

Site ID 14CTB - 308			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	28-Oct-14	Day of Year	301
Field Crew	Julie Bernier, Cathryn Wheaton		
Platform	Mako	Location	Assateague Island, MD
Arrival Time (EDT)	15:27	Departure Time (EDT)	15:47
Latitude	38.11201	Longitude	-75.19901
Water Depth (m)	<5cm		
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	080
YSI	Pro Plus	Camera	Canon AW100

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Rec A	Start Time	N/A
GPS Session ID	A080	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Spartina	Water Type (estuary, marsh, standing, r	Standing
Pentrometer (marsh sites only)	N/A	Temperature (°C)	21.2
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	764.2
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	62.3
Bulk Density/LOI	Yes	DO (mg/L)	4.60
Grain Size	Yes	Specific Conductance (mS/cm)	48.26
Stable Isotopes/Metals	Yes	Salinity	31.52
Distance from GPS	25 cm	pH (-)	7.96
Azimuth from GPS	SW 210	ORP (mV)	17.2
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	24"
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	Fall
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	N/A
Barrel Length (cm)	N/A	Core Catcher Used?	N
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	N/A
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	N/A
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
<p>Elevated sandy "berm" still identifiable;</p> <p>*DGPS A081; mostly revegetated lots of wrack at this shoreline</p> <p>*DGPS in sand auger hole</p>

Photos
<p>AW2129-2152 N --> E --> S --> W from boat.</p> <p>2133 jellyfish</p>

Site ID 14CTB - 309			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	11:33	Departure Time (EDT)	Not recorded
Latitude	38.11246	Longitude	-75.18793
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	026
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A026	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	S 170°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	44
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	20 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	S 190°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>On overwash fan - sand and sparse vegetation.</p> <p>Overwashfan is very low here, with evidence nearby of water flow and scour during storm on Wednesday.</p> <p>DGPS site A027 from scour channel.</p> <p>Trench: water table ~ 42 cm.</p> <p>Banding in trench --> winnowing of surface sediments?</p> <p>No peat/organics in trench wall, but last shovels as water was infilling excavated black sand similar to core.</p> <p>Sand auger: plugged in organics. 44 cm from surface plus peaty sample from auger tip (44-45 cm?)</p>

Photos
<p>Nikon D5200: DSC_0104.JPG: site photo</p> <p>DSC_0105.JPG through DSC_0108.JPG: N --> E --> S --> W from site</p> <p>DSC_0109.JPG through DSC_0111.JPG: trench photos</p> <p>DESC_0112.JPG through DSC_0117.JPG: scour and sediment from last storm. DSC_0117.JPG ~ E to "gap" between dunes</p>

Site ID 14CTB - 310			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	21-Oct-14	Day of Year	294
Field Crew	Julie Bernier, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, MD
Arrival Time (EDT)	12:16 F-DT	Departure Time (EDT)	12:39
Latitude	38.11284	Longitude	-75.19112
Water Depth (m)	< 5 cm standing		
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	_002
YSI	N/A	Camera	Canon 630

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Blue Rec A	Start Time	N/A
GPS Session ID	A002	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand/Muck/ Spartina	Water Type (estuary, marsh, standing, r	N/A
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	90 cm	pH (-)	N/A
Azimuth from GPS	SSE 150	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	24"
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	18 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	21 cm
Barrel Length (cm)	N/A	Core Catcher Used?	N
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	1.00 m
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	S 160
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
Poor recovery of sand auger in mucky sediments; penetrated root mat. Back-barrier marsh, transect 4

Photos
128 though 131 N --> E --> S --> W from site.

Site ID 14CTB - 381			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	21-Oct-14	Day of Year	294
Field Crew	Julie Bernier, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, MD
Arrival Time (EDT)	12:16	Departure Time (EDT)	12:39
Latitude	38.11284	Longitude	-75.19112
Water Depth (m)	< 5 cm standing		
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	_002
YSI	N/A	Camera	Canon 630

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Blue Rec A	Start Time	N/A
GPS Session ID	A002	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type		Water Type (estuary, marsh, standing, r	N/A
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	90 cm	pH (-)	N/A
Azimuth from GPS	SSE 150	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	24"
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	13 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	22 cm
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	1.4 m
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	N/A
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
Field replicate of site 14CTB-310

Photos

Site ID 14CTB - 311			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	21-Oct-14	Day of Year	294
Field Crew	Julie Bernier, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, MD
Arrival Time (EDT)	11:34	Departure Time (EDT)	12:00
Latitude	38.11365	Longitude	-75.19323
Water Depth (m)	< 5 cm standing		
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	_001
YSI	N/A	Camera	CANON 630 122-127

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Blue (A)	Start Time	N/A
GPS Session ID	A001	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand Spartina	Water Type (estuary, marsh, standing, r	N/A
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	80 cm	pH (-)	N/A
Azimuth from GPS	WNW 300	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	24"
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	18 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	20 cm
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	35 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	WNW 290
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
Poor sand auger recovery of saturated sandy marsh sediments. Estaurine / back-barrier marsh, transect 4

Photos
122- looking ca. w at antenna 123-126 N --> E --> S --> W from site 127 marsh veg.

Site ID 14CTB - 314			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	21-Oct-14	Day of Year	294
Field Crew	Marci Marot, Alisha Ellis		
Platform	Mako	Location	Assateague Island, MD
Arrival Time (EDT)	16:00	Departure Time (EDT)	16:35
Latitude	38.1515	Longitude	-75.18825
Water Depth (m)	N/A		
Handheld GPS used	62 Stc	GPS Waypoint	128
YSI	N/A	Camera	Canon AW100

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	SMG 2X-2	Start Time	N/A
GPS Session ID	B001	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	?	Water Type (estuary, marsh, standing, r	N/A
Pentrometer (marsh sites only)	3.75	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	50 cm	pH (-)	N/A
Azimuth from GPS	NE	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	58 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	14 cm
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	75 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	E
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
No shear vane. Height of GPS antennae 81.8 cm

Photos
2066-2072

Site ID 14CTB - 315			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	21-Oct-14	Day of Year	294
Field Crew	Julie Bernier, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, Worchester CO, MD
Arrival Time (EDT)	16:52	Departure Time (EDT)	17:00
Latitude	38.15314	Longitude	75.17879
Water Depth (m)	~ 10 cm standing		
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	128
YSI	N/A	Camera	Canon 630 163-169

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Blue REC A	Start Time	N/A
GPS Session ID	A009	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Spartina	Water Type (estuary, marsh, standing, r	N/A
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	1 m	pH (-)	N/A
Azimuth from GPS	N 020	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	24"
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	15 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	15 cm
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	1.0 (units not indicated)
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	N 030
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
Poor recovery of mucky marsh sediments with sand auger Back barrier spartina sp.? Marsh adj. to tidal inlet.

Photos
163-166 N --> E --> S --> W from site. (sun glare in 166) 167-169 ~ W --> N along tidal inlet.

Site ID 14CTB - 316			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	21-Oct-14	Day of Year	294
Field Crew	Julie Bernier, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, Worchester CO, MD
Arrival Time (EDT)	17:16	Departure Time (EDT)	17:25
Latitude	38.15232	Longitude	75.17610
Water Depth (m)	N/A		
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	010
YSI	N/A	Camera	Canon 630 170

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Blue REC A	Start Time	N/A
GPS Session ID	A009	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Spartina	Water Type (estuary, marsh, standing, r	N/A
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	85 cm	pH (-)	N/A
Azimuth from GPS	N 350	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	24"
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	50 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	13 cm
Barrel Length (cm)	N/A	Core Catcher Used?	Not listed
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	N/A
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	N/A
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
Tall marsh grass (spartina?) and scrub Thick roots - poor penetration w/ sand auger.

