The Role of Science in Documentary Production: Chasing Coral

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November 22, 2022

Abstract

Coral reefs are one of the most diverse ecosystems on Earth and provide significant ecological, economic, and societal benefits valued at approximately $9.8 trillion U.S. dollars per year. While there are multiple ways humans threaten coral reefs, climate change has become the single most important of these threats. NOAA's Coral Reef Watch is the only program that operationally issues coral bleaching forecasts, using near real-time satellite monitoring to provide ecological nowcasting of the ocean heat stress that can cause mass coral bleaching and using climate models to forecast the potential for bleaching months into the future. Ocean temperatures began to rise in mid-2014, starting what turned out to be three full years of marine heatwaves that caused corals to bleach — expelling their symbiotic algae. When the film team at Exposure Labs started exploring how to film coral bleaching as it happened, Coral Reef Watch was an obvious partner. Exposure Labs worked with numerous scientists, including me as a Co-Chief Scientific Advisor, to get the science behind the Sundance-Award Winning film Chasing Coral correct. The film team went to great extremes to ensure every statistic, graph, scientific principle, and animation was clear and accurate – using science to explain and support the adventure of trying to capture the first on-reef time-lapse imagery of this important phenomenon. The result is a visually compelling film that tells the story of climate change and its impacts on an important ecosystem in a way that appeals to audiences, including viewers who usually would not sit down to watch a climate change documentary. Chasing Coralis an extremely effective combination of science and art that opens opportunities for dialogue on climate change in ways no scientific paper ever could.

The Role of Science in Documentary Production: *Chasing Coral*

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with thanks to the entire Coral Reef Watch Team who made all of this possible

Poster PA41E-1362

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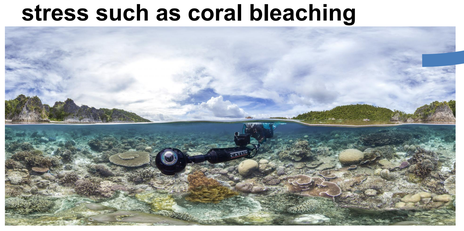
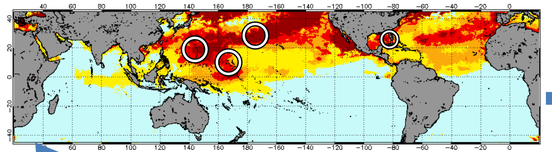
2014-2017 Global Bleaching Event: The Opportunity for the Film's Creation

2012: XL Catlin Seaview Survey:
Imagery to document change due to stress such as coral bleaching



2014: Bleaching Begins

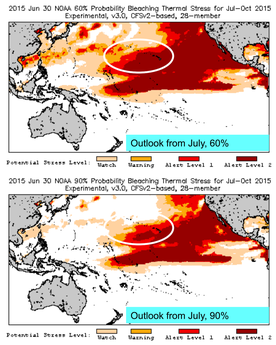
September 2014 Maximum Bleaching Alert Area



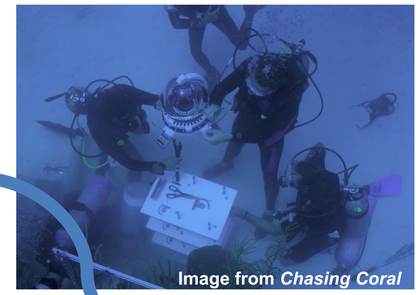
+ Film Team (Exposure Labs)

2015: Bleaching Worsens and Spreads

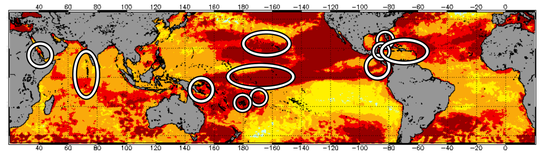
2015 4-Month Bleaching Outlook: Hawai'i

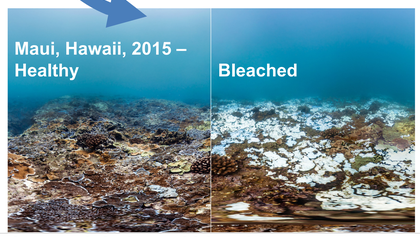


Deploy Cameras



2015 Annual Maximum Bleaching Alert Area



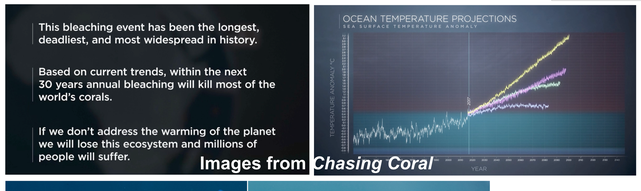


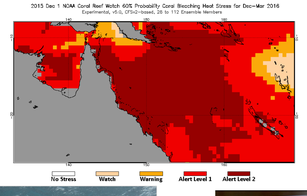
NOAA declares third ever global coral bleaching event

Bleaching intensifies in Hawaii, high ocean temperatures threaten Caribbean corals

October 8, 2015

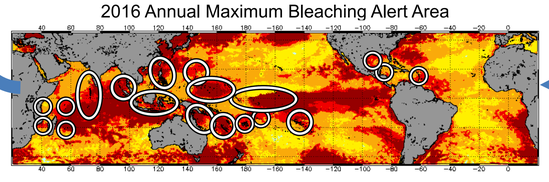
Hours of discussion over each text/data slide





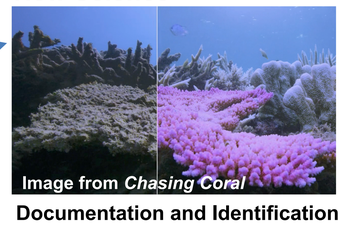
2016 4-Month Bleaching Outlook: Australia

2016 Annual Maximum Bleaching Alert Area



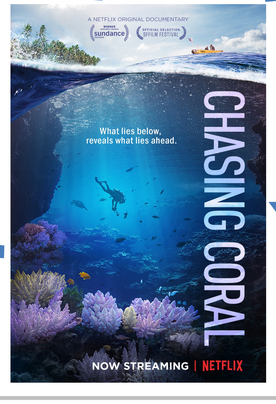
2016: Bleaching Even Worse

New Science

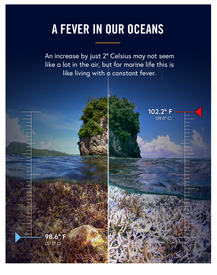


Documentation and Identification of Rapid Bioerosion (in review)

2017: Film



Outreach Materials



Awards

Outstanding Nature Documentary