

Infrastructure Resilience Series Summary – 2024

The Society of American Military Engineers (SAME) New York City Post with educational partnership support by the US Green Building Council (USGBC) Middle Atlantic and New England Regions hosted five lunch and learn sessions from February through June 2024. The culminating event was the Resilience Summit hosted on October 16, 2024. This event addressed the challenges of dealing with the climate crisis which are complex and far reaching. Here are some brief highlights from the summit:

- Morning keynote [Rohit Aggarwala](#) of [NYC Department of Environmental Protection \(NYC DEP\)](#) spoke about how NYC is addressing environmental justice, heat island effect, cloudburst storms, drinking water, and more....
- HATS (NY & NJ Harbor & Tributaries Focus Area Feasibility Study) update with [Laurian Farrell](#) of NYC Department of Environmental Protection (NYC DEP), [Cliff Jones](#) of [US Army Corps of Engineers](#), and [Matthew Chlebus](#) of [NYS Department of Environmental Conservation](#) who again addressed EJ, the need for workforce development, dealing with differing storm intensities, structural vs. nonstructural solutions, and outreach, outreach, outreach...
- [Karen Baker](#) and [Megan Carr, PhD, CPG](#) of [Bureau of Ocean Energy Management](#) spoke about wind energy and our clean energy future, local jobs, sand as a resource, and (a favorite) the use of graphics and story maps to help the public and non-technical stakeholders understand the multiple concepts in these plans...
- Galveston District panel with [US Army Corps of Engineers](#) and [Texas General Land Office](#), about green and gray infrastructure, community engagement, how to fund innovation ...
- [Passaic Valley Sewerage Commission's](#) John Rotolo and [Michael DeSena](#) and their enlightening case study of the 5th largest sewage plant in the US being flooded and without power after Hurricane Sandy, and safeguards put in place...
- USACE New York District Commander COL Alex Young spoke about deep energy retrofits, [hashtag#LEED](#) and more...
- and [U.S. Army Corps of Engineers, North Atlantic Division](#) Brigadier General (BG) [John Lloyd](#) closed us out by addressing innovation, flexibility, partnership, and by summarizing the key takeaways and integration of ideas from throughout the day.

And through it all, [Sarah Cwikla, PE, BCEE, LEED AP, ENV SP](#) served as host and moderator extraordinaire, asking insightful questions and guiding the event throughout the day, with [Vesna Vujinovic](#) running the show and [Benjamin Wallen](#) as MC.

Thank you again to all the speakers, sponsors, and attendees as well as the terrific team

behind planning this event and series! (See planning group photo below, not pictured is [Joe Porrovecchio](#).)



The following is a summary of the 2024 sessions and links to the recordings to enable continued learning and engagement on the significant topics.

February 27, 2024 - Modular Nuclear Reactors for Resilient and Carbon Free Electric Power

The session moderated by Lt. Colonel (retired) Joseph Porrovecchio (SAME NYCity Post, Chairman, Environmental Affairs and Advanced Technology Committee) included meaningful information and discussion with panel participants including Dr. John Mauro (NJ State Commissioner of Radiation Protection), Dr. Erik Backus (Professor of Practice, Clarkson University), and Joseph Costello (Formerly DOE, Director of Systems Engineering and Raytheon Nuclear). Key points from the discussion included sustainability aspects of new large scale light water nuclear powered electric generation facilities, energy efficiency advantages of next generation small modular reactors and their enhanced safety and security, reduced capital cost impact on nuclear energy feasibility, and nuclear in support of electrification and decarbonization of the built environment.

Recording of the session: <https://youtu.be/ZtCMvuKzhTI>

March 27, 2024 - Community/Regional Resilience (NY Focus)

The session moderated by Meredith Jones (Director Program Management APTIM) included meaningful information and discussion with panel participants including Paul Tschirky (Vice Chair SAME National Resilience Community, Senior Director APTIM), Joy Sinderbrand (Senior Vice President NYC Housing Authority Capital Programs), and Amy Chester (Managing Director Rebuild by Design). Key points from the discussion included discussing and defining resilience as it applies to communities, identifying available resources for community and regional resilience, reviewing case studies/projects in the NYC region that demonstrate the principals of environmental sustainability and resilience, and comparing tools to more effectively implement and integrate environmental resilience practices and principles into the built environment.

