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# THE UNDERWATER HANDBOOK

A Guide to Physiology and  
Performance for the Engineer

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A Guide to Physiology and  
Performance for the Engineer

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# Foreword

This handbook attempts to translate data on various parameters of man's capability in underwater and hyperbaric environments for those without a background in the life sciences.

Accomplishing any multifaceted task requires team work, and effective team work depends on facile communication among all participants. To communicate properly, all parties must understand each other's problems and be able to speak a similar language. To this end we believe that this publication will go a long way in furthering the understanding and communication necessary for maximum achievement.

The U. S. Navy has a fundamental interest in all types of activities connected with the ocean and is especially interested in the growing field of manned underwater and hyperbaric activities. Thus, the manuscript for this comprehensive book was developed under Office of Naval Research contract N00014-67-A-0214-0013 with The George Washington University. We acknowledge with appreciation the financial support and technical guidance for this undertaking by the Naval Medical Research and Development Command of the Bureau of Medicine and Surgery as well as by the Engineering Psychology Program and the Physiology Program of the Office of Naval Research.

JOSEPH P. POLLARD  
*Director*  
*Biological and Medical*  
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*Office of Naval Research*

# Preface

A need was felt for a book that would document the relationship of the human being to the underwater hyperbaric environment in such a way that the individual unfamiliar with the psychological or biomedical jargon could still understand and appreciate the information.

This book is not meant to be a medical text. It was designed to meet the technical and scientific needs of the engineer, the manager of underwater activity, and the interested layman.

This book was prepared under support by the Department of the Navy, Contract No. N00014-67-A-0214-0013, issued by the Office of Naval Research. However, the content does not necessarily reflect the position or the policy of the Department of the Navy or the Government, and no official endorsement should be inferred.

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C. W. SHILLING

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