



Sharing Science with Scientists & the Public

BRIAN MCNOLDY
SENIOR RESEARCH ASSOCIATE 3

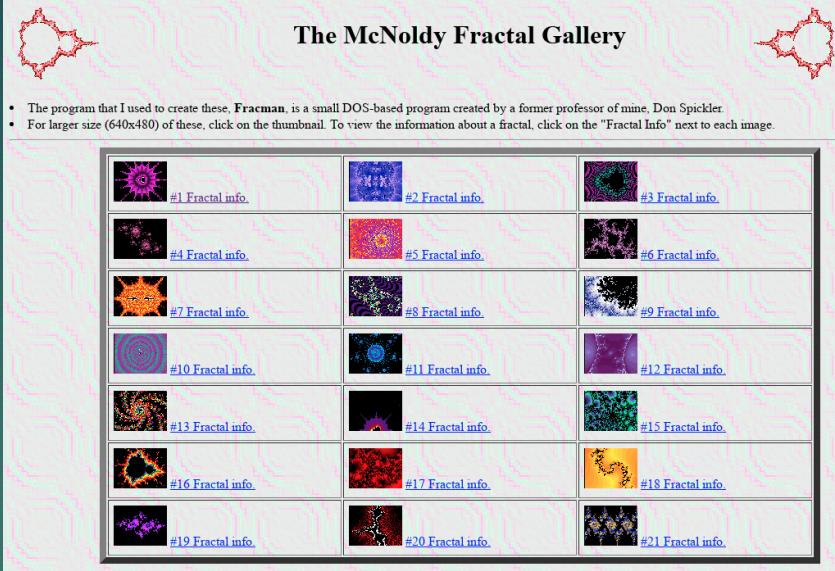
LUNCH BYTES
7 SEPTEMBER 2018

Rewind to mid-1990s

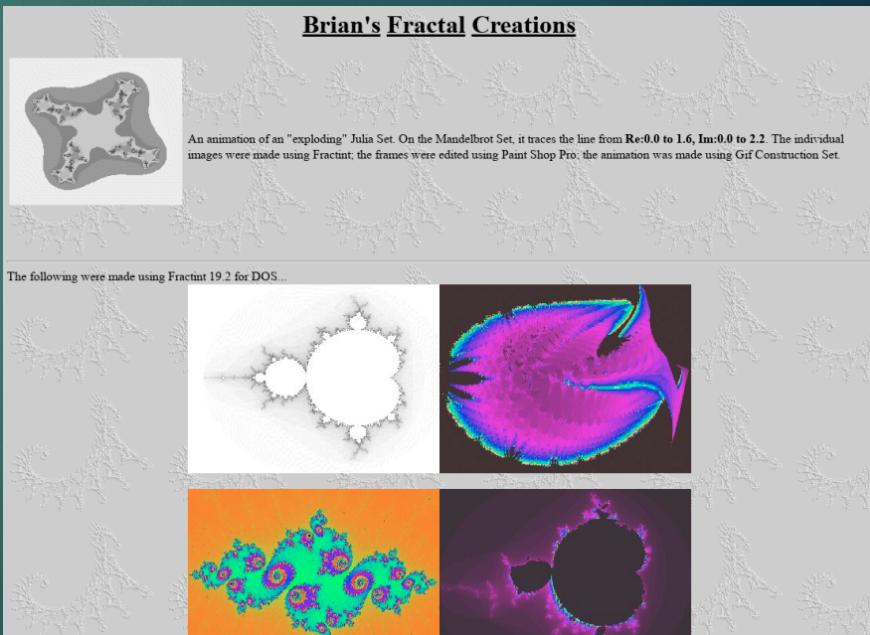
- ▶ 1994: coded my first text-only website, primitive graphical web browsers (e.g. NCSA Mosaic, Netscape Navigator) were just blinking into existence, text browsers (e.g. Lynx) were popular
- ▶ 1995: coded my first graphical website. Very basic features in browsers, but having images and mouse-clickable links revolutionized access to the ~100,000 websites around by 1996.
- ▶ *Quickly saw the utility in widely sharing fun science and math stuff like never before...*

