

Max's Mayhem: Recovery

After-Action Report/Improvement Plan

July 15, 2019

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance. Exercise information required for preparedness reporting and trend analysis is included.

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EXERCISE OVERVIEW

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|------------------------------------|--|
| Exercise Name | Max's Mayhem: Recovery |
| Exercise Dates | May 14-16, 2019 |
| Scope | This exercise is a tabletop exercise, planned for three (3) days—with one day of feedback discussion—at the Office for Coastal Management (2234 South Hobson Ave., Charleston, SC 29305). |
| Mission Area(s) | Recovery |
| Core Capabilities | Communication, Operational Assistance, Natural & Cultural Resources, Coastal Resilience, and Environmental Response |
| Objectives | <ol style="list-style-type: none"> 1. Assess impacts to NOAA personnel, mission, and infrastructure (PMI) and provide updates as required by each Line Office and HSPO. 2. Evaluate plans, policies, and procedures in place to reduce interruptions to PMEFs and MEFs. 3. Determine the impacts to NOAA trust resources (natural and cultural resources) as well as evaluate current plans, policies, and procedures in place to restore them to pre-disaster status. 4. Determine the impacts to NOAA partner programs that play a role in coastal, estuarine, and coral reef resources as well as assist in recovery and preparedness for coastal disasters. 5. Assess the effects of human factors on operational readiness as well as for recovery operations of undetermined and varying durations. |
| Threat or Hazard | Major Hurricane (cat. 3+) |
| Scenario | Hurricane Max left a path of major hurricane destruction from Edisto Beach to east of Charlotte. The damage includes marine debris from storm surge up to 10 feet at landfall, near total tree fall 50 miles on either side of the hurricane's path, and hundreds of thousands of building power outages. This exercise involves NOAA's recovery tasks and goals from the day after landfall to eighteen months post event. |
| Sponsor | Southeast and Caribbean Regional Collaboration Team (SECART) |
| Participating Organizations | NOAA (various offices) and possible partners |
| Point of Contact | Richard Okulski, Meteorologist-in-Charge, Columbia Weather Forecast Office, (803) 765-5501 ext. 222 |

ANALYSIS OF CORE CAPABILITIES & OBJECTIVES

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team.

| Core Capability | Objective | Performed without Challenges (P) | Performed with Some Challenges (S) | Performed with Major Challenges (M) | Unable to be Performed (U) |
|------------------------------|---|----------------------------------|------------------------------------|-------------------------------------|----------------------------|
| Communication | Assess impacts to NOAA personnel, mission, and infrastructure (PMI) and provide updates as required by each Line Office and HSPO. | | ✓ | | |
| Operational Assistance | Evaluate plans, policies, and procedures in place to reduce interruptions to PMEFs and MEFs. | | ✓ | | |
| Natural & Cultural Resources | Determine the impacts to NOAA trust resources (natural and cultural resources) as well as evaluate current plans, policies, and procedures in place to restore them to pre-disaster status. | | ✓ | | |
| Coastal Resilience | Determine the impacts to NOAA partner programs that play a role in coastal, estuarine, and coral reef resources as well as assist in recovery and preparedness for coastal disasters. | | ✓ | | |
| Environmental Response | Assess the effects of human factors on operational readiness as well as for recovery operations of undetermined and varying durations. | | ✓ | | |

Table 1. Summary of Core Capability Performance

Ratings Definitions:

- Performed without Challenges: The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- Performed with Some Challenges: The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.
- Performed with Major Challenges: The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- Unable to be Performed: The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

The following pages provide an overview of the performance related to each objective.

Objective 1: Assess impacts to NOAA personnel, mission, and infrastructure (PMI) and provide updates as required by each Line Office and HSPO.

The strengths and areas for improvement for each objective are described in this section.

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: Many office-specific perspectives on how to communicate with employees during a disaster were shared during exercise discussions.

Strength 2: The Google platform allows for easy and tailored options for staff accountability, check-ins, and communication needs during and after a disaster.

Strength 3: There was a good mix of NOAA representation which allowed for a diverse discussion on recovery-related topics.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: There was a need for additional understanding of the Emergency Notification System (ENS) when used during and after disaster situations. Specifically:

- Who can send messages?
- What is the sender's area of responsibility?
- When does a local office send a message compared to times when it's Homeland Security Program Office's (HSPO) responsibility?

