

TIPS FOR INCORPORATING SCIENCE INTO ON-AIR FORECASTS

On-air meteorologists are, in many cases, the only scientists that viewers at home encounter on a daily basis. They are also frequently the only members of a television newsroom possessing a degree in the sciences. This puts the TV meteorologist in a unique position to convey complex scientific information, making it accessible and interesting to a general audience. However, restrictions placed on broadcast meteorologists by news managers and/or consultants can make this a challenge, or even seemingly impossible. These tips endeavor to bridge the gap, providing guidance for communicating science in the daily weather broadcast in a way that is palatable to consultants and news managers.

Tips:

1. Keep it local: There are 210 Designated Market Areas (DMAs) in the United States. Each DMA serves a geographically localized area with news, weather, and sports stories that are relevant to the viewers in that region. Therefore, all attempts to incorporate science into local weather reports should keep the DMA's viewers in mind, and the best way to accomplish this is to talk about phenomena specific to the region. For example:
 - Explanations of weather patterns that are common in the area, such as advection fog or sea breeze circulations in a market adjacent to a large body of water
 - Highlight localized impacts of climate change, such as changes to the population of a native speciesSee References section for links to informative websites.
2. Make explainer graphics: Viewers respond strongly to visualizations of weather and climate phenomena in the form of explainer graphics.
 - A good verbal explanation is important, but having unique graphics to back up the verbal description breaks up the monotony of the weathercast and grabs the viewer's attention.
 - These illustrations are more likely to be well-received by news managers (and your audience) than lengthy explanations without visual backup, which fails to add variety and interest.

Weather graphics software companies have a library of stock graphics available on their websites; the graphics can be altered as needed and incorporated into the broadcast.

3. **Climatology:** This is a great way to sneak science into your broadcast, and can be especially effective for introducing some scientific elements when news management is particularly hesitant to accept them.
 - Again, graphics to support the information (for example, number of record high days vs. number of record low days) are essential for effective implementation.
 - Nonprofit and government resources online make it easy to find data and implement in graphical format (see References section).
4. **Keep it short and sweet:** Simple, clear messages, when repeated often by a trusted voice or number of trusted voices, are the most effective means of communicating complicated science information to a broad audience (Maibach et al, 2018).
5. **Avoid “trigger words”:** Many TV weathercasters have been told by management or consultants that they are not allowed to use certain words or phrases. Examples range from the everyday science of weather, such as “cold front” or “high pressure”, to politically sensitive words and phrases such as “global warming”. TV weathercasters who wish to introduce these topics despite restrictions must take extra time to prepare ahead of the live broadcast to ensure these “trigger words” are not accidentally used.
6. **Stick to the science:** You have to be a scientist communicating scientific facts, not information from advocacy groups (Gross, 2018). Be open and transparent about the sources of your information (Besley and Dudo, 2017). Be very consistent in your communication- both in your messaging and in providing the message across multiple platforms (on air, online, social media).
7. **Make your segments count:** Don’t inundate your audience with new pieces of information. Use your knowledge of atmospheric science less frequently, but in a way to provide maximum impact. (Gross, 2018; Maibach, 2018.)
8. **Show viewers you care:** Your audience is more likely to be receptive to science messaging if it’s delivered in a way that shows empathy and/or interest in the viewers’ wellbeing (Besley and Dudo, 2017). Direct messages about why scientists do their work can help establish a connection and help convey benevolence to the audience (Yuan et al, 2016).

References and Additional Information

Maibach, E; et.al. “TV Meteorologists as Local Climate Change Educators”, Oxford Research Encyclopedia of Climate Science, August 2016.

<http://climatescience.oxfordre.com/view/10.1093/acrefore/9780190228620.001.0001/acrefore-9780190228620-e-505>.

Maibach, E. “Increasing public awareness and facilitating behavior change: Two guiding heuristics”. *Climate Change and Biodiversity*, Yale University Press, Spring 2017.

Besley, J; and Dudo, A. “Scientists’ Views about Public Engagement and Science Communication in the Context of Climate Change”, Oxford Research Encyclopedia of Climate Science, April 2017.

<http://climatescience.oxfordre.com/view/10.1093/acrefore/9780190228620.001.0001/acrefore-9780190228620-e-380>

Yuan, S; Besley, J; and Lou. “Does being a jerk work? Examining the effect of aggressive risk communication in the context of science blogs”. *Journal of Risk Research*, Vol 21 Issue 4 (August 2016).

Paul Gross. Email conversation with Paul Gross, CBM & CCM, August 2nd – August 8th, 2018.

Website: Climate Central. www.climatecentral.org/

Website: National Centers for Environmental Information (NCEI).

www.ncei.noaa.gov/