Fractals

- ▶ Created galleries with images, equations, and software
- ▶ Each one took hours to days to render on a 33 MHz desktop computer.
- ▶ Color tables had to be manually created (some 4-bit, some 8-bit)



<http://andrew.rsmas.miami.edu/bmcnoldy/gallery/fractals.html>



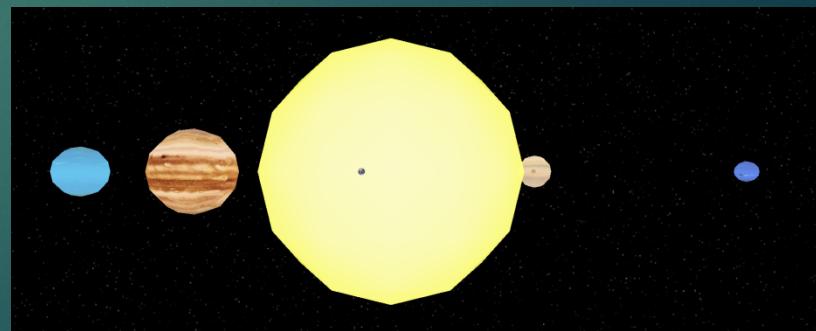
<http://andrew.rsmas.miami.edu/bmcnoldy/fractint/fractint.html>

Astronomy

- ▶ VRML, or Virtual Reality Modeling Language, was the ‘next big thing’ that would revolutionize the internet.
- ▶ Released in 1995... I learned to code “worlds” right away. VRML v2.0 came out in 1996, browsers had default plugins.
- ▶ My first application was a solar system with scaled planets, revolution rates, rotation rates



<http://andrew.rsmas.miami.edu/bmcnoldy/vrml/vrml.html>



Hurricanes

- ▶ While a physics & astronomy major in college, I had been very interested in weather/hurricanes since childhood.
- ▶ Started a “blog” in August 1996 to update interested friends on tropical cyclone activity in the Atlantic. Very casual, non-technical, one-stop-shopping for everything going on.
- ▶ I did the work of compiling information from sources around the internet and provided a summary geared toward the public (only when there was activity; otherwise nothing).
- ▶ Used a mailing list, which grew from ~5 subscribers at first to ~100 by end of 1996 season. Coastal residents, military, weather nerds, family, friends, business owners, etc.
- ▶ Still doing it today, 22 years later (~1200 posts, ~350 TCs)

Hurricanes

- ▶ Invited to blog about hurricanes for New York Times from 2007-2010
- ▶ Invited to be the “tropical weather expert” for the Washington Post’s Capital Weather Gang from 2012-present.
- ▶ Requires writing for the general public while relaying sometimes-challenging concepts

TROPICAL ATLANTIC UPDATE

Brief summaries of tropical Atlantic activity tailored to the general public, coastal residents, and weather enthusiasts. I have been sending out these updates since 1996, and appreciate everyone's continued interest!

06 SEPTEMBER 2018

The odds of Hurricane Florence affecting the U.S. East Coast have increased

My update on Hurricane Florence is available on the [Capital Weather Gang blog](#).

The odds of Hurricane Florence affecting the U.S. East Coast have increased

- Visit the Tropical Atlantic Headquarters.
- Subscribe to get these updates emailed to you.
- Follow me on Twitter

Posted by Brian McNoldy at 11:23 AM 0 comments

04 SEPTEMBER 2018

Gordon to hit Gulf coast tonight, Hurricane Florence remains far from land

<http://bmcnoldy.blogspot.com/>

Capital Weather Gang

Meet the Gang

Brian McNoldy – Hurricane Expert

Brian McNoldy was born and raised in Reading, Pa., where his interest in weather was sparked at age 7 by the big Nor'easter snowstorm of February 1983, and then further piqued by Hurricane Gloria in September 1985. He earned his B.A. in physics and astronomy from Lycoming College in Williamsport, Pa. in 1998, held an internship at NASA Goddard in Greenbelt, Md. in the summer of 1997, then went on to graduate school where he completed his M.S. in atmospheric science at Colorado State University (CSU) in Fort Collins, Co. in 2001. He spent the next ten years working at CSU's Department of Atmospheric Science conducting research on a multitude of tropical cyclone topics. Brian has maintained [his own blog](#) on tropical Atlantic activity since 1996, and was selected as one of four hurricane experts for the New York Times blog from 2007-2010. In 2012, Brian took a position at the University of Miami's world-renowned [Rosenstiel School of Marine and Atmospheric Science](#) (RSMAS) to continue his career in tropical cyclone research. His website hosted at [RSMAS](#) is also quite popular during hurricane season.