Area for Improvement 2: There was noted uncertainty among participants on how to effectively check on the status of their employees post disaster when there is little to no cell or internet service.

Area for Improvement 3: Participants identified the need for the development of (or additional socialization of existing) facility Continuity of Operations Plans (COOP) and hurricane plans.

Objective 2: Evaluate plans, policies, and procedures in place to reduce interruptions to PMEFS and MEFs.

The strengths and areas for improvement for each objective are described in this section.

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: Most represented offices have and are familiar with their Continuity of Operations Plan (COOP).

Strength 2: Many offices (especially NWS) have plans in place for mission critical tasks to be picked up by another office when the primary office/staff is incapacitated or unable to complete the mission tasking.

Strength 3: NOAA has a diverse pool of staff who are capable of deploying and carrying out mission activities in disaster times.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Participants were unsure of other offices' COOPs and emergency-related plans that might be critical to shared missions, resources, and/or infrastructure.

Area for Improvement 2: Participants were unaware if there were missions without a back-up option in place relevant to either their respective office or ones in which they work closely.

Area for Improvement 3: Overall, there was a lack of knowledge regarding staff from other offices with specific skills and expertise who could deploy in an effort to reduce mission interruptions.

Objective 3: Determine the impacts to NOAA trust resources (natural and cultural resources) as well as evaluate current plans, policies, and procedures in place to restore them to pre-disaster status.

The strengths and areas for improvement for each objective are described in this section.

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: There was a diverse range of knowledge of NOAA Trust Resources and recovery operations among participants.

Strength 2: Some NOAA Trust Resource personnel were in attendance and participated in the exercise.

Strength 3: A robust discussion of NOAA recovery operations that have happened within the past few years occurred during the breakout sessions.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Identified need for additional NOAA recovery definition and responsibilities.

Area for Improvement 2: There was a lack of overall NOAA Trust Resource expertise to have comprehensive discussion related to the scenario.

Area for Improvement 3: There was a lack of knowledge and awareness of FEMA Mission Assignment related to NOAA's recovery operations.

Objective 4: Determine the impacts to NOAA partner programs that play a role in coastal, estuarine, and coral reef resources as well as assist in recovery and preparedness for coastal disasters.

The strengths and areas for improvement for each objective are described in this section.

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: The participation of close partner agencies (e.g., SC Department of Health and Environmental Control and GA Department of Natural Resources) added valuable insight and knowledge to the discussions.

Strength 2: Valuable discussions of partner projects and roles during quiet times occurred during the exercise.

Strength 3: A strong discussion occurred related to partner agencies that have emergency plans in place.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Overall, participants were unsure of all the close partners in the region. Having this comprehensive knowledge is vital during disasters to ensure appropriate use of resources and staff.

Area for Improvement 2: There is a lack of information related to NOAA/partner projects that are occurring in the region at any given time and who is responsible for specific tasks related to each project.

Area for Improvement 3: Most participants were unaware or unfamiliar with partner organization's emergency plans.

Objective 5: Asses the effects of human factors on operational readiness as well as for recovery operations of undetermined and varying durations.

The strengths and areas for improvement for each objective are described in this section.

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: NOAA has a diverse group of employees who are able to assist in the time of need.

Strength 2: Various Critical Incident Stress Management (CISM) handouts were available at the exercise for participants to take and share.

Strength 3: Good discussions occurred related to the Employee Assistance Program (EAP) and other available resources for staff at the time of a disaster.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Participants were unsure if other offices have qualified staff available to backfill in disaster situations (i.e., sharing staff).

Area for Improvement 2: There was a need and desire for additional Critical Incident Stress Management (CISM) information and training.

Area for Improvement 3: Participants were not clear as to where important documents/policies (such as EAP and other resources) were located.

