

(18) 2526

Technical Report Documentation Page

AD-A076309

1. Report No. <u>(19)</u> D-50-78 ✓		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle <u>(6)</u> BUOY REFERENCE LIBRARY				5. Report Date <u>(11)</u> March 1978	
7. Author(s) <u>(10)</u> M. Grossetti, K. Prime, M. Campbell E. J. Moukawsher				6. Performing Organization Code	
9. Performing Organization Name and Address United States Coast Guard Research and Development Center Avery Point Groton, Connecticut 06340				8. Performing Organization Report No. CGR&DC 6/78 ✓	
12. Sponsoring Agency Name and Address Department of Transportation United States Coast Guard Office of Research and Development Washington, DC 20590				10. Work Unit No. (TRAIS) 782700	
15. Supplementary Notes <u>(14)</u> 26R/DC-6/78				11. Contract or Grant No.	
				13. Type of Report and Period Covered <u>(9)</u> FINAL REPORT	
14. Sponsoring Agency Code					
16. Abstract → Navigational buoys have been used in the United States since 1767 to warn mariners of impending dangers. It is rather odd, therefore, that some 200 years later there is no collection of material in one place that might shed some light upon buoy technology. Undoubtedly, the state-of-the-art is much more sophisticated, and it is the intention of this paper to present a buoy reference library. The library consists of all known books and unclassified papers that were possible to obtain in a four-week period. The subjects of both fixed and floating breakwaters were included in the searches for written material, but not in as much detail as buoys. Along with this reference material, a list of buoy manufacturers is included. The amount of papers and books written will multiply, but for the present, this is the only known working buoy reference library in existence. The subject is broken down into seven categories alphabetically filed. These are (1) mooring systems, (2) power sources, (3) development and design, (4) applications and uses, (5) instrumentation, math and computer models, (6) characteristics, and (7) miscellaneous. Two additional categories were made for fixed and floating breakwaters. ↗					
17. Key Words mooring systems, fixed breakwaters, floating breakwaters			18. Distribution Statement Document is available to the U.S. public through the National Technical Information Service, Springfield, Virginia 22161		
19. Security Classif. (of this report) UNCLASSIFIED		20. Security Classif. (of this page) UNCLASSIFIED		21. No. of Pages 22. Price	

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METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	2.5	centimeters	cm
ft	feet	30	meters	m
yd	yards	0.9	kilometers	km
mi	miles	1.6		
AREA				
in ²	square inches	6.5	square centimeters	cm ²
ft ²	square feet	0.09	square meters	m ²
yd ²	square yards	0.8	square meters	m ²
mi ²	square miles	2.6	square kilometers	km ²
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
VOLUME				
tsp	teaspoons	5	milliliters	ml
fl oz	fluid ounces	16	milliliters	ml
c	cups	30	milliliters	ml
pt	pints	0.24	liters	l
qt	quarts	0.97	liters	l
gal	gallons	0.06	liters	l
ft ³	cubic feet	3.8	liters	l
yd ³	cubic yards	0.03	cubic meters	m ³
		0.76	cubic meters	m ³
TEMPERATURE (exact)				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in. = 2.54 exactly. For other exact conversion and more detailed tables, see NBS Mon. Publ. 286, Units of Weights and Measures, Price \$2.25, SO Catalog No. C13.10.286.

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
km	kilometers	1.1	miles	mi
		0.6	miles	mi
AREA				
cm ²	square centimeters	0.16	square inches	in ²
m ²	square meters	1.2	square yards	yd ²
km ²	square kilometers	0.4	square miles	mi ²
ha	hectares (10,000 m ²)	2.5	acres	ac
MASS (weight)				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	ton
VOLUME				
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m ³	cubic meters	35	cubic feet	ft ³
m ³	cubic meters	1.3	cubic yards	yd ³
TEMPERATURE (exact)				
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F

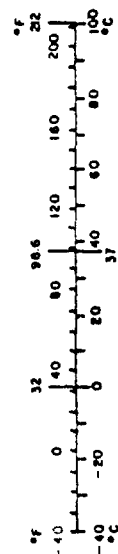
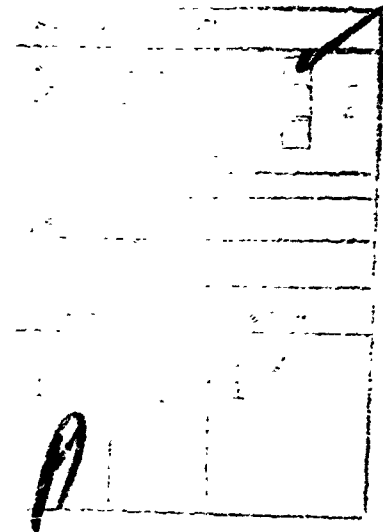


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