<https://www.washingtonpost.com/news/capital-weather-gang/>

Author: Brian McNoldy
Senior Research Associate at University of Miami's Rosenstiel School of Marine and Atmospheric Science

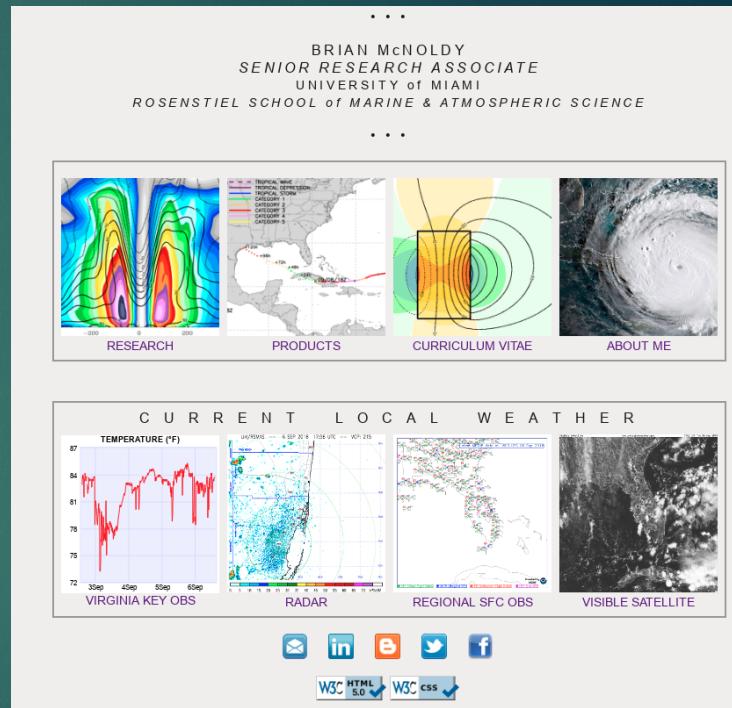
"In the eye of a hurricane, you learn things other than of a scientific nature. You feel the purity of man and his works. If a true definition of humility is ever written, it might well be written in the eye of a hurricane." -Edward Murrow, reporting on Hurricane Edna 1954

Blog Archive ▾ 2018 (22)