Photos
170 vegetation

Site ID 14CTB - 317			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	21-Oct-14	Day of Year	294
Field Crew	Julie Bernier, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, Worchester CO, MD
Arrival Time (EDT)	17:34	Departure Time (EDT)	17:45
Latitude	38.15184	Longitude	75.1761
Water Depth (m)	N/A		
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	011
YSI	N/A	Camera	Canon 630 171-174

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Blue REC A	Start Time	N/A
GPS Session ID	A011	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	O/W and dune vegetation	Water Type (estuary, marsh, standing, r	N/A
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	25 cm	pH (-)	N/A
Azimuth from GPS	E 090	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	24"
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	full
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	37 cm
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	35 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	E0 95
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
<p>Sandy overwash deposit at toe of fan.</p> <p>Sparse vegetation and sand burrs</p> <p>May have penetrated ~ org rich layer at bottom</p> <p>No trench today running out of light.</p>

Photos
<p>171-174 N-->E-->S-->W from site</p>

Site ID 14CTB - 321			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Alisha Ellis, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, Worchester CO, MD
Arrival Time (EDT)	10:51	Departure Time (EDT)	11:10
Latitude	38.21217	Longitude	-75.15325
Water Depth (m)	1 cm		
Handheld GPS used	samford 76	GPS Waypoint	112
YSI	no	Camera	Canon AW100

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	B	Start Time	N/A
GPS Session ID	B113	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Spartina	Water Type (estuary, marsh, standing, r	marsh
Pentrometer (marsh sites only)	0.75	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	1.17 m	pH (-)	N/A
Azimuth from GPS	NE	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	50
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	19 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	17.5 cm
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	67 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	NW
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
could not get GPS fully in seds 2.02 from ground surface to antenna.

Photos
2087 through 2095 (Horse, local N-->E-->S-->W) Cathryn's first sand auger.

Site ID 14CTB - 323			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Alisha Ellis, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, Worchester CO, MD
Arrival Time (EDT)	12:00	Departure Time (EDT)	
Latitude	38.21170	Longitude	-75.15125
Water Depth (m)	0		
Handheld GPS used	SANFORD 076	GPS Waypoint	115
YSI	no	Camera	Canon AW100

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	B	Start Time	N/A
GPS Session ID	B115	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Shrub	Water Type (estuary, marsh, standing, r	marsh
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	40 cm	pH (-)	N/A
Azimuth from GPS	West	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	50 cm
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	43 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	40 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	West
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
Ground surface to antenna (GPS) 2.04 m

Photos
2100-2103 N-->E-->S-->W

Site ID	14CTB - 324		
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Alisha Ellis, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, MD
Arrival Time (EDT)	11:34	Departure Time (EDT)	11:52
Latitude	38.21095	Longitude	-75.15015
Water Depth (m)	0		
Handheld GPS used	SANFORD 076	GPS Waypoint	114
YSI	no	Camera	Canon AW100

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	B	Start Time	N/A
GPS Session ID	B115	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Dune Vegetation, Shrub	Water Type (estuary, marsh, standing, r	marsh
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kg/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	66 cm	pH (-)	N/A
Azimuth from GPS	E	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	50 cm
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	21 cm
Shear Strength (kg/cm ²)	N/A	Recovered Core Length (cm)	33cm
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	56 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	NE
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
Ground surface to antenna (GPS) 2.02 m

[illegible]

Site ID 14CTB - 383			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Alisha Ellis, Cathryn Wheaton		
Platform	OSV	Location	Assateague Island, MD
Arrival Time (EDT)	11:34	Departure Time (EDT)	11:52
Latitude	38.21095	Longitude	-75.15015
Water Depth (m)	0		
Handheld GPS used	SANFORD 076	GPS Waypoint	114
YSI	no	Camera	Canon AW100

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	B	Start Time	N/A
GPS Session ID	B114	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Dune Vegetation, Shrub	Water Type (estuary, marsh, standing, r	marsh
Pentrometer (marsh sites only)	N/A	Temperature (°C)	N/A
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	N/A
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	N/A
Bulk Density/LOI	Yes	DO (mg/L)	N/A
Grain Size	Yes	Specific Conductance (mS/cm)	N/A
Stable Isotopes/Metals	Yes	Salinity	N/A
Distance from GPS	66 cm	pH (-)	N/A
Azimuth from GPS	E	ORP (mV)	N/A
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	50 cm
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	5 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	47.5
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	32 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	NE
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
Field replicate of site 14CTB-324
Ground surface to antenna (GPS) 2.02 m

Photos
2096-2099 N-->E-->S-->W

Site ID 14CTB - 326			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	9:54	Departure Time (EDT)	Not recorded
Latitude	38.10990	Longitude	-75.18871
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	024
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A024	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	20 cm	pH (-)	
Azimuth from GPS	S 190°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	45.5
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	20 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	SW 210°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Bare sand in depression/low on overwash fan between vegetated areas; surface is still very wet.</p> <p>Trench: water table ~ 17 cm; salinity 5 ppt.</p> <p>2x trench 20 cm + ~ 1.5 m S 190° from DGPS; farther trench was "test" hole but shows better layering.</p> <p>2-5 cm from surface (both trenches): gray sandy layer/laminae.</p> <p>2nd trench has 2 rusty layers above and below gray sand --> so these seem to be highly variable in distribution.</p> <p>Did not penetrate organics in trench (backfill and collapse).</p> <p>Sand auger: punched through black sand (32 cm) and peat (38-40 cm) into underlying sand below 30 cm from surface.</p> <p>Highly variable elevation on fan surface - reoccupied site 026 from March trip, but auger and trench from a different location would likely suggest significantly thicker overwash above organics.</p>

Photos
<p>Nikon D5200: DSC_0083.JPG: site photo</p> <p>DSC_0084.JPG through DSC_0092.JPG: coring and trench photos</p> <p>DSC_0093.JPG through DSC_0096.JPG: N --> E --> S --> W from site</p>

Site ID 14CTB - 327			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	23-Oct-14	Day of Year	296
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	12:58	Departure Time (EDT)	Not recorded
Latitude	38.12067	Longitude	-75.18467
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	017
YSI		Camera	Canon A63, Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A017	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand and veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	35 cm	pH (-)	
Azimuth from GPS	NE 035°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	6
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	41.5
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	15 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	N 020°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes

Vegetated overwash deposit.
Trench: water table at 31-33 cm, heavy rooted layer (marsh surface?) at 34 cm.
Trench infilling and collapsing as fast as we dig.
Sample 14CTB-327-T1: lowermost sand we could get from trench wall.

Photos

Canon A630: IMG_0200.JPG through IMG_0203.JPG: N --> E --> S --> W from site
IMG_0204.JPG: trench site
IMG_0205.JPG: site vegetation
Nikon D5200: DSC_0053.JPG through DSC_0057.JPG: site and trench photos
DSC_0058.JPG: approximately E along transect from site 327 to next site

Site ID 14CTB - 328			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	17:04	Departure Time (EDT)	Not recorded
Latitude	38.11801	Longitude	-75.18618
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	040
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A040	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	40 cm	pH (-)	
Azimuth from GPS	W 270°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	7
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	40
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	Not recorded
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	Not recorded
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Sandy, wet, with thin vegetation (grassy and shrub).</p> <p>Trench: wet/fluid sand at ~ 25 cm.</p> <p>Hit dark gray organic layer, filling with water and collapsing as fast as we dig.</p> <p>Backfill salinity 5 ppt.</p> <p>Sample 14CTB-328-To (approximate - hard to maintain contact with backfill and collapse).</p> <p>Organic layer is fibrous root mat with dark to black sandy mud matrix ~ 5-6 cm thick based on excavated material - good agreement with sand auger.</p> <p>Sand auger: sand --> black sand at 23 cm, peaty organics from 26-30 cm into underlying sand.</p>

Photos
<p>Nikon D5200: DSC_0177: site photo</p> <p>DSC_0178.JPG through DSC_0181.JPG: N --> E --> S --> W from site</p> <p>DSC_0182.JPG and DSC_0183.JPG: trench photos</p>

