2016 Tidal Water Quality Trend Maps

Available for download

https://www.chesapeakebay.net/who/projects-archive/integrated_trends_analysis_team

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Description:

The most recent estimates of short- and long-term trends in several tidal water quality parameters have passed review, and maps illustrating these trends are now posted for download in the CBP Integrated Trends Analysis Team projects archive at https://www.chesapeakebay.net/who/projects-archive/integrated_trends_analysis_team.

Each year, analysts in the Maryland Department of Natural Resources (MDDNR) and Virginia Department of Environmental Quality (VADEQ) produce updated trends results in partnership with Chesapeake Bay Program Office (CBPO) staff, as well as with university and private consultants[1]. Data from 144 stations in the CBP Tidal Long-Term Monitoring Network are analyzed using Generalized Additive Models (GAMs). GAMs analysis is a statistical approach that provides greater confidence in trends results, and more information on patterns of change over time, than did previous methods.

Short-term (10-year) trends results are available for all parameters evaluated. Long-term trends for the 1985-2016 time period were calculated for dissolved oxygen, secchi disk depth, and water temperature. Due to changes over time in data collection and laboratory methods, long-term trends in remaining parameters are calculated from 1999 forward. Methods to account for these changes are currently in the testing phase; we expect to be able to provide trends from 1985 forward for these parameters by December 2018.

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[1] Elgin Perry (Independent consultant) and Jon Harcum (Tetratech) have contributed substantially to this work.

Tidal Water Quality Parameters:

2007-2016 (Short Term) and 1985-2016 (Long Term)
- Summer Dissolved Oxygen (Bottom only)
- Annual Secchi Disk Depth (Surface only)
- Annual Water Temperature (Surface and Bottom)

2007-2016 (Short Term) and 1999-2016 (Long Term)
- Annual Total Nitrogen (Surface and Bottom)
- Annual Dissolved Inorganic Nitrogen (Surface and Bottom)
- Annual Total Phosphorus (Surface and Bottom)
- Annual Orthophosphate (Surface and Bottom)
- Annual Chlorophyll *a* (Surface and Bottom)
- Annual Total Suspended Solids (Surface and Bottom)

Example: Summer Bottom Dissolved Oxygen, 2007-2016: