Sometimes a beautiful photograph is not a pretty picture.

Photographs and text by David Arnold

On a rainy April morning in 2005, I was driving home with a newly purchased Bradford Washburn photograph propped against the passenger window.

It was an aerial picture of a glacier, one of thousands taken by the former president of the Museum of Science (who died in 2007). Sneaking peeks at the photograph, I wondered: If the hullabaloo about planet warming is true, has this scene changed?

The question resulted in an exhibition of historic and contemporary photographs of glaciers, now touring the country, and a new project in the works using a similar methodology: I am shooting corals, using benchmarks from other photographers to create comparisons by replicating the camera angles and conditions in the earlier pictures.

The news is not good. The ice world is melting fast. And about 40 percent of the planet's reefs are in decay: Coral death is complicated, but human fingerprints are all over it. Humans are to blame, and humans are the solution. Says who? Says 98 percent of the peer-reviewed climate research and every significant national science academy. Our dependence on fossil fuels with their byproduct of carbon dioxide is thickening a heat-trapping invisible quilt around the earth.

Frankly, science has never been my strong suit. I took "Physics for Poets" to fulfill my college requirement. But looking through a lens at the pace of change today has forced me to ask questions and judge motives of the deniers because, although I have not become a scientist, I have become more science literate.

The research put through the acid bath of peer reviews says that if we don't smarten up fast, a dangerously warmer planet ensues. We don't want this, particularly on our watch. The consequences are unfathomable—not to mention the guilt.

So the skittish among us start concocting narratives to address the very understandable anxiety. Those narratives offer hope, albeit spurious: We hope that the science is faked; climatologists are in it for the money; Gore is just a griping presidential loser; we are in a natural warming cycle; we are in a natural cooling cycle; we can legislate against the laws of physics and chemistry; the problem is not coal and oil but water vapor and cow farts; we can throw sulfuric pixie dust into the atmosphere and all will be well. Adding more science may only increase the anxiety and the need to cling to narratives.

The rub is that science is a discipline. It thrives on transparent peer-chewed data. Evidence, not opinion, makes good science.

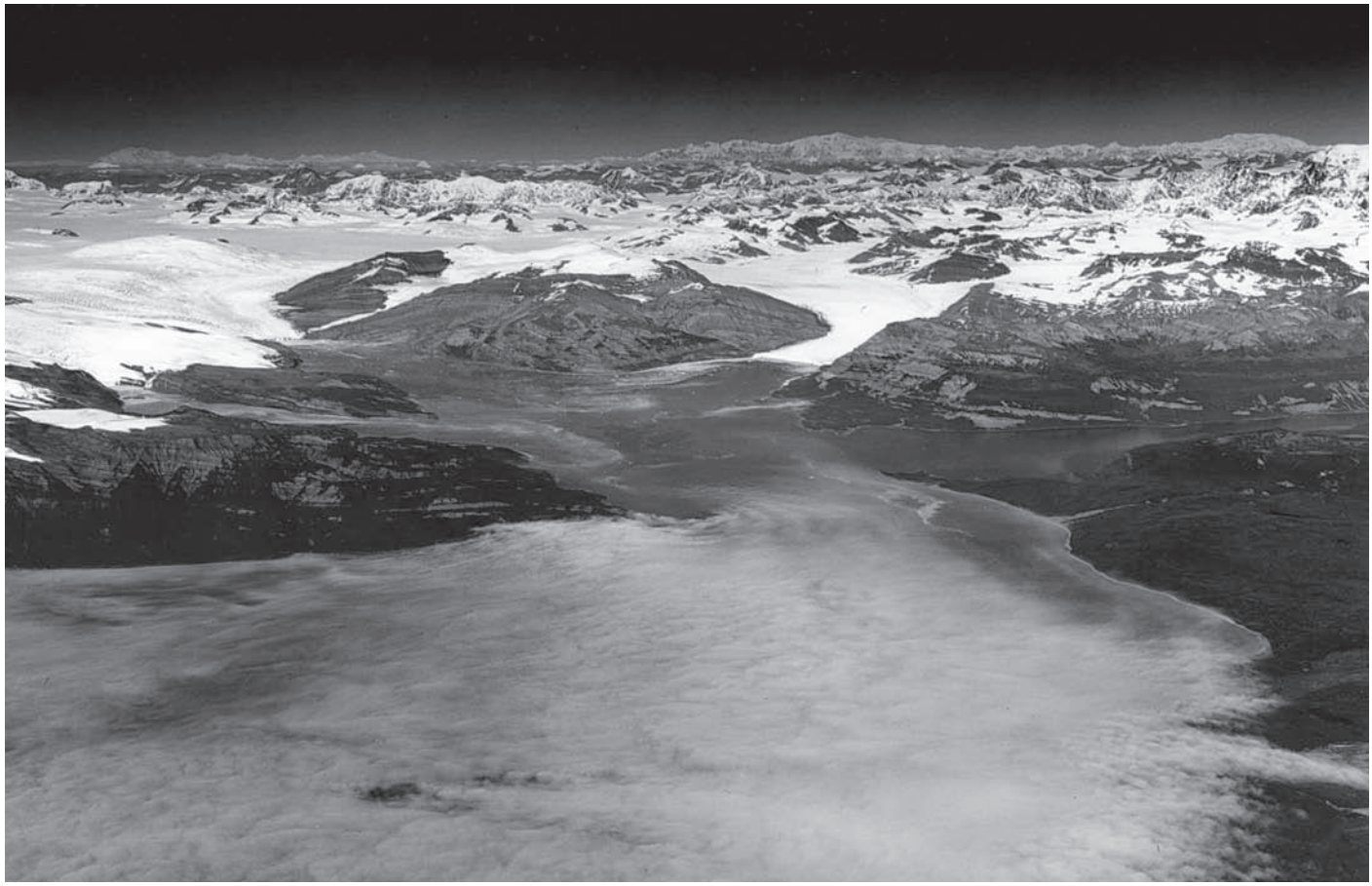
The good news is that, just as these photographs speak to unsettling change, they speak to nature's plasticity. We have the technology to reverse our course. The science says that if we get off a fossil-fuel diet, the monster will retreat. It's physics for poets.

