Chapter 3



Working in Water

Chapter 3: Working in Water

Stories From Real Life: Pisces III

Chapter Outline

- 1. Introduction
- 2. Physical Properties of Water
 - 2.1. Chemical and Electrical Properties of Water
 - 2.2. Mechanical Properties of Water
 - 2.3. Acoustic Properties of Water
 - 2.4. Optical Properties of Water
 - 2.5. Thermal Properties of Water

3. Water Movements

- 3.1. Currents
- 3.2. Tides
- 3.3. Waves, Swell, and Surge
- 3.4. Tsunamis

4. Plant and Animal Life in Water

- 4.1. Biofouling
- 4.2. Entanglement
- 4.3. Large Animals

5. The Water Column

- 5.1. Light
- 5.2. Temperature
- 5.3. Salinity
- 5.4. Density
- 5.5. Plant and Animal Life
- 6. Chapter Summary

Chapter Learning Outcomes

- Describe ways that the physical properties of water differ from those of air.
- Explain how each of those differences presents challenges and/or opportunities for those designing or using underwater vehicles.
- Describe how physical and biological characteristics of water vary with depth in the ocean.

Figure 3.1.cover: Phantom ROV Begins a Mission

The moment any vehicle slips under water to begin a mission, it is subjected to a range of physical properties that can differ significantly from those of air.

Image courtesy of Neil McDaniel