ANS-SR TECHNICAL MEETING NOVEMBER 16, 2017

Location: Newberry Hall
117 Newberry St SW
Aiken, SC 29801
(803) 641-7087

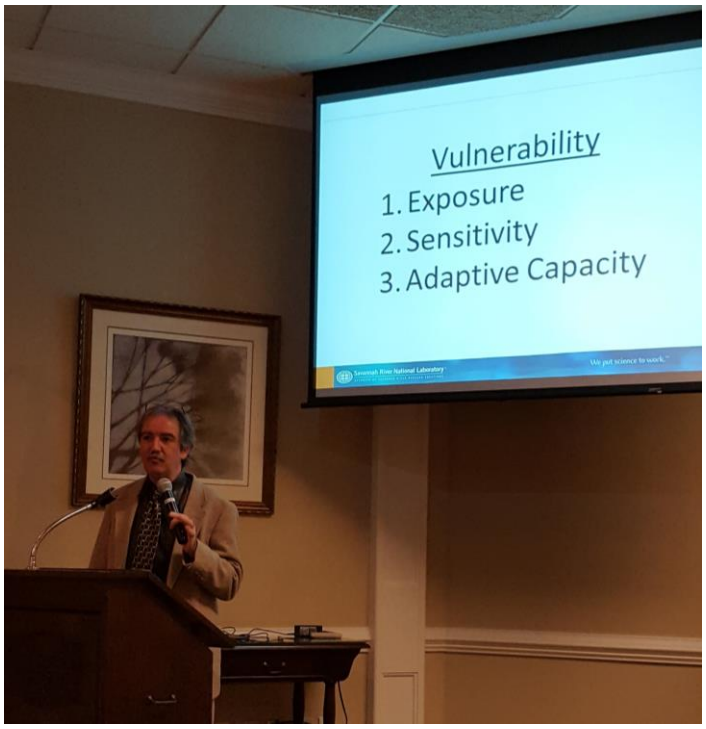
Attendance: 27 **Presenter**: Dr. David Werth

Tonight's speaker was Dr. David Werth, Principal Scientist, Savannah River National Laboratory Atmospheric Technologies Division who spoke about "*Evaluation and Mitigation of the Risk Due to Climate Change at the Department of Energy's Savannah River Site*".

The topic stems from an executive order issued to the DOE, and all federal installations, to evaluate the impact of climate change on future site operations. Dr. Werth approached the problem with three basic questions. First, how has climate changed at the Savannah River Site since it was built in the 1950s? He gave an overview of precipitation and temperature changes in the 1964 to 2013 period, noting a trend toward hotter days. Next, how do we predict how climate will change in the future? For this part of his talk, Dr. Werth gave a brief overview of how climatology models work, describing them as discretized fluid mechanics models that have to tackle the difficult problem of how air interacts with the surface of the earth. He discussed standard models used internationally and clarified that greenhouse emission models are changes in the heating of the surface area of the atmosphere. The third and final question was, how will climate change affect site operations? Heat and humidity affect the hours outside workers can work, how much energy is expended in environmentally controlling buildings, how the site's forest is managed, and the behavior of the site's water bodies. Not only are SRS's bodies of water heat sinks and water sources, but serve as shields for cesium contained in the sediment. Dr. Werth's study determined outside workers and site buildings were most at risk for losing work hours and costing more money to operate, respectively. The future work will be to work with DOE to develop a long term adaptive plan to prepare for future site operations in light of climate change.

The membership was also reminded about upcoming events including the Dec. 4 holiday party and wine pairing dinner and the next round of nuclear trivia scheduled for Jan. 25. Photos below show Dr. Werth fielding questions and discussing vulnerability.


EXIT


Vulnerability
1. Exposure
2. Sensitivity
3. Adaptive Capacity