



Conducting Effective Debriefings to Improve Teamwork and Decision Support Services

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Overview

- Debriefing and Crew Resource Management
- What's a debriefing?
- Why debrief?
- When would you conduct one?
- What are some of the best practices?
- How – a recommended method
- Example: TS Allison

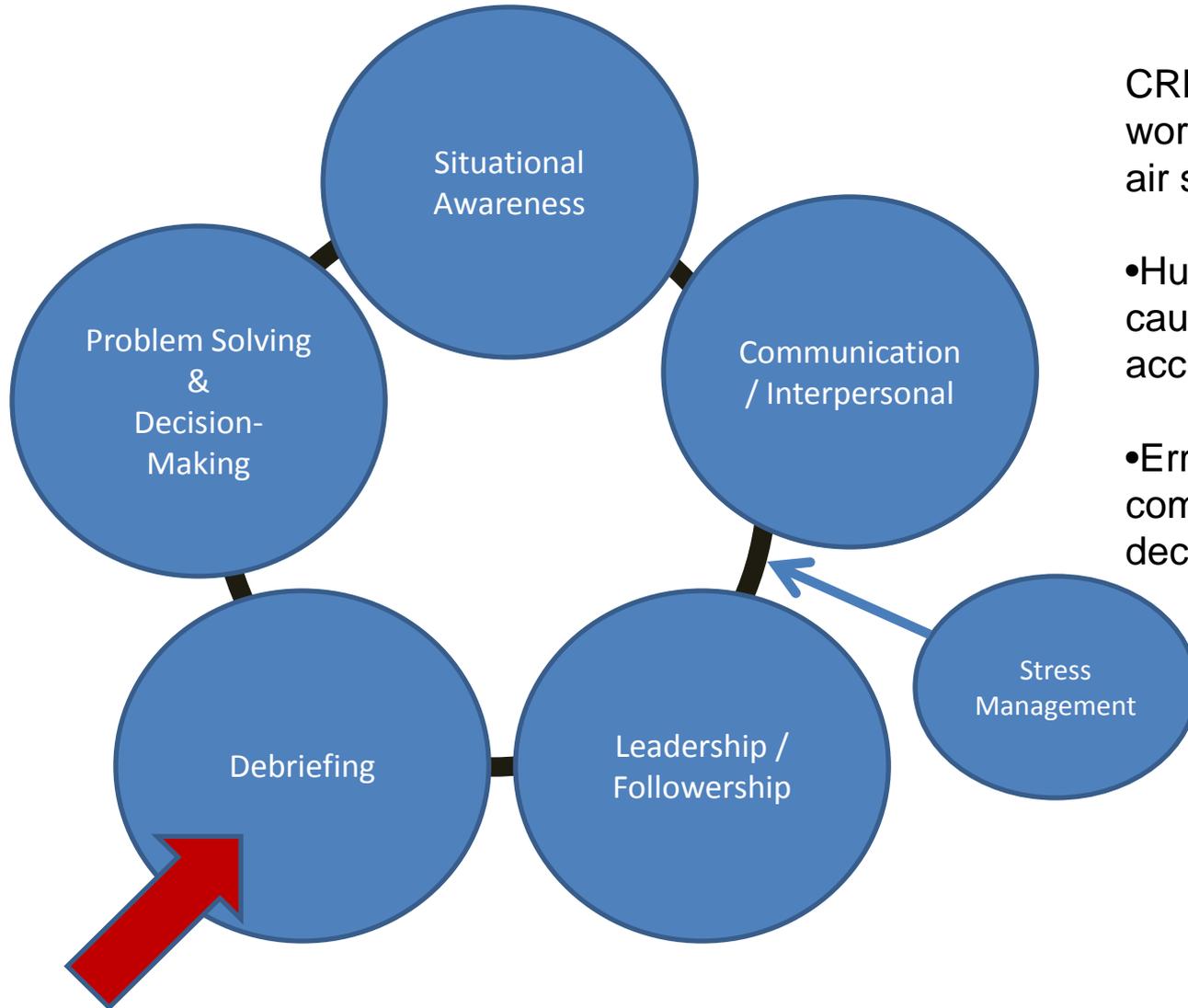
Heartbreak Ridge



“What’s your assessment of this exercise?”



Crew Resource Management



CRM originated from a NASA workshop focused on improving air safety.

