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Winter 2013 Edition

The Sea Star Quarterly



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is a presentation of*

wasatch
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aquarium
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New Year, New Club Presidency

As we say goodbye to 2012 and hello to 2013, we also welcome in the 2013 Wasatch Marine Aquarium Society Presidency Council.

2013 has the potential to be a great year for WMAS. The new Presidency is looking forward to a year full of great Guest Speakers, Club activities, new Forums and online contests on places like Facebook and Twitter, and new and exciting offers and discounts for our Paid Members and Guests.

So how can YOU help? It's easy! Got an idea for an activity you would like to see us try? Maybe a suggestion for a Guest Speaker - or even a field trip? A contest you would really like to see? Well, then... just let us know about it!

We have 2 ways your voice can be heard. In person, at the meetings (just look for the folks in the WMAS Presidency T-Shirts and Nametags) or here:

http://www.utahreefs.com/forum/forum_topics.asp?FID=8&SID=1771705z4c946d56ef2ff2da1921d5978356482&title=suggestion-box-recommendations

The 2013 WMAS Presidency looks forward to hearing from YOU!!!



Coral Reef Acidification in the Yucatan

by Bob Carlson

Scientists are discovering the truth about the potential fate of coral reef ecosystems in relation to how ocean acidification is affecting them. This has been revealed through observations at Submarine Springs along the coast of Mexico's Yucatan Peninsula.

Scientists expect increasing amounts of carbon dioxide in the atmosphere to facilitate a lower pH in seawater. These conditions already naturally exist in the water around Submarine Springs, allowing for the perfect place for research.

The research at the springs showed small unevenly distributed colonies of only a few species of coral. These also were not structurally complex as corals in nearby reefs such as the Mesoamerican Barrier Reef. This seems to show that the pH level is having a dramatic effect on stony coral health and growth.

This ocean acidification study took place from 2009 – early 2012. The team, led by scientists at the University of California, Santa Cruz, has published their findings in the journal *Coral Reefs*.

"This study has some good news and some bad news for corals" said Adina Paytan, a research professor in the Institute of Marine Sciences at UC Santa Cruz. "The good news is that some species of corals are able to calcify and grow at very low pH. The bad news is that these are not the stony corals that build the framework of the coral reefs. So if this is an indication of what will happen with future growth, the reefs will not be the same as we know them today."

The lower pH level of the springs has naturally existed for thousands of years, but lowering the pH affects the chemical balance of seawater when it comes to calcium carbonate. This in turn reduces the concentration of carbonate ions and therefore makes it much harder for corals to build and maintain their structures.

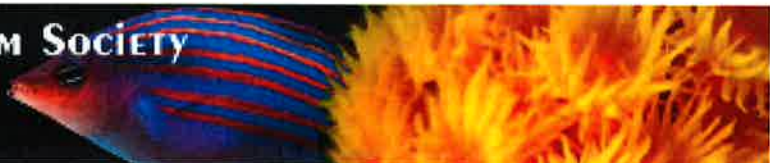


Coral Reef Acidification in the Yucatan

(cont)

Paytan said, "We need to understand the mechanisms that allow these corals to calcify at these low-pH conditions. We should also make sure that the places where these species occur are protected".

The research was funded by the National Science Foundation in order to see how acidification affected marine organisms. The conditions seen at the springs are the same conditions that the scientists expect to see in oceans across the world by the year 2100 due to increases in airborne CO₂ levels and the expected resultant ocean acidification. The findings have concerned the scientists but have also simply confirmed what they had already expected. The increased carbon dioxide in the atmosphere leads to higher acidification in seawater which is now proven to affect the corals growth as well as other organisms.



WMAS Find – A – Word

Try and locate all the hidden Reefkeeping terms listed in the Search Key below. Remember, the hidden words can be found on the horizontal, vertical, diagonal... even backwards!

