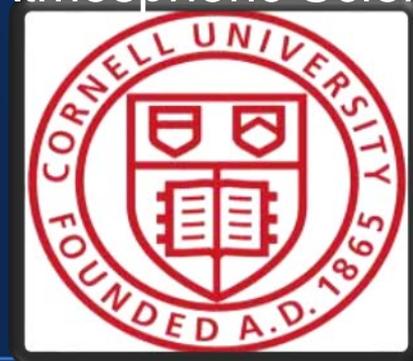


NAVIGATING MODERN MEDIA

Meteorologist Matt Noyes



Class of 2000
Atmospheric Science



PERHAPS THIS IS A MORE APPROPRIATE INTRODUCTION...



http://www.mattnoyes.net/new_england_weather/MEMA-2015.html

HOLLYWOOD...AND SOME OF THE PUBLIC...VIEW MY JOB THIS WAY:

The Weather Man (2005) Official Trailer #1 - Nicolas Cage Movie HD



MOVIECLIPS.COM

BROADCAST METEOROLOGIST: AN OXYMORON

- Meteorology & broadcast don't always mix easily
- Preserving science in a non-scientific world
- Perceived accuracy
- Expressing uncertainty is key

WHY BROADCAST?

- Desire to deliver best information (forecast) to as many people as possible
- Many aspects of Meteorology
- Primary public source
- Community involvement
- Fast-paced
- Unique challenges

WE ALL KNOW THESE...



**Fool me once, shame on you.
Fool me twice, shame on me.
Fool me 350,000 times, you
are a weather man.**



METEOROLOGY VS. BROADCAST

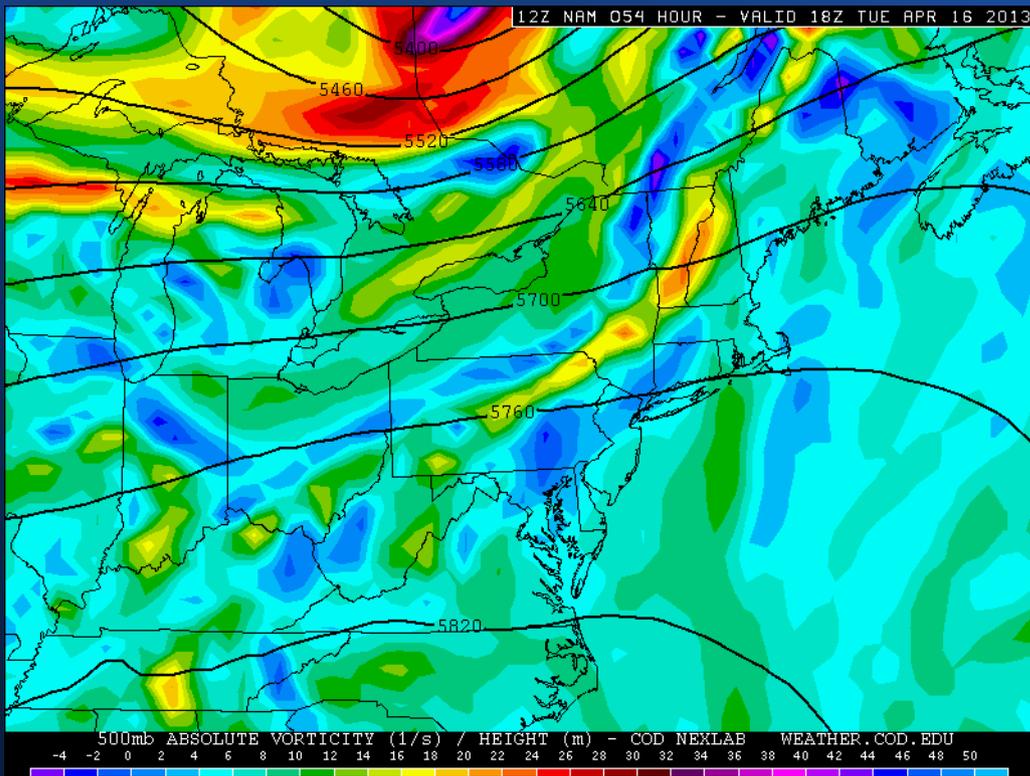


- True meteorologists are trained scientists
- Most broadcasters are not scientists
- Neither are viewers
- Broadcast Meteorologists try to bridge the gap