- Human error was primary cause of the majority of accidents
- Errors resulted from failures in communication, leadership, and decision making, or loss of SA.

What's a Debriefing

"A professional discussion of an event, focused on performance standards, that enables people to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses."

Key Points

Examine the ***decision-making processes and rationale of the team*** in addition to the results

Adults learn and remember more when they participate actively and make their own analyses rather than when they listen passively to someone else.



Debriefing is NOT:

- A stress-management session or psychotherapy
- A search to focus on negative emotions or stress
- A search for scapegoats or individuals to blame

From: [Event-Oriented Debriefing Following Military Operations: What Every Leader Should Know](#)

Why Debrief?

Experience Does Not Equal Expertise



How do you translate this test experience into lessons learned and expertise?

- Highlight individual and team successes
- *Improve team work and collaborative decision-making*
- Improve products, services, and procedures
- Capture knowledge of the participants
- Turns individual experts into expert *TEAMS*

Effective Debriefs

- Establish expectations
- Identify and reinforce the positive
- Focus on individual and team accountability
- Team-centered
- Strive for self-discovery
- Develop a specific action plan

“NASA’s organizational culture and structure had as much to do with this accident as the External Tank Foam.”

-Columbia Accident Investigation Board. Report Vol I, August 2003.



The Space Shuttle Program Mission Management Team conducts training from Mission Control Center in preparation for Discovery's Return to Flight mission (STS-114). The new MMT Command Center provides NASA-wide video-teleconferencing capability as well as web-based briefing chart review during meetings. (Image courtesy of NASA).

When would you conduct one?



Crew Compartment Trainer

Space Shuttle Crew Compartment Trainer
Shuttle Vehicle Mockup Facility
Johnson Space Center

Conduct an office or regional “scale” debriefing after any significant weather event or group simulation.

- Can conduct separate debriefing with partners
- Independent of any Service Assessments

Conduct office or team “scale” debriefings after small events for continuous improvement

Conduct one-on-one debriefing during OJT/mentoring or as needed for professional development



Who Facilitates the Debrief?

- **For real events:** the *person who led the team* during the event (*usually not management*)
- **For simulations:** the *simulation “supervisor”* or coordinator
- **For OJT/Mentoring:** the *mentor*

Facilitator Responsibilities

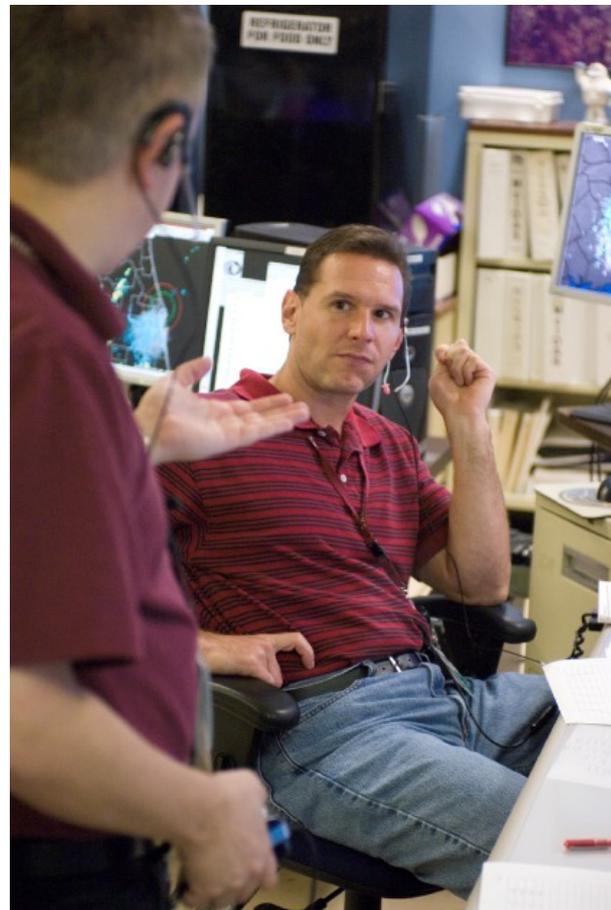
- Set the time and place for the debriefing (as soon as possible after event)
- Ensure key players are available
- Facilitate the discussion: keep it organized and everyone contributing
- Document action items

The Number 1 Best Practice

Recognize that our work is not just business, it's personal

- People often are defensive about forecasts and decisions
- *People can be root cause of team issues*
- Focus on facts, actions & processes - avoid personal attacks

The "Facilitator" is critical to an effective debriefing



What were you thinking????