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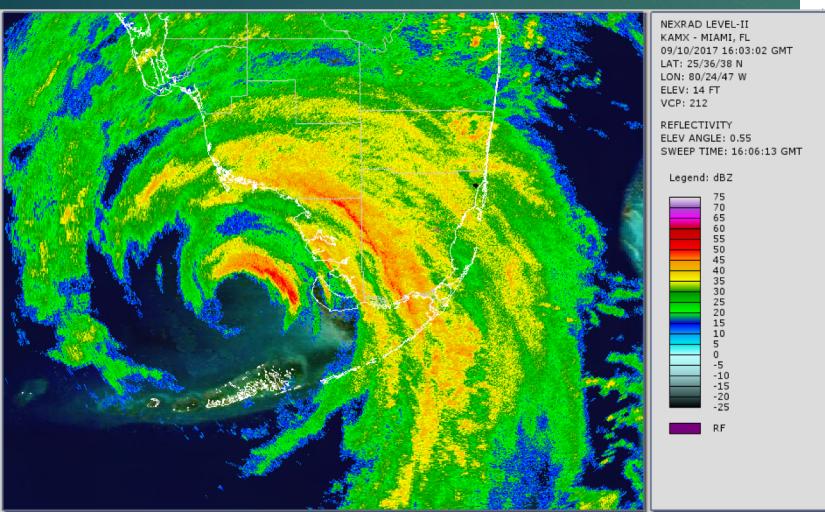
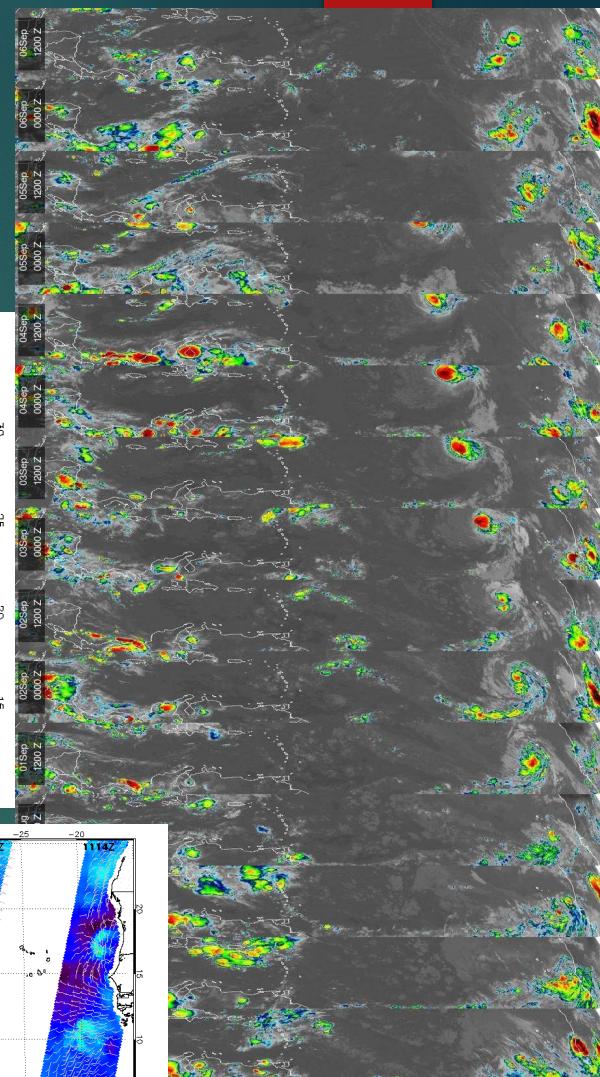
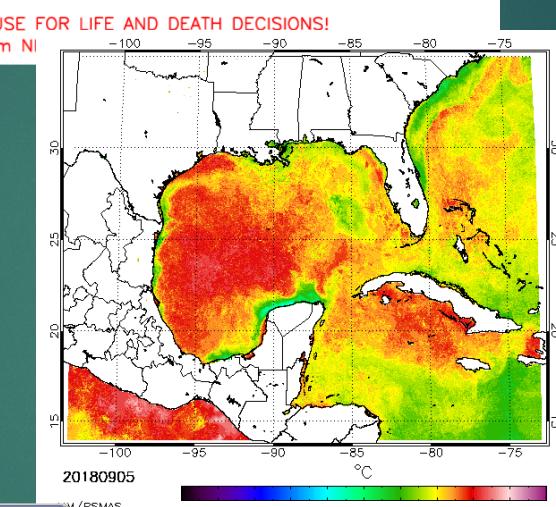
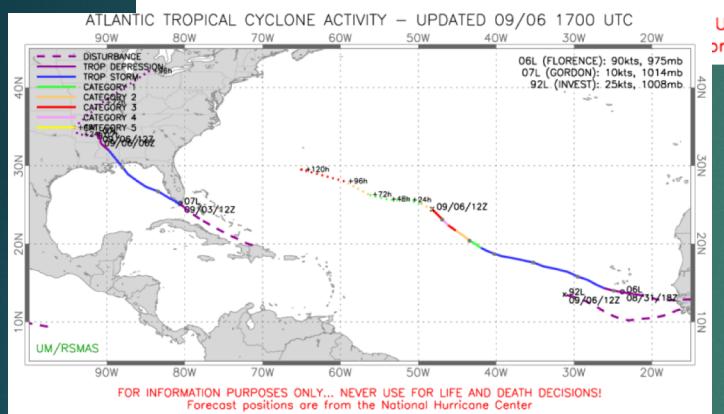
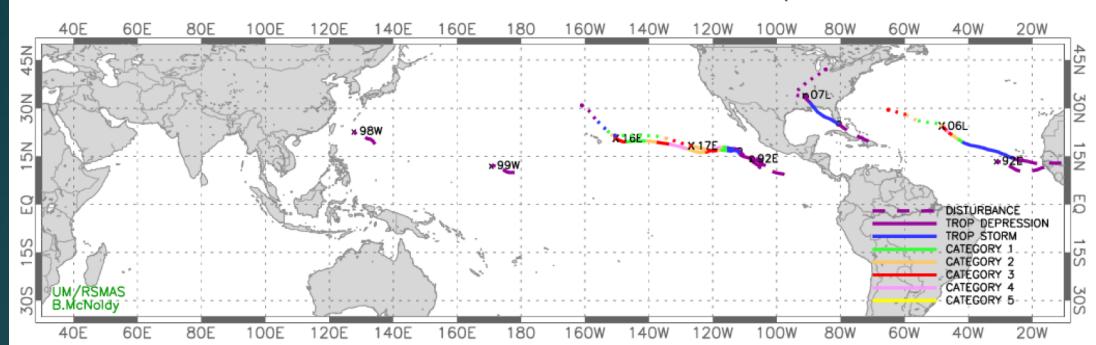
Website & Real-time products

