

# Q & A for NHC



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**So many people in meteorology got the weather bug at a young age. What about you?**

Yes. One of my earliest childhood recollections is being outside in my front yard in Baltimore watching the clouds moving very fast, and the wind blowing the trees. My Mom came to the door and told me to come inside, that there was a hurricane coming! I relented, but really wanted to stay outside to see what was happening. Well, that was Hurricane Hazel in 1954.

**The Mid-Atlantic States do have quite a bit of weather.**

There is a lot of variety. I also remember the occasional big late winter snowstorms when I was a kid, and I would listen to the radio to learn if my county was closing school because of the heavy snow. That was always fun. Not of course for the adults. I think I figured that anything capable of closing school for a day or two was worthy of some scientific investigation!

**So you kept the weather interest growing up?**

Yes, but I was always more fascinated with *why* something was occurring in weather, rather than just *what* was occurring. I ultimately discovered that meteorology was the answer to “why” and that eventually led to a Masters in Meteorology from Florida State University.

Subsequently, I went out to Boulder, Colorado, as part of PROFS (Program for Regional Observing and Forecasting Services – it became FSL and is now known as GSD). I stayed with that for four years, working on a suite of severe weather algorithms. These became part of the processing on the system that we now call the 88-D. It was the next generation radar, NEXRAD, a Doppler radar that would replace the aging WSR-57 and -74 radars. Then an opening came up at the National Hurricane Center in the technical support branch, and I have been here ever since. My family has been up in central Florida for a long time, so that was an additional motivation.

### **Radar does not seem to get the attention that satellite pictures do.**

It really depends on the situation. I think you have observed that during a landfall, radar undergoes a rapid increase in popularity. It really gives you a feeling for storm structure that is tough to beat. We not only get location, of course, but also the velocity data. The spatial mapping of the velocity field, especially in the core, is a great way to find the maximum velocity.

### **What's the biggest leap in radar technology that you've seen?**

Two things. One is the display. Twenty years ago we might be lucky to get a single image in some cases. Connectivity was really painful. Today we're getting an almost continuous stream of data with a fast network connection, cursor read-out of high resolution data, it's great.

The other thing is the fairly recent availability of the actual digital data, known as the "level 2 data". This was a long time coming, but we finally have the technology. Having level 2 in real-time finally lets us do some data processing locally to get some answers specific to our problem, that is, tropical cyclones.

### **What's on the immediate horizon?**

The next step is the dual polarization radar, which if things go according to schedule will just start to become available next year. It will be an add-on feature to the current 88-D, a retrofit. The basic idea is that the dual-pol gives you a measurement of what phase of water you are looking at, in other words, is it water, is it ice? This is being billed as an improvement in precipitation estimates primarily, which is fine, but I also have a suspicion that it might give us a handle on intensification. It's an intriguing possibility.

### **Anything after that?**

After that, there is something called "Nexrad-in-space." There are some technological hurdles, but this would give us essentially a geostationary 88D, with potentially hourly radar snapshots covering the whole Atlantic basin. We could see systems coming off

Africa, for example, or in other areas that are beyond the routine reach of the aircraft or other platforms. It would give us a much better idea of what is out there.

**What is the best part of your job?**

For me, believe it or not, it's getting a data set, setting up a problem or question that needs to be answered, and then doing some programming to get there. There's something fun about turning the crank and having an answer drop out – not really that easy, of course, but that's the idea.

**You've been doing this for quite a while. What's next?**

Well, that's one I don't really have an answer for. I'm just enjoying what I do now.

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