DNREC, Shoreline and Waterway Management Section

Fall 2010/Winter 2011

Volume 4, Issue 4

The latest scoop:

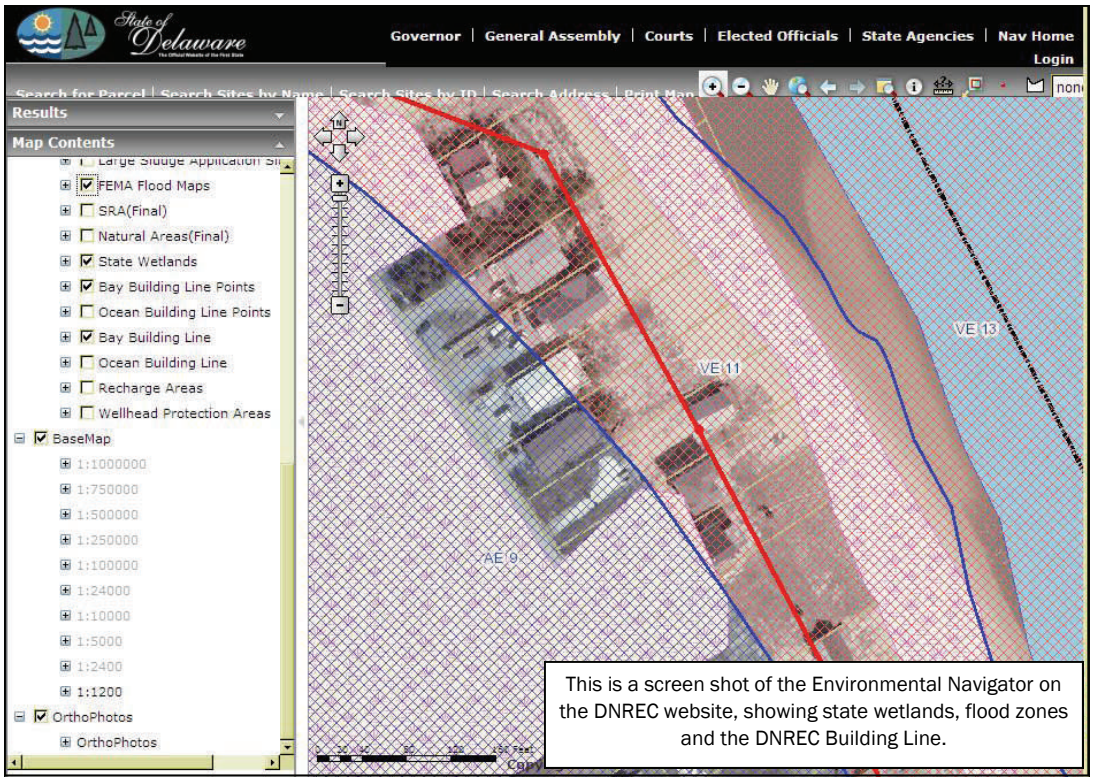
- Beginning on February 1, 2011 all visitors and vendors must enter DNREC's Richardson and Robbins Building through the main entrance from Kings Highway or through the courtyard. All visitors will be required to register at the new Visitors Desk near the main entrance . The Richardson and Robbins Building is located at 89 Kings Highway, Dover, DE 19901.

Upcoming Events:

Beach Grass Planting
March 26, 2011
9 AM—Noon
For more information call
302-739-9921

DNREC's Shoreline and Waterway Management Section wishes you all a Happy New Year!

Crossing Jurisdictional Boundaries



This is a screen shot of the Environmental Navigator on the DNREC website, showing state wetlands, flood zones and the DNREC Building Line.

As sea levels rise and beaches erode, it is becoming apparent that areas might be regulated by more than one section within the Department of Natural Resources and Environmental Control (DNREC). Bay front and oceanfront lots that have lost their dunes and are effected by high tides moving further and further landward on their property are finding themselves in a very compromising position. High tides are encroaching onto what would have been buildable areas of lots. Once the property extends into the intertidal zone, construction on that lot is then regulated under the Regulations Regarding the Use of Subaqueous Land as well as the Regulations Governing Beach Protection and the Use of Beaches.

The Wetlands and Subaqueous Lands Section of the Division of Water at DNREC, regulates and protects tidal wetlands including from the mean high water line channelward along the Delaware Bay and Atlantic Ocean. Areas in which this may occur border buildable lots on the ocean and bay front, which also falls within the jurisdiction of the Shoreline and Waterway Management Section of the Division of Watershed Stewardship. Even though, a lot may be buildable through the Beach Preservation Act, it may not be buildable through the Regulations Regarding the Use of Subaqueous Lands.

High tide encroaching under houses

Crossing Jurisdictional Lines (cont.)

