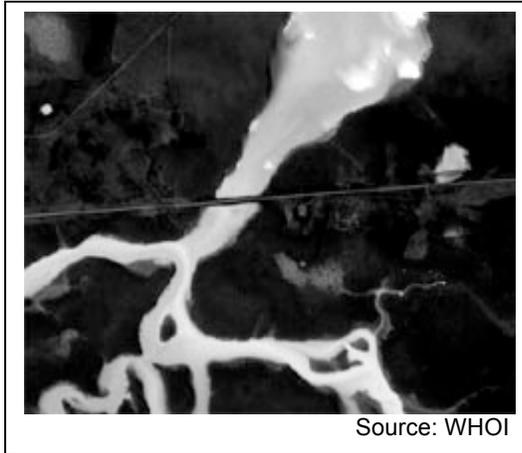
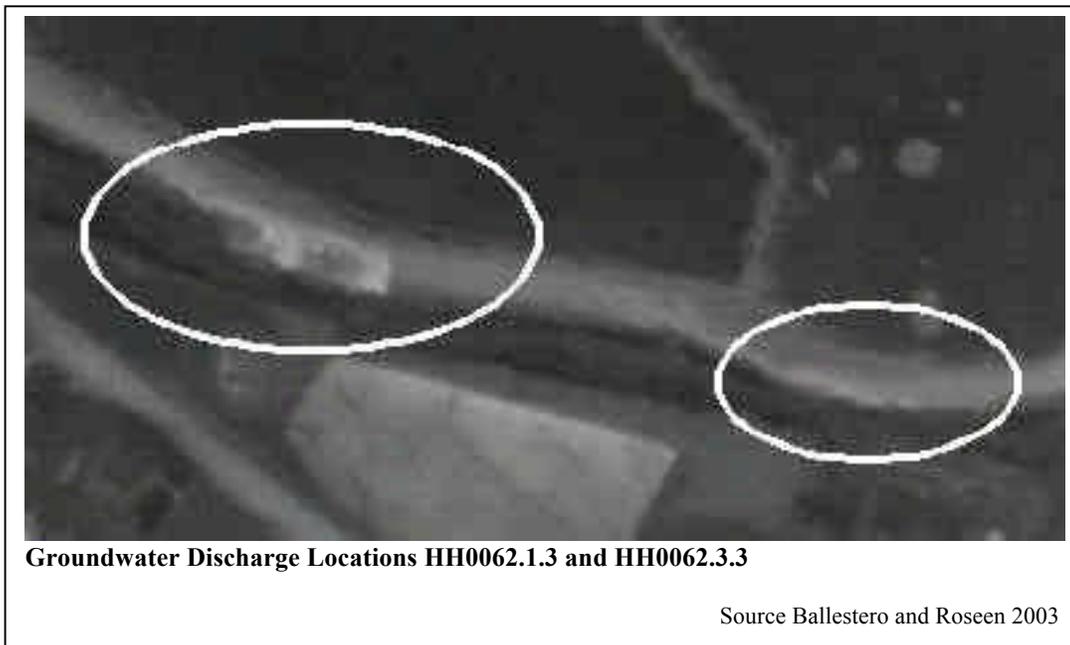


Below are infrared images that depict groundwater discharge into surface water. Infrared imaging depends on a marked difference between the temperature of the groundwater and that of the receiving body of water.



Surface water body. The intense white areas are high seepage preferential flow areas. The gray-white areas represent diffuse groundwater flow into the surface water.