I mean – Let's discuss the forecast rationale.



Additional Best Practices



A good plan isn't enough.
You need good follow through!!!!

Build in the expectation of doing it

- Debriefing needs to be part of your office culture to succeed
- Team needs to learn to give *and accept* constructive criticism

Avoid being the “sage on the stage” when facilitating debriefing

- Help others talk through their actions and rationale

Accountability: Develop action items and then follow through



How: A Recommended Way

What happened?

Replay event -- *identify significant events and decisions*

What went well?

Start with the positives! Builds team and individual confidence.

What can we improve?

Address key areas, team expectations and process in addition to meteorological knowledge and "knobology"

What could have been done differently?

Identify "Would'a Could'a Should'a"

What will we do to better prepare for future events?

Identify training, tools, or techniques & *action items*





Key Areas for Discussion

PRODUCT DELIVERY

**COMMUNICATIONS AND
BRIEFINGS**

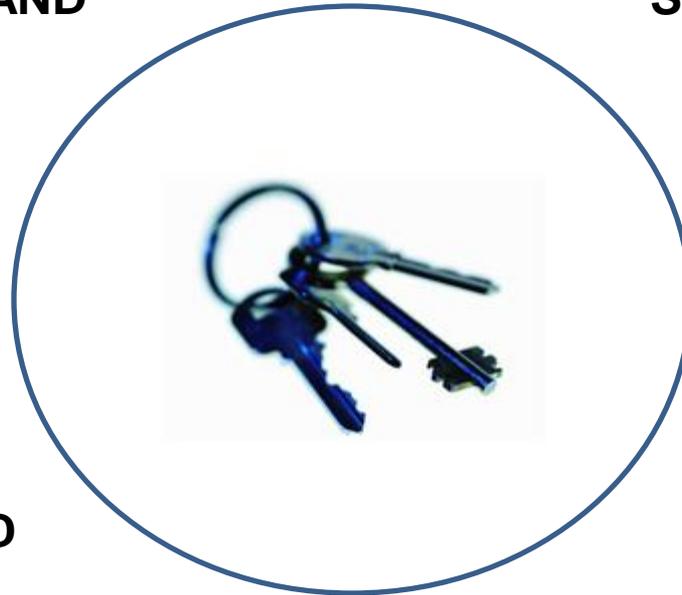
**SYSTEMS KNOWLEDGE
AND SKILL**

TEAMWORK

**ATTITUDE AND
EFFORT**

**PROBLEM
RECOGNITION AND
RESOLUTION**