**WE NEED THE FORECAST TO BE
UNDERSTOOD BY EVERYONE...**

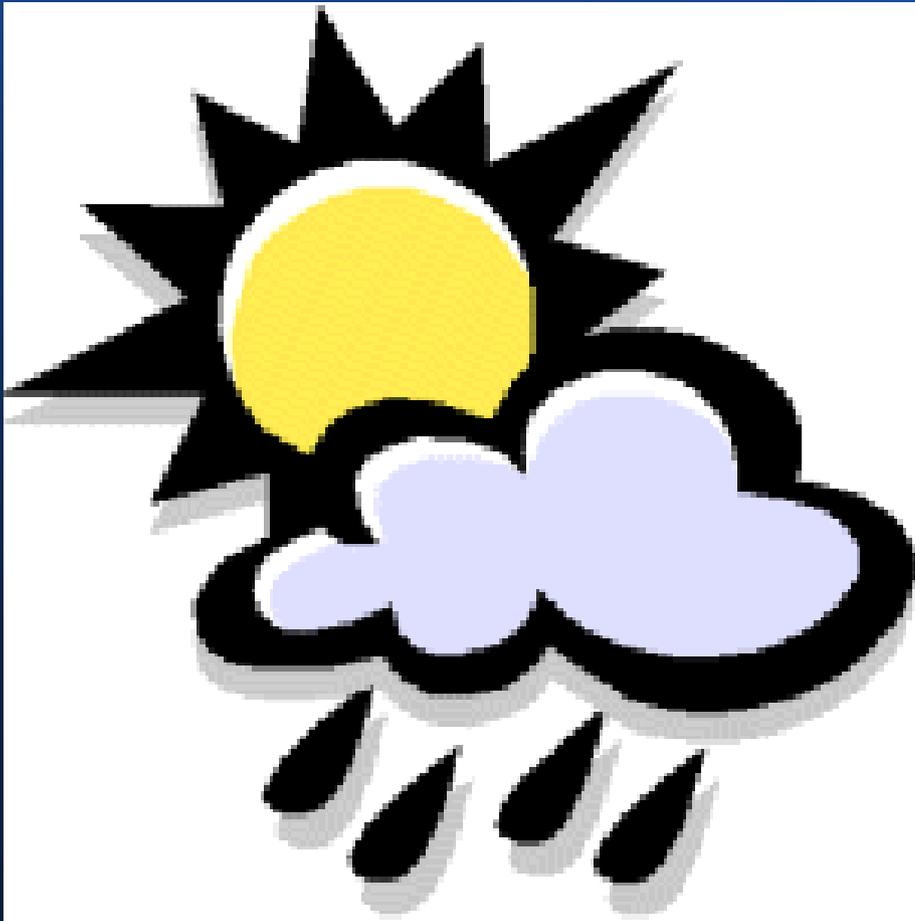


METEOROLOGIST'S PERSPECTIVE:



- 250 mb Difffluence
- 500 mb Cyclonic Vorticity Advection
- 850 mb Positive Theta-e Advection
- 60-70 knot low level jet
- Lifted Index +1, 100 joules/kilogram of Convective Available Potential Energy

SO WE SHOW THIS:



- “Partly sunny, chance of a shower!”
- 65 degrees
- Wind: SW 10-20 mph

MIND THE GAP: ACADEMIC PERFORMANCE IS NOT KEEPING UP



- Global Education Network: U.S. Ranks 25th in math, 17th in science
- Harvard: Students in Latvia, Chile & Brazil making gains 3 times faster than U.S.
- Portugal, Hong Kong, Germany, Poland, Liechtenstein, Slovenia, Columbia & Lithuania improving at twice the rate of U.S.

...BUT WE CAN KEEP UP WITH THE KARDASHIANS



- Boston College Study: 7% of students reached advanced level in 8th grade math (31st of 56 nations)
- 48% in Singapore, 47% South Korea
- Indicator of global economic competitiveness?

PROCESS OF ACQUIRING KNOWLEDGE



- Science hunts for knowledge through methodical process
- Media hunts for immediate, indisputable answers
- Science tests via experimentation
- Media...doesn't.

ONE STORY MULTIPLIES...A LOT



http://www.mattnoyes.net/new_england_weather/MEMA-2015.html

HOW DOES THIS HAPPEN?