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Southeast and Caribbean Regional Collaboration Team (SECART) as a result of Max's Mayhem: Recovery conducted on May 14-16, 2019.

| Objective | Issue/Area for Improvement | Corrective Action | Primary Responsible Organization | Organization POC | Start Date | Completion Date |
|--|--|--|----------------------------------|------------------|------------|-----------------|
| 1: Assess impacts to NOAA personnel, mission, & infrastructure (PMI) and provide updates as required by each Line Office and HSPO. | 1. Additional understanding of the ENS when used during/after disasters. | Provide ENS 101 to all NOAA staff as a Brown Bag seminar or similar. | | | | |
| | | Develop ENS one-pagers (normal operations & emergency operations) & share on website. | | | | |
| | | Provide more in depth ENS training at monthly NOS IMT meeting (or similar forum). | | | | |
| | 2. Uncertainty about how to check on staff post-disaster when there are limited communication options. | Ensure all supervisors & managers have up-to-date info to reach staff (including number other than government cell). | | | | |
| | | Ensure correct staff have working sat phones, GETS, and/or WPS cards. | | | | |
| | 3. Need for the development (or socialization) of facility COOPs and other emergency plans. | Determine status of facility emergency plans at all locations with NOAA staff. | | | | |
| | | Develop new plan or update current plan and then socialize to ensure staff safety. | | | | |
| | | Pre-determine alternate facility. | | | | |
| | | Create 800# to share facility info. | | | | |

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|---|---|--|--|--|--|--|
| 2: Evaluate plans, policies, and procedures in place to reduce interruptions to PEMFs and MEFs. | 1. Unsure of other offices' COOPs and emergency plans related to shared mission, resources, and/or infrastructure. | Discuss & evaluate feasibility of sharing plans between NOAA & partnering agencies. | | | | |
| | | Determine secure location to house/share these documents. | | | | |
| | | Schedule annual (pre-hurricane season) meeting to share/discuss plans & expectations. | | | | |
| | 2. Unaware if all missions had back-up options in place relevant to their respective offices or ones in which they work closely. | Compile PME/MEF list per office & info related to back-up status for each. | | | | |
| | | Brainstorm ways in which PME/MEFs without back-up plan could be completed by another office. | | | | |
| | 3. Lack of overall knowledge if there are qualified staff from other offices who could deploy in an effort to reduce mission interruptions. | Compile list of office-specific missions. | | | | |
| | | Each office should develop a list of people (& expertise) who can deploy. | | | | |
| | | Determine best ways to share cross-L/O info related to capacity. | | | | |

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| 3: Determine the impacts to NOAA trust resources (natural and cultural resources) as well as evaluate current plans, policies, and procedures in place to restore them to pre-disaster status. | 1. Need for additional NOAA recovery definition and responsibilities. | Continue to outline NOAA's roles (per office) related to recovery functions. | | | | |
| | | Since NOAA recovery functions span across multiple L/Os, create a working group for cohesive collaboration. | | | | |
| | | Develop one-pager outlining recovery operations within NOAA. | | | | |
| | 2. Lack of overall NOAA Trust Resource expertise (at exercise) to have comprehensive discussions related to the scenario. | Research and document NOAA staff who actively work w/ Trust Resources. | | | | |
| | | Ensure those people/offices are invited and available to participate in future recovery-based exercises & discussions. | | | | |
| | 3. Lack of knowledge & awareness of FEMA Mission Assignments related to NOAA's recovery operations. | Promote NOAA's recovery work throughout NOAA and to partners. | | | | |
| Begin discussions & work with FEMA to explore future NOAA recovery MA possibilities. | | | | | | |

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| 4: Determine the impacts to NOAA partner programs that play a role in coastal, estuarine, and coral reef resources as well as assist in recovery and preparedness for coastal disasters. | 1. Participants were unsure of all the close partners in the region. | Compile list of partner agencies within the region—this would require cross-L/O coordination to develop a comprehensive list. | | | | |
| | | Determine best way to share this info to region & wider throughout other NOAA offices. | | | | |
| | | Assess feasibility and required steps/process necessary to share office space with other federal partners during disaster situations that could impact NOAA facilities. | | | | |
| | 2. Lack of information related to NOAA/partner projects that are occurring in the region at any given time & who is responsible for specific tasks related to each project. | Comprise list (on "regular/TBD" basis) of NOAA/partner projects in the region. | | | | |
| | | Determine who/which office is responsible for specific aspects (& identify back-up plan). | | | | |
| | 3. Most participants were unaware or unfamiliar with partner organization's emergency plans. | Schedule annual (pre-hurricane season) meeting to discuss & share partner emergency plans to ensure continuity. | | | | |

