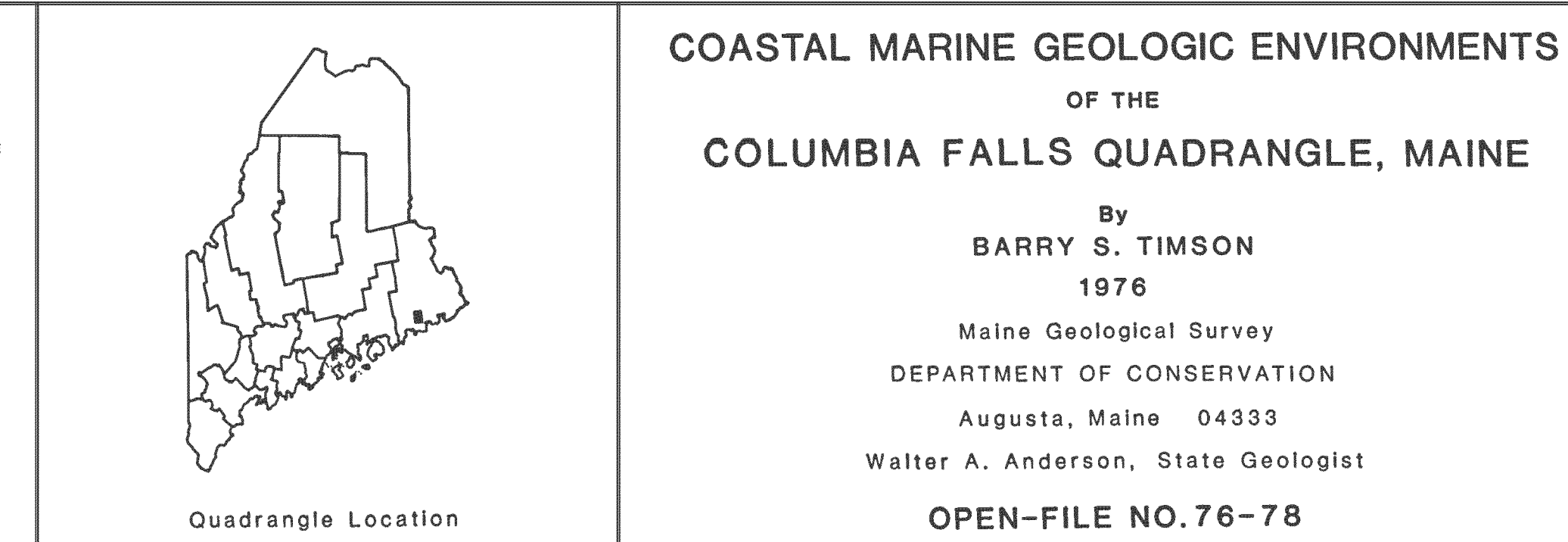




Se	Bolian Flat	Partially vegetated sand flats adjacent to dune fields. Subject to generally northwest winds and occasional storm flooding.
SF	Washover Flat	Sand deposits covering salt marshes behind inlet mouths which originate from storm washover or inlet dune deposits on salt marshes. Subject to storm washover and spring tide flooding.
Sr	Fluvial Marsh	Vegetated river floodplain and bank environments. Characterized by freshwater pond vegetation such as pond lilies, reeds, and wild rice. Subject to daily tidal flooding as well as inundation during high river discharge periods.

Environments between the highest high water datum and the lowest low water datum subject to twice daily tidal flooding and all other marine forces.

