Diving the Blue Holes of the Bahamas

Kenny Broad, Diver & Environmental Archaeologist

Join **Kenny Broad,** National Geographic's Explorer of the Year for 2011, for a fantastic voyage into the beautiful but dangerous flooded caves, or "blue holes," of the Bahamas—a potential treasure trove of scientific knowledge, captured in incredible images and video

Kenny Broad – University of Miami
Rosenstiel School of Marine & Atmospheric Science
http://www.rsmas.miami.edu/people/faculty-index/?p=kenny-broad
National Geographic Explorer | Bio
http://www.nationalgeographic.com/explorers/bios/kenny-broad/

Blue Holes Project – Kenny Broad
http://www.nationalgeographic.com/explorers/projects/blue-holes/
Submerged caves—found both on land and in the sea—are among the least studied and most threatened habitats on Earth. These systems, which hold the drinking water for many of the world's inhabitants and influence the health of nearby marine ecosystems, also boast a unique biodiversity of microbial and multicellular life. Additionally, these blue holes provide a window into the distant past, as the cave's geological formations can be analyzed to reconstruct past climate and the unique water chemistry of the blue holes has preserved skeletal remains of Paleo-Indian as well as extinct and still living species.

YouTube – University of Miami Kenny Broad Lecture
https://www.youtube.com/watch?v=spV3Cg3M-OM
Pictures and talk about diving the blue holes to college students. (about 16 minutes)

YouTube – National Geographic Live: Mapping the Unknown, Part 1: Kenny Broad and Blue Holes
https://www.youtube.com/watch?v=oy5sIKt_-TE
Published on Nov 26, 2012
National Geographic's 2011 Explorer of the Year dives into a perilous submerged cave system known as the Blue Holes of the Bahamas in search of clues to evolution and climate change. (about 15 minutes)

Marine Biologist – an interview with Jim Elser from the ASU School of Life Sciences who studies life in and around fresh water.
http://askabiologist.asu.edu/podcasts/other-marine-biologist

Map of the Bahamas
http://www.nationsonline.org/oneworld/map/bahamas_map.htm

Marveling at the Marine Biome
https://askabiologist.asu.edu/explore/marine
ASU's Ask a Biologist resource to introduce the immensity of the marine biome.
What Lies Beneath

NOVA | Risking it All for Science
http://www.pbs.org/wgbh/nova/earth/risky-science.html
In our 21-day expedition, and the resulting film, diving and the threat of dying sometimes overshadowed the science. (published 2/1/2010)

Bahamas Caves Research Foundation
http://www.bahamascaves.com/blueholes.html
Research and Conservation of Bahamian Blue Holes with a very comprehensive explanation of what blue holes and underwater cards are.

National Geographic Magazine: Bahamas Caves (need a subscription to see this)
http://ngm.nationalgeographic.com/2010/08/bahamas-caves/todhunter-text
Photo Gallery: http://ngm.nationalgeographic.com/2010/08/bahamas-caves/skiles-photography

Lesson – From Sea to Shining Sea – This is a little old as new marine sanctuaries have been added since this lesson was written – but basic vocabulary and descriptions are good.
http://www.nationalgeographic.com/xpeditions/lessons/15/g68/s2ssmap.pdf
http://www.marine-conservation.org/media/shining_sea/shining_sea.htm (interactive maps)
http://www.marine-conservation.org/media/shining_sea/S2SS_poster_front.pdf (poster)
http://nationalgeographic.org/activity/marine-protected-areas/ - activity (grades 9-12)

Marine Sanctuary Foundation
http://www.nmsfocean.org/

National Geographic Educator Activities
Marine Protected Area: Stakeholder Debate (grades 9-12)
http://nationalgeographic.org/activity/marine-protected-area-stakeholder-debate/