

8/28/03

What do you capture? (Input from classes 1-6)

Science

BOLDED entries are modifications/additions from most recent class.

Some questions to consider: what were expectations, were expectations met, what was use and application of conceptual models, how to designate areas which might need more in depth investigation...

Actions before event:

- Were available data adequate for event?
- Was the event a surprise?
- What was your conceptual model?

- **Aware of SPC assessment**
- **Is there a mode of communication between SPC/WFO?**
- **Insure cross-state coordination**

Now (during or right after event):

- Was there consensus amongst the staff?
- What conceptual model was being used (reasoning for warnings)
- Are environmental expectations being realized? If not, did you change conceptual models?

- What tools, data sets (etc) did you use to analyze for your conceptual model?
 - Was a mesoanalyst used?
 - Were AWIPS procedures adequate?
 - Did you use national centers for guidance (SPC,HPC)?
- What was trigger point for initial and subsequent warnings?
 - What products were used to make decision?
 - How was workstation configured?
- Archive data via WES
- Save hand analysis, guidance (SPC,HPC)
- Use a web-based form for collection of thought or clip board
- Monitor Local News
- Print radar products that led to warning decisions (As workload permits)
- Conceptual model**
 - **What was basis for warning - is there a clipboard entry for justification of warning?**

Later (for most keep it simple and short; a few in-great-depth for next training season)

- Standardized environmental analysis
- Good AWIPS Procedures: Put in master list; Share them between offices (moved to "later" section)
- Missed event analysis
- Save case for WES display
- Replay data for specific event analysis

Brief summary from duty staff

Model trends leading to event

Save data on CD from Archiver (for possible WES case development)

Which fields worked well? Which didn't? (Moved this in later section)

Why did event occur (do you know?)

- Why was event so successful or not ?

- What was useful or missing with application of conceptual model? Should have it been altered?

- Possible station meeting to go over events to discuss good and bad points with regard to the science.

What do you capture? Technology

(Some questions to consider are reliability, usefulness, places where it hurt or help, how to designate areas which might need more in depth investigation...)

Actions before: Were workstations rebooted, ET's notified if some were unstable, test WARNGEN and WWA after new builds before use

Have backups been tested(especially after a new AWIPS build)

Now (during or right after event)

How did software perform?

How did hardware perform?

How did communications perform?

Were workstations rebooted?

Was NCF notified of your critical wx situation?

Was SCAN use optimized (make sure its use doesn't have negative impact)?

Specifically:

Was NAWAS comms effective?

How was performance of this equipment and (if problems) what actions were taken to mitigate:

LSR Program

IFPS/GFE

SCAN

FFMP

Algorithms

WWA

WARNGEN

XNOW

CRS/digital NWR Equip./CAFÉ/VIP

Phones, HAM radio, NAWAS

Generator/UPS

Archiving

Screen Captures

PC's/Lan/internet

AWIPS (real time)

Stability of new builds and impacts (real time)

Upper air (if applicable)

Radio backup (interalia, for ex)

SAME

How was performance of remote sensing systems

ALERT

IFLOWS

Gages

LARCS

Profilers

Satellite

Radar/Load Shedding

Other...etc

ASOS

Later

AWIPS Performance - Did software slow down or speed up warning process?
Was adequate warning provided by SAME/tone alerts?

How reliable, maintainable were systems(note things which keep coming up)

What do you capture?

Human Factors

(HFACS: Organizational, supervision, preconditions for unsafe acts, unsafe acts....some would include communication, coordination, fatigue, how to designate areas which might need more in depth investigation.....)

Now (during or right after event)

Was there adequate staffing? If not, was anybody called in during the event?

Was experience level used effectively? If not, why?

(Instead of above two, try to capture *impacts* of low/high skill or little/a lot of experience)

Was someone given OJT during event if needed?

Was fatigue an issue?

Were incorrect assessments made?

Log staffing assignments

Any distractions?

How was coordination with SPC?

EM's?

Interoffice?

Media

HAM

Were any breaks necessary?

Did forecaster X & Y get along? (Or how effective were team interactions?)

(Or were there conflicts and if so, why?)

Was coordinator able to keep up with events (distribution of duties/workload/etc)?

How was cross utilization of staff?

Was workload distribution adjusted, if needed?

How was intra-office communications?

- Did all have a clear understanding of roles?
- Storm reports distributed to relevant staff?
- Realtime reports from calls should get exact location and pass this on to warning forecaster to put in warnings/statements
- Were proactive calls made?
- All aware of warnings out?

How was sectorization utilized?

How long was radar operated by same forecaster?

Phone with "distracting" rings should be modified (all distractions minimized)

MIC(or their designee) should provide food, i.e pizza!

Is there protocol for calling in extra staff?

Was the ITO held over?

Later

How was cross utilization of staff?

Training issues on any aspects of operations?

Any impact of alternative work schedules?

Issues with staggering management schedules?

How was pre-storm prep?

Calling people in, use of supernumeraries, how effective was severe wx ops plan, who was in charge, how did shift transitions impact (effective of prior shift preparation?)

Are there any adjustments needed to severe weather operations plan?

If there were personality conflicts, how to resolve?

How did office design impact operations (workstations, phones in right place, ability to visually and verbally communicate, including ergonomics aspects)

Any issues need discussing regarding procedures, training for upgrades, update instructions

Was procedural policy or guidance readily available during the event?

Put duties/roles/responsibilities of each position on cards.

Shift transition briefings should not focus on extended if radar is currently active

If technology failed:

How was it handled?

Did it become a distraction?

Phone book vs spotter guide for verification

Switchboard.com has all yellow pages

Call 7-11's, post offices

HAM Radio /verification

What do you Capture?