- Associated Press is source for most news
- Entrepreneurial stories becoming rare
- News Producers are mostly young (20s)
- Like other industries: Doing more with less
- Result: Close to deadline, minimal fact checking, insufficient time to research

SCIENCE + MEDIA + NON-SCIENTIFIC PUBLIC = NAUSEA

Polar Vortex Freezes Parts of US



THE WORLD TOOK NOTICE



HOW BRITAIN COVERED THE POLAR VORTEX

WHAT IS A POLAR VORTEX ? BBC NEWS



MORE BRITISH COVERAGE

US polar vortex so cold Hell freezes over



SOME IN AMERICA DID SEE THE FOOLISHNESS...

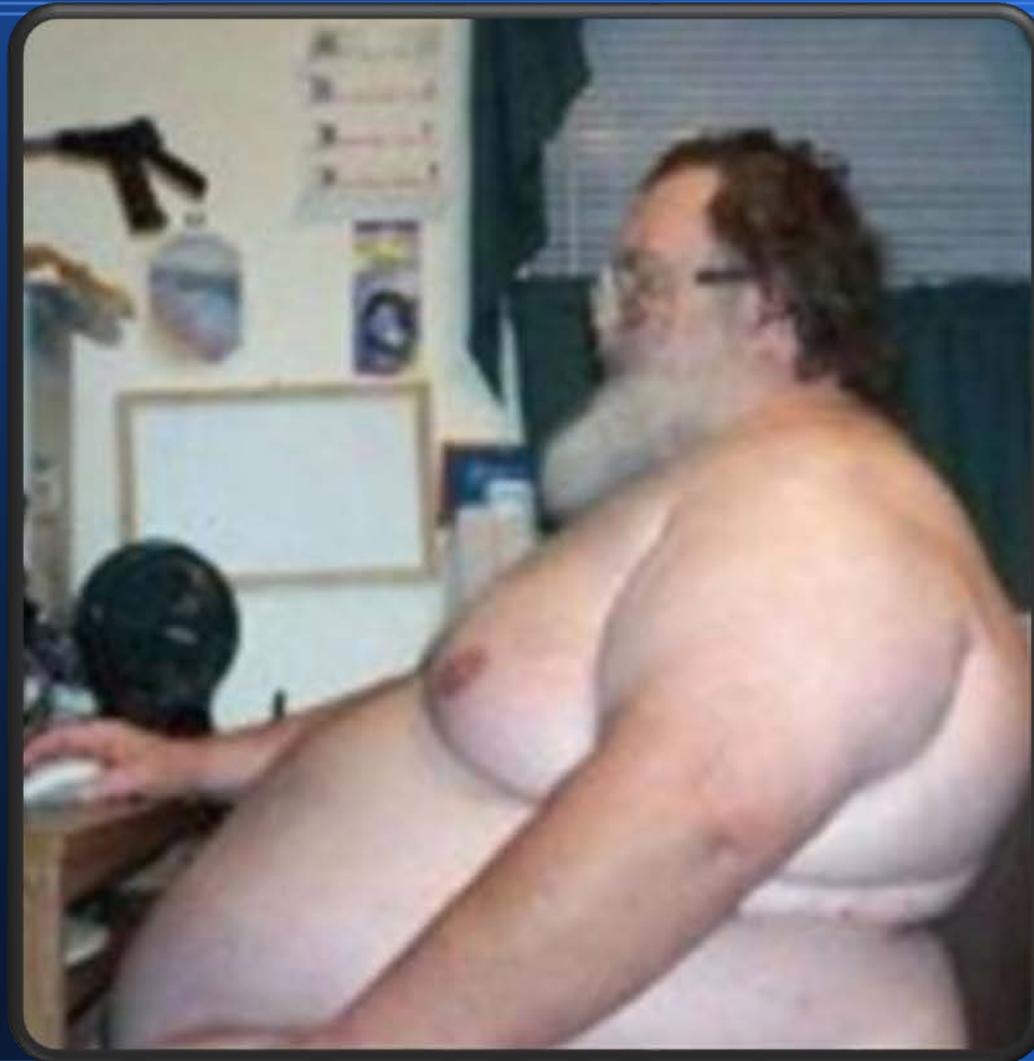
Polar vortex didn't freeze Moos' funny bone



HOW DO WE CONTROL THE MESSAGE?

