



Atlanta Underwater Explorers

AUE Bubbles

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7 Tips for Staying Warm Underwater

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“Feeling too cold not only wrecks the enjoyment of your dive, it also can be dangerous.”

There’s a reason people flock to the ocean when it’s hot. Submerging in cool water draws heat from your body at a rapid rate and lowers your core temperature. That’s great if you’re taking a quick dip to cool off, not so great when you’re 30 feet below the surface trying to appreciate the parrotfish.

Feeling too cold not only wrecks the enjoyment of your dive, it also can be dangerous. As your core body temperature declines, so does your reaction time and thought process. Your body also uses more energy to keep warm, so you have less endurance for your dive. Here’s how to hold onto your body heat and enjoy your dive.

1. Cover your head. You wouldn’t go skiing without a hat; don’t go diving in cold waters without a hood. It should be the first piece of thermal protection you consider. While near-surface blood vessels elsewhere in your body close down to minimize heat loss, those in your head continue at full flow.

2. Keep the water out. The best wetsuit or dry suit is worthless if it lets in too much cold water. Repair broken zippers and split seams. Pay special attention to the collar seal because as you swim forward it can act as a channel for water. A hood can pull double duty keeping your head warm and sealing the neck opening.

3. Bare nothing. Heat loss is huge where cold water flows over bare skin, so a thin full-length suit is warmer than a thicker shorty.

4. Stick to shallow waters. The deeper you dive, the more the insulating neoprene of your wetsuit compresses—effectively making it thinner and less insulating. Breathing air under less pressure also chills you less.

5. Surface if you shiver. Uncontrollable shivering is a warning sign of hypothermia.

6. Wrap up on deck. On deck, your wetsuit effectively becomes a swamp cooler as you sit there in the sea breeze. Many divers actually lose more heat between dives than when in the water. Wear a parka or a windbreaker, or take off the suit and dry off.

7. Have a hot drink. A thermos of hot cocoa can help warm your core between dives. Just steer clear of the spiked variety, as alcohol sends blood to your skin’s surface making you lose more heat.

<http://www.sportdiver.com/keywords/editors-blog/tips-staying-warm-underwater?src=SOC&dom=fbf>

The Atlantic Slave Trade in Two Minutes

315 years. 20,528 voyages. Millions of lives

By [Andrew Kahn](#) and [Jamelle Bouie](#)

Usually, when we say “American slavery” or the “American slave trade,” we mean the American colonies or, later, the United States. But as we discussed in [Episode 2 of Slate’s History of American Slavery Academy](#), relative to the entire slave trade, North America was a bit player. From the trade’s beginning in the 16th century to its conclusion in the 19th, slave merchants brought the vast majority of enslaved Africans to two places: the Caribbean and Brazil. Of the more than 10 million enslaved Africans to eventually reach the Western Hemisphere, just 388,747—less than 4 percent of the total—came to North America. This was dwarfed by the 1.3 million brought to Spanish Central America, the 4 million brought to British, French, Dutch, and Danish holdings in the Caribbean, and the 4.8 million brought to Brazil.

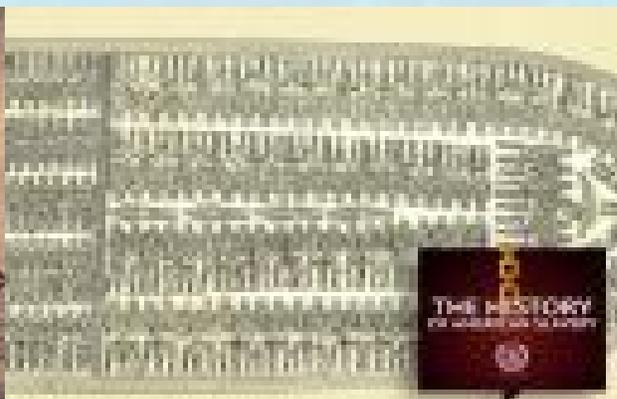
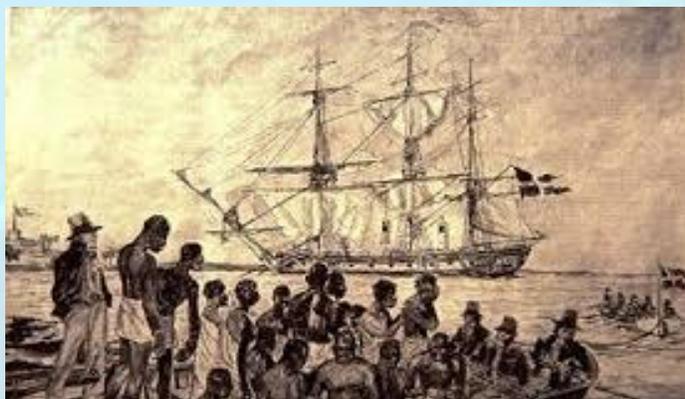
This interactive, designed and built by *Slate*’s Andrew Kahn, gives you a sense of the scale of the trans-Atlantic slave trade across time, as well as the flow of transport and eventual destinations. The dots—which represent individual slave ships—also correspond to the size of each voyage. The larger the dot, the more enslaved people on board. And if you pause the map and click on a dot, you’ll learn about the ship’s flag—was it British? Portuguese? French?—its origin point, its destination, and its history in the slave trade. The interactive animates more than 20,000 voyages cataloged in the [Trans-Atlantic Slave Trade Database](#). (We excluded voyages for which there is incomplete or vague information in the database.) The graph at the bottom accumulates statistics based on the raw data used in the interactive and, again, only represents a portion of the actual slave trade—about one-half of the number of enslaved Africans who actually were transported away from the continent.

