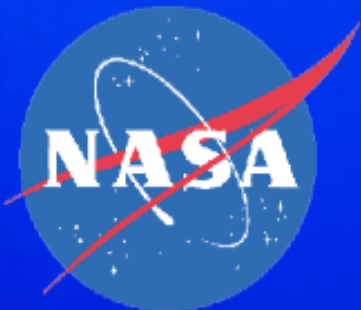


SCUBAnauts International: Education through experience for the next generation of explorers

Dr. Elizabeth Moses
SCUBAnauts International



SCUBAnauts International mission



- To guide young men and women, ages 12-18, along an exciting pathway for personal development by involving them in the marine sciences through underwater marine research activities such as special environmental and undersea conservation projects that builds character, promotes active citizenship, and develops effective leadership skills.



SCUBAnauts International: Background



- Created in 2001 (previously Scuba Scouts USA)
- 501(c)(3) non-profit education program
- Global Learning and Observations for the Benefit of the Environment (GLOBE) Partner
- American Academy of Underwater Sciences (AAUS) member organization
- Collaborations with numerous scientific agencies and universities



SCUBAnauts International (SNI)



- **4 Chapters**
 - Tampa Bay, FL, USA
 - Tarpon Springs, FL, USA
 - Key West, FL, USA
 - Lake Hitchcock, MA, USA
- **Adult Leadership**
 - Research Scientists
 - Educators
 - Dive Community
 - Parents
 - Alumni



Goals of SCUBAnauts International



- Build character, promote active citizenship and develop effective leadership skills
- Increase environmental literacy
- Promote understanding of oceanic realm
- Encourage lifelong learning opportunities
- Promote environmental awareness and stewardship



GLOBE Partnership



- SNI became GLOBE Partner on May 14th, 2009
- Completed 1st GLOBE Training with Univ. South Florida GLOBE Partner on May 16th, 2009
 - Atmospheric and Hydrologic methods
 - 13 Adult Leaders and 13 SCUBAnauts from TB and TS Chapters



GLOBE Partnership - Goals



- Utilize GLOBE data to relate with data collected during concurrent research projects conducted by SNI chapters
- Collaborate with local scientists and teachers on regional projects
- Assist the GLOBE Program with field testing of marine-based protocols



GLOBE - Challenges



- Training
 - Collaboration with other GLOBE Partners
- Challenges of using GLOBE in the marine environment
 - Frequency of data collection
 - Methodology
- Equipment Needs
 - GLOBE kits



Experiential Learning Opportunities



- Research Expeditions
- Local Science Projects



Collection of ocean optics data for validating satellite imagery



Data collection

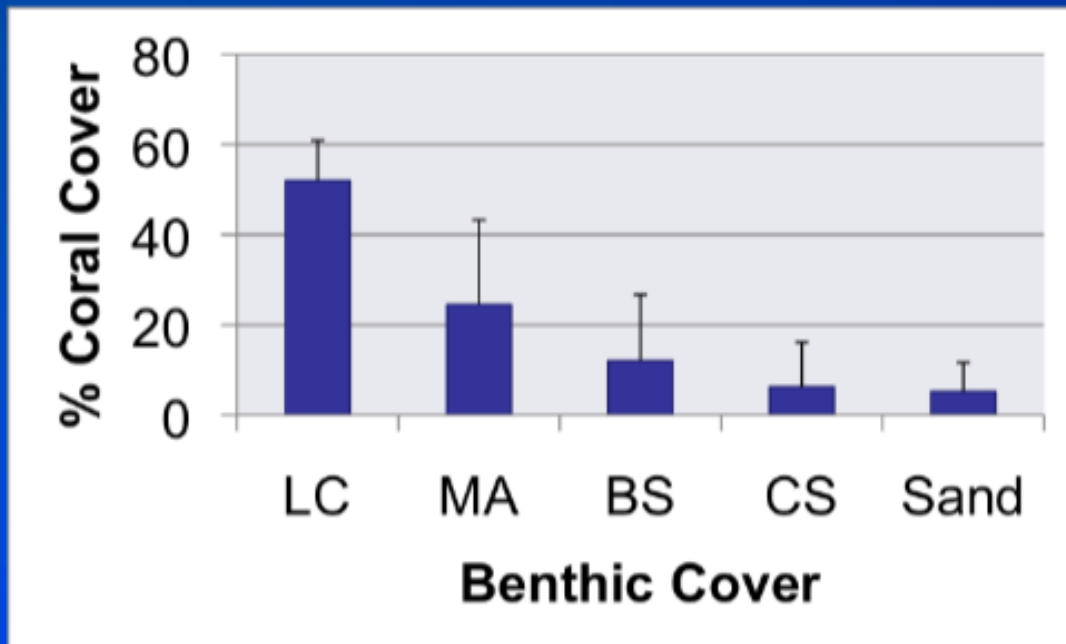


Data analysis

2009 Research Expedition



Nauty Reef, Key West, FL



Live coral (LC) cover was high (56%) relative to a typical Florida reef (mean coral cover of 5-6%; CREMP 2007).



2009 Research Expedition



Nauty Reef

	Surface (0 m)	Bottom (4 m)	
Salinity (ppt)	32	37	
Temperature (°C)	31.8	31.9	-- Coral Bleaching Threshold 31°C
Dissolved Oxygen (mg/L)	5.7	5.6	
Conductivity (mS/cm)	56	56	
pH	8.1	8.1	

Data collected with a YSI meter



GLOBE Partner Collaborations



- GLOBE Thailand Conference
 - Climate Change Education and Earth System Science (CES2) Conference
 - January 9th, 2010
 - 12 SCUBAnauts and 10 Thai Students



GLOBE Collaborations



Operation Deep Climb - October 2007



GLOBE Collaborations



Enhancing Cultural Understanding through Ocean Science

- July - August 2009
- Multinational student initiative
 - 60 students from 9 countries
- Educational and Cultural Experience
 - National marine sanctuaries in Florida and California
 - Washington, DC



Future Plans



- Increase collection of GLOBE data
 - GLOBE Training for KW and LH Chapters
 - Purchase of GLOBE kits for Chapters
- Collaboration with other GLOBE Programs
- Expand SNI Program to new regions



Acknowledgements



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- Private donors

We would also like to thank our numerous volunteers!



SCUBAnauts International