Site ID 14CTB - 393			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	22-Oct-14	Day of Year	295
Field Crew	Julie Bernier, Marci Marot, Alisha Ellis, Cathryn Wheaton		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	11:17	Departure Time (EDT)	11:45
Latitude	38.24456	Longitude	-75.13504
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	013
YSI		Camera	Canon A63, Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A013	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Spartina/dune grass (?)	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	50 cm	pH (-)	
Azimuth from GPS	SW 210°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	41
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	15 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	N 000°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Overwash fan is heavily vegetated.</p> <p>Trench: Water table ~ 64 cm below surface.</p> <p>13 cm from surface to darker brown sandy layer*; above and below this is lighter sand with darker heavy mineral/organics banding.</p> <p>Roots from surface vegetation present in trench wall.</p> <p>Darker gray (heavy minerals?) sandy layer ~ 5 cm below water table.</p> <p>Sample 14CTB-393-T1 sand with heavy minerals, ~ 65 cm</p> <p>*Sand auger: blue marker highlights layer above brown sand. Interbedded sand and heavy minerals above this is event layer?</p> <p>No sand/peat contact in trench or sand auger.</p>

Photos
<p>Canon A630: IMG_0184.JPG through IMG_0187.JPG: N --> E --> S --> W from site</p> <p>IMG_0188.JPG: site photo</p> <p>IMG_0189.JPG: site vegetation</p> <p>Nikon D5200: DSC_0016.JPG through DSC0030.JPG: trench and site photos</p>

Site ID 14CTB - 394			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Alisha Ellis, Cathryn Wheaton		
Platform	OSV	Location	Was left Blank
Arrival Time (EDT)	1:31	Departure Time (EDT)	
Latitude	38.24509	Longitude	-75.13663
Water Depth (m)	10 cm		
Handheld GPS used	Sanford 76	GPS Waypoint	116
YSI	Yes	Camera	Canon AW100

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	B	Start Time	N/A
GPS Session ID	B116	Stop Time	N/A
Occupation Time (min)	5 min	Total Volume	N/A
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Spartina	Water Type (estuary, marsh, standing, r	marsh/standing
Pentrometer (marsh sites only)	N/A	Temperature (°C)	19
Shear Strength (kq/cm ²) (marsh sites on	N/A	Barometric Pressure (mm Hg)	757.1
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	90.2
Bulk Density/LOI	Yes	DO (mg/L)	7.16
Grain Size	Yes	Specific Conductance (mS/cm)	38.15
Stable Isotopes/Metals	Yes	Salinity	24.29
Distance from GPS	68 cm	pH (-)	7.32
Azimuth from GPS	N	ORP (mV)	-166.7
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type	N/A	Barrel Length (cm)	65 cm
Pentrometer	N/A	ITGODS (bottom of weld ≈ top of barrel)	19 cm
Shear Strength (kq/cm ²)	N/A	Recovered Core Length (cm)	18 cm
Barrel Length (cm)	N/A	Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)	N/A	Distance from GPS	45 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)	N/A	Azimuth from GPS	SE
Compaction (cm)	N/A		N/A
Recovered Core Length (cm)	N/A		N/A
Distance from GPS	N/A		N/A
Azimuth from GPS	N/A		N/A
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections	N/A	Recovered Depth (cm)	N/A
Total Core Length (cm)	N/A	Distance from GPS	N/A
Distance from GPS	N/A	Azimuth from GPS	N/A
Azimuth from GPS	N/A		

Notes
GPS pole @ plate boundary Too much water for shear strength and pentrometer

Photos
2104 through 2107 N-->E-->S--W

Site ID 14CTB - 395			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	12:50	Departure Time (EDT)	Not recorded
Latitude	38.24599	Longitude	-75.13490
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	059
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A059	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	NW 300°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	10
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	29.5
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	40 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	NW 300°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Toe of overwash fan extends ~ all the way to bay, immediately adjacent to Juncus marsh at edge of woody scrub.</p> <p>Prominent sand berm at bayside shoreline, with tidal "inlet" adjacent to site; "inlet" salinity 33 ppt.</p> <p>Fringing Juncus marsh transitions to thin strip 35~50 m wide of Spartina (?) marsh.</p> <p>Trench: 25 cm to topof dark gray sand; marsh surface 38~39 cm depth; backfill salinity 8-9 ppt.</p> <p>Sample 14CTB-395-T0: 37-38 cm.</p> <p>Sand auger: 29.5 cm from surface; penetrated marsh plus sample from core tip (~ 4 cm organics bototm of core plus plug).</p> <p>Site 395A: lower sand deposit from site 395 (DGPS site A0060).</p> <p>Trench 395A: ~ 60 cm E 110° from A060; marsh surface at 18 cm; backfill 11 ppt salinity.</p> <p>Sample 14CTB-395A-T0: 17-18 cm.</p> <p>Sand auger 395A: 29 cm from surface; ~ 30 cm E 110° from A060.</p> <p>Gradational organic contact ~ 14-15 cm from surface.</p> <p>DGPS site A061 from marsh surface - return for marsh core if time permits.</p>

Photos
<p>Nikon D5200: DSC_0320.JPG and DSC_0321: site photos</p> <p>DSC_022.JPG through DSC_0325.JPG: N --> E --> S --> W from site</p> <p>DSC_0326.JPG through DSC_0330.JPG: bayside sand berm and breach/inlet</p> <p>DSC_0331.JPG: site 395A</p> <p>DSC_0332.JPG and DSC_0333.JPG: trench photos site 395A</p> <p>DSC_0334.JPG through DSC_0336.JPG: trench photos site 395</p>

Site ID	14CTB - 424, 14CTB - 469 (Field Replicates)		
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	17:30	Departure Time (EDT)	17:50
Latitude	38.11793	Longitude	-75.18655
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	041
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A041	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes (x4)	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes (x2)	DO (mg/L)	
Grain Size	Yes (x2)	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes (x2)	Salinity	
Distance from GPS	35 cm	pH (-)	
Azimuth from GPS	N 015°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	9
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	37.5
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	20 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	N 015°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Bare sand near edge of overwash toe.</p> <p>DGPS site A042 immediately into adjacent marsh.</p> <p>Trench: sample 14CTB-424-T0: buried grasses ~ 23 cm over dark gray-black organics; same depth as in sand auger.</p> <p>Saturated at T0 contact and backfilling; backfill 5 ppt salinity.</p> <p>Sand auger: organic layer 23.5 - 26.5 cm.</p>

Photos
<p>Nikon D5200: DSC_0184.JPG: site photo</p> <p>DSC_0185.JPG through DSC_0188.JPG: N --> E --> S --> W from site</p> <p>DSC_0189.JPG: marsh site A042</p> <p>DSC_0190.JPG and DSC_0191.JPG: trench photos</p>

Site ID 14CTB - 425			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	16:32	Departure Time (EDT)	Not recorded
Latitude	38.11777	Longitude	-75.18599
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	039
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A039	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	40 cm	pH (-)	
Azimuth from GPS	W 285°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	7
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	38
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	30 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	W 285°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>On overwash fan, sand and sparse vegetation/grass, in "depression;" thicker vegetation S and N adjacent to site.</p> <p>Trench: water table ~ 38 cm; trench quickly filling with water and collapsing.</p> <p>~ 32-34 cm buried grass, with recovery of roots by trowel ~ 4-5 cm (?) below this - all by digging through collapsing trench.</p> <p>Is this a single overwash deposit (Sandy)?</p> <p>No trench photos - collapsing too quickly.</p> <p>Sand auger: olive-brown organic-rich horizon 32-36 cm --> marsh surface?</p>

Photos
<p>Nikon D5200: DSC_0171: site photo</p> <p>DSC_0172.JPG: up-transcet towards site 434</p> <p>DSC_0173.JPG through DSC_0176.JPG: N --> E --> S --> W from site</p>

