

Research and monitoring projects active during 2014 or later within CBNERR-VA boundaries and adjacent subtidal Areas, which have been compiled by CBNERR-VA (as of August 2025). Abbreviations for CBNERR-VA wetland reserves and/or long-term SWMP CMON sites: GI=Goodwin Islands, GP=Gloucester Point, CI=Catlett Islands, CB=Claybank, TC=Taskinas Creek, SH=Sweet Hall Marsh, WH = White House. For long-term ongoing projects, the present Lead PI(s) are listed.

Lead PI(s)	Project	Sponsor	Lead PI Institution	Reserve	Duration
Active in 2025					
Alwine, R.	Catlett Island corduroy survey	Fairfield Foundation	Fairfield Foundation	CI	Mar-Jun 2025
Bailey, V., and P. Megonigal	Coastal observations, mechanisms, and predictions across systems and scales - field, measurements, and experiments	DOE	PNNL	GI, SH	2022-2026
Barksdale, M.	Marsh transect model comparisons	VIMS	VIMS/COP	GI, CI	May-Aug 2025
Brooks, H.	Terrapin nest protection	CBNERR-VA	CBNERR-VA	GI	2019-Ongoing
Brown, D.	Cultural resource investigations	VA Department of Historic Resources	Fairfield Foundation	GI, CI	2019-Ongoing
Dudrick, R.	From science to solutions: Does seagrass combat microplastic pollution?	VIMS	VIMS/EH	GI	May-Nov 2025
Edwards, M., and Patrick, C.	Rays in seagrass	VIMS	VIMS/COP	GI	2024-2025
Fabrizio, M.	Juvenile fish trawl survey	USFWS/VMRC	VIMS/NR	GI, CI, CB, TC, SH	Ongoing
Fabrizio, M.	Juvenile striped bass seine survey	USFWS/VMRC	VIMS/NR	TC, SH	Ongoing
Friedrichs, C., Reay, W.	York River-Mobjack Bay water clarity assessment	USEPA, VDEQ	VIMS/CBNERR-VA	York River	2023-Ongoing
Friedrichs, M., Reay, W., Reece, K. (all VIMS Leads)	Regional MERHAB: HABS monitoring and forecasting	NOAA/NCCOS	VIMS/COP/EH	York River	2023-Ongoing
Harlan, D., and Duhring, K.	Machicomoco State Park shoreline cleanup	Friends of Machicomoco, VA Master Naturalists	Friends of Machicomoco	CI	2022-2025

Henderson, C., and Shields, E.	Evaluating eelgrass resiliency and restoration potential to enhance adaptive management	NOAA/NERRS Davidson Fellowship	UNCW, VIMS/CBNERR-VA	GI	2025-2026
Hill, V.	Evaluating Planet satellite imagery to map SAV	EPA	ODU	GI	2024-2025
Jobe, J.	Edges in ecotones: Differentiating process at the leading and lagging edges of the marsh-forest ecotone	NSF	VIMS/COP	CI	Jul-Aug 2025
Kirwan, M.	Sea level rise impacts on marsh and forest ecotones	NSF, VIMS, Dominion	VIMS/COP	GI	2014-Ongoing
Kuehl, S.	Class field trip	VIMS	VIMS/COP	TC	Mar 2025
Lerberg, S.	Emergent wetland sentinel site monitoring	CBNERR-VA	VIMS/CBNERR-VA	GI, CI, TC, SH	2017-Ongoing
Lipcius, R.	Blue crab ecology	NOAA, VCU, ACOE, CVA Science Collaborative	VIMS/NR	CI, TC, GI	2000-Ongoing
Messerschmidt, T., and Kirwan, M.	Sea level rise impacts on coastal subsidence	NSF	VIMS/COP	GI	2019-Ongoing
Millette, N.	Phytoplankton characterization at CBNERR-VA sites	VIMS	VIMS/COP	GI, SH	2020-Ongoing
Noe, G.	Response of tidal freshwater forested wetlands to SLR and watershed sediment availability	USGS	USGS	SH	2014-Ongoing
Patrick, C.	Distribution of SAV within the Chesapeake Bay	EPA, NOAA	VIMS/COP	GI	1978-Ongoing
Patrick, C.	Distribution of epifauna on <i>Zostera marina</i> and <i>Ruppia maritima</i> within lower Chesapeake Bay	VIMS	VIMS/COP	GI	2020-Ongoing
Patrick, C.	MarineGEO sampling of seagrass and epifauna in lower Chesapeake Bay	VIMS, Smithsonian	VIMS/COP	GI	2022-Ongoing
Patrick, C.	Restoration of SAV	VIMS	VIMS/COP	GP	2022-Ongoing
Reay, W.	NERRS SWMP: Water quality, nutrients and meteorological	NERRS	VIMS/CBNERR-VA	GI, GP, CI, CB, TC, SH, WH	1997-Ongoing