- We have control over what we say
 - Broadcast and social media
- Social Media: Direct Voice
 - For professional, educated experts
 - For some guy in his underwear in his basement
 - For professional, educated experts in their underwear in their basements

GUNNING FOR MY JOB!



INHERENT PITFALLS OF SOCIAL MEDIA

- Subject to Photoshopping, flagrant misrepresentations
- “They’re all the same” – the group has expanded to...
- Anyone with an internet connection



FACEBOOK PAGE “LIKES”



19,641



135,719



12,943

**NORTHEAST
TOTAL:
168,303**

2 TEENS VERSUS THE U.S. GOVERNMENT

NWS UPTON	42,975
NWS BOSTON	58,240
NWS ALBANY	24,979
NWS BURLINGTON	18,201
NWS GRAY	11,799
NWS CARIBOU	19,092

**TOTAL NORTHEAST NWS:
175,286**

**TOTAL 3 FACEBOOK PAGES:
168,303 (96% OF NWS TOTAL)**



A CHANGING LANDSCAPE

- A few people have potential reach of literally millions of citizens
- Professionals respond:
 - We lament: educated meteorologists should be disseminating the forecast
 - We caution: “Be careful who you trust online!”
 - We request: Please understand the difference between professionals and kids!
 - We defend: “We never forecasted that”
 - We protest...

SOME PROFESSIONALS BATTLE BACK



10 FIRST ALERT WEATHER SEVERE WEATHER CENTRAL

HOME > WEATHER > STORIES

40 Inches of Snow? Don't Think So

TOP STORIES
TODAY MOST WATCHED MOST E



The Washington Post PostTV Politics Opinions Local Sports National World

Capital Weather Gang

The inside scoop on weather in the D.C. area and beyond

NDB. A difference that shows. Roll Over to Learn More

About Meet the Gang Contact Weather Wall Forecasts Archives f t r

Beware of faulty, flaky Facebook weather forecasts

BY JASON SAMENOW October 17, 2013 at 2:03 pm



BOSTON Herald.com

Home News & Opinion Sports Business Entertainment Inside Track Blogs Photos Vi

Local Coverage Local Politics Columnists Opinion National U.S. Politics International Offbeat News

Thursday, March 6, 2014 Weather 24° F f t g+ You Tube BHR LISTEN Sports T

Home » News & Opinion » Columnists

Rosenthal: Don't trust weather to just anybody

Sunday, October 20, 2013 Print Email Comments

By: Mark Rosenthal

SOME EXCERPTS...

- “Anyone can play meteorologist on Facebook. Build a page with a credible-sounding name, post some weather maps, get some friends and family to “like” it, and you’re off and running.” -CWG
- “In any event, forecasts of storms beyond 5-8 days into the future have little to no reliability. If you see a computer model forecast of a week or more into the future, that should sound off an immediate warning bell to question the legitimacy of the source posting it!”- CWG
- “Apparently a map shared on Facebook by a 16-year-old amateur meteorologist is behind the “Great White Hype.” ‘It’s a little surprising that people are falling for this,’ Gary Szatkowski told [The News Journal](#). Szatkowski is the meteorologist in charge at the National Weather Service in Mount Holly, New Jersey.” –NBC 10

HOW THE PUBLIC VIEWS THOSE FACEBOOK PAGES:

The image is a screenshot of a news article on the website nj.com. The page header includes the nj.com logo, the text "True Jersey", and "Powered by: The Messenger-Gazette". There are social media icons for Twitter, Facebook, Google+, Instagram, Tumblr, and Pinterest, along with a search bar and a "Set Weather" button. A navigation bar contains links for "N.J. NEWS", "LOCAL NEWS", "N.J. POLITICS", "SPORTS", "H.S. SPORTS", and "ENTERTAINMENT". Below this is a secondary navigation bar with links for "All Newspapers", "Business", "Education", "Forums", "Health", "Lottery", "National", "Opinion/NJ Voices", "Photos", "Videos", and "World".

The main article title is "Weather 'genius' racking up Facebook fans is young, self-taught meteorologist". To the left of the title is a blue speech bubble icon containing the number "18" and the word "comments". Below the title is a photograph of a young man with dark hair, wearing a red and black plaid shirt and a black baseball cap, sitting at a desk with a laptop. He is smiling and looking towards the camera. On the desk in front of him is a green mug. The background shows a room with a clock and some furniture.