O M S T R I U Q S R A T S E L T T I R B S X T R
 S P O N G E S I E P B N X U J C S M H O S S U T
 A R O P O R C A L F A T P E R M V R O M M E C Q
 G U E C C A M A R E O Z S A L F V G E D Q T C L
 D N I B L O N J C I M T B Z O T U B S T H A A G
 I Z I G M K L A S L A S R T Y B E L I S S R R V
 H S A H T U T O S Q R N M X S N S L B N I B B W
 T E N O C S C H N J I X O E T J F E N I F E O S
 N N N I U A R U F Y N W G H E H B O T H R T N L
 A O J R A I E R C S E W I P R S I Q L C A R D B
 O M C I M R A L L U E C S Q K T E I N R T E I L
 Z E H P E G B H B H C H S Y A C G V P U S V O A
 G N I P E E K F E E R M C G N H O H L O H N X C
 K A S K S U L L O M A U O N T O O R W A D I I I
 B Q W O R M S P O L Y P V I A N T M E N V F D P
 A N T H O Z O A C D O J N P S R P S W V Z I E O
 T F O S S P I D E R B G O A S J B H W S I M B R
 S L I A N S J L P M I N I R E E F K K H H L I T

KEY: ACROPORA ALGAE ANEMONES ANTHOZOA BIVALVES
 BENTHIC BLEACHING BRAIN BRANCHES BRITTLESTARS
 CARBON DIOXIDE CLAMS COLONY CRABS CRUSTACEANS
 CUCUMBERS FRAG INVERTEBRATES LIGHTING LIVE ROCK
 LOBSTERS MARINE MINIREEF MOLLUSKS OYSTER
 PLANKTON POLYP PROPOGATION REEFKEEPING SHRIMP
 SNAILS SOFT SPIDER SPONGES SQUIRTS STARFISH
 STONY TROPICAL URCHINS WORMS ZOANTHID



Did You Know?

Banggai Cardnalfish are mouthbreeders! After spawning, the male holds the eggs in his mouth for up to 28 days, until they hatch. During this time he does not eat – at all!



Once hatched, baby Banggai are about the same size as baby guppies - and almost as easy to raise! How cool is that?



Upcoming Events – Winter 2013

- **December** - Aviad Ben – Zekry of RedSea Pharma will be our Guest Speaker at the 2012 Holiday Pot Luck Dinner & Social; his presentation is entitled “Elemental Uptake in Stony Corals”.
- **January** - WMAS kicks off 2013 with our Annual Winter Fragfest! Hundreds of coral frags to choose from; priced starting at only \$5! And remember, HALF OFF if you are a Paid Member – so get your Paid Membership today!
- **February** - The Annual WMAS Winter Banquet is here! This year we will have as our guest “Professional Mermaid” Hannah Fraser, who will tell us all about her life as a real, live Mermaid! Tickets for the Winter Banquet *always* go fast – make sure and get your tickets before they are all gone!



Thank You

As 2012 ends, and a New Year begins, our thoughts often turn to remembering the good times of the past year, remembering those we have lost, and giving thanks for the blessings that we are fortunate to have and share. I thought it would be fitting to use this space to take a moment to thank some of our "fishy friends", past and present, who helped make the WMAS experience special:

- **Thank You to Tim & Tina Weidauer, Joe & Cindy Jones, Mark Peterson, and Rich Frey for starting the WMAS way back in 1995. Did you ever imagine we would come this far?**
- **Thank You to Adam Blundell, Kirk Talbot, Jon Finch, Mike Savage and many others who helped the Club to grow into what it is today.**
- **Thank You to Jake Pehrson for creating the WMAS website and tirelessly serving as Webmaster for over a decade (!)**
- **Thank You to our Local Fish Stores for supporting WMAS through your donations and goodwill towards our Members. We really DO appreciate all you do for us!**
- **Thank you to our online Sponsors for supporting WMAS with adspace, web banners and donations.**
- **Thank you to the 2012 Presidency, and to all past members of the Presidency Council. Your hard work, dedication and volunteer efforts over the years are the reason we are the #1 Marine Society in the Intermountain West today!**
- **And Thank You to all our WMAS Members and Guests... YOU are truly what makes us special!!!**