Reay, W., and S. Lerberg	Sea level rise impacts to emergent wetlands and adjacent ecotones	NOAA	VIMS/CBNERR-VA	GI, CI, TC, SH	2009-Ongoing
Reay, W., E. Miles	Support of NOAA's Chesapeake Bay interpretive buoy system (CBIBS) in Virginia estuarine and coastal waters	NOAA/CBO	VIMS/CBNERR-VA	York River	2013-Ongoing
Reilly E.	Birds of Catlett Islands	NOAA/IRA, Middle Peninsula Birders Club	VIMS/CBNERR-VA	CI	2024-Ongoing
Rivest, E.	CSI oyster	NOAA OAP, NSF, Friends of the Rappahannock	VIMS/EH	York River	2022-2027
Rivest, E. (Lead VIMS PI); Najjar, R. (lead PI)	CHALK (Chesapeake alkalinity study)	NSF	VIMS/BIOL; Penn State University	TC, SH, York River	2022-2025
Sanchez, Z.	Seascape spatial variability of carbon dynamics in coastal salt marshes in Virginia	Kirk Wetlands Research Program	ODU	CI	2023-2026
Shields, E.	SAV Habitat water quality monitoring	CBNERR-VA, VIMS	VIMS/CBNERR-VA	GI, York River	1985-Ongoing
Shields, E.	NERRS/VIMS SAV biomonitoring	CBNERR-VA, VIMS	VIMS/CBNERR-VA	GI, GP	2004-Ongoing
Small, H.	Eelgrass pathogen screening	VIMS	VIMS/EH	GI	May-Jun 2025
Small, H.	Juvenile blue crab collection	VIMS	VIMS/EH	GI	May-Jun 2025
Song, B.	Salt marsh methane cycle	NSF, VIMS	VIMS/EH	GI, TC	2019-Ongoing
Taylor, D.	Southeast insect collection BYU	Brigham Young University-Idaho	Brigham Young University-Idaho	TC	Jun 2025
VADEQ, J. Donat (ODU)	Mid-channel long-term water quality monitoring	USEPA, VADEQ	VADEQ, ODU	York River System	1987-Ongoing
VA Shellfish Sanitation	Microbial water quality monitoring	VADH	VADH	CI, TC	1987-Ongoing
Completed 2024					
Barksdale, M. and Kirwan, M.	Modeling management strategies for tidal marsh sustainability	NOAA/NERRS Davidson Fellowship, NSF, USGS	VIMS/COP	GI	2022-2024
Brush, M.	Eroded versus non-eroded marsh habitat comparison on Goodwin Island Complex, VA	VIMS	VIMS/EH	GI	Mar-Apr 2024

Ruffe, M.	The American Revolution (documentary series)	Corporation for Public Broadcasting	Florentine Films	SH	May 2024
Shields, E. (Lead VIMS PI); J. Jarvis (Lead PI)	Evaluating and enhancing eelgrass resiliency and restoration potential in a changing climate	NOAA/NERRS Science Collaborative	VIMS/CBNERR-VA; UNC Wilmington	GI	2023-2024
Completed 2023					
Anderson, I., M. Brush, K. Reece, and B. Song	Alteration of carbon fluxes by intense phytoplankton blooms in a micro tidal estuary	NSF	VIMS/BIOL	York River System	2018-2023
Brush, M.	Effects of out-welling on metabolism of the York River	VIMS, NSF	VIMS/BIOL	TC, CI	2013-2023
Brush, M.	Primary production and respiration along the York River	VIMS	VIMS/BIOL	GI, CI, TC, SH	2015-2023
Detweiler, D.	Composition and short-term fate of dissolved organic carbon in tidal marsh soils	NOAA/NERRS Davidson Fellowship	VIMS/BIOL	GI, TC, SH	2020-2023
Rivest, E., M. Brush, R. Zimmerman, and V. Hill	Can submerged aquatic vegetation meadows mitigate ocean acidification thresholds for Eastern oysters in the Chesapeake Bay?	NOAA	VIMS/BIOL	GI	2021-2023
Schoenberg, N., and R. Seitz	Growth and survival of outplanted soft-shell clams during a winter grow-out period in the York River	NOAA Saltonstall-Kennedy Grant	VIMS/BIOL	CI	2021-2023
Completed 2022					
Brush, M.	Fine-scale spatial variability of marsh communities on the protected and unprotected sides of Catlett Islands	VIMS	VIMS/BIOL	CI	Mar-Apr 2022
Brush, M.	Influence of current velocity on habitat features at an estuarine marsh island	VIMS	VIMS/BIOL	GI	Mar-Apr 2022
Massey, G.	Rapid soil classification and integration of soil characteristics for UXO site characterization and risk	DOD SERDP	VIMS/PHYS	GP, CB	May-Oct 2022
Reece, K.	HAB dynamics and living resource impacts	NOAA NCCOS	VIMS/AHS	GI	2018-2022

