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Recreational Diving Defined

- Not diving in unfavorable environments
- Not task loading
- Certification and training intended for recreation
- **Purpose:** recreation, fun
Occupational Diving Defined

- **Diving as part of employment or volunteer**
- Diving in unfavorable environments
- Task loading
- Certification and training includes planning, emergency training
- **Purpose** dictates standard
Types of Occupational Diving

- Public Safety Diving
- Commercial Diving
- Scientific Diving
- Recreational Training
Scientific Diving Defined

“Diving performed solely as a necessary part of a scientific, research, or educational activity by employees whose sole purpose for
History of Scientific Diving

The first recorded scientific dives were made by Henri Milne-Edward (Sicily) *circa* 1844 in a commercial diving suit to 25 ft.

Henri Milne-Edward
1800- 1885
1925-1950
Early Underwater Research

1925: University of Miami students dive off of sands key as part of their class.

1930’s: University of Miami offers courses that include practical underwater observations.


1947: Haymaker, F. Used hardhat gear for underwater photography of Scripps canyon

1948: UCLA’s Bullock, T.H. Conducted benthic invertebrate studies using hand-operated pumps and helmets; Walker, B. Fish studies

1949: Conrad Limbaugh and A. Rechnitzer start using aqualungs at UCLA.
1950-1970
*Self Regulating Programs Emerge*

1950: Conrad Limbaugh becomes chief diver at Scripps Institute of Oceanography. Later became first Diving Safety Officer.

1951: Initial SIO diving safety courses taught by C. Limbaugh.

1952: Two students from UCSB and UCB drown using scuba, leading to formation of statewide committee.

1954: Limbaugh and others publish University of California diving safety rules and regulations.

1960s: Similar but informal scientific diving standards begin to be utilized.

1970s: Emergence of self-regulating programs and standards.
1975-1977
OSHA Gets Involved

1975: The United Brotherhood of Carpenters and Joiners (UBCJ) of America, supported by the AFL-CIO, petitioned the U.S. Department of labor’s occupational safety and health administration (OSHA) urging that a standard be issued with respect for professional diving operations.

1976: OSHA enacts proposed rulemaking for commercial diving.

1977: On Oct. 2 OSHA commercial diving regulations take effect, and apply whenever an employer-employee relationship exists requiring diving. The scientific diving community is included and realizes the immediate effect on its operations.

1977: CACSTD (California Advisory Committee on Scientific and Technical Diving) is formed as a precursor to AAUS, registered as a California 501.C.6 corporation in 1980.
1979-1985
AAUS Takes Action

1979: AAUS petitions OSHA, citing its ruling as unnecessarily restrictive and negatively impacting the scientific diving community given its exemplary exposure/incident statistics and self-regulating standards since 1954.

1980: OSHA hearings in Los Angeles and Washington, D.C.

1982: November 26 issuance of scientific diving exemption to commercial diving regulations (29CFR1910 Subpart t).

1984: July 18 OSHA reopens docket at request of UBCJ

1985: January 9 OSHA issue final rule (29CFR1910 Subpart-Appendix B, guidelines for scientific diving)
Scientific Diver Certification Process

Applicant
- Can dive under supervision of DSO

Diver-in-Training
- Can dive under supervision of an SD

Scientific Diver
- Can supervise DITs
Scientific Diver Certification Process

**Applicant**
- Program application
- Dive program orientation
- Medical evaluation
- Submit C-cards
- Liability release
- Emergency care training
- Basic Equipment Configuration
- Dive accident insurance

**Diver-in-Training**
- Swim evaluation
- Confined water checkout
- Open water checkout

**Scientific Diver**
- 100 training hours
- 11 checkout dives
- 6 hours bottom time
- Underwater navigator
- Rescue diver
- Online lectures
- Confined water evaluation
- Open water evaluation
- SD written exam
WHAT IS GEOSPATIAL SCIENCE?

Geospatial is a combination of geography and spatial. Geography is a science that deals with the description, distribution, and interaction of the diverse physical, biological, and cultural features of the ... More

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Water Level
Water Temp.
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2019

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• Oyster Reef Restoration

• Benthic Habitat Assessment
Habitat assessment of a restored oyster reef in South Texas

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Structural and functional similarity of epibenthic communities on standing and reefed platforms in the northwestern Gulf of Mexico

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