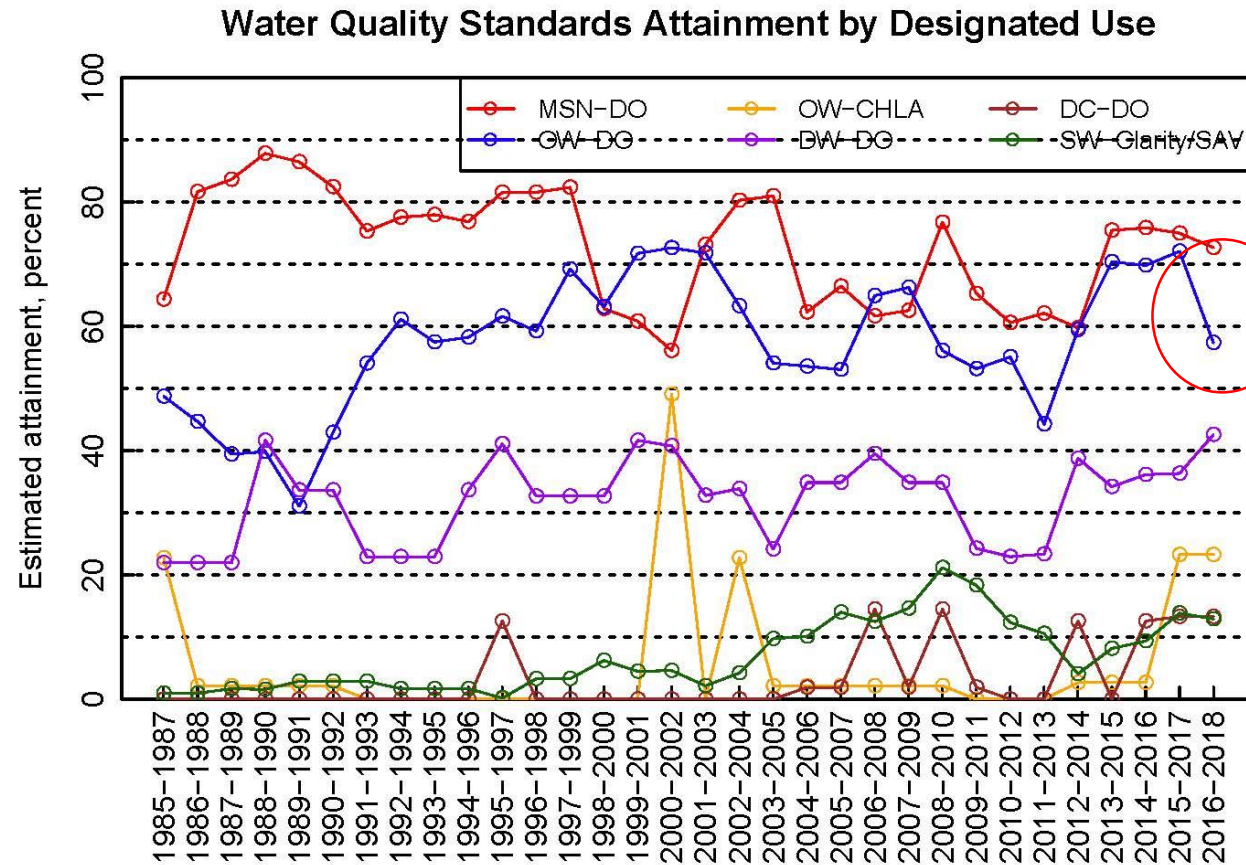
- Previous assessment set the record.
- Details to follow...



Leads us to future discussion: 2 open water segments failed for DO, impacting our score.



Future discussion – 2 open water segments failed for DO, impacting our score.

