

# Table of Contents

<b>Foreword</b> .....	vi
<b>Chapter 1 Introduction</b> .....	1-1
Intended Application of HEC-GeoRAS .....	1-1
Overview of Requirements .....	1-2
Hardware and Software Requirements .....	1-2
Data Requirements .....	1-2
Overview of the User Interface .....	1-3
User's Manual Overview .....	1-3
<b>Chapter 2 Installing HEC-GeoRAS</b> .....	2-1
Hardware and Software Requirements .....	2-1
Windows NT Installation .....	2-2
Setting Environment Variables (Windows NT) .....	2-3
UNIX Installation .....	2-3
Setting Environment Variables (UNIX) .....	2-4
HEC-GeoRAS File .....	2-4
<b>Chapter 3 Working with HEC-GeoRAS - An Overview</b> .....	3-1
Getting Started .....	3-2
Developing the HEC-RAS Import File .....	3-4
Starting a New Project .....	3-4
Creating the Contour Coverage .....	3-5
Creating RAS Coverages .....	3-6
Creating a RAS Import File .....	3-9
Running HEC-RAS .....	3-11
Viewing the HEC-RAS Exported Water Surface Profiles .....	3-11
Importing the RAS Export File .....	3-11
Viewing Inundation Extent and Depth .....	3-13
Printing Map Results .....	3-14
Exiting HEC-GeoRAS .....	3-15
<b>Chapter 4 Using the Project Manager</b> .....	4-1
Project Definition and the Default Directory .....	4-1
Project Manager Options .....	4-3
Project Management .....	4-4
Processing Windows .....	4-5

<b>Chapter 5 Developing the HEC-RAS Import File</b> .....	5-1
Digital Terrain Model .....	5-2
Creating a Contour Coverage .....	5-2
Creating and Editing RAS Coverages .....	5-3
Coverage Editor .....	5-4
Editing Window .....	5-10
Main Channel Invert Coverage .....	5-11
Creating the Network .....	5-11
Adding Reaches to an Existing Network .....	5-13
Adding Tributaries to an Existing Network .....	5-14
Merge Reaches in an Existing Network .....	5-14
Main Channel Banks Coverage .....	5-14
Flow Paths Coverage .....	5-15
Cross Section Cut Lines Coverage .....	5-16
Creating the HEC-RAS Import File .....	5-18
Coverage Checking .....	5-19
<b>Chapter 6 Viewing HEC-RAS Water Surface Profiles</b> .....	6-1
Importing an HEC-GeoRAS File .....	6-1
Inundation Mapping .....	6-3
Inundation Mapping Menu .....	6-3
Printing Map Results .....	6-6
<b>Chapter 7 Example Application</b> .....	7-1
Starting a New Project .....	7-1
Creating the Contour Coverage .....	7-2
Create RAS Coverages .....	7-3
Main Channel Invert Coverage .....	7-4
Main Channel Banks Coverage .....	7-6
Flow Paths Coverage .....	7-7
Cross Section Cut Lines Coverage .....	7-8
Creating a RAS Import File .....	7-10
Running HEC-RAS .....	7-11
Importing a HEC-RAS Export File .....	7-12
Inundation Mapping .....	7-13
Printing Map Results .....	7-15
Exiting HEC-GeoRAS .....	7-18
<b>Appendix A References</b> .....	A-1
<b>Appendix B HEC-RAS Import/Export Files for Geospatial Data</b> .....	B-1
<b>Appendix C RAS Coverage Data Structure</b> .....	C-1

## Foreword

HEC-GeoRAS is a package of scripts for application with ARC/INFO, a general purpose Geographic Information System software program developed and copyrighted by Environmental Systems research Institute, Inc., Redlands, California. HEC-GeoRAS is written in ‘arc macro language’ (AML) ARC/INFO’s scripting language.

The HEC-GeoRAS package AML routines were developed by the Hydrologic Engineering Center (HEC). The data extraction, import, and export algorithms were written by Thomas A. Evans. The user interface was written by Cameron T. Ackerman under the direction of Gary W. Brunner and Thomas A. Evans. Vernon R. Bonner was the Training Division Chief and Darryl Davis was the Director during the development of HEC-GeoRAS.

This manual was written by Cameron T. Ackerman. Appendix B was written by Thomas A. Evans and Gary W. Brunner.

The Hydrologic Engineering Center would like to acknowledge the Honolulu District and Sacramento District for the data sets used in the examples. **Note that the example figures in this manual are provided for illustrative purposes only and are not to be taken as hydraulically accurate.**