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|---|---|--|--|--|--|--|
| 5: Assess the effects of human factors on operational readiness as well as for recovery operations of undetermined and varying durations. | 1. Participants were unsure if other offices have qualified staff available to backfill in disaster situations. | Compile list of employees w/ skill & expertise per office who could backfill. | | | | |
| | | Determine best ways to share this info throughout each office and cross-NOAA. | | | | |
| | 2. Need and desire for additional Critical Incident Stress Management (CISM) information & training. | Compile CISM info throughout NOAA in one location. | | | | |
| | | Explore the option of DPP, NWS, & HSPO collaborating to develop CISM training. | | | | |
| | 3. Participants were not clear as to where important documents/policies (such as EAP & other resources) were all located. | Create list of important documents that would be useful during disasters. | | | | |
| | | Compile & make important documents available so staff can easily access. | | | | |
| | | Determine FTE vs contractor resources. | | | | |

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| 6. Misc. Items | 1. Need for additional understanding of the Incident Command System (ICS). | Find better ways to share NOAA-specific ICS 300 offerings throughout NOAA. | | | | |
| | | Contact DPP and explore the option to provide an additional offering of NOAA-specific ICS 300. | | | | |
| | 2. Interest in obtaining HAZWOPER information & training. | Partner with DPP to offer HAZWOPER Awareness training online prior to the peak of the 2019 Atlantic Hurricane Season. | | | | |
| | 3. Desire for "regular" recovery-based updates to be sent to NOAA staff. | Explore the option of the DPP sharing recovery-based updates throughout NOAA through a newsletter or similar publication. | | | | |
| | 4. Interest in wider NOAA use of NOS Disaster Dashboard. | Explore the option and feasibility of expanding the Dashboard to include other NOAA L/Os. | | | | |
| | 5. Interest in exploring applied research/technologies in recovery situations. | Explore ways to include new technologies into response/recovery operations. | | | | |
| Determine the best ways to share these results/outcomes. | | | | | | |

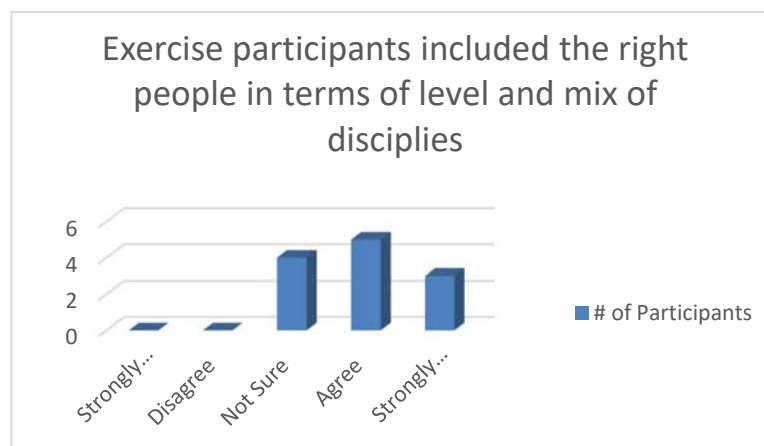
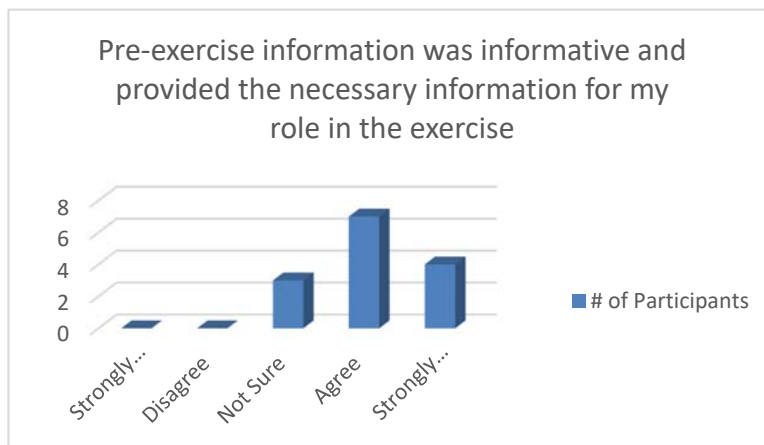
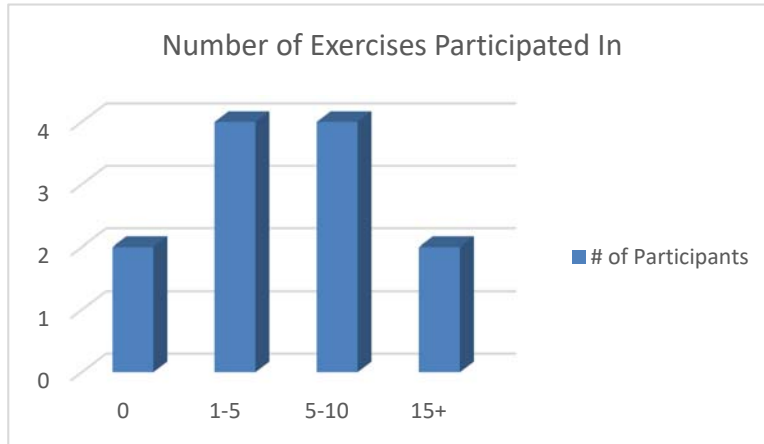
APPENDIX B: EXERCISE PARTICIPANTS