Being that much of Delaware land borders some body of water, it is not surprising that many areas fall within a local flood plain and have to follow FEMA's (Federal Emergency Management Agency's) flood plain ordinance enforced by local municipalities. Local municipalities involved in the National Flood Insurance Program are required to adopt FEMA's flood plain ordinance; however, they also have the ability to go above and beyond. One way in which they can do so, is to require a foot or more of "freeboard," which means that they require all construction of living space to start a foot or so above the Base Flood Elevation that is determined by FEMA. Some rules and regulations are more restrictive than others and sometimes not all regulations coincide. It is very important to try to cover all bases in attempting to find out what restrictions there may be on a property prior to planning construction activities or similar work.

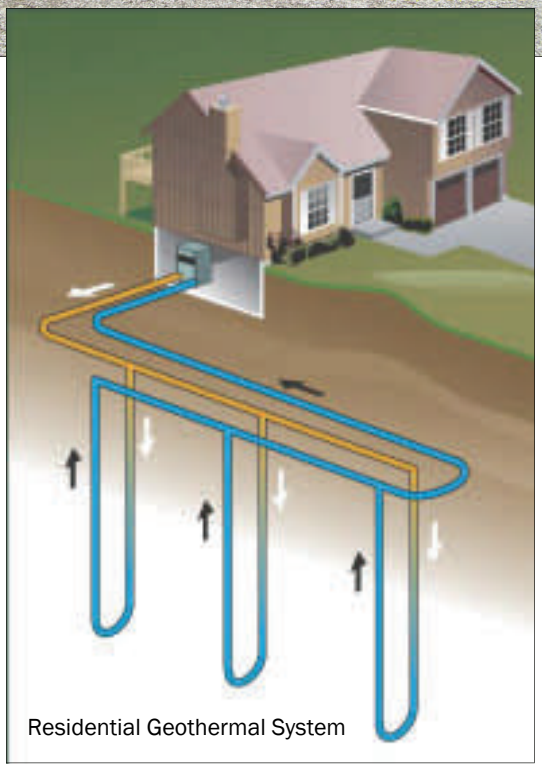
Many properties located along the Delaware Bay shoreline do not have central sewer. Therefore, property owners are required to construct on-site septic systems. In this case they are required to obtain approval for construction through both the Division of Watershed Stewardship and the Division of Water. There are special requirements for construction of on-site septic systems in V-zones where the systems have to be designed and constructed to resist flood damage. Septic systems are not permitted in Easement areas and dune altering is not permitted for construction of a septic system. Please contact the Shoreline and Waterway Management Section prior to designing your septic system so that we can work with you early in the design process to make sure it is properly designed for your lot.

Peat Moss Septic System Drainfield

Recently, more and more new homeowners are choosing geothermal heating and cooling systems for their homes. Geothermal loops are regulated by DNREC's Water Supply Section of the Division of Water and if you are constructing one on a beach lot, they are also regulated by the Division of Watershed Stewardship. Wells and/or geothermal loops are also prohibited seaward of the DNREC Building Line. Between septic system isolation distances, isolation distances for the wells and the DNREC Building Line and /or Easements, fitting geothermal systems on a lot can be quite difficult.

When thinking about new construction on a lot, all utilities and structures as well as all rules, regulations and laws that might apply should be seriously considered. It is much easier to plan ahead than to try squeezing items on a lot after the fact.

Geothermal Loops Being Installed


Residential Geothermal System

Delaware Sea Level Rise Advisory Committee

Because Delaware is very likely to feel impacts from sea level rise in the coming decades, preparing for these impacts before they occur makes sense. To accomplish this in a comprehensive and fiscally responsible manner, an adaptation plan is being developed for the State of Delaware by the Sea Level Rise Advisory Committee. This plan will provide a path forward for planning for the impacts of sea level rise.

The Sea Level Rise Advisory Committee is comprised of a representative from each State of Delaware cabinet-level department and representatives from municipal governments, business advocacy organizations and citizen advocacy organizations. Each representative to the Advisory Committee will consult with their agencies and constituent groups regarding sea level rise issues and bring their concerns and needs to the table for discussion and action. The Advisory Committee will ensure that the Adaptation Plan reflects a wide-range of potential solutions to reduce risk to sea level rise impacts, and will ensure that the plan will be useful to their organization's mission. Members of the Advisory Committee will be strongly encouraged to help implement the recommendations in the Adaptation Plan by continued collaboration with Advisory Committee organizations and others.