Event Summary

(Some questions to consider are the facts: what we did and when, data, stats, response, outcomes, how to designate areas which might need more in depth investigation...)

Now (during or right after event):

Archive of ALL Data - satellite, model, radar

*New with 5.2.2 - Write to DVD or CD for WES

Printed copies of outlooks, watches, HWO, warnings, mesoscale discussions, statements, LSR's (all products that relate to event) Including warning worksheets

Archive of radar data

Archive of products issued

Archive Logs

Phone log (by each phone)

Spotter reports

Internet Sources: obs, non-NWS mesoscale data, storm damage information

Monitor local television: damage and dissemination

Archive obs, MSAS, profiler data

Equipment problems (log real time so you don't forget)

Summary by event coordinator to give briefings to media or on website; designate "spokesperson" to give briefings/interviews

Document additional staffing

- Who was called in; was this adequate

Document operational roles

Document software problems as well as hardware

Later

Stats (POD, FAR, CSI, Lead time)

AWIPS Database archive

Interview (personal or by email) with each person involved in event on how things went(ASAP)

From shift leader: What was your SA?

Did what happened match conceptual model?

Was data (radar, satellite, model) helpful?

Fill out ATTACHMENT C form (or SIG OPS, etc)

Storm damage survey/ Develop Damage Survey kits

Response of Emergency Managers, media and other customers

Develop Intranet Event Summary

Delayed spotter reports via internet (home page) or email, clipping services

Collect other late verification

Whose responsibility is it to develop summary?

Make sure staff is able to meet goals

Newspaper clippings

Internet event summary - photos

Additional training - both for things done "okay" and for problem items

****Did specific storms surprise you? (Development speed, Damage type reported)**

Storm Data (make notes of some things you might need for later)

Compare event to historical events for media purposes

Address hardware/software/equipment problems

How to go about this?

Implementation

Class 1(Jun 2002)

(Some questions: what is the purpose? when to implement, how (forms, web, interviews...), when do go in depth, who does short term data gathering and who does long term, how to share with staff...)

Purpose: Identify strengths/weaknesses of operations, equipment problems, and work-arounds

When to implement: At direction of WCM
After significant events (severe, floods, winter wx, fire wx)

How to implement: Forms (paper logs, intranet)
Archive AWIPS data on WES
Interviews by management or 3rd party
Each individual who worked the event supplies written evaluation of strengths and limitations of various aspects of event

Who saves data: SOO responsible for archiving
WCM should request
People on event “instinctively” saves or requests data

How to present findings to rest of staff: Short presentation by someone working the event or SOO (maybe via email attachment)

How to go about this?

Implementation

Class 2 (Jul 2002)

(Some questions: what is the purpose? when to implement, how (forms, web, interviews...), when do go in depth, who does short term data gathering and who does long term, how to share with staff...)

- Purpose:** **A tool to improve operations**
- When to implement:** **At direction of senior forecaster**
Can implement for any event
- How to implement:** **Gather data as quickly as possible**
Log email, conduct informal meeting
- How to present findings:** **Email, intranet, or binder meeting**

How to go about this?

Implementation

Class 3 (Sep 2002)

(Some questions: what is the purpose? when to implement, how (forms, web, interviews...), when do go in depth, who does short term data gathering and who does long term, how to share with staff...)

Purpose:

When to implement: Every event, but different levels of detail for each

How to implement: Information must be easy to gather

Use WES or AWIPS Screen capture, shift logs, voice recorders

Use automated archival as much as possible, otherwise, senior forecaster, WCM or SOO

How to present findings: Information must be easy to present and present fast (time)

How to go about this?

Implementation

Class 4 (Jan 2003)

(Some questions: what is the purpose? when to implement, how (forms, web, interviews...), when do go in depth, who does short term data gathering and who does long term, how to share with staff...)

Purpose: To learn from cases you did well, not from just those where things didn't work out.

When to implement: Have HMTs archive Data to DVD. All data will be available all the time.

How to implement: Have coordinator make sure that data is assembled for the WCM.
Have a voice recording device available.
Implement after events, good and bad.
Shift lead forecaster should initiate with WCM oversight (SOO for science issues)

How to present findings: Leave data from recent event on WES, available immediately to all who want to go through the event.

How to go about this?

Implementation

Class 5 (Jul 2003)

(Some questions: what is the purpose? when to implement, how (forms, web, interviews...), when do go in depth, who does short term data gathering and who does long term, how to share with staff...)

Purpose: **Identify all strengths/weaknesses**
 Identify trends
 -Requires frequent post-mortems

When to implement: **Mandatory with issuance of “for the record” (or other mandated routine PM)**

At discretion of anyone - anyone can initiate if they see the need
- **notify office of post- mortem**
- **allow time for those conducting the PM (X-shifts)**

How to implement:

Gather all logs -written/electronic/audio/video

Archive data - process is already set up

Interviews- Informal, “bull” session (perhaps with warning “squad”

How to present findings:

Maybe 24-38 hours if done often

Via e-mail

Web page/intranet/internet/ slide show/ visit session

Quick seminar (brown bag, 1 hour)

Input into a database to help identify trends

How to go about this?

Implementation

Class 6 (AUG 2003)

(Some questions: what is the purpose? when to implement, how (forms, web, interviews...), when do go in depth, who does short term data gathering and who does long term, how to share with staff...)

Purpose: **Improve SA during Svr Wx Events**

When to implement: **Discretion of the SOO, WCM, Forecaster, HMT, anyone**

How to implement: **SOO archive (or forecaster)**

How to present findings: **WES (picture is worth a thousand words), leave it on the workstation for others to see over the next couple days. Either group or one on one. Mostly keep in house.**