There are a few trends worth noting. As the first European states with a major presence in the New World, Portugal and Spain dominate the opening century of the trans-Atlantic slave trade, sending hundreds of thousands of enslaved people to their holdings in Central and South America and the Caribbean. The Portuguese role doesn’t wane and increases through the 17th, 18th, and 19th centuries, as Portugal brings millions of enslaved Africans to the Americas.

Inside the Slave Ship

History of American Slavery, Ep 2: The Atlantic slave trade during its heyday and the remarkable life of Olaudah Equiano.

“By the conclusion of the trans-Atlantic slave trade at the end of the 19th century, Europeans had enslaved and transported more than 12.5 million Africans..



The Atlantic Slave Trade in Two Minutes – Cont.

In the 1700s, however, Spanish transport diminishes and is replaced (and exceeded) by British, French, Dutch, and—by the end of the century—American activity. This hundred years—from approximately 1725 to 1825—is also the high-water mark of the slave trade, as Europeans send more than 7.2 million people to forced labor, disease, and death in the New World. For a time during this period, British transport even exceeds Portugal's.

In the final decades of the trans-Atlantic slave trade, Portugal reclaims its status as the leading slavers, sending 1.3 million people to the Western Hemisphere, and mostly to Brazil. Spain also returns as a leading nation in the slave trade, sending 400,000 to the West. The rest of the European nations, by contrast, have largely ended their roles in the trade.

By the conclusion of the trans-Atlantic slave trade at the end of the 19th century, Europeans had enslaved and transported more than 12.5 million Africans. At least 2 million, historians estimate, didn't survive the journey. —*Jamelle Bouie*

Full story:

http://www.slate.com/articles/life/the_history_of_american_slavery/2015/06/animated_interactive_of_the_history_of_the_atlantic_slave_trade.html



What is Coral Bleaching?

NOAA Ocean Facts

CORAL BLEACHING

Have you ever wondered how a coral becomes bleached?

HEALTHY CORAL

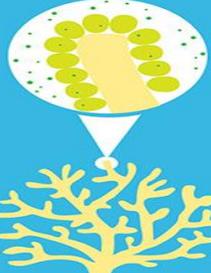
1 Coral and algae depend on each other to survive.



Corals have a symbiotic relationship with microscopic algae called zooxanthellae that live in their tissues. These algae are the coral's primary food source and give them their color.

STRESSED CORAL

2 If stressed, algae leaves the coral.



When the symbiotic relationship becomes stressed due to increased ocean temperature or pollution, the algae leave the coral's tissue.

BLEACHED CORAL

3 Coral is left bleached and vulnerable.



Without the algae, the coral loses its major source of food, turns white or very pale, and is more susceptible to disease.

WHAT CAUSES CORAL BLEACHING?

-  **Change in ocean temperature**
Increased ocean temperature caused by climate change is the leading cause of coral bleaching.
-  **Runoff and pollution**
Storm generated precipitation can rapidly dilute ocean water and runoff can carry pollutants — these can bleach near-shore corals.
-  **Overexposure to sunlight**
When temperatures are high, high solar irradiance contributes to bleaching in shallow-water corals.
-  **Extreme low tides**
Exposure to the air during extreme low tides can cause bleaching in shallow corals.