Rivest, E.	Ocean acidification thresholds	NOAA OAP, VIMS	VIMS/BIOL	GI	2017-2022
Youker, D.	Western shore marshes important to bird area	Private	Private	GI	2016-2022
Zimmerman, R.	SAV collection from Goodwin Island	NOAA, NASA	ODU	GI	Jun-Aug 2022
Completed 2021					
Detweiler, D.	Seasonal reactivity of DOC along the York River estuary	VIMS, NSF	VIMS/BIOL	TC, SH	2019-2021
Herman, J.	Estimating blue carbon stocks in coastal marshes to enhance NRCS soil surveys	USDA NRCS	VIMS/CCRM	TC	2021
Koontz, E.	NASA blue methane	NASA	SERC	GI, CI, TC, SH	2021
Lerberg, S.	Thin layer sediment placement: Evaluating salt marsh adaptation strategies	NERRS, CBNERR-VA	VIMS/CBNERR-VA	GI	2018-2021
Orth, R., and C. Patrick	SAV: How does species and manual seed dispersal method alter bed establishment and composition?	USACE	VIMS/BIOL	GI	2020-2021
Reece, K., W. Reay, and W. Vogelbein	Identifying strategies to minimize impacts of HABs on performance and survival of triploid oysters cultured in Lower Chesapeake Bay	NOAA VASG	VIMS/AHS	GI	2017-2021
Walters, D., and S. Lerberg	Tidal marsh elevation survey for LEAN Correction	USGS, CBNERR-VA, VIMS	USGS	GI, CI, TC, SH	2021
Smith, A., and M. Kirwan	Marsh migration carbon stock analysis	NSF	VIMS/PHYS	GI	2019-2021
Completed 2020					
Gillen, M., T. Messerschmidt, and M. Kirwan	Marsh soil shear strength along salinity gradient	NSF	VIMS/PHYS	GI, CI, TC, SH	2018-2020
Landry, S.	Recruitment and post-settlement mortality of the soft-shell clam	VIMS	VIMS/BIO	CI	2019-2020
Reece, K.	HAB dynamics and living resource impacts	NOAA NCCOS	VIMS/AHS	GI	2018-2020

Ward, N., and M. Kirwan	Loblolly Tree Coring	VIMS	Pacific NW National Lab	GI	2019-2020
Completed 2019					
Braff, P.	Evaluating headwater wetlands in terms of their nexus to downstream ecosystems	EPA, VIMS	VIMS/CCRM	TC	2016-2019
Brush, M.	Effects of inter-annual variation in discharge on tidal marsh ecosystem	VIMS	VIMS/BIOL	TC	2019
Chambers, R	The nesting ecology and predation of diamondback terrapins	W&M	W&M Keck Lab	CI	2005-2019
Johnson, D.	Salt marsh ecology - education	VIMS	VIMS/BIOL	GI, TC	2019
Knobloch, A.	Marsh-estuarine carbon fluxes	NASA, VIMS	VIMS/PHYS	TC	2013-2019
Martinez-Soto, K., and D. Johnson	A comparison on the impacts of vanguard and core populations of <i>Uca pugnax</i> on marsh functions	NSF	VIMS/BIOL	CI	2019
Messerschmid, T. and M. Kirwan	Recreating forest root distribution	VIMS	VIMS/PHYS	CI	2018-2019
Neubauer, S.	Human alteration of sediment delivery to the coast	NSF	VCU	GI, CI, TC	2018-2019
Nunez, K.	SCHISM: Tidal marsh modeling	CBNERR-VA Rouse Bottom Fellowship	VIMS/CCRM	TC	2016-2019
Sebilian, S.	Effect of salinity on <i>Spartina</i> spp. chemical traits	VIMS	VIMS/BIO	GI	2016-2019
Wittyngham, S.	Effect of salinity on <i>Spartina</i> spp. chemical traits	VIMS	VIMS/BIO	GI	2016-2019
Completed 2018					
Angstadt, K.	Development of strategies to improve conservation of Virginia's headwater wetland ecosystems	EPA	VIMS/CCRM	TC	2015-2018
Atkins, R.	Quantifying and explaining spatial variation in consumer-plant interactions in salt marsh	University of Georgia Fellowship	UGA	GI	2015-2018