- ▶ Have hand-coded ~14 entire websites for myself, friends, organizations
- ▶ Started generating and sharing my own real-time products on website ~2000
- ▶ Pages coded in standards-compliant HTML, CSS, PHP, JavaScript
- ▶ Used (and still use) BASH, IDL, and CRON for managing data, graphics, timing
- ▶ Presently producing 1200-1500 images per day
 - ▶ Satellite, radar, models, climatology

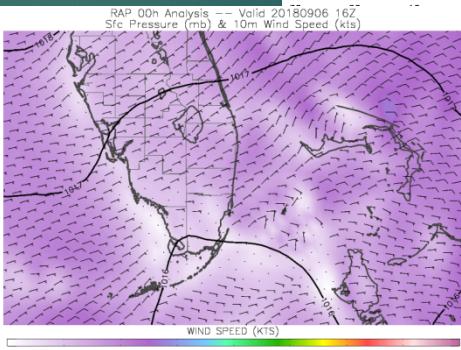
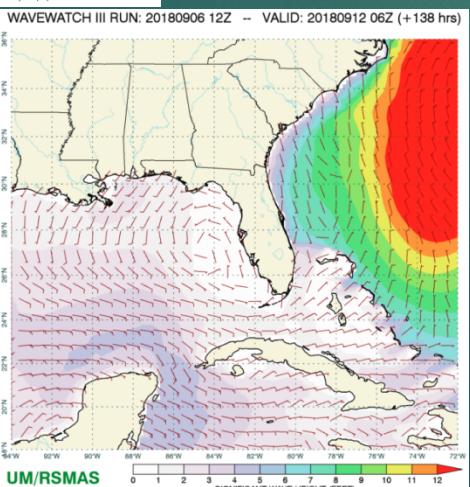
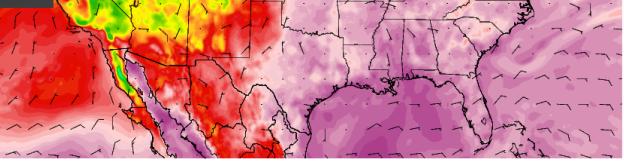
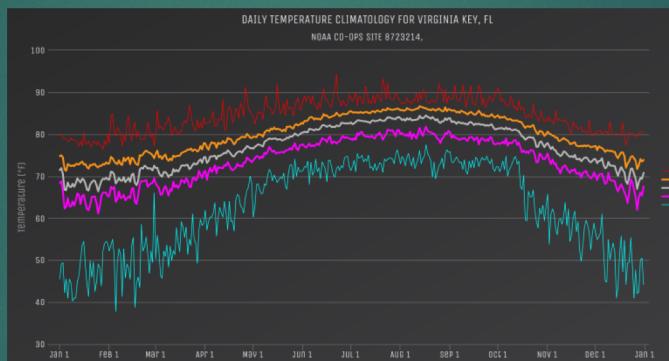
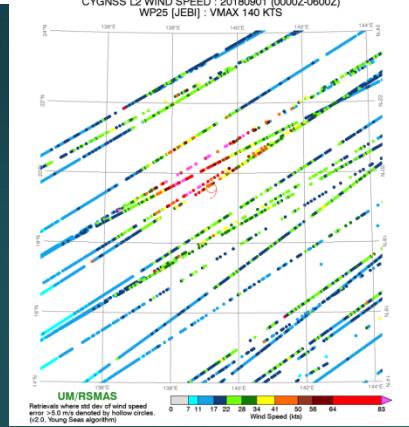
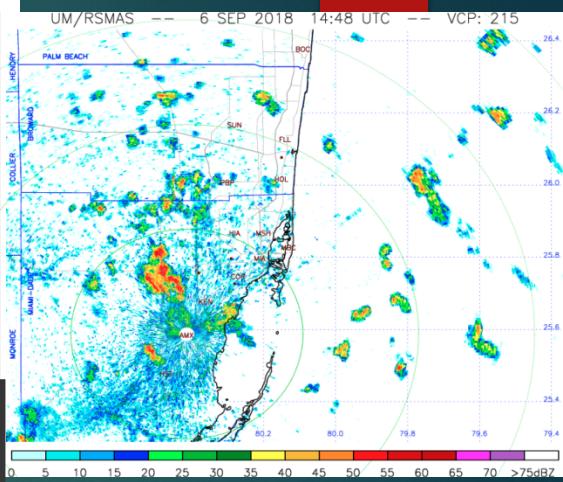
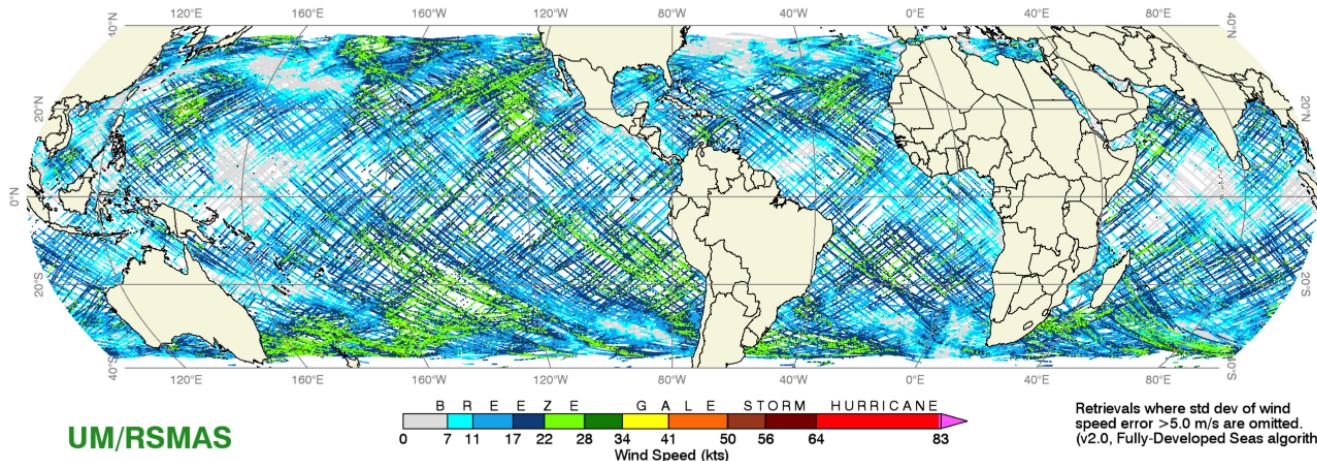


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GLOBAL TROPICAL CYCLONE ACTIVITY – UPDATED 09/06 1700 UTC



CYGNSS L2 WIND SPEED : 20180901 (0000Z-2359Z)



Tips for Sharing Science

- ▶ Language needs to be non-technical! In rare cases, you might dip into an explanation of a concept/detail, but keep it brief and non-essential
 - ▶ Interested readers will enjoy it, others will skip it
- ▶ Graphics need to be easy to interpret (colorful helps; most people are visual and there's a lot out there to filter through)
- ▶ Respond politely/professionally to responses/critiques
 - ▶ (it's ok to ignore the tin-foil hat ones though!)
- ▶ Scientists and the general public alike may not have a clue what you're doing, but are willing and able to learn if given a chance
- ▶ Keep it to digestible amounts... no books.
- ▶ Sharing your work or something related to your work should be fun for you too; enthusiasm will show!