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IN MEMORIAM

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Robert Dolan (1929–2016)

Dr. Robert Dolan died on 24 April 2016 in Charlottesville, Virginia, at age 87. He was Professor Emeritus at the University of Virginia (UVA). He will be remembered as a pioneer in the field of coastal geomorphology. After serving in the U.S. Navy, Bob earned his B.S. from Southern Oregon College in 1955, his M.S. from Oregon State University in 1957, and his Ph.D. from the Coastal Studies Institute at Louisiana State University in 1965.

As part of his dissertation, Bob set up instrumentation on a pier he rented at Nags Head, North Carolina, to measure the impact of storms. Three weeks into this project, the infamous Ash Wednesday storm of 1962 slammed into the U.S. eastern seaboard. An excellent account of Bob's experience living on the front row of this storm and the impact it had on his life and career can be found in *Ribbon of Sand: The Amazing Convergence of the Ocean and the Outer Banks* by Alexander and Lazell (2000). In short, living and working through that experience shaped his research direction and career for the next nearly 50 years. I had the great pleasure of working with him for a few short years as his post-doc and on several other projects following the post-doc including a technical review of NASA's Wallops Island Flight Facility Shoreline Restoration and Infrastructure Protection Program (with Laura Moore and Bob Dean), the Oregon Inlet jetties Environmental Impact Assessment, and a grain-size analysis of the Virginia barrier islands recently published in *Sedimentology*.

Bob took his first and only faculty position at UVA in 1965 where he helped to found the Department of Environmental Sciences in the early 1970s during his tenure as Chair. In the years following, Bob worked with the United States Geological Survey (USGS), National Park Service (NPS), U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service on many projects, but arguably his most noteworthy were those that took place along the Outer Banks of North Carolina. His work with Harry Lins titled, "The Outer Banks of North Carolina" (Dolan and Lins, 2000) is in its fourth printing. During the 1970s, Bob worked to save the Cape Hatteras lighthouse and Hatteras seashore and wrote a landmark paper on the negative impacts of maintaining sand dunes on beaches. This research ultimately led to a reversal of NPS policy along the Cape Hatteras National Seashore to allow the dunes, built in the 1930s by the Civilian Conservation Corps, to erode naturally. He also recommended mining sand from Cape Point at Cape Hatteras to use for nourishing the beach in front of the Cape Hatteras lighthouse. The borrow site has remained to this day and I affectionately refer to this pond as "Dolan's Pond" (Figure 1). While the list of his work in this area is quite extensive, I remember him as a liaison and an expert who, among other things, enabled competing interests to develop mutually satisfactory solutions in the debate regarding construction of the Oregon Inlet jetties.



Bob Dolan while grab sampling in Oregon Inlet, NC. Photo taken May 2003.

Bob also worked as a liaison scientist for the Office of Naval Research (ONR) and lived overseas for two stints during the mid-1980s and mid-1990s assessing ONR coastal and marine research and engineering activities.

In the late 1970s and early 1980s, Bob played a major role in advancing the field of shoreline change research with his UVA colleagues Bruce Hayden and Suzette May Kimball among others. He was among the first to develop a shoreline digitizing system when the technology was at its infancy. He then spent many years compiling two large shoreline datasets—COASTS and CEIS—that were used by research groups, coastal land managers, policy makers, and local homeowners to assess the vulnerability of coastal properties and use as a land-use decision making tool. Bob and his research team ultimately used those data to provide technical support for the Federal Emergency Management Agency's shoreline mapping program

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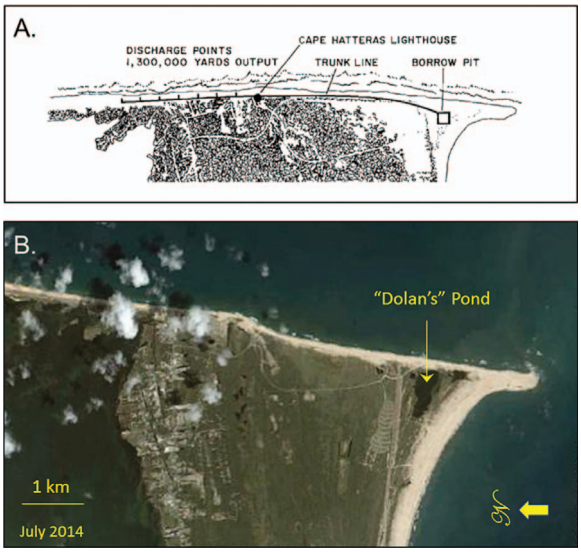


Figure 1. (A) Schematic of 1973 Buxton Beach nourishment project showing borrow pit location as shown in Dolan *et al*. (1974). (B) Google Earth image of same area in July 2014 showing water-filled borrow site and formation of "Dolan's Pond."

in the late 1980s and early 1990s. A number of publications resulted from this work and provided guidelines on shoreline change analyses for many research groups and government/coastal management agencies (including the USGS's Digital Shoreline Analysis System [DSAS]).

Later, he pursued his passion for quantifying northeast storms where he developed the "Dolan/Davis" classification scheme for rating the intensity of northeast storms with his UVA colleague Robert Davis.

He also worked on a multitude of coastal consulting projects ranging from projects in Dubai to NASA's Wallops Island Flight Facility.

While at UVA, Bob received an award for Significant Contributions to the Science Program from the Department of the Interior (1987) and UVA's Distinguished Professor award (1991). He was also noted for his scientific "flexibility," contributing literature on topics including "Sinking Cities" and sea-level rise, the "Lost Colony" of Roanoke Island, the origin of Jockey's Ridge, NC, and human impacts along the Colorado River.

Bob Dolan served as a life mentor to me. He never said a cross word about anyone and turned the other cheek when that gesture was not returned. He had a talent for seeing the big picture and knew how to get things done to see his ideas come to fruition. He could watch a TV show on how potato chip companies know how much salt to put on potato chips and come to work the next day relating those methods to shoreline change analyses. He had a positive outlook on life and a true desire and passion for working with his students, research staff, and colleagues. He loved the institution in which he worked his entire professional life as well as good wine, Cajun food, art, gardens, flying small airplanes, exquisite motorcycles, and most importantly, his family.

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For more information, see the UVAToday article at: https://www.news.virginia.edu/content/memoriam-robert-dolan-pioneering-coastal-geologist?tm_source=DailyReport&utm_medium=email&utm_campaign=news

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