Site ID 14CTB - 427			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	15:52	Departure Time (EDT)	Not recorded
Latitude	38.11633	Longitude	-75.18618
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	038
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A038	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	SE 145°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	45, 40
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	Not recorded
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	Not recorded
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Sandy with sparse vegetation.</p> <p>Similar setting as site 428; there is an abrupt "drop" from this sandy surface to adjacent sandy with thicker vegetation.</p> <p>Sandy topsoil ends where buffered by woody scrub, and true marsh is another "step down" from toe.</p> <p>Trench: wet sand at 44 cm; water seepage at 49 cm.</p> <p>0-18 cm - dark gray laminae; below this less frequent gray laminae and a few root casts.</p> <p>Backfill salinity 5 ppt.</p> <p>2x sand auger: 0-45 cm from surface (no organics), 49-89 cm from water table.</p> <p>Second sand auger recovered organics (roots and brown sediment) but no true peat from 26-29 cm core depth (75-78 cm from surface).</p>

Photos
<p>Nikon D5200: DSC_0163.JPG and DSC_0164.JPG: site photos</p> <p>DSC_0165.JPG through DSC_0168.JPG: N --> E --> S --> W from site</p> <p>DSC_0168.JPG: along overwash toe</p> <p>DSC_0169.JPG and DSC_0170.JPG: trench photos</p>

Site ID 14CTB - 428			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	15:03	Departure Time (EDT)	15:45
Latitude	38.11538	Longitude	-75.18672
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	035
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A035	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	35 cm	pH (-)	
Azimuth from GPS	S 180°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	44, 37
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	40 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	S 200°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Sand and sparse veg, including scrub/shrub.</p> <p>As we saw yesterday, sandy vegetated beyond toe of bare earth overwash. ~ 10 m from site edge of toe then flat sandy vegetated.</p> <p>DGPS site A036 from sandy vegetated beyond bare sandy overwash.</p> <p>DGPS site A037 at true marsh edge. Marsh surface water 6 ppt salinity.</p> <p>Trees/woody scrub to either side of fan --> abrupt sand contact at tree line; "extended" toe funnels between treelines out toward marsh.</p> <p>Trench: wet sand at 58 cm but no water table.</p> <p>Sediment is more uniform or massive than at other sites to visible eye.</p> <p>2x sand auger: 0-44 cm from surface, 58-95 cm from wet sand; no organics.</p>

Photos
<p>Nikon D5200: DSC_0155.JPG and DSC_0156.JPG: site photos</p> <p>DSC_0157.JPG: from site to DGPS site A036</p> <p>DSC_0158.JPG through DSC_0160.JPG: panorama SW --> W --> NW of overwash toe</p> <p>DSC_161.JPG and DSC_0162.JPG: trench photos</p>

Site ID 14CTB - 429			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	23-Oct-14	Day of Year	296
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	12:12	Departure Time (EDT)	Not recorded
Latitude	38.12077	Longitude	-75.18491
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	015
YSI		Camera	Canon A63, Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A015	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand and veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	W 250°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	9.5
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	38
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	40 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	S 190°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
At toe of overwash fan. Sandy, with sparse vegetation - Panicum (?) and goldenrod.
DGPS site A016 off edge in marsh.
Trench: ~ 8 cm from surface to "rusty" organic layer*; 12 cm from surface color change tan to gray; 25 cm from surface organic marsh sediments
Trench infills with water and collapses as soon exposed.
Sample 14CTB-429-T0: sand above organic contact.
14CTB-429-T1: sand immediately above "rusty" layer.
*"Rusty" layer appears to be roots of the surface vegetation - overwash and regrowth or recolonization and roots growing down?
"Rusty" layer is variable depth from surface in nearby "test" trenches.
Sand auger: organic contact penetrated.

Photos
Canon A630: IMG_0195.JPG through IMG_0198.JPG: N --> E --> S --> W from site
IMG_0199.JPG: approximately W to toe of fan from site
Nikon D5200: DSC_0047.JPG through DSC_0052.JPG: trench photos

Site ID 14CTB - 430			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	23-Oct-14	Day of Year	296
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	13:23	Departure Time (EDT)	Not recorded
Latitude	38.12053	Longitude	-75.18427
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	018
YSI		Camera	Canon A63

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A018	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	S 175°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Not recorded
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	48, 42
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	10-20 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	Not recorded
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
Overwash fan with sparse vegetation, adjacent to more vegetated dune.
Trench: water table ~ 45 cm from surface; no organics.
2X sand auger: 0-48 cm from surface; 42 cm from wet sand through water table (42-84 cm depth).

Photos
Canon A630: IMG_0206.JPG through IMG_0209.JPG: N --> E --> S --> W from site

Site ID				14CTB - 431, 14CTB - 470 (Field Replicates)			
USGS Field Activity Number (FAN)		2014-322-FA (14CTB02)					
Date		23-Oct-14		Day of Year		296	
Field Crew		Julie Bernier, Marci Marot					
Platform		Over-Sand Vehicle		Location		Assateague Island, MD	
Arrival Time (EDT)		13:51		Departure Time (EDT)		14:25	
Latitude		38.1204		Longitude		-75.18386	
Water Depth (m)							
Handheld GPS used		Garmin GPSMap 76S		GPS Waypoint		019	
YSI				Camera		Canon A63, Nikon D5200	

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A019	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes (x4)	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes (x2)	DO (mg/L)	
Grain Size	Yes (x2)	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes (x2)	Salinity	
Distance from GPS	35 cm	pH (-)	
Azimuth from GPS	E 100°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	32
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	29
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	25 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	NE 120°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Near crest of dune/"hummock" with sparse vegetation (Panicum?).</p> <p>Trench: grayish sand layer ~ 32 cm from surface at hard pack contact.</p> <p>Samples: 14CTB-431-T1 (below contact), 14CTB-431-T2 (above contact).</p> <p>Digging down to ~ 70 cm exposed additional faint darker gray (heavy mineral?) layers.</p> <p>Do these represent "lags" like we see in depressed rippled areas adjacent to dunes?</p> <p>Sand auger: could not punch through hard pack sand at 32 cm.</p>

Photos
<p>Canon A630: IMG_210.JPG through IMG_213.JPG: N --> E --> S --> W from site</p> <p>IMG_214.JPG and IMG_215.JPG: E to site from GPR transect - tried to capture elevation change</p> <p>Nikon D5200: DSC_0059.JPG through DSC_0066.JPG: trench and ripples</p>

Site ID 14CTB - 432			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	23-Oct-14	Day of Year	296
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	15:08	Departure Time (EDT)	Not recorded
Latitude	38.11947	Longitude	-75.18435
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	020
YSI		Camera	Canon A63, Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A020	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	SSE 160°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	36.5, 36.5
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	15 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	SE 150°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Bare sand in "depression"/low between vegetated dunes.</p> <p>Trench: wet sand at 42 cm; water table within 10 cm of wet sand; trench filled with water and total collapse.</p> <p>Last shovel hit a dark unit ~15 cm (?) below wet sand line.</p> <p>2x sand auger: 0-36.5 cm from surface, 36.5 cm from wet sand line (41-77.5 cm depth); second auger plugged in organics.</p>

Photos
<p>Canon A630: IMG_216.JPG through IMG_219.JPG: N --> E --> S --> W from site</p> <p>IMG_220.JPG: ENE from site, GPR track follows interdune depression</p> <p>Nikon D5200: DSC_0067.JPG: from veg line to site</p> <p>DSC_0068.JPG through DSC_0071.JPG: coring photos</p>

Site ID 14CTB - 433			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	23-Oct-14	Day of Year	296
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	15:41	Departure Time (EDT)	Not recorded
Latitude	38.11859	Longitude	-75.18491
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	021
YSI		Camera	Canon A63, Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A021	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	35 cm	pH (-)	
Azimuth from GPS	S 185°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	51
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	25 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	S 190°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Bare sand in "depression"/low between vegetated dunes.</p> <p>DGPS site A022 at veg line along overwash</p> <p>From site to end of GPR track ~ 50 m SW: sparse to dense vegetation (Panicum (?) and golden rod).</p> <p>~ 50 m beyond end of GPR track is scrub line; do these small trees/scrub "baffle" water and waves and act a barrier to overwash?</p> <p>Although heavily vegetated to scrub line, very sandy soil, even digging down below surface.</p> <p>First apparent "marsh" is ~100-150 m (estimated) beyond scrub line.</p> <p>Trench: several dark gray laminae; prominent lower lamination in photos is ~ 25 cm depth</p> <p>Wet/saturated sediment at 28-29 cm; trench backfilling with water.</p> <p>Salinity of backfill 5 ppt (M. Marot refractometer).</p> <p>Shoveled light gray sand from below ~30-35 cm but no cohesion of trench walls; no organics in trench.</p> <p>Sand auger: 0-51 cm, plugged in ~ black organic layer.</p>