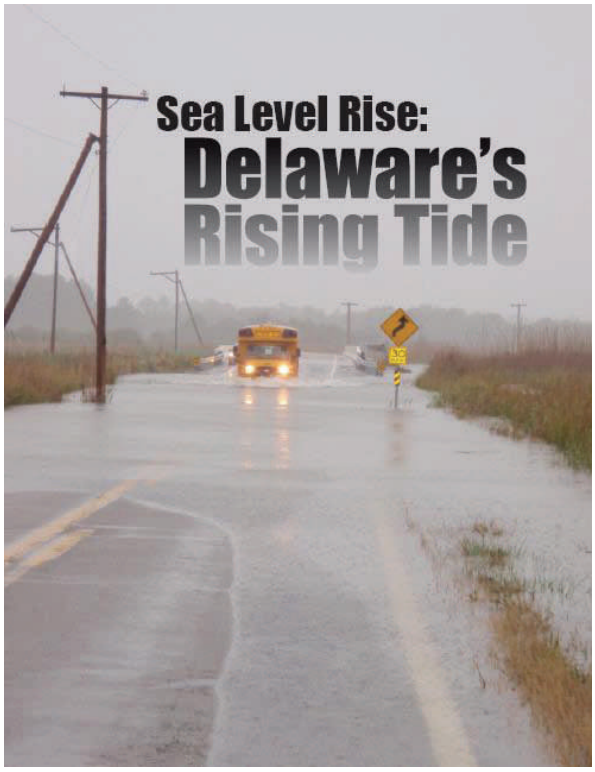
For more information regarding the Delaware Sea Level Rise Advisory Committee go to the website: http://www.swc.dnrec.delaware.gov/coastal/Pages/DESLRAdvisoryCommittee.aspx or call Delaware Coastal Programs at 302-739-9283.

Delaware Bay Beach Work Group

The Delaware Bay Beach Work Group was formed by DNREC Secretary Collin O'Mara for the purpose of examining issues such as beach erosion, marsh drainage and other related issues in the Delaware Bay Beach communities, resulting in recommendations, both short and long term, for how the State of Delaware and other levels of government may address these problems. This group was formed after Sec. O'Mara and DNREC staff met with State Legislators who represent the bay beach areas. These issues have been developing into problems for some time and in some cases are reaching a crisis level. To see a list of members and presentations shown to the Group, please go to http://www.swc.dnrec.delaware.gov/Shoreline/Pages/DelawareBayBeachWorkgroup.aspx.

Sea Level Rise Featured in Outdoor Delaware

In the Fall 2010 issue of Outdoor Delaware Magazine, the Department of Natural Resources and Environmental Control (DNREC) lays out their plan of how they are going to manage the effects of sea level rise. Sea levels have been rising throughout the earth's history as a result of natural warming and cooling cycles. Over the past 2,000 years sea level has been relatively stable. However, Delaware's gently sloping coastal plain makes it more vulnerable than other states to the effects of sea level rise.



NOAA (National Oceanic and Atmospheric Administration) data has shown that the average sea level has risen in Delaware at a rate of .13 inches every year. Despite how insignificant this sounds, it means that sea levels have increased over a foot within the last 100 years. Why does this worry DNREC so much? Increases in sea level rise could lead to many problems, such as increased coastal inundation. More areas that are located adjacent to waterways could be flooded in an average storm event. The areas flooded could also expand. As water rises, it increases the chance of homes and other buildings along the coastline to be damaged during coastal storms. It could also lead to more beach erosion. Higher sea levels can raise water tables causing leakage into freshwater rivers, bays and aquifers, eventually poisoning plants with saltwater and contaminating our drinking water sources. Wildlife will have to adapt to changing conditions within their habitat or migrate from their current habitat areas.

DNREC's Delaware Coastal Programs office has made helping the State prepare for sea level rise a priority. In doing so, they have conducted research in cooperation with DNREC's Watershed Stewardship Division, Center for the Inland Bays and our National Wildlife Refuges on what areas are going to be affected most. They have also worked closely with local towns and cities to help them plan for any sort of adaptation that may have to occur. We are getting our feet wet today, so that we may keep them dry tomorrow. To see the article, please go to the DNREC website: http://www.dnrec.delaware.gov/Admin/Pages/OutdoorDelaware.aspx.