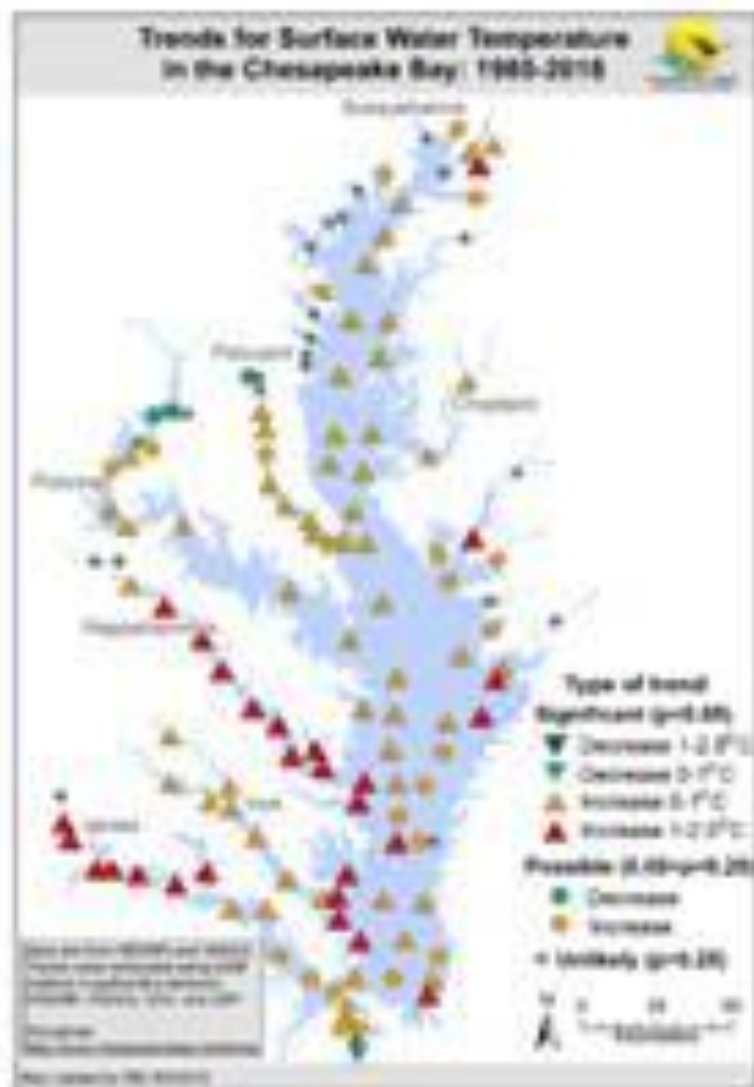


Will this sort of phenomenon become more regular?

Physical Estuarine Factors: A Changing Environment

At the majority of stations throughout Chesapeake Bay:

- Mean annual surface water temperature has increased since 1985.
- Mean annual surface salinity has declined since 1985.



Source: J. Keisman, R. Murphy
GAMs trend assessments.

Climate Change scenarios applied to the CBP Chesapeake Bay Model suggest attainment of OW DO standards could be affected by climate change impacts.

E.g. Small-river mesohaline non-attainment

		Future nonattainment under increasing climate change SLR, Flows, increasing temperatures				
		PT 1995	PT 2025	PT 2035	PT 2045	PT 2055
PATMH	MD	0.00%	0.00%	0.00%	0.00%	0.00%
MAGMH	MD	0.00%	0.00%	0.00%	0.00%	0.00%
SEVMH	MD	0.00%	0.00%	0.00%	0.00%	0.00%
SOUMH	MD	0.00%	0.00%	0.00%	0.00%	0.00%
RHDMH	MD	0.00%	0.00%	0.00%	0.00%	0.00%
WSTMH	MD	0.01%	0.01%	0.01%	0.01%	0.01%
CRRMH	VA	6.00%	15.81%	17.30%	17.30%	19.80%
PIAMH	VA	0.00%	0.00%	0.00%	0.00%	0.00%
WBEMH	VA	7.80%	8.13%	8.13%	8.13%	8.13%
SBEMH	VA	23.56%	34.57%	42.53%	50.90%	54.36%
EBEMH	VA	15.46%	18.62%	21.63%	21.63%	21.63%
LCHMH	MD	0.00%	0.00%	0.00%	0.08%	0.08%
FSBMH	MD	0.00%	58.29%	14.33%	0.00%	0.00%
WICMH	MD	11.22%	22.74%	22.97%	32.74%	39.43%
MANMH	MD	0.63%	4.73%	5.07%	4.59%	0.63%
BIGMH	MD	0.00%	0.00%	0.00%	0.00%	0.00%

Source:
Modified
from
G. Shenk
1/21/2020

Future CAP WG discussions

- Do we need to rethink our approach to criteria setting? Standards setting? Protocol assessment?
- Can we look ahead to living resource communities we will have?
- Are we detecting the impact of climate change on our ability to meet standards?
- Other questions?