Photos
<p>Canon A630: IMG_221.JPG through IMG_224.JPG: N --> E --> S --> W from site; IMG_224.JPG is along GPR track</p> <p>Nikon D5200: DSC_000072.JPG: ~ W from veg line to site</p> <p>DSC_0073.JPG and DSC_0074.JPG: ~ W from site to scrub line</p> <p>DSC_0075.JPG through DSC_0077.JPG: trench photos</p>

Site ID		14CTB - 434	
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	23-Oct-14	Day of Year	296
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	16:36	Departure Time (EDT)	Not recorded
Latitude	38.11769	Longitude	-75.18536
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	023
YSI		Camera	Canon A63, Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A023	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	30 cm	pH (-)	
Azimuth from GPS	W 270°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Not recorded
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	Not recorded
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	35 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	WNW 300°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Target site on crest of vegetated dune: moved to bare earth in "depression"/low adjacent to dune. (Last try from dune crest encountered hard pack and no organics - better chance of penetrating organics here.)</p> <p>Trench: water from trench backfill 5 ppt salinity.</p> <p>Layering visible in trench: thick dark gray layer from 21-23 cm, angled dark gray layer ~ 27 cm depth.</p> <p>Wet sand contact ~ 34-35 cm.</p> <p>Sand auger from surface failed: 2x attempt with < 10 cm recovery.</p> <p>Sand auger from wet sand contact at 35 cm recovered organics.</p>

Photos
<p>Canon A630: IMG_225.JPG through IMG_228.JPG: N --> E --> S --> W from site</p> <p>IMG_229.JPG: to target site</p> <p>Nikon D5200: DSC_00000078.JPG: ~ W from veg line to site and GPR crew</p> <p>DSC_0079.JPG: site photo</p> <p>DSC_0080.JPG through DSC_0082.JPG: trench photos</p>

Site ID 14CTB - 436			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	13:38	Departure Time (EDT)	14:15
Latitude	38.11282	Longitude	-75.18712
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	034
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A034	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Wet sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	35 cm	pH (-)	
Azimuth from GPS	N 355°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	49
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	25 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	N 010°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Overwash fan - wet sand with sparse vegetation.</p> <p>Trench: water table and backfill at 19 cm.</p> <p>Dark gray sand horizon at 13 cm overlaid by ~ rooted rusty *coarse* sand</p> <p>Sample 14CTB-436-T1 from coarse sand.</p> <p>Backfill 5 ppt salinity.</p> <p>Sand auger: recovered black organics at base; plug in auger tip is rooted sand.</p>

Photos
<p>Nikon D5200: DSC_0148.JPG: site photo</p> <p>DSC_0149.JPG through DSC_0152.JPG: N --> E --> S --> W from site</p> <p>DSC_0153.JPG and DSC_0154.JPG: trench photos</p>

Site ID 14CTB - 437			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	13:12	Departure Time (EDT)	Not recorded
Latitude	38.11292	Longitude	-75.18764
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	032
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A032	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	NW 310°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	26.5, 34
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	25 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	NW 300°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Target on side of grassy "knoll;" - sample from bare overwash adjacent to target.</p> <p>DGPS site A033 from crest of vegetated knoll.</p> <p>Trench: water table and backfill at 34 cm.</p> <p>Light/dark (dry/wet?) and some rusty layering.</p> <p>Backfill salinity 5 ppt.</p> <p>2x sand auger: 0-26.5 cm from surface (no organics), 25-59 cm from 25 cm depth.</p> <p>Second sand auger recovered organics and underlying sand.</p>

Photos
<p>Nikon D5200: DSC_0139.JPG and DSC_0140.JPG: site photos</p> <p>DSC_0141.JPG through DSC_0144.JPG: N --> E --> S --> W from site</p> <p>DSC_0145.JPG: site photo</p> <p>DSC_0146.JPG and DSC_0147.JPG: trench photos</p>

Site ID 14CTB - 438			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	12:08	Departure Time (EDT)	Not recorded
Latitude	38.11261	Longitude	-75.18881
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	028
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A028	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	20 cm	pH (-)	
Azimuth from GPS	SW 220°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	8
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	33.5
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	35 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	Not recorded
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Toe of overwash fan within ~ 2 m of Spartina (?) marsh edge; sandy with sparse vegetation.</p> <p>DGPS site A029 on marsh surface.</p> <p>Trench: depth to marsh surface and water table ~ 22 cm; trench infilling.</p> <p>Thick root mat with black sandy matrix.</p> <p>Sample 14CTB-438-T0 immediately above marsh surface.</p> <p>Salinity of trench backfill 14-15 ppt; salinity at emergent marsh surface 10 ppt.</p>

Photos
<p>Nikon D5200: DSC_0118.JPG and DSC_0119.JPG: site photos</p> <p>DSC_0120.JPG through DSC_0122.JPG: trench photos</p> <p>DSC_0123.JPG through DSC_0126.JPG: N --> E --> S --> W from site</p> <p>DSC_0127.JPG: overwash toe and marsh</p>

Site ID 14CTB - 439			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	12:40	Departure Time (EDT)	Not recorded
Latitude	38.11305	Longitude	-75.18859
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	030
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A030	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	15 cm	pH (-)	
Azimuth from GPS	W 275°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	7
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	36.5
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	25 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	W 275°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Toe of overwash fan adjacent to Spartina (?) marsh.</p> <p>DGPS site A031 in marsh ~ 2 m from toe of overwash fan; very thick marsh grass/vegetation.</p> <p>Trench: 19 cm - rooted sand; 28 cm - black marsh deposit.</p> <p>Sand above marsh surface is variably black or "rusty."</p> <p>Water table ~ 20 cm; infilling and sidewall collapse.</p> <p>Backfill salinity 5 ppt. (Emergent marsh surface salinity not recorded.0</p> <p>Sand auger: punched through peat from 20-24 cm into underlying sand.</p>

Photos
<p>Nikon D5200: DSC_0128.JPG and DSC_0129.JPG: site photos</p> <p>DSC_0130.JPG through DSC_0133.JPG: N --> E --> S --> W from site</p> <p>DSC_0134.JPG through DSC_0137.JPG: trench photos</p> <p>DC_0138.JPG: across marsh to DGPS site A031</p>

Site ID 14CTB - 442			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	24-Oct-14	Day of Year	297
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	10:36	Departure Time (EDT)	11:08
Latitude	38.11142	Longitude	-75.18816
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	025
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A025	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	20 cm	pH (-)	
Azimuth from GPS	NE 035°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	45, 35
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	35 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	N 010°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Toe of overwash fan; sand and vegetation (golden rod, scrub).</p> <p>~ 30 m from site 443 (in marsh/scrub vegetation).</p> <p>Trench: irregular dark (heavy minerals?) banding throughout; especially prominent from 17-40 cm depth.</p> <p>Banding is highly irregular depending on which trench wall.</p> <p>Water table ~ 60 cm depth; backfill.</p> <p>2x sand auger: 0-45 cm from surface shows good layering; 60-95 cm from trench.</p> <p>Second auger penetrated dark gray sand at bottom of core, refusal --> does this overly organic contact?</p>

Photos
<p>Nikon D5200: DSC_0097.JPG: site photo from veg line</p> <p>DSC_0098.JPG and DSC_0099.JPG: trench photos</p> <p>DSC_0100.JPG through DSC_0103.JPG: N --> E --> S --> W from site</p>