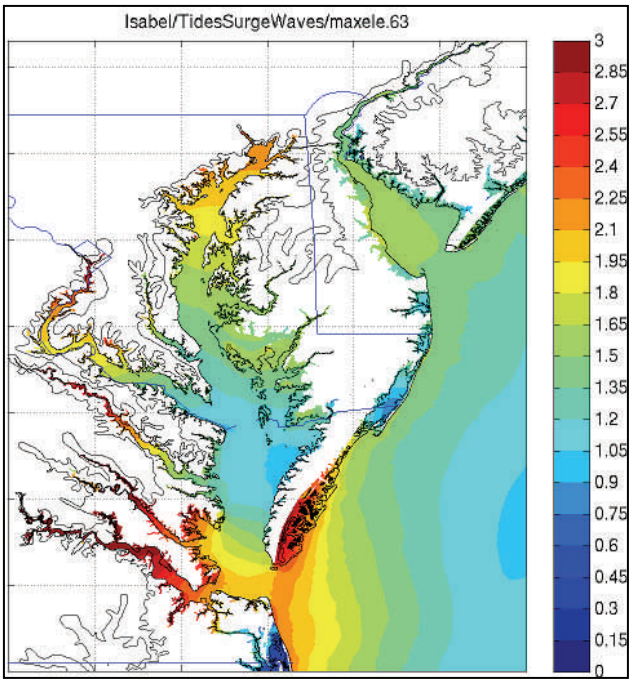
Delaware Coastal Flood Studies Underway

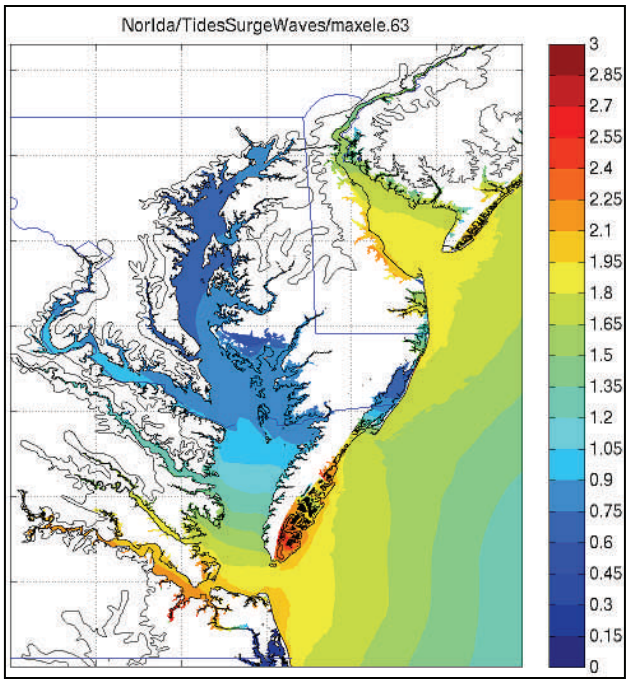
Much of Delaware will see changes to floodplain maps in 2011, both coastal and inland. Several studies are underway which will result in revised floodplain mapping in the upcoming year.

Study Area	Study Contractor	Proposed Changes	Projected Completion
Inland Sussex County	DNREC – URS Corp.	70 miles of revised floodplain to add BFEs	Late 2011
Inland Kent County	DNREC – URS Corp.	30 miles of revised floodplain to add BFEs	Late 2011
New Castle County	DNREC – URS Corp.	30 Miles of revised floodplain to add BFEs	Late 2011
Delaware Coast	FEMA – Army Corps	Revised BFEs and V-Zones entire coast	2012

These floodplain studies will benefit from LiDAR topographic data which has been collected statewide. LiDAR uses LASER technology to collect accurate and cost effective ground elevations and topography over a wide area. This accurate elevation data allows hydrologic studies to be performed easily, and results in a more accurate floodplain than previous maps which relied on USGS 5-10 foot elevation contour.

The FEMA-U.S. Army Corps study will develop a new coastal storm surge model for the Atlantic Ocean, Delaware Bay and Inland Bays. This model will be used to determine new Base Flood Elevations, V-Zone locations as well as hurricane inundation maps. The Corps has already performed much of the modeling for this study, and is comparing their predictions to the actual flooding previous storms to verify the accuracy of their model a process called "hindcasting". This image below shows the Corps modeling for Hurricane Isabel, and the November 2009 storm known commonly as "Nor Ida"





Note the model correctly predicts Isabel's higher flood levels on the Chesapeake Bay and Nor-Ida's higher levels along the Atlantic Ocean and Delaware Bay. For more information about these upcoming flood studies, please contact Michael Powell at (302) 739-9921, or Michael.powell@state.de.us.

Shoreline and Waterway
Management Section
89 Kings Highway
Dover, DE 19901
(302) 739-9921

For Your Reference:

Beach Preservation Act

Title 7, Chapter 68

http://delcode.delaware.gov/title7/c068/index.shtml

Regulations Governing Beach Protection and the Use of Beaches

http://www.dnrec.state.de.us/bechregs.htm

Link to Applications for Coastal Construction

Scroll to the bottom of the page for list of applications

http://www.swc.dnrec.delaware.gov/services/Pages/PermitsLicensesApprovals.aspx

FEMA's National Flood Insurance Program

http://www.fema.gov/about/programs/nfip/index.shtm

If you have any questions regarding the information found in this publication, please contact Jennifer Wheatley at (302) 739-9921 or Jennifer.Wheatley@state.de.us

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