**REASONING AND
JUDGMENT**



**SITUATIONAL
AWARENESS AND
MISSION COGNIZANCE**

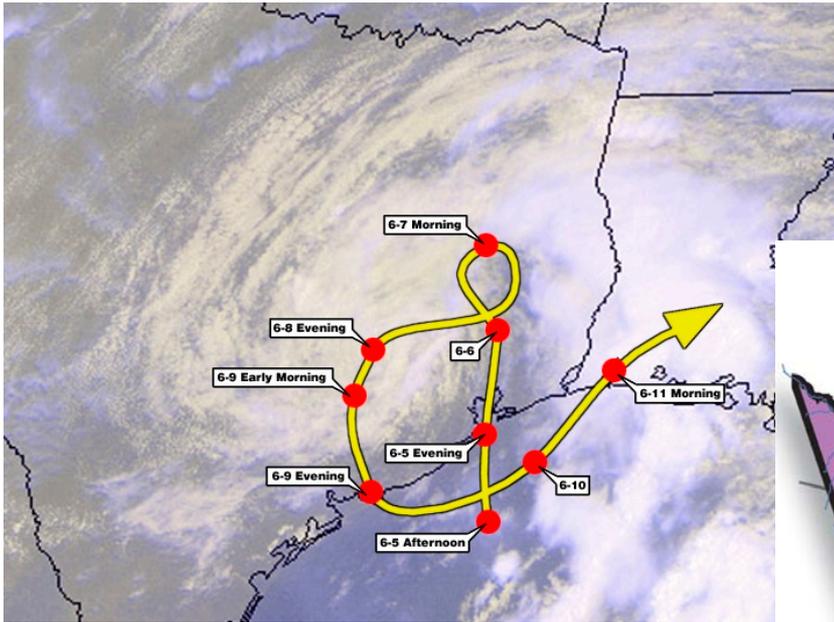


Tropical Storm Allison Example Debriefing

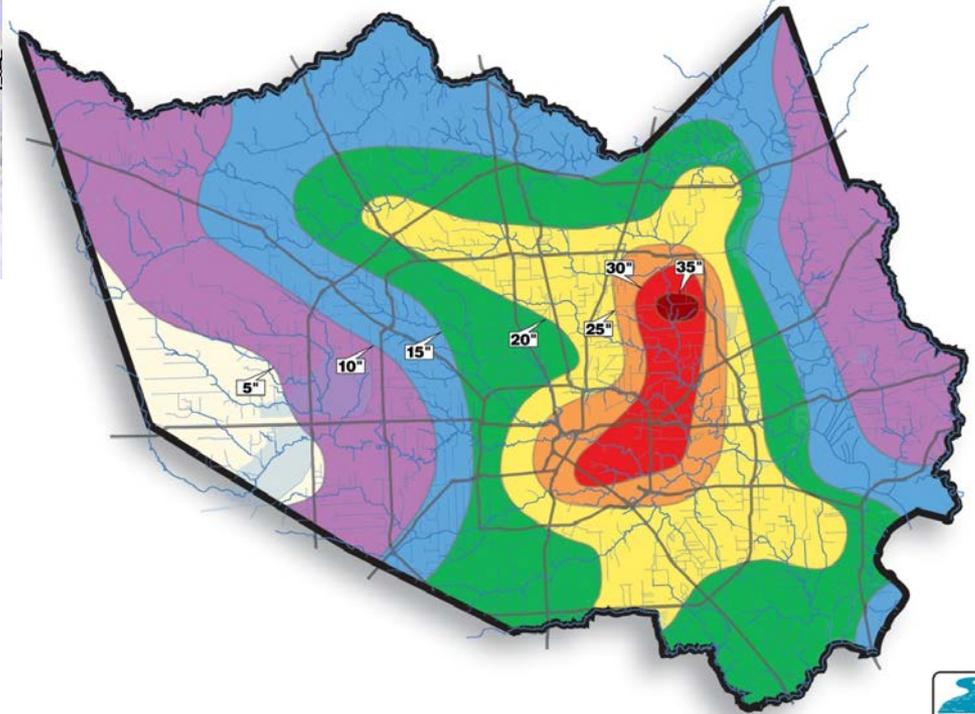


Houston Texas
June 9th 2001

What Happened?



Tropical Storm Allison 5-Day Rainfall Amounts June 5 - 9





What Happened?

June 5

- 4:30 AM: Heavy Rainfall Threat (AFD)
- 5:19 AM: Rainfall up to 3 inches (HWO)
- 10:30 AM Initial Flash Flood Watch
- 7:25 PM Hurricane Local Statement

4:30 AM CDT: No Tropical Storm Formation Expected (TPC).

7:45 AM CDT: Special Tropical Disturbance Statement
HPC QPF 5 inches

2:00 PM CDT: Tropical Storm Warning

11:00 PM CDT: Landfall

June 6

Flash Flood Watch Extended through June 10th.

River Flood Watch Issued

5 AM CDT: Last NHC Update. HPC takes over.

June 7

Low Stalls and Begins Southward Movement

AFD: "CANNOT RULE OUT SEVERAL MORE ROUNDS OF 5 TO 10 INCH RAINFALL EVENTS ... OVER THE WEEKEND."

June 8

12:25pm Excessive Rainfall Forecast (HPC)

AFD: "THIS HEAVY RAIN EVENT IS NOWHERE NEAR FROM BEING OVER."

AFD: "DANGEROUS FLASH FLOOD THREAT"

June 9

Heavy Rains and Flooding over Houston Metropolitan Area. Rainfall rates > 5" per hr. 24 hour totals near 10".