David Arnold is a freelance photographer and journalist who was a staff reporter at *The Boston Globe* for 25 years. For more information on his project, Double Exposure: Photographing Environmental Change, visit: www.doublexposure.net.

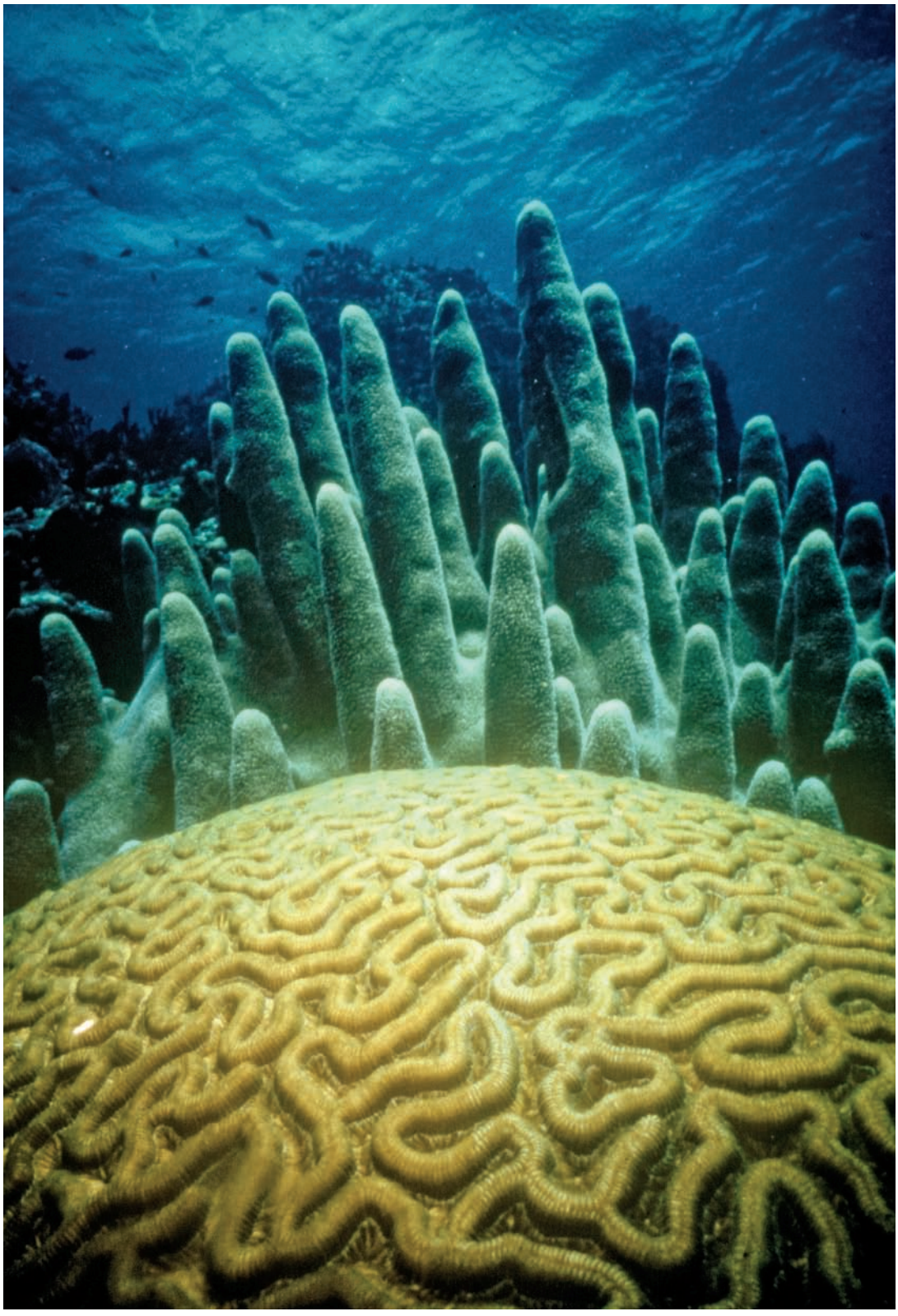
Top right: Guyot Glacier, 1938.
Bottom right: Guyot Glacier, 2006.