To the right of the photograph is a sponsored advertisement. It features the text "Sponsored By:" above the logo for "Trusted Choice Independent Insurance Agent". Below the logo is a promotional image for shoes with the text "see & feel the difference" and a picture of a grey and orange sneaker.

SOME EXCERPTS FROM THE NJ.COM ARTICLE:

- “What most of Hunterdon County Weather's more than 7,200 followers may not know is that the reports they've come to not just rely on, but trust, are written by a 21-year-old resident working on the family farm and taking community college classes by day, with the hope of continuing his studies at a university.”
- “On Feb. 10, Bryan Lauber posted: ‘Polar and subtropical jet streams will phase together, allowing for the system to rapidly develop. The possibility exists for a piece of the polar vortex to phase into the system, adding a third stream of energy. A very large CCB or cold conveyor belt will form over the tri-state area...’”
- “Lauber, a 2011 Delaware Valley High School graduate, said this week from his family's Alexandria Township farm that he started the Facebook page because he ‘always felt that the media markets in Philadelphia and New York City never represented our area (Hunterdon) well. They don't know the terrain and how different the weather can be by Route 12 versus Route 78.’”

SEARCH MANY METEOROLOGISTS' SOCIAL MEDIA FEEDS AND FIND:

- Selfies
- Personal musings
- Deterministic model solutions (ex: accumulation maps)
- NWS forecast products
- Contests
- “People want to interact!”

WE ARE AT A CROSSROADS

- Entire methodology is changing
- NWS: WFOs, NHC, SPC still leading voices
- Many in U.S. media use personality
 - Fleeting and insufficient
 - Individual gain – not industry gains
 - However...strong appeal & recognition
- Intelligence, information are keys

HOW DO WE ADD VALUE?

- Sandy, Irene, blizzards, tornadoes & other life-threatening weather
- Employ education, training & experience
- Get creative (staying on-point)!
- Translate to real-world impact
- Effectively convey uncertainty, explain probability

HOW DO WE GET THERE?

- Insist on tools to get the job done
- Insist on resources to stay relevant
- Resist competing where we can't win
- Shift focus to where we can win:
 - Preparation
 - Action
 - Facts

THE GOALS

- Help educate the public
- Help raise America's standing in education
- Better prepare the public, protecting lives & property
- Provide accurate forecasts & information
- Convey information clearly, concisely

HOW WE ACHIEVE THE GOALS

- Honesty
 - What do we know? What don't we know?
- Manage Expectations
 - What can we reasonably ascertain?
- Express Uncertainty
 - Aids in the above
 - Improves decision making
 - Raises confidence
 - Accurate situational awareness

SOME INTERESTING INSIGHT

- At NECN, we broadcast to potential 3.8 million households = 12,464,000 people
- My Twitter Followers: 0.145%
- NECN Twitter Followers: 0.465%
- My Facebook Fans: 0.115%
- NECN Facebook Fans: 0.723%

GETTING YOUR MESSAGE ACROSS VIA MEDIA

- Short and sweet
- Assume no prior knowledge
 - Assume no situational awareness
 - Assume no additional research will be done
- Manage Expectations
 - What can we reasonably ascertain?
- Express Uncertainty
 - Improves decision making
 - Raises confidence
 - Accurate situational awareness