Brush, M.	Spatial and annual variability of biological and chemical parameters within estuarine habitats	VIMS	VIMS/BIOL	GI	2018
Friedrichs, C., and C. Harris	Interactions of estuarine physics, sediment, and organic matter in determining suspended particle properties, their spatial and temporal distribution, and resulting water clarity	NSF	VIMS/PHYS	CB, York River System	2015-2018
Johnson, D.	Investigation of latitudinal gradient in isotopic niche width of salt marsh consumers	VIMS	VIMS/BIO	GI	2016-2018
Moore, K.	Eelgrass seedling dynamics	VIMS	VIMS/BIO/CBNERR-VA	GI	2002-2018
Orth, R.	Seagrass restoration	VIMS	VIMS/BIOL	GI, CB	1987-2018
Perry, J.	Wetland plant ID and general education	VIMS	VIMS/BIO	GI, CI, TC, SH	2002-2018
Pinsonneault, A.	Sediment DOC flux	NSF	SERC	TC	2017-2018
Shaw, T.	Vertical distribution of salt-marsh foraminifera as sea level indicators	NSF	Rutgers U	GI, CI, TC	2017-2018
Wiengarten, E.	Sediment bacterial ecophysiology in Gulf and Atlantic tidal wetlands	U of Mississippi	U of Miss	TC, HS	2018
Wilkins, E.	Bird surveys with postings to the eBird data base	Private	Private	GI	2016-2018
Williams, B.	Role of crustacean ecosystem engineers in geomorphic processes	VASG, VA Garden Club	VIMS/BIO	GI	2016-2018
Completed 2017					
Brush, M.	Comparing sediment and community structure among marsh life stages	VIMS	VIMS/NSF	GI	2016-2017
Hoenig, J.	Shad stock assessment	VMR, NMFS, USFWS	VIMS/FISH	CI	2010-2017
Isdell, R.	Ecological drivers of ribbed mussel populations	VIMS	VIMS/BIOL	CI	2016-2017

Morina, J.	Nitrogen cycling across a salinity gradient in a tidal wetland	VA Sea Grant	VCU	TC	2015-2017
Vogelbein, W.	HAB impacts on oysters	VIMS	VIMS	GI	2015-2017
Completed 2016					
Atkinson, R., and B. Bowen	Dendrologic assessment of coastal habitats	CBNERR-VA Rouse Bottom Fellowship	CNU	GI, CI, TC, SH	2012-2016
Brush, M.	Comparing sediment and community structure	VIMS	VIMS/BIO	GI	2016
Dang, C., S. Neubauer and K. McCallister	Assessing tidal freshwater wetland microbial community response to salinity disturbance	NSF	VCU	TC, SH	2014-2016
Duffy, E.	Grazer diversity, function and productivity in seagrass beds	NSF	VIMS/BIO	GI	2000-2015
Katzner, T.	Distribution, differentiation and hybridization of king and clapper rails	VDGIF	WVU	SH	2015-2016
Eveler, A. and J. Patterson	Diurnal variation of organic content of atmospheric aerosol particles	CNU	CNU	TC	2015-2016
Completed 2015					
Hammer, K., and K. Moore	Effects of climate induced increased water temperatures on eelgrass productivity	University of Copenhagen and VIMS	University of Copenhagen and VIMS	GI	2015
Hughes, A., D. Kimbro, and E. Beighley	Links between urbanization, eutrophication and salinity changes on invasion success of invasive reed	NASA, NSF	Northeastern University	SH	2014-2015
Completed 2014					
Friedrichs, C., M. Friedrichs, and C. Harris	Improved observation, analysis and modeling of fine sediment dynamics in turbid, biologically active coastal environments	NSF	VIMS/PHYS	CB, York River System	2011-2014
Cammer, S.	Sources of watershed DOM and its reactivity in the York River estuary	NERRS GRF, VIMS	VIMS/PHYS	TC	2008-2014
Harding, S.	Rails of the Pamunkey River	VA DGIF	VA DGIF	SH	2014