

Millennials in Broadcast Meteorology

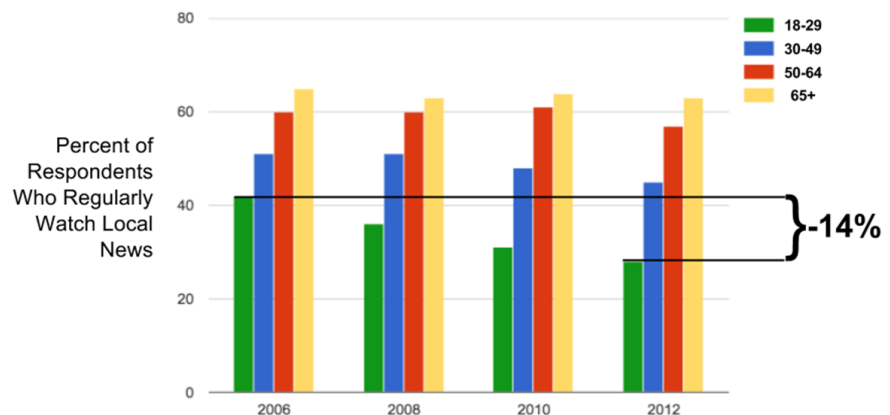
by Tom Meiners and Chris Lusuriello

"There has been a dramatic growth in TV and radio weather broadcasting and in private meteorology over the past two decades. Has the scope and importance of this expanding weather service been conveyed adequately through the BULLETIN to the AMS membership and to career-minded college students?" (Droessler E. G., President's Page Vol. 64 No. 10, October 1983, Notes on Private Meteorology)

MILLENNIALS IN SOCIETY

A millennial is technically defined by a certain birth year, between 1980 and 2000. The term coiner, a demographer by the name of Neil Howe, simplifies it as someone who "came of age" or "became an adult" at the turn of the millennium. Howe claims that during the latter half of the 20th century children became increasingly "specialized" meaning they were given special measures of safety and care, and it left this generation growing up feeling "special". One in five people in their 20s and early 30s currently live with their parents. And 60 percent of all young adults receive financial support from them¹. That's a significant increase from a generation ago, when only one in 10 young adults moved back home and few received financial support. This statistic does not seem coincidentally consistent with the economic recession of 2008, there's seems to be a link between the two. Nearly 45 percent of 25-year-olds, for instance, have outstanding loans, with an average debt above \$20,000². Furthermore, a more recent study from the Pew Research Center in 2012 revealed that "a record total of 21.6 million millennials lived in their parents'

home in 2012, up nearly 17% from their same aged counterparts in 2007³.

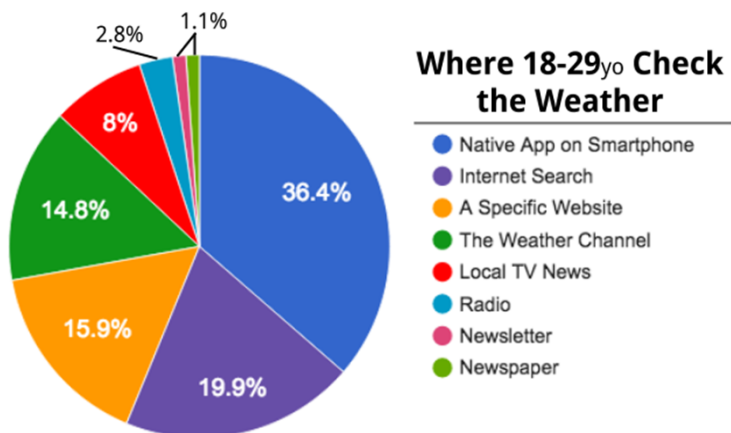


The Pew Research Center also recently looked into what percent of survey respondents would say that they watch local news. While age groups between 34 and 65 have changed very little, 18-29 year olds have dropped 14% between 2006 and 2012 in representation. Only 29% of 18-29 year old survey respondents in 2012 claimed to regularly watch local news⁴.

A survey done by Walt Hickey from the site "Five Thirty Eight" found that only 8% of respondents watch local TV news to check the weather⁵. The most popular choice was just to check the native app on their smartphone, but 20% check the internet.