NOAA's Coral Reef Conservation Program
<http://coralreef.noaa.gov/>

When corals are **stressed by changes in conditions** such as temperature, light, or nutrients, they expel the symbiotic algae living in their tissues, causing them to turn **completely white**.

Can coral survive a bleaching event? If the stress-caused bleaching is not severe, coral have been known to recover. If the algae loss is prolonged and the stress continues, coral eventually dies.

Warmer water temperatures can result in coral bleaching. When water is too warm, corals will expel the algae (zooxanthellae) living in their tissues causing the coral to turn completely white. This is called coral bleaching. When a coral bleaches, it is not dead. Corals can survive a bleaching event, but they are under more stress and are subject to mortality.

In 2005, the U.S. lost half of its coral reefs in the Caribbean in one year due to a massive bleaching event. The warm waters centered around the northern Antilles near the Virgin Islands and Puerto Rico expanded southward. Comparison of satellite data from the previous 20 years confirmed that thermal stress from the 2005 event was greater than the previous 20 years combined.

Not all bleaching events are due to warm water.

In January 2010, cold water temperatures in the Florida Keys caused a coral bleaching event that resulted in some coral death. Water temperatures dropped 12.06 degrees Fahrenheit lower than the typical temperatures observed at this time of year. Researchers will evaluate if this cold-stress event will make corals more susceptible to disease in the same way that warmer waters impact corals.

Full Story:

http://oceanservice.noaa.gov/facts/coral_bleach.html

Note:

The coral in Maui during the NABS Summit was experiencing a bleaching effect due to water temperature increase.

Upcoming AUE Activities

- **AUE General Meeting - Saturday 3:00 p.m. - 5:00 p.m. January 16, 2016 - Fulton County/Atlanta Ponce De Leon Library, 980 Ponce De Leon Ave NE, Atlanta, GA 30306.** Meeting time is the 3:00 p.m. every 3rd Saturday of each month.
- **Annual Crystal River Manatee Trip - February 19 - 21, 2016 at the Plantation Resort in Crystal River Florida.** It's not too early to make your reservations. The event will be hosted by SSQ. Contact: Jenifer Ford of SSQ for details. "You only have till Jan 30th to confirm you spot!"
<https://www.facebook.com/SSQuestrians/>
- **Cayman Islands Dive - April 23 -30, 2016,** Contact: Roz Woolfolk (wolfolk_r@yahoo.com) or visit our Facebook page for more details.
<https://www.facebook.com/events/1729351293960022/>
- **Coral Restoration Dives June, July & October 2016** Details: Contact Ken Stewart DWP
- **2016 NABS Summit November 5 thru 12, 2016 Renaissance Aruba Resort & Casino**
[Renaissance Aruba Resort & Casino](#)
Visit NABS website or Facebook page for details.
https://www.facebook.com/groups/120032470724/10156328458380725/?notif_t=group_activity

Recent AUE Activities

- **25th Anniversary NABS Summit**
Ka'anapali Beach Hotel Maui, Hawaii- November 7th thru 14, 2015
- **Former AUE Member Robert Morales**
75th Birthday Celebration
- **YMCA Youth Swim Team Scuba Training**
Elleen Yancey, AUE Originator, Jimi Mack & Alex Colvin, Diver Instructors.
This an ongoing youth activity for developing the next generation of scuba divers.

Announcements

2016 NABS Summit Update:

The 2015 Summit was a wonderful experience for all who attended. This year's summit in Aruba should be equally as enjoyable. Registration has already begun at discounted rates. Airfare is now reasonable so book early if you plan to attend.

See images from the 2015 event and next year's summit information on the AUE's and NABS Facebook pages.

<https://www.facebook.com/groups/ATLANTAUNDERWATEREXPLORERS/?fref=nf>



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Editor's Corner

Fellow AUE Members:

Welcome to the January 15, 2016 edition of *AUE Bubbles* newsletter. We hope you continue to find future editions informative. Your suggestions, comments and story ideas are always welcomed.

An active dive and social calendar is planned for 2016. Stay tuned and find us on the web at www.diveaue.org, on Facebook at <https://www.facebook.com/groups/ATLANTAUNDERWATEREXPLORERS> and via *AUE Bubbles*.

Story ideas are always welcomed. Completed story submissions must be received one week prior to the publishing date (Bi-monthly on the 15th of the month).

The next edition will be published March 15, 2016.

Please submit your story ideas and comments to my attention via email.

Dive safely,

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www.diveaue.org