

CHESAPEAKE BAY
EARTH SCIENCE ATLAS NO. 5

MAP 5-5

PATTERNS OF EROSION AND DEPOSITION

BY

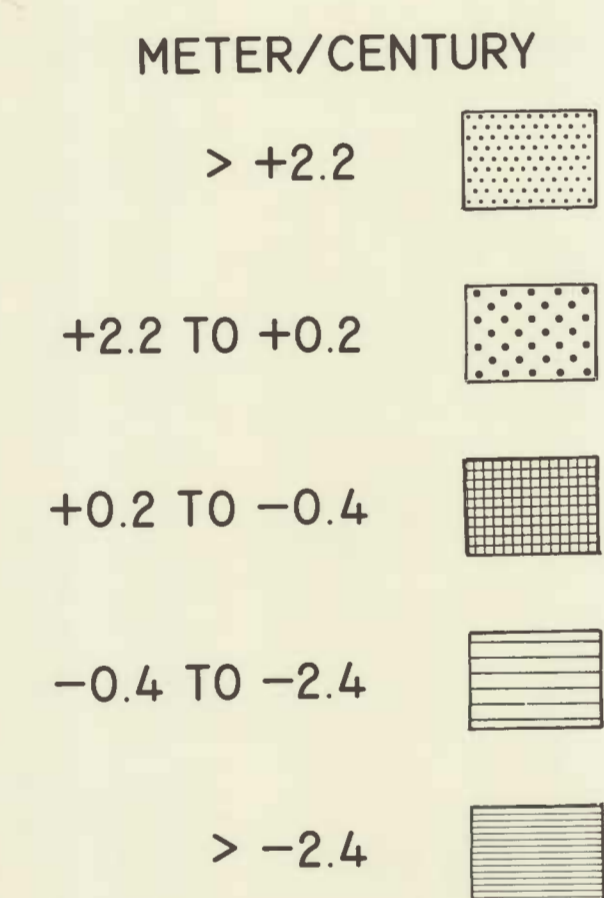
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1982

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
MARYLAND GEOLOGICAL SURVEY
KENNETH N. WEAVER, Director

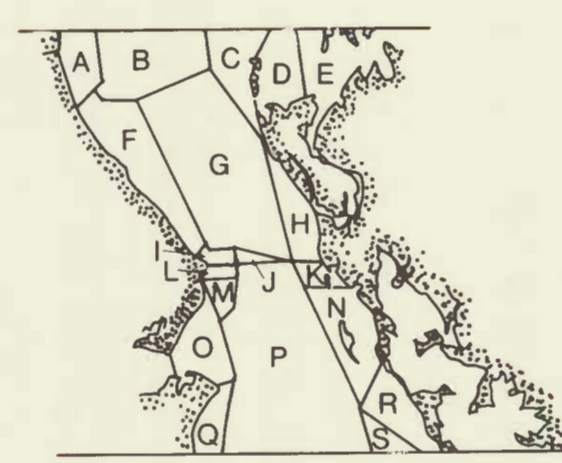
EXPLANATION

RATES OF EROSION AND DEPOSITION
METER/CENTURY
RATES ADJUSTED FOR SEALEVEL RISE AND TIME INTERVAL
CORRECTION FACTOR FOR SEALEVEL RISE 1 millimeter/year



HYDROGRAPHIC CHARTS USED
FOR BATHYMETRIC COMPARISON

AREA	SURVEY NUMBERS	DATES
A	199 - 6955	1847 - 1944
B	199 - 6952	1847 - 1944
C	199 - 7065	1847 - 1945
D	2681 - 7065	1903 - 1945
E	2681 - 7064	1847 - 1945
F	199 - 7009	1847 - 1944
G	199 - 6953	1847 - 1943
H	199 - 6956	1847 - 1944
I	199 - 6683	1847 - 1941
J	199 - 7094	1847 - 1946
K	209 - 6956	1848 - 1944
L	209 - 6683	1848 - 1941
M	209 - 7091	1848 - 1946
N	209 - 7154	1848 - 1946
O	209 - 6876	1848 - 1944
P	209 - 7094	1848 - 1946
Q	209 - 7092	1848 - 1946
R	209 - 7155	1848 - 1946
S	209 - 6775	1848 - 1942



FACTORS OF EROSION AND DEPOSITION

Introduction

Processes like the Chesapeake Bay are among the most dynamic features on the earth's surface. They are characterized by the constant and dynamic nature of their erosion and deposition. The Chesapeake Bay is a classic example of a dynamic system. The bay is a shallow, elongated body of water that is constantly being reshaped by the forces of erosion and deposition. The bay's erosion and deposition are controlled by a variety of factors, including sea level rise, sediment supply, and human activities. The bay's erosion and deposition are also influenced by the bay's unique hydrography, which is characterized by its shallow, elongated shape and its complex network of channels and shoals.

The present approach is to compare the most recent bathymetric charts with the earliest charts available for any given area. From this comparison, a series of maps depicting the differences is produced, where the differences represent changes in the depth of the bay floor. The differences between the two charts are the result of erosion and deposition. The differences between the two charts are the result of erosion and deposition. The differences between the two charts are the result of erosion and deposition.

Survey pre-dating 1950 were digitized (in feet and centimeters) by geologic bathymetry methods which use sound measurement. More recent surveys were digitized by electronic methods. The older surveys were completed in 1941-42, 1943-44, 1945-46, 1947-48, 1949-50, 1951-52, 1953-54, 1955-56, 1957-58, 1959-60, 1961-62, 1963-64, 1965-66, 1967-68, 1969-70, 1971-72, 1973-74, 1975-76, 1977-78, 1979-80, 1981-82, 1983-84, 1985-86, 1987-88, 1989-90, 1991-92, 1993-94, 1995-96, 1997-98, 1999-00, 2001-02, 2003-04, 2005-06, 2007-08, 2009-10, 2011-12, 2013-14, 2015-16, 2017-18, 2019-20, 2021-22, 2023-24, 2025-26, 2027-28, 2029-30, 2031-32, 2033-34, 2035-36, 2037-38, 2039-40, 2041-42, 2043-44, 2045-46, 2047-48, 2049-50, 2051-52, 2053-54, 2055-56, 2057-58, 2059-60, 2061-62, 2063-64, 2065-66, 2067-68, 2069-70, 2071-72, 2073-74, 2075-76, 2077-78, 2079-80, 2081-82, 2083-84, 2085-86, 2087-88, 2089-90, 2091-92, 2093-94, 2095-96, 2097-98, 2099-00, 2101-02, 2103-04, 2105-06, 2107-08, 2109-10, 2111-12, 2113-14, 2115-16, 2117-18, 2119-20, 2121-22, 2123-24, 2125-26, 2127-28, 2129-30, 2131-32, 2133-34, 2135-36, 2137-38, 2139-40, 2141-42, 2143-44, 2145-46, 2147-48, 2149-50, 2151-52, 2153-54, 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