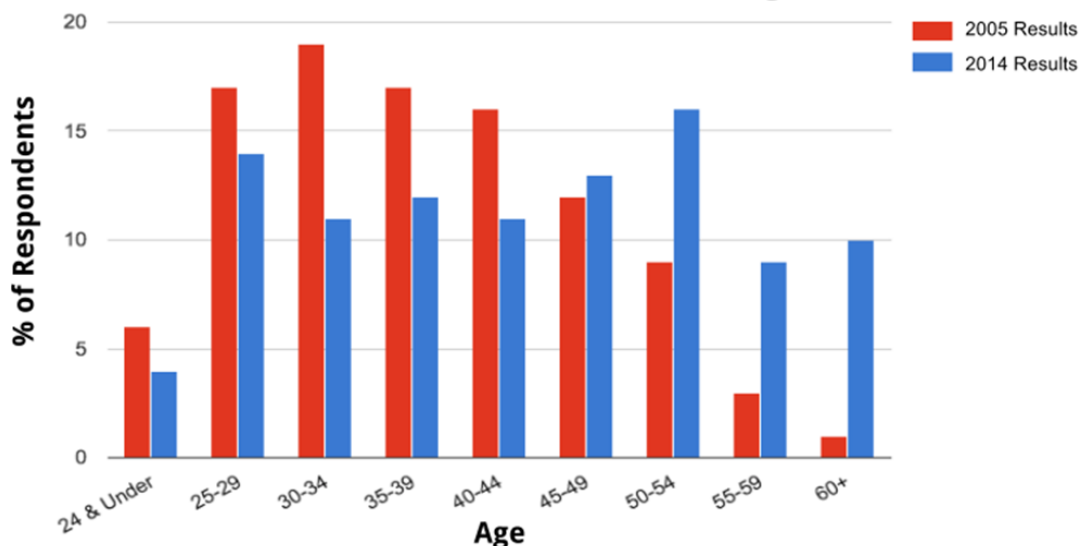
MILLENNIALS IN BROADCAST METEOROLOGY

The age distribution was bimodal for the first time since 1975 when a membership age distribution peaked at 30-34 and 55-59. At that time, this was presumably due to the large numbers of meteorologists trained during WW II and who have stayed in the profession and to the surge of interest in the subject during the post-Sputnik era, when there was also an expansion of job opportunities⁶. This year, the reasoning behind a peak in age at 25-29 year olds and 50-54 year olds is uncertain. In the 2005 survey⁷, the age distribution was



past 10 years, it has been happening since the 90s.

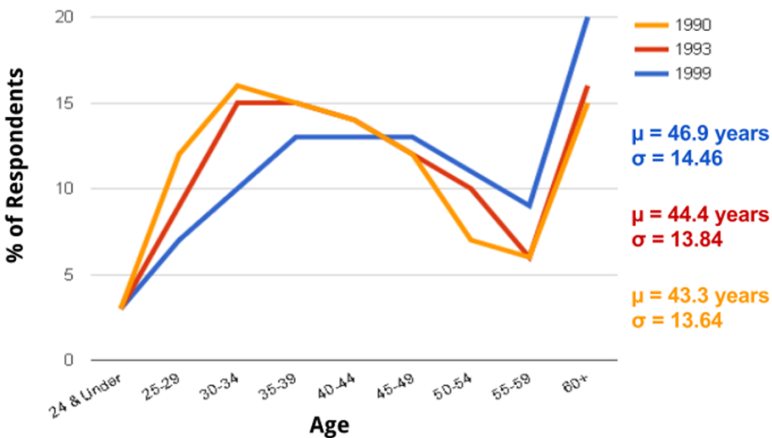
Age Distribution of Broadcast Meteorologists (2005 vs. 2014)



unimodal with a peak at 30-34 year olds. Also notice that every age category under 45 saw an average decrease in representation of 4.6% while those 45 and up saw an average increase of 5.75%. Looked at just 34 year olds and were able to find a 13% decrease in representation of the early career professional broadcast meteorologist population in AMS. *The trend of the society is for there to be fewer and fewer younger people, and it hasn't just happened in the*

The caveat with looking at other previous surveys that the AMS has conducted is that no other survey, other than 2005 and 2014, had age distribution data readily available for us that only represented broadcast meteorologists. So this data represents members of the society as a whole, and not just people in our profession. The percentage of respondents peaked at the 30-34 year old age group in 1990 but that peak began to slide to the right on the graph in '93 and '99 ⁸

Age Distribution of Broadcast Meteorologists



Furthermore, the average age of the AMS member increased from 43.3 years old to 46.9 years old in a 9 year span. The standard deviation increased as well to show that the age diversity has also increased in the society. There are relatively few millennials represented in the society, so we decided to find out where they are. Is their lack of representation AMS-specific, or are fewer of the newer generations of meteorologists choosing broadcast meteorology as a career?