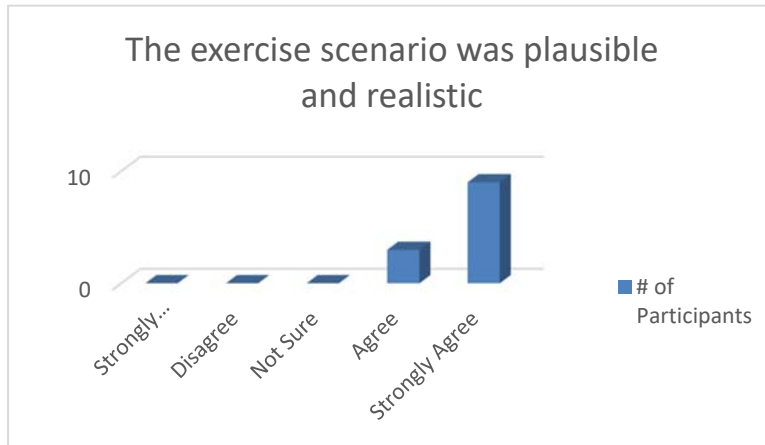
| Participants | | |
|--|--|--|
| Sean Briggs, SC DEHC | *Chip Kasper, NWS WFO Key West, FL | *Geno Olmi, SECART |
| Ralph Cantral, NOS/OCM | Jennifer Kline, GA Dept. of Natural Resources | Mike Proud, NWS WFO Columbia, SC |
| Jay Coady, NOS/ORR | *Katie Krushinski, NOS/ORR | ☞ Julie Roberts, Director of Communications |
| Sherry Fields, NOS/NCCOS | Sarah Latshaw, NOS/ORR | Howard Schnabolk, NMFS/RC |
| Steve Goldstein, NOAA Liaison to FEMA | Bridget Lussier, NMFS/RC | Katherine Sheppard, NMFS/OHC |
| Randy Grady, NOS/NCCOS | Ron Morales, NWS WFO Charleston, SC | ☞ Adam Stein, NOS/OCM |
| *Patrick Gregory, NESDIS | *Bill O'Beirne, NOS/OCM | |
| Meagan Jones, SC DEHC | *Richard Okulski, NWS WFO Columbia, SC | |