APPLYING THIS KNOWLEDGE TO HURRICANE PREPAREDNESS

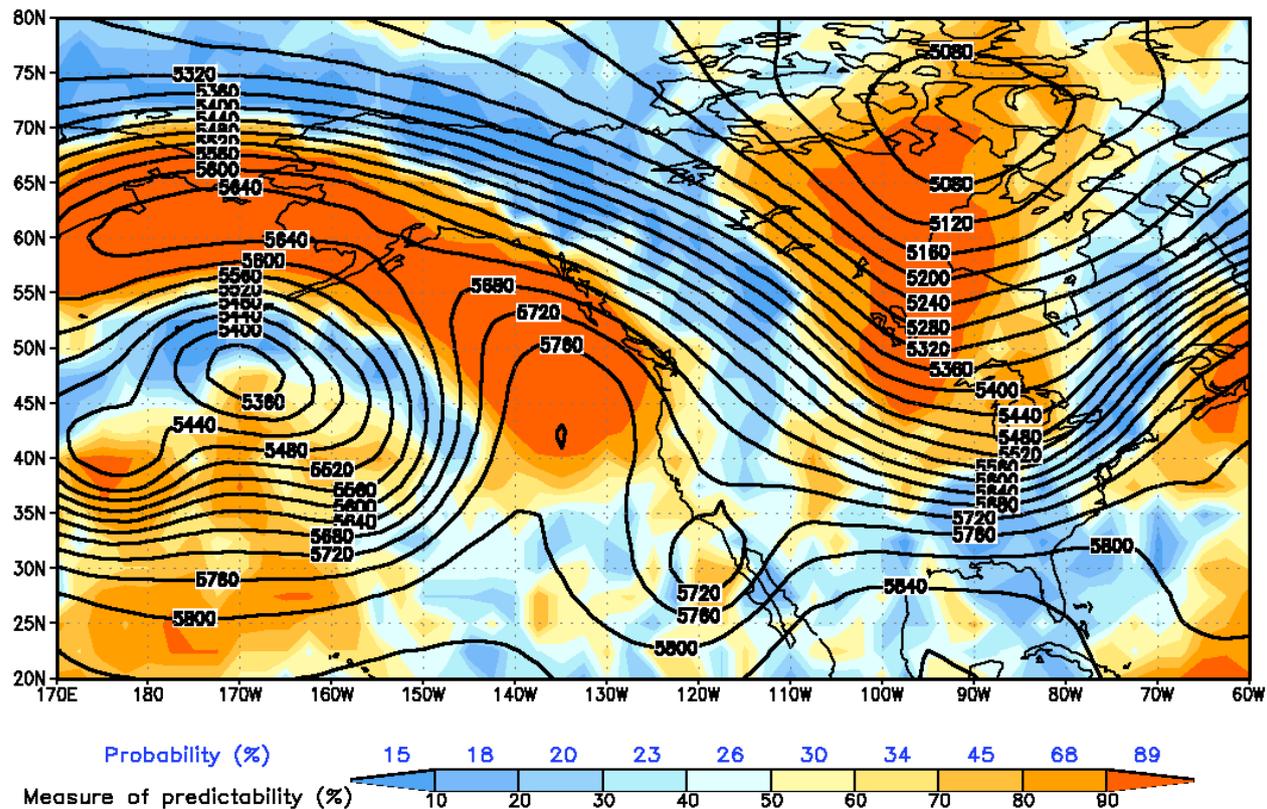
- Expect minimal interest in long-lead projects
- Form meaningful media relationships during quiet times
- Your own website will inform users and media
- Plan adequate resources for media availability when storm threatens
 - Previous lack of interest...reverses!
 - Videos and information on your website ignored when most needed – he who talks, has the voice
- Clarity is key – clear on both certainty and uncertainty
 - Liken to a high-school tutorial

