



Final Project Summary

Your final project summary is an important contribution to the Virginia Coastal Zone Management Program's communication efforts and will be used to produce accomplishment reports, fact sheets and **Virginia Coastal Zone Management Web Site** information.

Please submit this form electronically to: Virginia.Witmer@deq.virginia.gov.

YOU DO NOT NEED TO SUBMIT A HARD COPY

NOAA Grant #:	NA09NOS4190163	Grant Year:	2009	Task #:	94.03
Agency/Locality:	Virginia Institute of Marine Science				
Project Title:	Shore Evolution in Four Virginia Localities				
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PROJECT SUMMARY: Please confine your summary to the space provided below. Remember to:

- write for the public
- do not use first person
- include an abstract of project results
- provide a brief description, and titles, of publication(s) and/or dataset(s) produced
- describe how products will be distributed and if available on-line, please give the **Web address!**

As part of a continuing, multi-year project, shore evolution has been documented for James City County, Isle of Wight, Suffolk, and Portsmouth. These reports show the rates and patterns of shore change through time for each locality. Orthorectification of historic and recent aerial photography and digitization of the shoreline show the geomorphic evolution of the coastal zone in terms of shoreline change and landuse as well as nearshore variations in sandbars and shoal where present. Photo dates mosaicked for James City County are 1937, 1953, 1963, 1994, 2002, 2007, and 2009. Isle of Wight photo dates are 1937, 1954, 1963, 1976, 1994, 2002, 2007, and 2009. Suffolk and Portsmouth photo dates are 1937, 1954, 1963, 1994, 2002, 2007, and 2009.

The low water shoreline was digitized on the photos. These evolution reports include all the smaller rivers and creeks for the locality. This presented challenges to the methodology in that areas where very little change is occurring or have heavy vegetative cover introduced a fair amount of uncertainty into the data. As such, in some areas, it was determined that the intervening shorelines provided no additional information and therefore were not digitized. The photos, however, are available. In addition, some areas deemed sensitive by the military were "whited-out" of early photos.

In as many reaches as possible, a baseline was created about 60 meters offshore with transects 10 meters apart. The Digital Shoreline Analysis Software (DSAS) program was used to determine the End Point Rate (EPR) between 1937 and 2007. These rates were plotted on maps.

The digital reports are available on the VIMS, Shoreline Studies Program website at <http://web.vims.edu/physical/research/shoreline/Publications-Evolution.htm>. Since the reports are expensive to print, only a limited number of printed reports are available. However, each locality was sent two printed reports.