The glacier, located in southeast Alaska, has receded 12 miles up the bay. (The white in the foreground of the image is fog.) Enough fresh water has melted from the Guyot during the past 70 years to supply all of New York City's water needs for 47 years. The state of Connecticut would fit in this scene with room to spare.

1938



2006



1989

2011

Opposite: Brain Coral, Rhone Reef, British Virgin Islands, 1989. © Armando Jenik. **Left:** Brain Coral, Rhone Reef, British Virgin Islands, 2011. © David Arnold.

Major change can be a challenge to accept. Sue Thompson, the professional diver holding the 1989 photograph of this site, has logged more than 8,000 dives (equivalent to almost one entire year underwater) in the British Virgin Islands. "I would not have believed this was the same place," she said, "had I not seen it slowly happen over time."

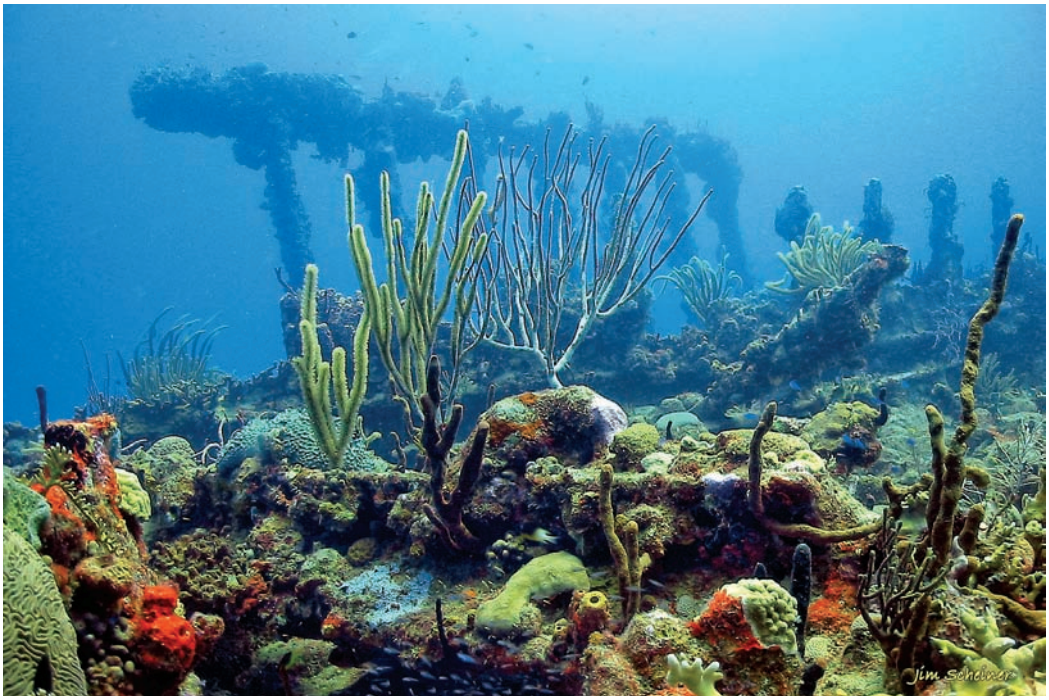
1938

