Communicating Risk
&
The Probabilistic Paradox

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Rule of Communicating Risk

If the RISK is unusually HIGH, the MESSAGE must be unusual.
Hurricane Andrew

Wednesday, August 19, 1992

5 days out:

“IF Andrew stays together, we’ll have to watch it.”

(It will be an unusual threat.)
Hurricane Andrew

5 days out:
Highlighting the potential threat in the weekend forecast.

Wednesday, August 19, 1992
Andrew Becomes Unusual Risk
Friday, August 21, 1992

1. The atmospheric pattern and computer models (such as they were) indicated a high likelihood the storm would affect highly populated areas

2. No Hurricane in 27 years with dramatic construction during the intervening years

3. Preparation would be required over a weekend
Andrew Becomes Unusual Risk
Friday, August 21, 1992

62 Hours Before Landfall:

Decision to change programming on WTVJ to indicate an unusual risk to South Florida.
Irene Becomes Unusual Risk
Monday, August 22, 1992

150 Hours Before Landfall:

Decision to make recognize an unusually high threat to the northeastern U.S.
Irene – High Risk Factors
Monday, August 22, 2011

1. GFS and ECMWF forecast on the **1821 track** – a well documented storm

2. **Unusual** coastal track appeared credible

3. The pattern indicated that an effect on the **most densely populated** land areas was likely

4. Had been **decades** since a significant northeast U.S. hurricane hit
Risk Communication

Do we have sufficient **UNUSUAL** communication levers to pull which explicitly and implicitly signal and **UNUSUAL** threat?
The Probabilistic Paradox

Daily Weather Forecast vs. Extreme Event Forecast

ANDREW  IRENE
Daily Weather Forecast

Forecast: 50° & 70% POP

+ or – 3° & 30% POP
Daily Weather Forecast

Forecast: 50° & 70% POP

+ or − 3° & 30% POP

Odds of 60° & Sunny

ANDREW
IRENE
Extreme Event Forecast

Odds of Effect on Your Family

- BETTER
- WORSE

Odds of Personal Catastrophe

ANDREW
IRENE
Daily Weather Forecast

Intrinsically probabilistic communications adequate to get the proper understanding and response.

Extreme Event Forecast

Probabilistic communications does NOT provide members of the public sufficient knowledge to make go/no-go decision to take action.

Who makes the deterministic call?
Thank you.

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