

Levi Cowan

Owner/Operator, Tropical Tidbits



Levi Cowan is a graduate student in meteorology at Florida State University studying tropical cyclones. Since 2012, Cowan has run a Website called Tropical Tidbits (<https://www.tropicaltidbits.com>), where he discusses Atlantic tropical storms and various related projects on which he is working. He also runs a Twitter stream aimed at

scientists and the public during storm events (<https://twitter.com/tropicaltidbits>), a YouTube channel for posting videos pertaining to tropical cyclones (<https://www.youtube.com/user/meridionaljet>), and a Facebook page (<https://www.facebook.com/tropicaltidbits/>).

How did you become interested in meteorology?

I grew up in Alaska and was fascinated by meteorology from a young age. Winter blizzards and occasional summer thunderstorms were my only direct source of inspiration at first, but after seeing television coverage of hurricanes, they quickly became my favorite extreme weather event and the focus of my education. In graduate school at [Florida State University], I'm close to finishing my Ph.D. work on interactions between tropical cyclones and large-scale flow in the upper troposphere. I've developed unique methods for analyzing such interactions and quantifying how they modulate tropical cyclone intensity.

What prompted you to start Tropical Tidbits?

It began when I was a sophomore in college. I was an avid blogger at the time, and I wanted somewhere to host my meteorology content that I could call my own. I learned Web development piece by piece and launched the Website in 2012,

at first containing just my blog and little else. As I became a proficient programmer, I added numerous data products to the site, which made it into the toolbox that it is now.

Do you develop your own forecasts for Tropical Tidbits? If so, what is your process?

I do create my own video discussions on hurricanes in the Atlantic, something I have done for about a decade now. Their purpose is to inform viewers of varying backgrounds about potential storm threats, with a focus on explaining all possible outcomes using meteorological analysis at a depth that is usually not found in traditional media outlets. On a particular day, if I haven't been tracking the storm(s) of interest that day, videos usually involve at least a couple hours of me looking at data and familiarizing myself with the situation prior to recording. I prefer to record ad lib, as it allows me to communicate more authentically. Since I utilize a lot of on-screen annotation in my videos, it's difficult to write a script for that style of analysis, anyway.

Who is Tropical Tidbits' main audience and how do you feel your viewers primarily use your forecasts?

I've always tried to cater to a diverse audience. My video discussions aim to be relatively understandable to the layperson while also containing scientific analysis for viewers in the field of meteorology. The data products on the Website are generally developed for use by meteorologists, but many from the general public also find the data useful, and enjoy tracking storms in real time or viewing computer model forecasts themselves. It's difficult to calculate what fraction of my users are from the general public versus professionals or students in the field, but based on my social media interaction, the majority of my audience today is likely the general public.

I understand this is a side business for you, and your full-time job is as a graduate student

Satellite Imagery

Surface Analysis

Ocean Analysis

Forecast Models

Hurricane Season
Analog

Historical TC Data

<https://www.tropicaltidbits.com>

in meteorology. Is it a nonprofit? How much of your time does it take, particularly during the active tropical storm season?

The Website is free, though many people have generously contributed to it voluntarily, which pays the fees necessary to keep it running. The most time-consuming task I have is creating the video discussions during the hurricane season, which can take several hours out of a single day, and in recent years I've had to limit those to times when storms are actively threatening land. The rest of the Website runs fairly smoothly on its own, as I designed it to, and I only occasionally have to fix problems. When I actually have free time to work on it, I try to add new tools to the site to expand its capabilities.

How do you feel you differ from other larger forecasting organizations like AccuWeather?

Well, I am not really selling products in the same way that large companies do. While the Website does earn more from advertising revenue during extreme weather events, most of the time I spend making videos and maintaining data products is because I enjoy it. I've invested a lot in developing this Web platform, and I hope to keep it running as long as I can. Many people also expect storm updates from me, so it's difficult to stop those entirely, even when I'm pressed for time.

What has been the most challenging storm for you to forecast? Why?

Recently, I think hurricanes like Irma in 2017 and Dorian in 2019 that affected Florida have been particularly challenging, but mostly because of the communication aspect of the forecast. Because of the tracks of both storms nearly parallel to the Florida peninsula, it was difficult to convey to Floridians the uncertainty in which areas would be severely impacted, and the necessity of prepar-

ing for the worst-case scenario. People don't tend to respond to uncertainty very well and often have trouble understanding what the forecast is when there is low confidence in how the storm will impact them. Communicating potential weather hazards to the public continues to be one of the greatest challenges in meteorology.

What has been your biggest challenge overall running this site?

It's probably been most challenging ensuring that I have enough computational resources to generate data products and handle Web traffic. The demands of both tend to rise over time, and expanding my capability to handle them takes a lot of time and effort.

I know you run the Tropical Tidbits Website, you tweet, and you run a YouTube site, all of which provide extremely useful information. Which was started first and why did you branch out into the other venues?

With my roots in blogging when I was young, I started off with videos and written posts on online forums. YouTube came first along with that. I then made tropicaltidbits.com and created Twitter and Facebook accounts associated with it, and those are the two social media platforms I post to consistently to this day. I did this mostly to maximize my reach, as social media has become a much more effective medium for gaining exposure than online forums are now.

What other projects are you working on currently?

My time is currently taken up entirely by my Ph.D. work and maintaining Tropical Tidbits, so there's not much else I'm working on at the moment, but perhaps in another phase of life I will have more time to branch out. 