Site ID 14CTB - 446			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	22-Oct-14	Day of Year	295
Field Crew	Julie Bernier, Marci Marot, Alisha Ellis, Cathryn Wheaton		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	11:55	Departure Time (EDT)	12:25
Latitude	38.24467	Longitude	-75.1355
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	014
YSI		Camera	Canon A63, Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A014	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	SW 230°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	37
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	10 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	Not recorded
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>15.8 m from site to toe of overwash deposit and transition to back-barrier Spartina + Juncus marsh.</p> <p>Overwash fan extends between/bordered by shrub/trees and Phragmites stands.</p> <p>Sand auger: Sand - "marsh" contact recovered.</p> <p>Trench: water table ~ 25 cm from surface; trench backfilling with water.</p> <p>0-13 cm: sand; 13-16 cm: rooted horizon with orange iron staining; 16-22 cm: gradational transition to dark gray-black sand below 22 cm.</p> <p>22 cm: contact with underlying black (organic? heavy mineral?) sand and roots.</p> <p>Sample 14CTB-446-T0</p>

Photos
<p>Canon A630: IMG_0190.JPG and IMG_0191.JPG: SW 230° from site to toe of overwash deposit</p> <p>IMG_0192.JPG: NE 050° from site along overwash deposit</p> <p>IMG_0193.JPG: NE 050° from toe</p> <p>IMG_0194.JPG: NNE across marsh from toe</p> <p>Nikon D5200: DSC_0031.JPG through DSC_0039.JPG: trench and site photos</p> <p>DSC_0040.JPG through DSC_0046.JPG: N --> E --> S --> W from site</p>

Site ID 14CTB - 447			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	22-Oct-14	Day of Year	295
Field Crew	Julie Bernier, Marci Marot, Alisha Ellis, Cathryn Wheaton		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	10:08	Departure Time (EDT)	10:50
Latitude	38.24437	Longitude	-75.13441
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	013
YSI		Camera	Canon A63, Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A012	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Spartina/dune grass (?)	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	10 cm	pH (-)	
Azimuth from GPS	S 195°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	34
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	10 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	SE 210°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Overwash has become significantly vegetated since spring 2014. GPR transects may be difficult.</p> <p>Trench: Hit water tables ~ 84 cm from surface; trenching filling. Root "mat" at ~ 24 cm from surface. Layering visible throughout.</p> <p>Samples 14CTB-447 basal - peat* (btm); 14CTB-447 basal - sand (top)</p> <p>*Peat collected from base of trench but not visible in sidewall.</p> <p>Base of trench ~ 1.0 from surface; sidewall collapse and trench filling with water.</p>

Photos
<p>Canon A630: IMG_0176.JPG through IMG_0183.JPG: panorama N --> E --> S from site showing dune vegetation and hummocky overwash</p> <p>Nikon D5200: DSC_0002.JPG through DSC_0015.JPG: trench and site photos</p>

Site ID 14CTB - 450			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	14:35	Departure Time (EDT)	15:03
Latitude	38.24575	Longitude	-75.13412
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	063
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A063	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	20 cm	pH (-)	
Azimuth from GPS	E 110°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	55, 38
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	20 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	SE 120°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Sand and sparse vegetation (Panicum? and shrub/golden rod).</p> <p>Trench: water table and wet sand ~ 50 cm.</p> <p>Prominent dark gray banding throughout.</p> <p>2x sand auger: 0-55 cm from surface; 58-96 cm from trench; no organics.</p>

Photos
<p>Nikon D5200: DSC_0345.JPG: site photo</p> <p>DSC_0346.JPG through DSC_0349.JPG: N --> E --> S --> W from site</p> <p>DSC_0350.JPG through DSC_0352.JPG: trench photos</p>

Site ID 14CTB - 451			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	14:04	Departure Time (EDT)	Not recorded
Latitude	38.24584	Longitude	-75.13441
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	062
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A062	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	NW 310°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	57, 55
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	15 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	NW 330°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Sand and vegetation - Panicum? and shrub.</p> <p>Trench: water table ~ 41 cm; backfill 5 ppt.</p> <p>2 prominent dark gray bands between 25~34 cm - good correlation with sand auger.</p> <p>2x sand auger: 0-57 cm from surface (no organics); 47-102 cm from trench.</p> <p>Plugged organics bottom ~ 4 cm.</p>

Photos
<p>Nikon D5200: DSC_0337.JPG: site photo</p> <p>DSC_0338.JPG through DSC_0341.JPG: N --> E --> S --> W from site</p> <p>DSC_0342.JPG: along "inlet" adjacent to site 395</p> <p>DSC_0343.JPG and DSC_0344.JPG: trench photos</p>

Site ID 14CTB - 452			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	10:07	Departure Time (EDT)	Not recorded
Latitude	38.24709	Longitude	-75.13394
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	055
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A055	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	50 cm	pH (-)	
Azimuth from GPS	SE 120°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	47
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	60 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	E 100°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Low-lying wet sand near toe of overwash fan ~ 50 m to "marsh" edge.</p> <p>"Marsh" - sandy substrate with inlet to estuary, but more organic-rich mucky surface.</p> <p>Patchy bare sand and vegetation - Panicum? grading into Spartina? marsh, with Juncus marsh bordering woody scrub to south.</p> <p>A lot of variability in vegetation here.</p> <p>DGPS site A056: off toe in thin strip of adjacent marsh (10~25 m wide along-shore).</p> <p>Site shows lots of horse and deer traffic.</p> <p>Trench: water table at ~ 40 cm; backfill and trench wall collapse; backfill 5 ppt salinity.</p> <p>Sample 14CTB-452-T0: 38-40 cm, dark gray sand with roots above brownish organic contact.</p> <p>Sand auger: 47 cm from surface; gradational transition to darker gray sand below 25 cm.</p> <p>34-42 cm - organic rich with roots/veg fragments.</p>

Photos
<p>Nikon D5200: DSC_0284.JPG and DSC_0285.JPG: site photos</p> <p>DSC_0286.JPG through DSC_0289.JPG: N --> E --> S --> W from site</p> <p>DSC_0290.JPG through DSC_0295.JPG: panorama S --> W --> NW from site</p> <p>DSC_0296.JPG through DSC_0298.JPG: trench photos</p> <p>DSC_0299.JPG: excavated organic-rich material</p>

Site ID 14CTB - 453			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	10:52	Departure Time (EDT)	Not recorded
Latitude	38.24697	Longitude	-75.13349
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	057
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A057	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	10 cm	pH (-)	
Azimuth from GPS	E 080°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	59, 29
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	10 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	E 090°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Gradual slope up from site 452/toe of overwash to site.</p> <p>Trench: water table ~ 45 cm; 5 ppt salinity.</p> <p>Dark gray banding is pretty continuous around trench walls (wet sand at base).</p> <p>2x sand auger: 0-59 cm from surface; 29-88 cm from trench.</p> <p>0-59 cm: dark gray banding throughout, sediment color becomes overall darker gray (wet?) ~ 28 cm.</p> <p>2 prominent dark gray layers 40~44 cm overlying thin (< 1 cm) brownish organic fragments</p> <p>Sand auger #2 (29-88 cm): dark gray banding 40~45 cm core depth - good correlation with auger #1.</p> <p>Brown organics at ~79 cm depth.</p>

Photos
<p>Nikon D5200: DSC_0300.JPG: site photo</p> <p>DSC_0301.JPG through DSC_0304.JPG: N --> E --> S --> W from site</p> <p>DSC_0305.JPG and DSC_0306.JPG: trench photos to ~ 30 cm</p> <p>DSC_0307.JPG and DSC_0308.JPG: coring</p>