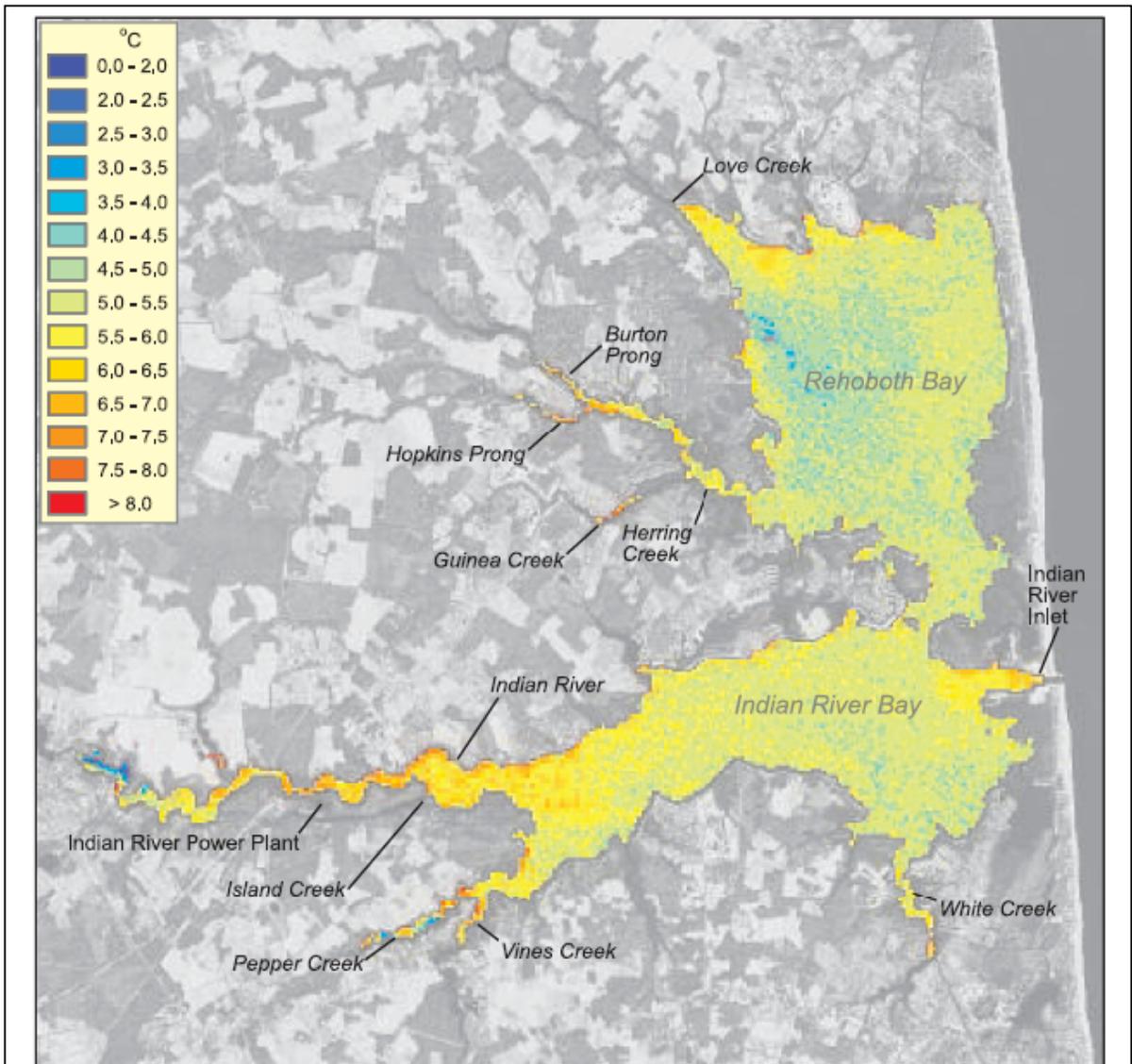




Groundwater Discharge Location HH0013.1.3

Source Ballester and Roseen 2003

These are preferential discharge areas into an estuary.



The higher the temperature, the greater the groundwater discharge rate.

Source: Wang et al. 2008

Characterization of Groundwater Discharge to Hampton Harbor

Ballestero, T. and R. Roseen

University of New Hampshire, Durham, NH, 17 pp, 2003

<http://prep.unh.edu/resources/pdf/characterizationofgroundwater-unh-03.pdf>

Locating Ground-Water Discharge Areas in Rehoboth and Indian River Bays and Indian River, Delaware Using Landsat 7 Imagery

Wang, L, T.. McKenna, and T.. DeLiberty

Delaware Geological Survey, Report of Investigations No. 74, 17 pp, 2008

<http://dspace.udel.edu:8080/dspace/handle/19716/3174>

Submarine groundwater discharge: identification and quantification via remote sensing, hydrologic sampling, and geochemical tracers

WHOI (Woods Hole Oceanographic Institution), Webpage

<http://www.whoi.edu/page.do?pid=17135>

Thermal Infrared Surveys and Nutrients Reveal Substantial Submarine Groundwater Discharge Systems Emanating from the Kona Coast of Hawaii

Johnson, A. et al. Poster Presentation

http://www.soest.hawaii.edu/GG/FACULTY/glenn/Glenn_Infrared_POSTER_11x17.pdf

This poster shows large groundwater point discharge plumes to adjacent bays.