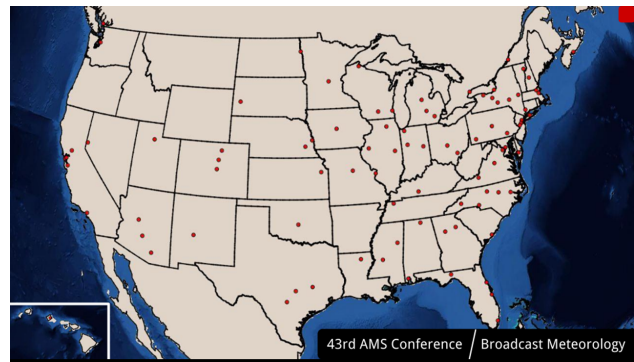
We created a survey to investigate the schools that offer meteorology as a major and find out what they had to say about their students. We had two main objectives:

1. Has the number of graduates in atmospheric sciences increased or decreased?
2. Has the rate of graduates going into broadcast meteorology increased or decreased and why?

We went through the long list of schools that are published on the AMS website¹¹ and thinned it down to just focusing on undergraduate programs, specifically, those of which offer degrees in atmospheric-related sciences. There were seemingly dozens of ways to title the undergraduate degree in atmospheric science. We came up with a list of 91 schools in the US and Canada.

In any event, there isn't that much of a geographic limitation on students wanting to study meteorology. Nearly every state is represented, in fact, 7.8% of the SUNY school system offers undergraduate degrees in meteorology and has a higher number of meteorology programs than any other state. However, the northwest United States are not represented well and it seems somewhat surprising that parts of the Plains have such little

representation on this map as well. It was our hypothesis that there would be some correlation with US population on this map, but we didn't realize that locations that have a high frequency of severe weather would only have a few schools offering meteorology. Between Kansas, Oklahoma, Kentucky, and Tennessee, each state only has one school. Arkansas has 0.



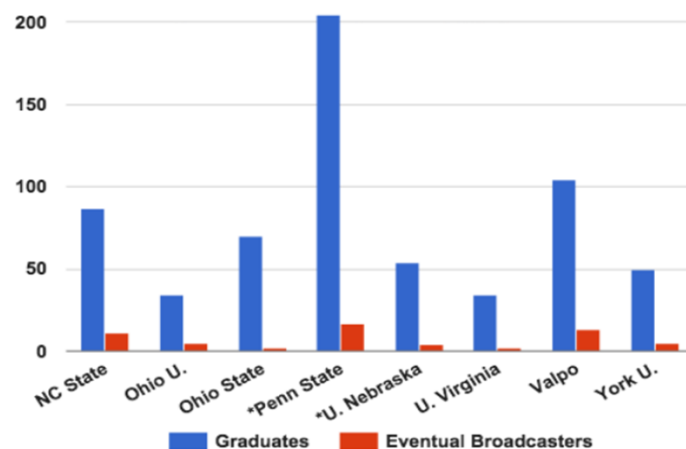
There appeared to be an exponential growth in meteorology programs in US and Canada from the late 60s through the 70s and also again at the turn on the millennium. Based on this scatter plot, there have been almost 3 new schools every 7 years.

This was probably due to a little drought in growth in the 80s and early 90s. Dr. John Knox from the University of Georgia published a paper in BAMS in 2008⁶ where