DURING AND AFTER THE STORM

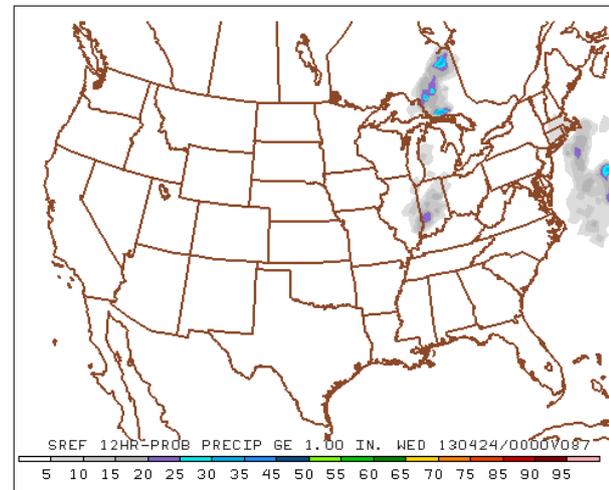
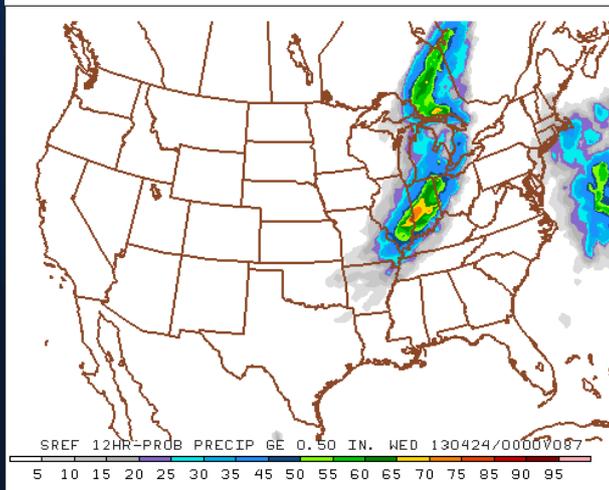
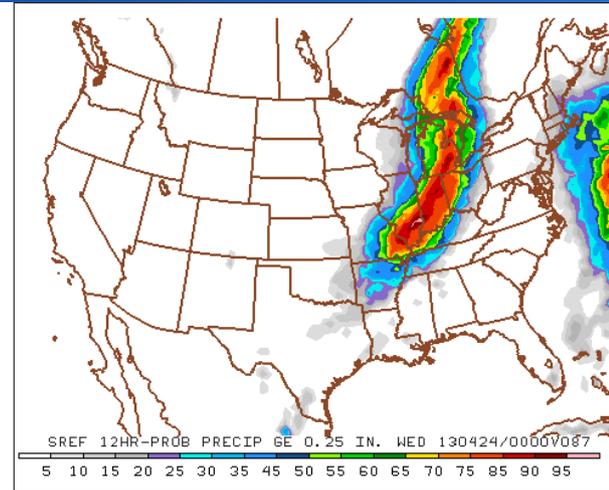
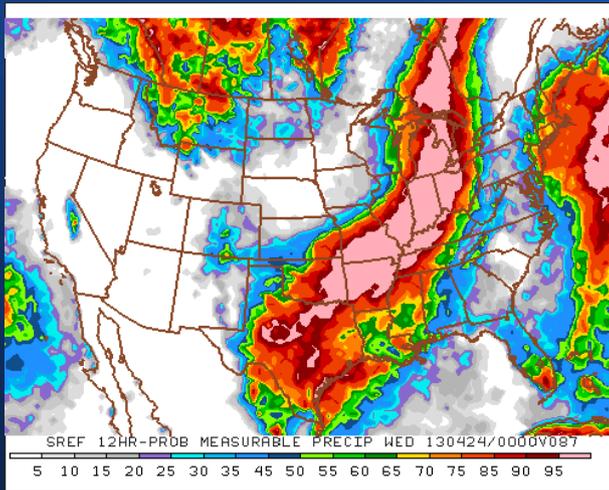
- Major hurricane? Denial and ill-preparation to precede
- Acknowledging most likely scenario...and worst-case scenario (power outages, flooding, etc.)
 - Public will already assume best-case scenario
 - Media will convey most popular assessment
 - Evacuations: best estimates based upon numbers and science, not guesswork
- Visuals take precedence during storm
- Communication post-storm may be non-existent
 - Plan to convey post-storm message in pre-storm opportunity

RELATIVE MEASURE OF PREDICTABILITY

Relative measure of predictability (colors)
for ensemble mean forecast (contours) of 500 hPa height
ini: 2013042000 valid: 2013042500 fcst: 120 hours

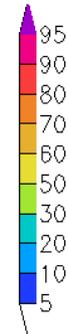
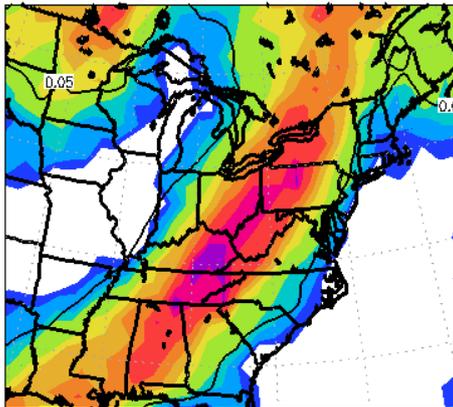


SREF PRECIPITATION PROBABILITIES



ENSEMBLE PRECIPITATION PROBABILITY

a. 12Z20APR2013 GEFS Prob of 0.05 apcpsfc in 12-hr
Valid 12Z24APR2013 to 00Z25APR2013 Thu



b. 12-hr 0.05 apcpsfc GEFS
Valid 12Z24APR2013 to 00Z25APR2013

