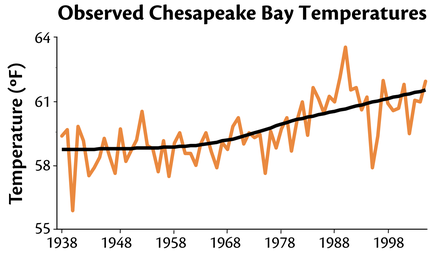
GLOBAL WARMING IS HERE

Governor O'Malley asked a scientific team[1], chaired by University of Maryland Center for Environmental Science President Dr. Donald F. Boesch, to assess the impacts of climate change in Maryland. The key points from this assessment[2] are summarized here.

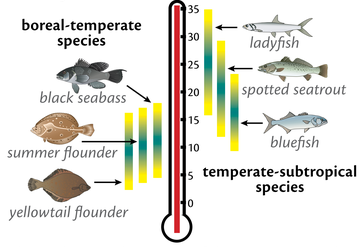
Global warming is already happening here in Maryland

An open hydrant provides some relief during a summer heat wave in the city.

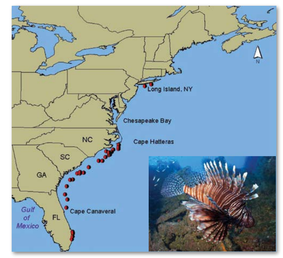


Bay temperatures recorded at Solomons Island, MD over 60 years show trend in rising water temperatures.

Some species will die, move, or be replaced

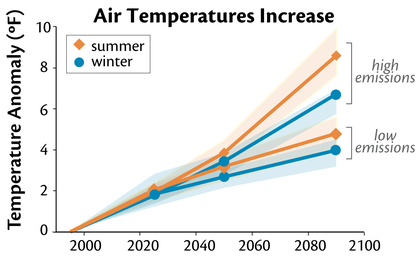


Thermal ranges for juvenile fish native to US Atlantic coastal waters.

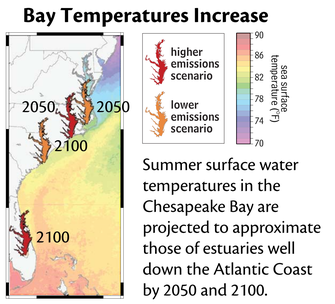


Coastal locations where tropical lionfish have been reported as of May 2003.

Air and water temperatures will continue to rise

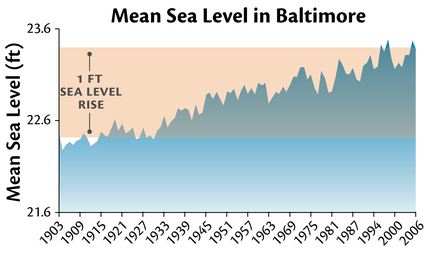


Air temperature increases from 1990 to 2100, based on two greenhouse gas emissions scenarios.

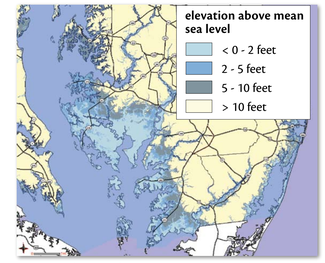


Summer surface water temperatures in the Chesapeake Bay are projected to approximate those of estuaries well down the Atlantic Coast by 2050 and 2100.

Sea-level rise will continue to inundate low-lying lands



Tide gauge record for Baltimore, 1903-2006.



Potential inundation on Maryland's Eastern Shore due to sea-level rise.

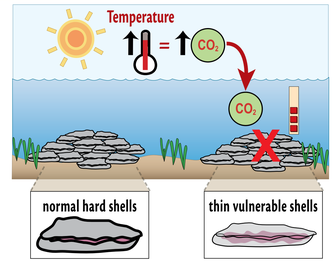
Flash floods and summer droughts will increase

Heavy rains flood roads, making conditions hazardous for driving.

Maryland newspaper headlines failing corn crop due to drought in 2007.

Increasing ocean acidity will affect shellfish

Atmospheric carbon dioxide – CO_2 – taken up by the ocean is making the water acidic.



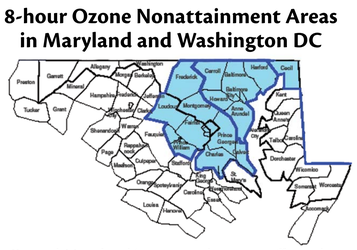
Ocean acidification threatens the ability of mollusks and shellfish to form their shells and skeletons.

Farm and forest productivity will start to decline

Higher temperatures will pose a serious problem of heat stress on confined poultry production.

Heat stress and drought will make forests vulnerable to insects and storm damage.

Hotter, smoggier days will lead to more human health problems



Central Maryland is among the most affected regions for ozone levels in the nation.

High ozone levels irritate the human respiratory system and can lead to pulmonary disease.

[1] **Scientific and Technical Working Group: Donald F. Boesch**, Chair, University of Maryland Center for Environmental Science; **Frank W. Dawson**, Co-Chair, Maryland Department of Natural Resources; **Robert M. Summers**, Co-Chair, Maryland Department of the Environment; **William C. Boicourt**, University of Maryland Center for Environmental Science; **Antonio J. Busalacchi**, University of Maryland, College Park; **Donald R. Cahoon**, U.S. Geological Survey; **Frank J. Coale**, University of Maryland, College Park; **Victoria J. Coles**, University of Maryland Center for Environmental Science; **Russell R. Dickerson**, University of Maryland, College Park; **William M. Eichbaum**, World Wildlife Fund; **Brian D. Fath**, Towson University; **Raymond M. Hoff**, University of Maryland, Baltimore County; **David G. Kimmel**, University of Maryland Center for Environmental Science; **Curtis E. Larsen**, Lusby, Maryland (U.S. Geological Survey, retired); **Andrew J. Miller**, University of Maryland, Baltimore County; **Margaret A. Palmer**, University of Maryland Center for Environmental Science; **Louis F. Pitelka**, University of Maryland Center for Environmental Science; **Steven D. Prince**, University of Maryland, College Park; **Brian S. Schwartz**, The Johns Hopkins University; **David H. Secor**, University of Maryland Center for Environmental Science; **Timothy Warman**, National Wildlife Federation; and **Claire Welty**, University of Maryland, Baltimore County.

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[2] Boesch, D.F. (editor). 2008. *Global Warming and the Free State: Comprehensive Assessment of Climate Change Impacts in Maryland.* Report of the Scientific and Technical Working Group of the Maryland Commission on Climate Change. University of Maryland Center for Environmental Science, Cambridge, Maryland. This report is a component of the Plan of Action of the Maryland Commission on Climate Change, submitted to the Governor and General Assembly pursuant to Executive Order 01.10.2007.07.

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