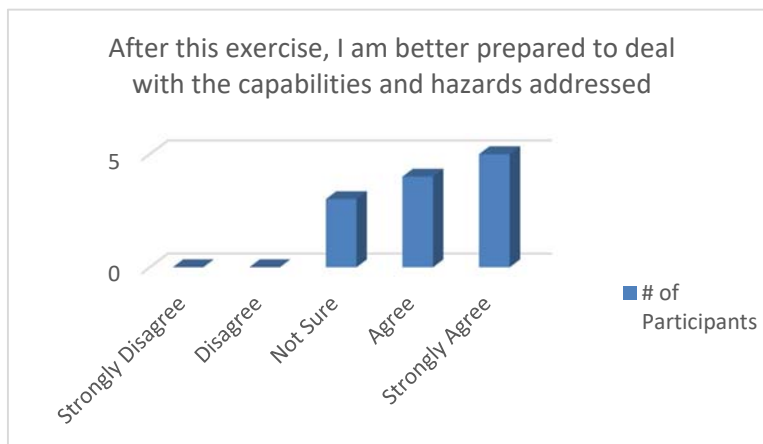
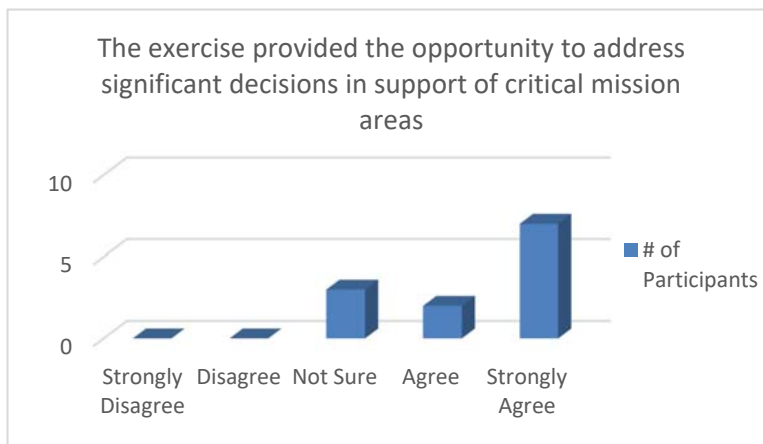
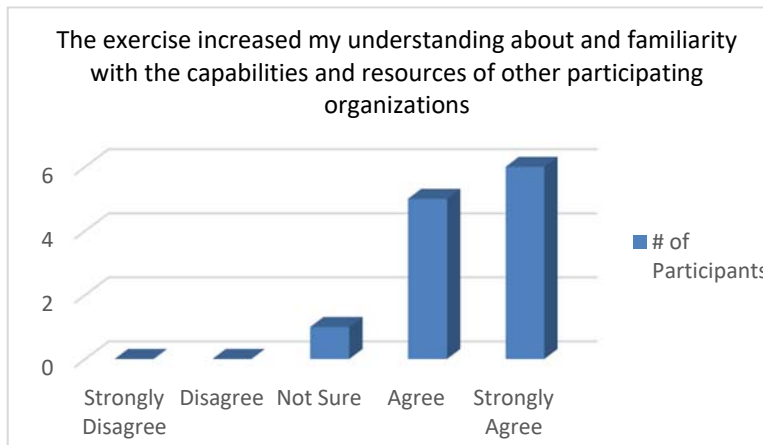
*Denotes Exercise Design Team members.

☞ Denotes participation via conference line.

APPENDIX C: PARTICIPANT FEEDBACK







I observed the following strengths during this exercise:

- Most people were engaged
- Focus on recovery a good compliment to previous workshops
- Katie does a great job setting up modules and leading the group
- Facilitation
- Host office
- Participation
- High level of discussion and discourse
- Breakout sessions
- Group participation
- Depth of topics covered
- Exploring a rarely discussed exercise topic (recovery)
- Good timing throughout the exercise
- Just enough time spent on activities
- Varying perspectives on disaster response
- Many types of backgrounds within NOAA brought some challenging aspects
- Realistic and common event
- Everyone was engaged
- The inserts of events were helpful to encourage new dialogue and thinking
- Really appreciated the wet/dry mix and learning from one another
- Different experience levels of all participants made for a nice, comprehensive group.
- I met and exceeded my hopes/expectations for this class.
- Provided a very safe environment for participants, some of the best I've ever seen.
- Excellent discussions between NOAA organizations with very open-minded attitudes from all participants.
- Depth of knowledge was extensive with nearly all questions and concerns able to be answered confidently.
- Appreciated the injects taking a step backward from restoration to recovery, added a dimension of realism.
- Lots of expertise across Line Offices
- Scenario description – reality based
- Use of guiding questions worked well for group discussion
- Great opportunity to learn more about other areas of NOAA
- Good involvement & expertise
- Great facilitation
- Good practice/discussions on recovery
- Good missing up of groups each day
- Organized
- Good to see some state partners
- Broadened focus from NWS to other NOAA and state partners as well
- Waste reduction effort!