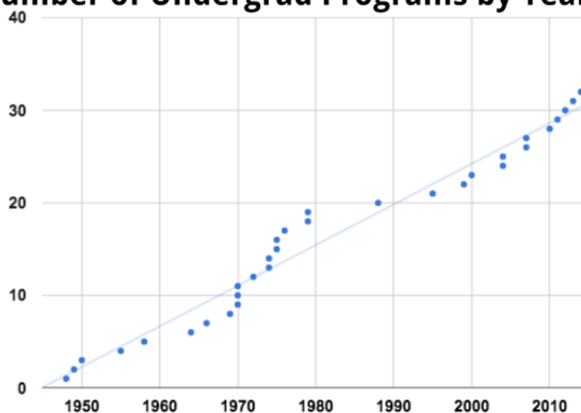
he references the possible causative effects for the growth over the past couple of decades. These include the Twister-effect (May 1996), The Internet, Evolution of Mainstream Media, and rise of weather and climate topics to prominence in national and world affairs including Global Warming/ Climate Change. Hurricane Katrina, and El Nino. In his paper, he explains “the number of atmospheric science bachelor’s degree recipients has increased 161% from 1968 to 2004 and 47% from 1994 to 2004. In fact, the change between 2002 and 2004 is nearly 13% which is the largest 2 year rise in meteorology degree recipients in this data set since the mid 1970s and “this combination of unprecedented numbers and rapid growth is not mirrored in the graduation statistics of any other related science, nor in the U.S. college graduate population as a whole.” Needless to say, the answers to our first two questions were unimpressive.

from their alumni that found careers in broadcast meteorology, and even then, it wasn’t over the past decade. Ohio University, Penn State, University of Nebraska, University of Virginia, and Valparaiso University were the only 5 schools that could give us data on their eventual broadcasters from at least 9 of the 10 years we were looking for. One school made it known to us that relied on the alumni themselves to report their career fulfillments.

Graduates and Eventual Broadcasters (2011-2014)



Number of Undergrad Programs by Year

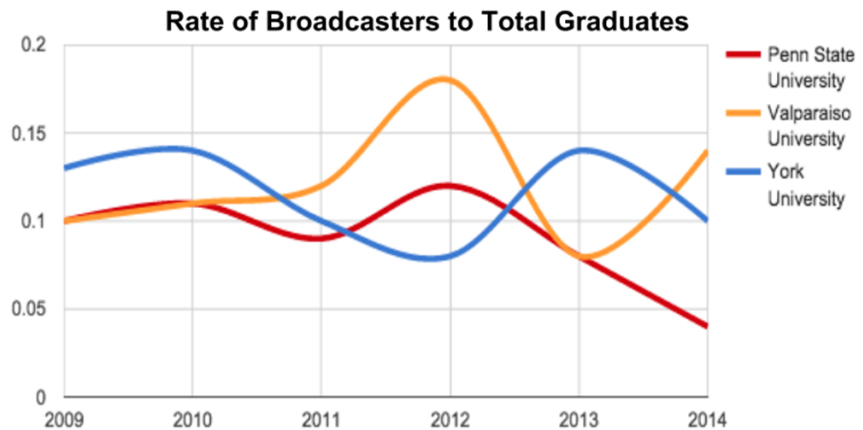


There were about a dozen schools that gave us data from all 10 years of the past decade when it came to looking at their meteorology program graduates, but only 8 that had data

The average percentage of students in the graduating class who went on to become broadcasters between 2011 and 2015 was 9.29%. Ohio State University had roughly 3% of graduates go on to become broadcasters, while Ohio University had roughly 14%. In 2003–05, over 29% of new bachelor’s degree recipients pursued additional education, as compared to under 20% in 1997–99. Conversely, fewer than 19% of new graduates obtained private sector employment in 2003–05, as compared to nearly 29% in 1997–99⁶. A few scenarios without research as to why students may not pursue a career in broadcast meteorology include, but are not limited to, starting salaries being low and having to relocate away from family and friends. The situations we researched were whether or not a broadcast class was offered, the proximity of