Marsh Environments	Vegetated environments or isolated depressions within vegetated environments located above mean tide level in protected coastal areas.	B5	Low-Energy Beach	Beaches consisting of a wide variety of sediment sizes which are protected from high wave energy. Sediment characteristics are dependent upon sediment source, which is usually from upland scarps immediately shoreward of the beach. Low-energy beaches may exhibit growth of salt marsh grass when there is little sediment movement.	F3	Mussel Bar	Low mounds of living mussels, <i>Mytilus edulis</i> , and/or disarticulated and broken mussel shells accumulated by wave shoaling. Mussel bars generally occur at the mouths of estuaries or embayments at tidal channel margins where nutrient-laden oceanic waters first flood flat environments. Mussel bars accumulate on intertidal flats.
M1	High Salt Marsh						
	Organic-rich sediments densely vegetated primarily with the salt marsh grass <i>Spartina patens</i> (salt-meadow grass). High salt marshes are at the same level as mean high water.						
M2	Low Salt Marsh	Br	Boulder Ramp	Sloping surfaces in the lower intertidal zone veneered by large boulders. This environment is seaward of gravel or boulder beaches on low wave energy shorelines. Boulders are remnant lag deposits of eroded glacial tills. Boulder movement is limited to periods of intense storm wave activity.	F4	Channel Levee	Linear accumulations of sediment adjacent to tidal channels built several tens of centimeters above the surrounding intertidal flats. Channel levees are constructed from sediment deposited on the flat as the tide rises above the channel margins.
M3	Marsh Levee	Bw	Washover Fan	Fan-shaped deposits of gravel located behind gravel beach ridges and covering portions of marshes. Few washovers have been recognized asappable units on sand beaches. Washover fans are deposited by storm waves. Fan sediment is derived from the beach itself.	F5	Algal Flats	High, coarse and fine-grained intertidal flats covered with the green algae, <i>Enteromorpha erecta</i> .
	Channel-margin sediments vegetated with salt-meadow grass which exist up to several tens of centimeters above the salt marsh surface. The marsh levee consists of sandy silt or silt-size sediment deposited from flood waters rising above channel margins, either from high river discharge into estuarine embayments or from storm-surge influenced flood tides from the ocean.				F6	Veneered Ramp	Former boulder ramps presently covered by fine-grained sediment settling out of the water column.
M4	Salt Pannes and Salt Ponds	Ba	Spits	Partially-submerged beach ridges which extend offshore into open water. This category includes tombolos (spits joining an island with the mainland).			Miscellaneous Environment
	Salt-water filled, non-vegetated depressions on the high salt marsh surface (salt pannes) or salt-water filled depressions anywhere in the intertidal zone (i.e., tidal pools). Salt pannes may be dry and covered with algae during late summer months.				M	Ledge	Subaerially or subaqueously exposed bedrock.
					Mc	Fluvial-Estuarine Channel	Transitional channel between river and estuarine channels. The fluvial, tidal fluvial, or estuarine state depends upon the volume of river discharge entering the estuarine basin.
					Mp	Point or Lateral Bars	Accumulations of sediment adjacent to intertidal channel margins at channel bends (point bars) or along straight segments (lateral bars).
			Flat Environments	Gently sloping or level environments composed primarily of fine sand, silt, and clay accumulated in relatively quiet water. Flats are depositional areas controlled primarily by tidal currents and sediment settling from the water column. Flat environments may be eroded temporarily by storm waves.	Ms	Swash Bars	Accumulations of sediment which occur where waves shoal onto intertidal flats.
					MC	Flood-Tidal Delta	Lobate bars of sediment which accumulate landward of an inlet separating a back-barrier estuary or lagoon from open-ocean water.
Beach Environments	Deposits of unconsolidated sediment which extend shoreward from the lowest tide line to the upland or vegetated field or beach ridge. Dominated by wave processes.	P	Mud Flats	Flats comprised of sediment finer than sand.	Me	Ebb-Tidal Delta	Lobate bars of sediment which accumulate seaward of an inlet separating a back-barrier estuary or lagoon from open-ocean water.
B1	Sand Beach	F1	Coarse-Grained Flat	Intertidal flats where sand or larger-size material comprises most of the sediments. Coarse-grained flats are subject to higher tidal-current velocities than mud flats.	MD	Fan Delta	Coarse-grained, fan-shaped deposits which accumulate on intertidal flats where upland streams drain onto high tidal-range shorelines.
B2	Mixed Sand and Gravel Beach	F2	Seaweed-Covered Coarse Flat	Coarse-grained, shallow subtidal and low intertidal flats which act as a stable substrate for seaweed such as <i>Ulva</i> , <i>Enteromorpha</i> , <i>Acrophyllum</i> , and <i>Laminaria</i> .	Ml	Spillover Lobes	Lobate bars of sediment which extend from flood-tidal deltas into estuarine or tidal channel areas.
B3	Gravel Beach						
B4	Boulder Beach						

Environments existing below lowest low water and subject to tidal current forces and wave-generated current forces.

Flat Environments			Channel Environments			Channel Slope		
		Submerged, gently sloping, or level environments composed primarily of fine sand, silt, and clay. Includes subaqueous exposures of coarse-grained, Pleistocene glacial sediments.			Linear, intertidal and subtidal depressions carrying tidal-current water.			Gently to moderately sloping wall margins of large tidal channels. Channel slopes are confined to channel wall margins composed of sediment.
Fm	Mud Flat	Fine-grained subtidal flats.	C1	High-Velocity Tidal Channel	Tidal channels where maximum flow velocities probably exceed 2 meters per second (mps).	Ch	Abandoned Tidal Channel	Former tidal channel no longer carrying flow sufficient to erode the channel floor or margin walls. Abandoned channels usually occur in salt marsh tracts where meandering of the central drainage channel cuts off former channel segments.
Fc	Coarse-Grained Flat	Coarse-grained subtidal flats.	C2	Medium-Velocity Tidal Channel	Tidal channels where maximum flow velocities probably attain values between 1 and 2 mps.	Cf	Tidal Fluvial Channel	Lower portions of river channels under tidal influence but not carrying estuarine waters.
Fe	Belgrass Flat	Fine-grained and coarse-grained, shallow subtidal (low intertidal) flats which support dense stands of eelgrass (<i>Zostera marina</i>).	C3	Low-Velocity Tidal Channel	Tidal channels where maximum flow velocities probably do not exceed 1 mps.			
Fs	Seaweed Community	Coarse-grained subtidal flats and bedrock ledges which support seaweed growth.	C4	Estuarine Channel	Tidal channels where ocean and river waters mix. Estuarine water salinities range between 0.5 ppt and 30 ppt.		Tidal Creeks	Small tidal channels draining salt marshes or intertidal mud flats.
Fb	Upper Shoreface	The inner subtidal slope which extends seaward from large exposed sand beaches where sediments are actively transported by bottom currents generated by storm waves. The upper shoreface is a sandy environment of constant wave shoaling under normal wave conditions.	C5	Estuarine Flood Channel	Estuarine tidal channels where flood-tide current velocities greatly exceed velocities attained during ebb tide.		Marsh Drainage Ditch	Man-made, rectilinear ditches dug into marshes to facilitate marsh surface drainage.
Fp	Lower Shoreface	The outer subtidal slope which extends seaward from the upper shoreface. The lower shoreface is affected only by currents generated by storm waves. Lower shoreface sediments grade from sand to mud in a seaward direction.	C6	Estuarine Ebb Channel	Estuarine tidal channels where ebb-tide current velocities greatly exceed velocities attained during flood tide.			Approximate transition boundary between estuarine and marine (30 ppt salinity) waters and between estuarine and river (0.5 ppt) waters.
			C7	Inlet Channel	High current-velocity channels cut through barrier beaches and connecting back barrier estuaries or lagoons with the open ocean.		Unit boundary.	
			C8	Dredged Channel	Man-made, artificially-deepened or widened tidal channel.		Approximate unit boundary.	