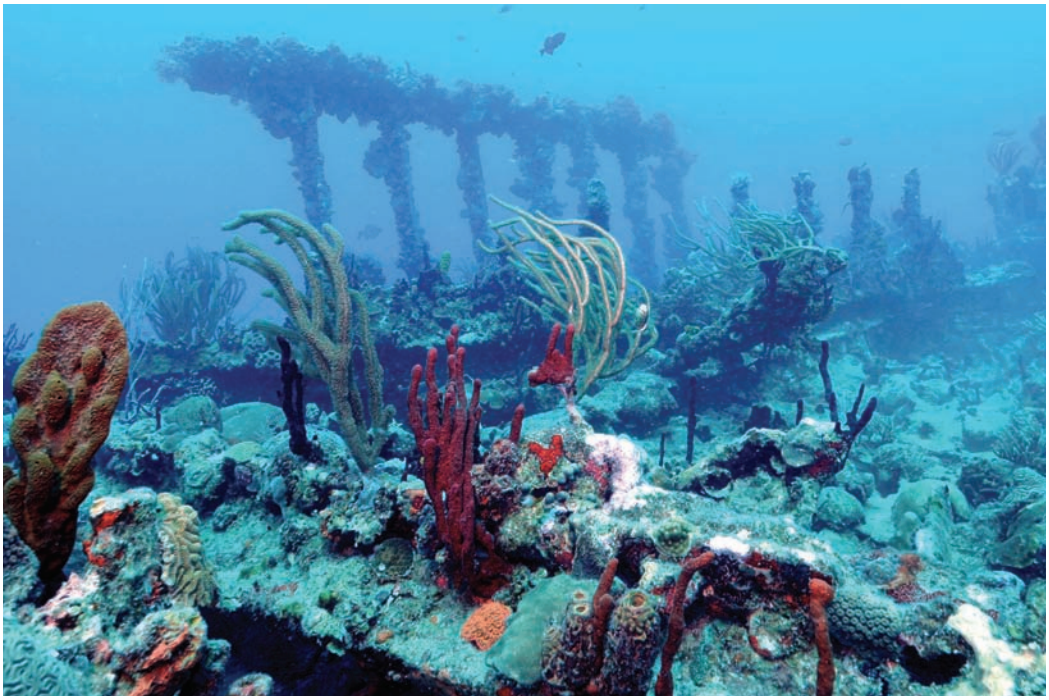
2006

Top: Twentymile Glacier, 1938. © Bradford Washburn, courtesy archives, University of Alaska.
Bottom: Twentymile Glacier, 2006. © David Arnold.

Located in the Chugach Mountains south of Anchorage, Alaska, the glacier was photographed from an altitude of 15,000 feet in late summer in both 1938 and 2006. After 68 years, the glacier has receded, and snow cover has dramatically decreased.

2005





2011

Top: Wreck of the Rhone, British Virgin Islands, 2005. © Jim Scheiner.
Bottom: Wreck of the Rhone, British Virgin Islands, 2011. © David Arnold.

During the summer of 2005, much of the Caribbean warmed, killing the colorful algae that lives on corals and supplies them with vital nutrients. Deprived of algae, the corals turn white and often die. Some remains of white, or "bleached," coral can still be seen in the bottom picture. Severe bleaching episodes worldwide are far more common today.