

Group 1: Academia & National Weather Service Partnership

Subject Matter Experts: Dr. Lance Bosart¹, Dr. Kristen Corbosiero¹, Dr. Daniel Keyser¹, Gene Auciello²

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Note Taker: Thomas A. Wasula NOAA/NWS/WFO Albany, New York

Note: The Subject Matter Experts did not bring a few ice breaker questions. We just started the discussion based on the 25th years of CSTAR, COMET and NROW and what the future would bring.

Group 1:

- Dan Thompson (former CSTAR student and now Marquette SOO) expressed concerns about future collaborative research based on Ken Harding's talk-> shifting priorities. Co-location Kristen mentioned helps, but with a once a year meeting (NROW), is that enough? Kristen mentioned having conversations are very important to seek funding for future collaborative research opportunities. The MIC and SOO should be heavily involved.
- RSPs (research grant calls) to respond to what...no calls! CSTAR no in the mix now. Joint testbed transfer initiatives. How to get funded grants in the future? The money is not there! What will the money be in the next 5 years horizon?
- Dan Thompson asked Dan about CSTAR/operational research in the future. Gene gave an overview of Coop Institute and CSTAR. Infancy plans going forward (Gene Auciello). Gene never was promoted to a Lead Meteorologist at Boston, but was one of a few who did operational research, Gene went to Washington D.C. Dr. LaVoie met Gene at HQ. He knew Dr. Fred Sanders. Gene wrote a drafted plan for Cooperative Institutes and how they should work. Idea to work with like UAlbany. Modernization Communication plan moving forward.
- Not a lot more research money going forward. **Research over staffing** going forward is difficult. Gene talked with Steve LaPointe with the plan going forward. Congress has bipartisan support on each side. What is the plan moving forward? Still unclear.
- COMET to CSTAR...scale down has occurred.
- UVM approaches with curriculum moving forward (social science). Pete Banacos mentioned these interactions. Gene cited Dick W. grant. Social science focus on going right now.

- Hannah (Professor from Daemen U.) takes the research to operations model to neighboring entities. A lot of interest in extreme weather to do research. Warren was a sales pitch per person. SOO and MIC need to be on the same sales pitch. Hannah has students that are bio majors. Undergraduate requirements are changing for the faculty across the country.
- **Key take away:** Keep interactions ongoing with WFO's and universities. Consider 2 or 3 meetings a year with UAlbany. Try to blend physical, social, behavioral, economic and data science research.

Group 2

- Did the social scientist go to you? Dr. Colle was asked by Dr. Keyser. JTTI grant... SUNY Stony Brook has had success with social science research. Perhaps JTTI grants can be pursued.
- How to reach groups who don't speak English as their main language. The language may get garbled sometimes. How to put the words to the pictures and how does it resonate?. Language is very important. Some talks at NROW to discuss this.
- Question about operational/collaborative research: What are some of the aspects about CSTAR that made it successful(this came from a student)? Multiple advisors (2 per student) as well as a CSTAR focal point or two. The back and forth exchange of information and research was sound. NROW, twice a year CSTAR meetings, local, regional and national meetings. **Mentorship and relationships helped build the skills.** The liberty was there to figure it out themselves. This may lead to a job that they really would like to have. Student morale was very good. Determination and motivation was there.
- BOX was not interested at all. Gene helped build that culture. The MIC promotes science and culture. MIC has to gravitate to key initiatives. Dr. Keyser mentioned the Snyder Plan. Team effort to make it successful.
- Gene asked the Canadian forecaster about a past interaction with the city of Vancouver. Canadian forecaster doesn't do much public forecasting. Culture and financial issues in their bureau, and they are located near McGill college.
- Dr. Alicia Wasula's 4 points...being successful in COMET/CSTAR were discussed. Gene liked...collaboration, mentoring, data collecting and use, and communication.
- Gene would like those in positions to succeed (work floods, winter weather, severe weather, etc.).

- Metrics...were important leading to CSTAR. You need to show Congress how we are improving. They have the power of the purse and funds.

Group 3

- Jeff Waldstreicher mentioned leveraging technology...working collaboratively remotely is equally vital.
- Gene mentioned social science as the way of the future with operational research. Gene mentioned the follow-up to CSTAR I after NC ST got the initial grant. Gene mentioned going to the psychology department or Stony Brook success in JTTI (Dr. Brian Colle).
- CEHC partnerships to open up some new avenues (Jeff mentioned possible successes).
- The NWS needs to continue to work on communication and emergency services. We are working with partner needs and trying to satisfy them.
- Gene: Two types of people not seeking shelter (Gene mentioned the 1993 Chicago heat wave...and last year as a Hurricane hit Sanibel island and they all died). The examples were used to illustrate some research in social and behavioral science.
- Behavioral Science is an overlap into social and physical science of the future. How will people react to situations? Do we ask the right questions and give the right guidance? Some of the technology moves backwards. Changing colors may make a difference on the aspects. Choice of red vs. purple.
- Economic science...what is the value of science and information. Jeff says that is a big part of it. Saving money and using it wisely.
- Steve (WFO ALY WCM) mentioned a science and disasters course. The floods, hurricanes, winter storms are the biggest disasters costing the most money.
- Economic factors are part of the message in some of the information exchanges.

Group 4

- Brian Tettinger (WFO BGM SOO) says he struggles with the IDSS or social science. How to predict how people react? Gene talked about how to get people to listen...he mentioned the Chicago heatwave victims were afraid to leave...and died. They were afraid of crime and stayed locked in homes with no AC in 1993. Sanibel Island people stayed on a hill and died last year in FL with the impacts of a hurricane. How do you

make people listen? How do we get people to react based on the impacts? He mentioned chatting with the psychology department and working on behavioral science issues.

- Economic science...\$500,000 and save a few million dollars in the future. How do you draw up a grant for that?
- Joe (WFO ALY lead meteorologist) mentioned the FY25 office structure plan will make a difference how the future operational research goes forward.
- SWRCC interest...social scientist and risk manager hired to help with interactions. Student internship program. It ends and how do you carry on. How do you bridge it going forward?
- Communication and DSS focus is what WFO BGM is moving forward with. Local effects and how it is impacted on communities. Lake effect impacts and terrain influences. Brian (WFO BGM SOO) is still searching into the biggest areas of interest. Bryan Greenblat (WFO BGM meteorologist) said there is more in the communication and social science aspect.
- Focusing on what we did wrong still has a need in the NWS. Gene touched on this. Dan Keyser mentioned busts and how they impact the deaths. Christina mentioned the Oct 31-Nov 1 2019 floods. Flooding and Flash Flooding need more research.
- Do you worry about floods from a social science perspective...or the forecast. Mesoscale busts happen often. How do we get people to react...vulnerability groups?. Christina thinks the floods can impact the most...major impacts. Severe ice storms can be impactful too (Tom mentioned).
- November 2019 snowstorm people were stuck in NYC south into northern NJ impacted travelers. People were stuck in the traffic for hours and serious impacts happened.
- We have a maturing science, but it has not matured completely. Physical science combined with social, behavioral and economic science going forward is the key. We need to have meetings and strikes up conversations in the upcoming month to years to find partners for collaborative and operational research.