22 Deaths

Issued 99 Flash Flood Warnings During Entire Event

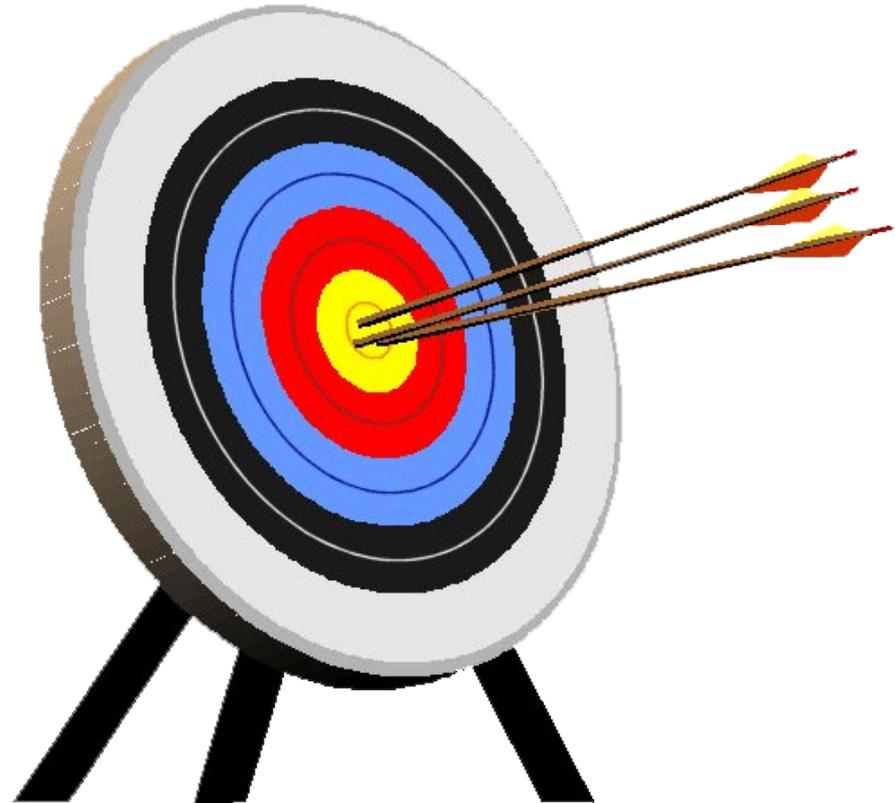


What Went Well?

Quick spin up on rapidly evolving situation

Early recognition *and communication* of threat for flooding and potential impacts

Close cooperation and effective two-way exchange of information between weather forecast office and partners



What Can We Improve?



Harris County TX EOC

Teamwork, Situational Awareness,
Division of responsibilities?

Communication with partners and
public was good, but can it be better?

22 Deaths – how many were
preventable?

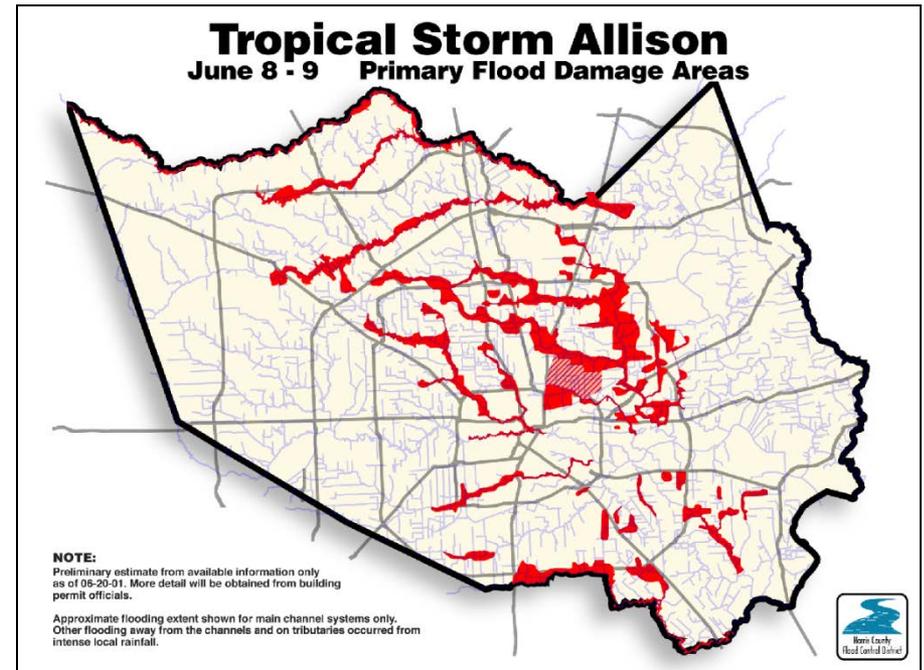
Forecasting the geographic variability
of the rainfall, the response of some
small rivers/bayous to the rainfall,
and the “high-end” of the rainfall
accumulations were all difficult



What Could Have Been Done Differently?