Site ID 14CTB - 454			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	26-Oct-14	Day of Year	299
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	11:30	Departure Time (EDT)	Not recorded
Latitude	38.24681	Longitude	-75.13290
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	058
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A058	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	NE 070°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	52, 49
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	35 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	E 110°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Bare sand in "depression" between vegetated (Panicum?) dunes, up-slope from site 453 but not much elevation difference.</p> <p>Surface lag has some very coarse and shelly material and wind ripples.</p> <p>Trench: very wet sand at ~ 46 cm.</p> <p>9.5~12 cm thinner prominent double bands.</p> <p>25 cm to top of prominent set of dark gray-black banding.</p> <p>2x sand auger: 0-52 cm from surface - no organics.</p> <p>46-95 cm from trench: darker layer from 59~76 cm.</p>

Photos
<p>Nikon D5200: DSC_0309.JPG: site photo</p> <p>DSC_0310.JPG through DSC_0312.JPG: surface lag and wind ripples; DSC0312.JPG shows transition to finer aeolian sand trapped against dune vegetation</p> <p>DSC_0313.JPG through DSC_0316.JPG: N --> E --> S --> W from site</p> <p>DSC_0317.JPG and DSC_0319.JPG: trench photos to ~ 30 cm</p>

Site ID 14CTB - 458			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	25-Oct-14	Day of Year	298
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	15:02	Departure Time (EDT)	Not recorded
Latitude	38.24787	Longitude	-75.13243
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	053
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A053	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	10 cm	pH (-)	
Azimuth from GPS	WNW 305°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	58
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	10 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	S 190°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>On alongshore GPR transect ~ same elevation as site 466; no sand auger.</p> <p>On elevated, sparsely vegetated dune.</p> <p>Trench: 16-22 cm - distinctive dark gray-black layer* is continuous - is this important?!</p> <p>~ 34 cm - dark gray banding like at other sites.</p> <p>53 cm to bottom of trench; no water/wet sand.</p> <p>Sample 14CTB-458-T1: 22-23 cm depth, below gray sand layer.</p> <p>14CTB-458-T2: 17-18 cm depth, ~ middle of sand layer.</p> <p>14CTB-458-T3: 14-15 cm depth, above sand layer.</p> <p>Sand auger: 0-58 cm from surface, ~ 35 cm from trench site.</p> <p>*Layer is also visible at ~ same depth in sand auger.</p>

Photos
<p>Nikon D5200: DSC_0252.JPG: site photo from vegetation line ~ 35 m east of site</p> <p>DSC_0253.JPG through DSC_0256.JPG: N --> E --> S --> W from site</p> <p>DSC_0257.JPG through DSC_0273.JPG: trench photos</p>

Site ID 14CTB - 459			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	25-Oct-14	Day of Year	298
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	15:43	Departure Time (EDT)	16:20
Latitude	38.24798	Longitude	-75.13278
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	054
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A054	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	E 100°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	58
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	40 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	E 080°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Bare sand between sparsely vegetated patches, ~ 40 m east of Phragmites / woody scrub vegetation line.</p> <p>Trench: no water table or organics.</p> <p>Top 1-2 cm: diffuse gray layer immediately below aeolian surface sediments.</p> <p>~ 19 cm - distinct, continuous dark gray lamination visible in all 4 trench walls.</p> <p>29-53 cm: irregular, wavy dark gray bands.</p> <p>~ 53 cm - distinct dark layer.</p> <p>Sand auger: 0-58 cm from surface; banding evident in core comparable to trench.</p>

Photos
<p>Nikon D5200: DSC_0274.JPG: site photo</p> <p>DSC_0275.JPG through DSC_0278.JPG: N --> E --> S --> W from site</p> <p>DSC_0279.JPG through DSC_0283.JPG: trench photos</p>

Site ID 14CTB - 460			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	25-Oct-14	Day of Year	298
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	9:44	Departure Time (EDT)	Not recorded
Latitude	38.24588	Longitude	-75.13227
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	043
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A043	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	20 cm	pH (-)	
Azimuth from GPS	SE 150°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	54, 47
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	20 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	S 160°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Sand with very sparse grassy vegetation bayward of vegetated dunes.</p> <p>Surface sediment is coarser grained than seen at previous sites, with large broken and whole shells.</p> <p>Trench: 16 cm - prominent dark gray layer (heavy minerals) ~ 2 cm thick.</p> <p>Hit water table below ~ 36 cm; backfill 5 ppt salinity.</p> <p>Hit organics/roots with shovel but cannot tell depth because of infill and trench collapse - buried dune vegetation? (No organics in sand auger to 85 cm depth.)</p> <p>2x sand auger: 54 cm from surface; 38-85 cm (47 cm core length) from ~ water table.</p> <p>0-3 cm - very coarse sand; dark gray banding below ~ 30 cm; no organics recovered.</p>

Photos
<p>Nikon D5200: DSC_0192.JPG and DSC_0193.JPG: site photos</p> <p>DSC_0194.JPG through DSC_0197.JPG: N --> E --> S --> W from site</p> <p>DSC_0198.JPG through DSC_0200.JPG: trench photos</p>

Site ID 14CTB - 461			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	25-Oct-14	Day of Year	298
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	10:21	Departure Time (EDT)	Not recorded
Latitude	38.24910	Longitude	-75.13314
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	044
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A044	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	15 cm	pH (-)	
Azimuth from GPS	S 170°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Not recorded
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	50
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	15 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	S 180°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Wet sand at "toe" (?) of overwash; site is on bare wet sand at marsh edge.</p> <p>Thin strip of marsh bayward of site, but sandy soil with standing water, not black organic-rich substrate; Spartina and Panicum (?).</p> <p>Marsh surface water salinity 32 ppt.</p> <p>Sandy deposits extend all the way to the bay in places, and there is an ~ 20-25 m long berm at bayside with > 10 cm relief above the adjacent marsh.</p> <p>Discontinuous sand sandy berm deposits occur along the bayside shoreline.</p> <p>Some Juncus marsh to the south bordering Phragmites (?) and woody shrub/scrub.</p> <p>Overwash fan is again funnelled between shrub/forested areas to N and S; trees are fringed by Juncus marsh ~ 10 m wide.</p> <p>Does this area regularly "overwash" but not enough to bury vegetation? "Marsh" surface is all sand.</p> <p>Bayside berm is eroded / "cliffed" on marsh side --> is this getting overwsh/flow from storms?</p> <p>Trench: organic (dark sandy with roots) layer and water table at ~ 22-23 cm; backfill 6 ppt salinity.</p> <p>Sample 14CTB-461-T0 (20-21 cm)</p> <p>Sand auger: 0-50 cm; 17~26 cm dark gray-black sand with some root/plant fragments from 26~28 cm.</p> <p>37 cm relatively sharp contact with underlying dark gray sand.</p>

Photos
<p>Nikon D5200: DSC_0201.JPG: site photo</p> <p>DSC_0202.JPG and DSC_0203.JPG: bayside berm</p> <p>DSC_0204.JPG: from bayside marsh; site is in upper right corner</p> <p>DSC_0205.JPG through DSC_0298.JPG: N --> E --> S --> W from site</p> <p>DSC_0209.JPG and DSC_0210.JPG: trench photos</p>

Site ID				14CTB - 462, 14CTB - 474 (Field Replicates)			
USGS Field Activity Number (FAN)		2014-322-FA (14CTB02)					
Date	25-Oct-14	Day of Year			298		
Field Crew	Julie Bernier, Marci Marot						
Platform	Over-Sand Vehicle	Location			Assateague Island, MD		
Arrival Time (EDT)	11:12	Departure Time (EDT)			Not recorded		
Latitude	38.24953	Longitude			-75.13293		
Water Depth (m)							
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint			045		
YSI		Camera			Nikon D5200		