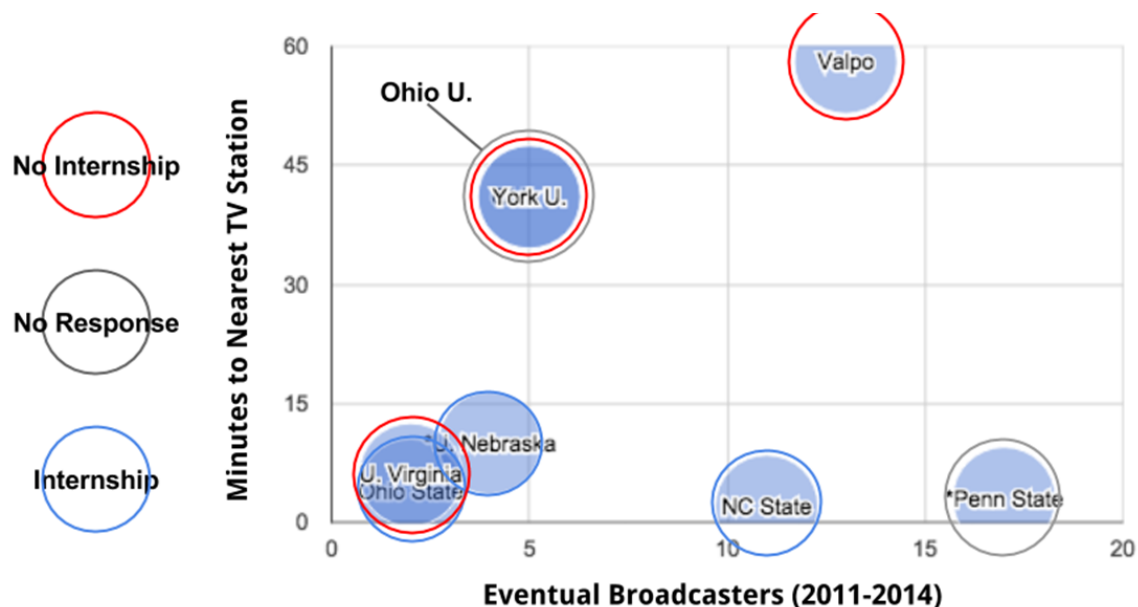
a college campus to the closest TV station and whether or not that TV station offered internships to college students.

The rate of broadcasters to total graduates fluctuates over time no matter what school you look at. Penn State, a big school shown in red, Valparaiso, a medium school shown in yellow, and York University, a small school shown in blue. Those size descriptions represent the relative production of broadcast meteorologists and not the student population sizes by the way. In the past 6 years, it would seem that the number of broadcast meteorologists in each graduating class has dropped at Penn State while York University remains relatively unchanged and Valparaiso has seen a slight increase. The bigger the school, does not



to say that fewer millennials are choosing to become broadcast meteorologists over time.

We at least thought that, there would be a high correlation of eventual broadcasters to a shorter drive to the nearest TV station. It stood to reason that a farther distance would be more of a challenge for a college student who may or may not be able to afford a car to get to that opportunity. Three out of the eight stations reported that they offered



mean a higher rate of broadcast meteorologists in each class. Furthermore, while Penn State might be leading us in a certain direction, there's not enough evidence

meteorology internships, those closest to Ohio State, NC State, and the University of Nebraska. Two stations didn't reply to our inquiry, and three indicated they did not offer internships. Despite offering internships and

being close to campus, Nebraska and Ohio State haven't produced many broadcast meteorologists in this time frame. We also surveyed TV stations across the country finding that the average drive time from campus to TV station was 27 minutes. Though about two-fifths of these schools have a greater than half hour drive to the nearest station. Roughly three-quarters of the universities we studied did *not* offer a broadcast meteorology class, meaning 66 of 91 schools don't have that kind of program. Out of the eight we've highlighted, four do offer a class, two do not, and two do not but have other alternatives, including a club and a campus tv station.

SUMMARY

In conclusion, *at a time when millennials are more important in this industry, there are fewer of them in the AMS.* There is no shortage of educational resources for aspiring meteorologists. No *apparent* correlation between rate of broadcast meteorologist production and school size, recent history, or internship availability and proximity.

We'd like to continue monitoring the youth in this business with a focus on what drives current meteorology students to the career of their choice? Could we also draw different conclusions from a more comprehensive study of university track records when it comes the production of broadcast meteorologists? Finally, how many students who aspire to become broadcast meteorologists fail to obtain jobs?

ACKNOWLEDGEMENTS

There were countless advisors and aids helping us obtain data to complete this project. We'd first like to thank Raj Pandya, the AMS Commissioner on Education and Human Resources for his invaluable assistance in pulling data from the 2014 AMS Membership survey. In addition, we'd like to thank the AMS members who responded to the survey. We have email inboxes full of

correspondence from over a hundred contacts we made with school administration and local media affiliates that were able to respond to our surveys. Their cooperation was paramount in producing the aforementioned data. We referenced his June 2008 paper heavily, but we also appreciated the insight Dr. John Knox was able to give us in emails as well as through the research he did in pursuing similar avenues with this subject matter. Last, but certainly not least, we wouldn't have even been able to begin working toward this endeavor without the guidance, advisement, and mentorship from our former professor and WRAL Meteorologist Nate Johnson. His instruction was the inspiration for this project.

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