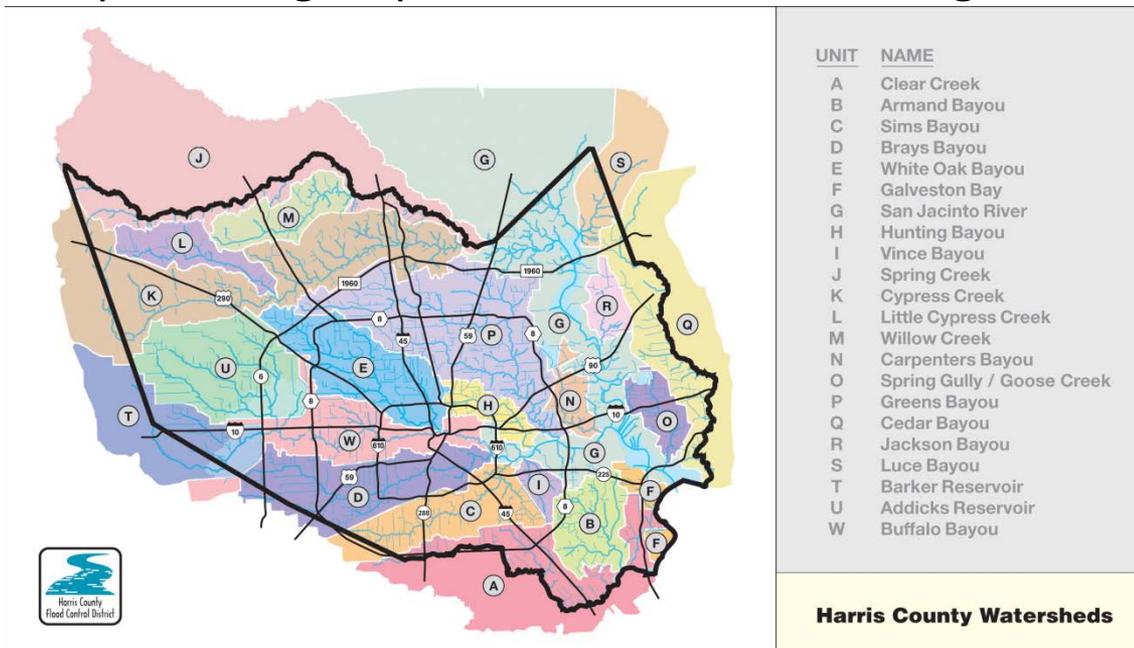
Public preparedness for event of this magnitude – emphasize importance of flood insurance and a family preparedness plan!

Customer requested river stages in MSL in river flood warnings and statements



What Will We Do To Better Prepare For Future Events?

- Improve access to Harris County rainfall data in AWIPS
- Local models may provide some detail for rainfall forecast
- GoTo Meeting and NWS Chat can improve communication with partners
- Better knowledge of small urban basin response and better tools for predicting response – a difficult challenge



GoToMeeting®





Summary

Debriefings, as an integral tool for your office training, can:

- Improve teamwork through better self awareness and team interaction
- Develop competence by sharing useful tools/techniques and identifying areas for improvement
- Instill confidence by recognizing and reinforcing successes



Don't be fooled!

This is not about having a "Group Hug"!!!



Useful References

- CRM from International Association of Fire Chiefs:
http://www.iafc.org/files/pubs_CRMmanual.pdf
- FAA "[Conducting an Effective Flight Review](#)"
- WDTB Post-Mortem Template
- WDTB SADRT and WES Scenario Debrief Forms
- Toastmaster's Philosophy:
"There is no instructor; instead, each speech and meeting is critiqued by a member in a positive manner, focusing on what was done right and what could be improved. "
- *The Five Dysfunctions of a Team* by Patrick Lencioni
- [Facilitating LOS Debriefings: A Training Manual](#)
- [Event-Oriented Debriefing Following Military Operations: What Every Leader Should Know](#), USAMRU-E PAM 95-2
- "[Leadership Armed with Data](#)"
<http://www.inc.com/magazine/20090301/leadership-armed-with-data.html?title=Leadership%3A+Armed+With+Data>
- "The Lost (or Never Learned) Art of Debriefing," **Harvard Management Update**, Vol. 7, No. 3, March 2002