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A045	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes (x4)	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes (x2)	DO (mg/L)	
Grain Size	Yes (x2)	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes (x2)	Salinity	
Distance from GPS	20 cm	pH (-)	
Azimuth from GPS	NE 035°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	50
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	Not recorded
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	Not recorded
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Sand and thin vegetation (Panicum?) on downslope from higher overwash to very thin (~ 10m wide) bayside "marsh."</p> <p>Vegetation - Spartina? and Panicum?</p> <p>Vegetation and type definitely seems to control elevation differences and extent of sandy deposits.</p> <p>This fan unlike WTx4 has a very obvious slope from oceanside dunes to back-barrier marshes and bay.</p> <p>DGPS site A046: bayside marsh; site A047: on fan E of site.</p> <p>Trench: sand with banding to 36 cm then hit water table.</p> <p>Sand auger: 0-50 cm; 0~15 cm - relatively clean sand; some dark gray banding from 15~25 cm.</p> <p>Gradation with gray and brownish banding from 25~29 cm; below 29 cm more regular brownish "organic" layers with root and veg material.</p> <p>Cannot see same brownish organics in trench as in sand auger only 15 cm away --> highly variable distribution, even around trench.</p> <p>How to differentiate between "T0" and event layers where the "marsh" substrate is not organic rich?</p>

Photos
<p>Nikon D5200: DSC_0211.JPG and DSC_0212.JPG: site photos</p> <p>DSC_0213.JPG: from bayside marsh</p> <p>DSC_0214.JPG through DSC_0217.JPG: N --> E --> S --> W from site</p> <p>DSC_0218.JPG: vegetation adjacent to site; DSC0219.JPG: marsh vegetation</p> <p>DSC_0220.JPG through DSC_0222.JPG: trench photos (poor contrast from sun/shade)</p> <p>DSC_0223.JPG and DSC_0224.JPG: opposite trench wall</p>

Site ID 14CTB - 463			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	25-Oct-14	Day of Year	298
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	11:55	Departure Time (EDT)	Not recorded
Latitude	38.25005	Longitude	-75.13259
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	048
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A048	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	NW 330°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	0
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	Not recorded
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	Not recorded
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Toe/edge of overwash; Juncus marsh and woody scrub/trees ~ 25-35 m north of site, with significant drop from overwash edge to marsh surface.</p> <p>DGPS site A049 from Juncus marsh.</p> <p>Trench: 15 cm - contact with dark gray sand; 22 cm - water table, backfill and trench collapse.</p> <p>Trench is burping as it backfills - methane gas?; backfill salinity 5-6 ppt.</p> <p>Buried vegetation in dark gray layer (partial decay but still some green) --> appears to be the same as grasses fringing Juncus marsh.</p> <p>Sample 14CTB-463-T (20-21 cm).</p> <p>No sand auger collected here: 5x full penetration with no recovery.</p>

Photos
<p>Nikon D5200: DSC_0225.JPG: site photo</p> <p>DSC_0226.JPG through DSC_0229.JPG: N --> E --> S --> W from site</p> <p>DSC_0230.JPG and DSC_0231.JPG: trench photos</p> <p>DSC_0232.JPG and DSC_0233.JPG: live compared with buried vegetation</p>

Site ID 14CTB - 464			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	25-Oct-14	Day of Year	298
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	12:38	Departure Time (EDT)	13:10
Latitude	38.24977	Longitude	-75.13205
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	050
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A050	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	20 cm	pH (-)	
Azimuth from GPS	NE 060°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	49, 35
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	10 cm
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	E 070°
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Target is on elevated dune; relocated to lower elevation to try to get good penetration.</p> <p>Bare sand and dune grass (Panicum?).</p> <p>Trench: dark gray banding, water table at ~ 50 cm.</p> <p>Backfill salinity 5 ppt.</p> <p>2x sand auger: 0-49 cm from surface, banding, no organics, saturated at bottom of core.</p> <p>53-88 cm from water table, no organics.</p>

Photos
<p>Nikon D5200: DSC_0234.JPG: site photo</p> <p>DSC_0235.JPG: to target site on adjacent dune</p> <p>DSC_0236.JPG through DSC_0239.JPG: N --> E --> S --> W from site</p> <p>DSC_0240.JPG through DSC_0242.JPG: trench photos</p>

Site ID 14CTB - 465			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	25-Oct-14	Day of Year	298
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	13:19	Departure Time (EDT)	Not recorded
Latitude	38.24938	Longitude	-75.13249
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	051
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Receiver Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A051	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	15 cm	pH (-)	
Azimuth from GPS	NE 050°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	60.96
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	Full penetration
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	51, 39
Barrel Length (cm)		Core Catcher Used?	No
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	Not recorded
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	Not recorded
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
On overwash fan; sparse vegetation - Panicum? golden rod, and sand burrs.
Trench: banded sand; water table and backfill at ~ 33 cm.
2x sand auger: 0-51 cm from surface, no organics; 35-74 cm from trench, banding including prominent dark gray layer from 25~28 cm core depth.
* Skip sits 467 and 468: up-slope towards beach, no chance of penetrating "marsh" surface.*

Photos
Nikon D5200: DSC_0243.JPG: site photo
DSC_0244.JPG through DSC_0247.JPG: N --> E --> S --> W from site
DSC_0248.JPG through DSC_0251.JPG: trench photos
DSC_0252.JPG through DSC_0254.JPG: coring

Site ID 14CTB - 466			
USGS Field Activity Number (FAN)	2014-322-FA (14CTB02)		
Date	25-Oct-14	Day of Year	298
Field Crew	Julie Bernier, Marci Marot		
Platform	Over-Sand Vehicle	Location	Assateague Island, MD
Arrival Time (EDT)	14:38	Departure Time (EDT)	Not recorded
Latitude	38.24921	Longitude	-75.13173
Water Depth (m)			
Handheld GPS used	Garmin GPSMap 76S	GPS Waypoint	052
YSI		Camera	Nikon D5200

Sample Type/Sample	X, Measure, Time	Sample Type/Sample	X, Measure, Time
DGPS Positioning		Radium Sampling: Mn Fiber	
GPS Reciever Used	Z-Xtreme Rover A	Start Time	
GPS Session ID	A052	Stop Time	
Occupation Time (min)	5	Total Volume	
Surface/Grab		Water Quality Parameters	
Vegetation/Sediment Type	Sand + veg	Water Type (estuary, marsh, standing, marsh backfill)	
Pentrometer (marsh sites only)		Temperature (°C)	
Shear Strength (kg/cm ²) (marsh sites only)		Barometric Pressure (mm Hg)	
Forams (preserved, x2)	Yes	Dissolved Oxygen (DO) (%)	
Bulk Density/LOI	Yes	DO (mg/L)	
Grain Size	Yes	Specific Conductance (mS/cm)	
Stable Isotopes/Metals	Yes	Salinity	
Distance from GPS	25 cm	pH (-)	
Azimuth from GPS	E 080°	ORP (mV)	
Marsh Push Core: 4" Polycarbonate Barrel		Sand Gouge Core: AMS Sand/Loose Sediment Probe	
Vegetation Type		Barrel Length (cm)	
Pentrometer		ITGODS (bottom of weld ≈ top of barrel) (cm)	
Shear Strength (kg/cm ²)		Recovered Core Length (cm)	
Barrel Length (cm)		Core Catcher Used?	
In-the-Ground Inside Depth to Surface (ITGIDS) (cm)		Distance from GPS	
In-the-Ground Outside Depth to Surface (ITGODS) (cm)		Azimuth from GPS	
Compaction (cm)			
Recovered Core Length (cm)			
Distance from GPS			
Azimuth from GPS			
Marsh Auger Core: Eijkelpamp Peat Sampler		Shovel (Dig) Core: AMS Sharpshooter Shovel	
Number of Sections		Recovered Depth (cm)	
Total Core Length (cm)		Distance from GPS	
Distance from GPS		Azimuth from GPS	
Azimuth from GPS			

Notes
<p>Sand and sparse vegetation.</p> <p>On alongshore GPR transect; elevation, surface grab, and test trench only - no sand auger.</p> <p>Trench: dark gray banding most prominent in upper 25 cm, including thick set of bands from 20-25 cm.</p> <p>No water table to 55 cm.</p>

Photos
<p>Nikon D5200: DSC_0255.JPG: site photo</p> <p>DSC_0256.JPG through DSC_0259.JPG: N --> E --> S --> W from site</p> <p>DSC_0260.JPG and DSC_0261.JPG: trench photos</p>