I observed the following areas for improvement during this exercise:

- Remix groups for Module 3
- Timelines for intermediate and long-term regarding recovery were really similar. Perhaps, only focusing on one or the other OR differing the questions of focus for Module 2 and 3 would draw out more information from the group.
- Integrate state or fed partners more in the conversations.
- I would have liked to see more discussion around recovery of natural resources – focus veered more toward NOAA people and facilities (not a bad thing).
- Not always clear timeline – particularly Module 2 – and on the ground conditions.
- Mix of perspectives of facility manager vs deployed resources sometimes resulted in apples/oranges discussion.
- I understand desire to relate the guide to the scenarios, but not sure how successful that was.
- The more we can coordinate or efforts, the better we'll actually deal with these events.
- Injects may have been slightly too much, possibly limit to 3 instead of 4.
- Change groups a bit more often to dive deeper into everyone's background/experiences.
- The focus was still very response oriented and not as much on recovery.
- The questions were geared toward staff managers and facility managers – items that aren't going into the workbook.
- Other questions like: How do you respond? or Who would you call? Might be more appropriate for the manual development and have gotten us thinking about how to use it.
- Liked having state participation – wish other/more programs could have joined both internal and close partners.
- Heavy NWS participation with few other areas represented.
- Greater participation with outer offices would yield a more comprehensive session.
- Need a broader range of disciplines/expertise
- The questions need to be different for Module 3 (too similar to Module 2).
- More participants
- More diverse representation from across NOAA
- No HSPO
- No NOAA Corps or OMAO
- Loss of participants who signed up, but weren't able to make it – their participation was missed
- Seemed to be a fair bit of duplication across modules – not surprising given somewhat artificial split into early, mid, and later recovery phases.
- Might be a better way to do this – perhaps different questions or at least tailored questions for each module.

What specific training opportunities helped you (or could have helped you) prepare for this exercise? Please provide specific course names if possible.

- ICS 300 (and the FEMA ones as well)
- ICS 100, 200, 300, 400, 700, 800 courses
- Being at actual events helps infinitely more than courses
- Working with NOS to help revise our PSMA's for FEMA gave me some background.
- Also, NOS has been sending one to FEMA's NRCC during activations over the past couple of years.
- Maybe some sort of ICS overview/review
- ICS 300
- NWS management and supervision
- Background on NOAA/FEMA relationship and responsibilities
- NOAA-specific ICS 300

Which exercise materials were most helpful? Please identify any additional materials or resources that would be useful.

- Situation Manual
- PowerPoint slides
- Easel pads
- Critical Incident Stress Management handouts
- Perhaps a little more information for each module regarding extent and status of impacts
- Situation Manual
- Module intro PowerPoints
- The group breakout sessions were the most useful as it gave me an opportunity to brainstorm with experienced individuals on situations
- The links/disaster resource pages in the developing binder
- NOAA fliers/one-pager summaries provided
- Some of the web links/programs like NGDC and Canva
- Situation Manual was clear and concise
- Liked the handouts on Critical Incident Stress Management – excellent resource
- Good to know that Guide is being developed
- Situation Manual
- Opportunity to learn more about others' roles and responsibilities
- Situation Manual delivered timelier (~1 week prior?)
- Appreciated the injects

Please provide any recommendations on how this exercise or future exercises could be improved or enhanced.

- Recovery focus could look at a major disaster and talk about the things like we have damaged “who do you call for baseline information or damage assessment?”
- FEMA’s timelines are coming up – haven’t been extended and people are working on the ground, “What do you do?” “We’ve been asked to assess X resources over X days and it’s rainy/hurricane season until...”.
- Timelines might also want to match FEMA’s – could interplay with a fisheries disaster
- Shorten meeting to 2 days – 2.5 max
- Intro from each participant – perhaps give a template (or slide) of information the group wants to know
- 2 modules, 1 report out/discussion
- One-pagers share from office/division of each participant
- We tried, but coupling between exercise and “disaster guide” development could have been stronger
- The resource guide should have been more developed prior to the workshop for group discussion
- Bring in someone with experience to help out – I’m available!
- The note writing/sheets on the removable paper is great for brainstorming, but a digital/Google form might save time/effort/distribute easier.
- Excellent Job! You always put together a great workshop/exercise that are most helpful and informative.
- Might have each participating group response plans and/or COOP available
- I would pare down the number of situations being evaluated. Adding the additional strips with more situations or changing situations is great, but becomes difficult to get through the task and leads to some creep in evaluating the scenario.
- Be mindful of thought and follow-up with participants regarding “how” this workshop led to, or is associated with, key outcomes, tangible results, and real improvements related to staff performance and mission execution.
- Need to be able to present this information both “upward” and “downward” within the organization, so to speak – if done effectively, we will inspire/motivate greater understanding and involvement.