Recording of the session: <https://youtu.be/0gdxb2zd5nM>

April 22, 2024 - Infrastructure Resilience: Education to Practice

The session moderated by Dr. Erik Backus (Professor of Practice, Clarkson University) included meaningful information and discussion with panel participants including LTC Scott Katalenich (Director, Civil Engineering Program, United States Military Academy), Mónica Serrano (Turner Construction, Resilience Program Manager), and Michelle O'Donoghue (Resident Engineer, United States Army Corps of Engineers). Key points from the discussion included understanding the type of courses and focus of undergraduate education to address infrastructure resilience, listing essential infrastructure resilience skillsets required for junior construction engineers to make a positive impact on mission accomplishment, understanding specific industry relevant learning that has impacted infrastructure and building projects, and describing how infrastructure resilience education translates to military engineering missions and industry projects.

Recording of the session: <https://youtu.be/xlfC0tRrBTA>

May 22, 2024 - Resilient Communities through Innovation and Partnerships

The session moderated by Pinar Balci (WSP, NYC Water/Deputy East Water Lead) included meaningful information and discussion with panel participants including Sardar Rajratna (NYPD, Environmental Coordinator), Olga Garcia (City of Hoboken, City Engineer), Jennifer Charrier (CUNY Brooklyn College, Professor), and Emily Morey (MTA, Director of Climate Resilience Planning). Key points from the discussion included sharing examples of blue-green strategies and cross-sectoral collaborations that have helped to address urban climate resiliency and water quality challenges particularly as this relates to cloudburst

planning and implementation, taking a deep dive into successful partnerships and lessons learned from communities to innovate and develop new solutions when working toward urban climate resilience, and exploring what can be accomplished if we think outside the box and reimagine new types of creative partnerships for addressing urban climate challenges.

Recording of the session: <https://www.youtube.com/watch?v=UwojrXPeSOE>

June 12, 2024 - Evaluating Compound Flood Risk: Assessing Rainfall and Storm Surge in New York City

The session moderated by Maryia Spirydonava (Junior Civil Engineer, Stantec) included meaningful information and discussion with panel participants including Laurian Farrell (Deputy Commissioner, Bureau of Coastal Resilience, NYC DEP), Curtis Smith (Civil Engineer – Certified Floodplain Manager), Rob Nairn (Principal, Coastal and River Engineer), Keith Roberts (Senior Engineer Scientist), and Onur Kurum (Coastal Engineer / Numerical Modeler). Key points from the discussion included the critical importance of accurate coastal flooding modeling, an examination of the physical drivers behind coastal flooding, the comparative analysis of coastal ocean modeling techniques, and modeling capabilities and results of compound flooding.

Recording of the session: <https://www.youtube.com/watch?v=nI9YVJPgfLA>

Historical Recordings:

In order to view the infrastructure resilience series efforts from the previous three years, please visit the following links:

2021, 2022, and 2023 Lunch and Learn Recordings

- January 13, 2021: [Risk-Reducing Strategies for Schools: Post-COVID-19](#)
- February 10, 2021: [Economic Impact of Sea Level Rise and Storm Surge in the Tri-State Region](#)
- March 10, 2021: [Resilience, Sustainability and the Future of Codes](#)
- April 14, 2021: [Resilience Rating Systems: Better Buildings and Better Communities](#)
- May 12, 2021: [Future of Military Engineering Innovation for Resilience](#)
- June 16, 2021: [The Science of Storm Surge Risk Reduction](#)
- February 16, 2022: [Adaptive Means and Design Solutions](#)
- March 16, 2022: [Communicate with Communities](#)
- April 20, 2022: [Facilitate Compromise](#)

- May 4, 2022: [Community Vitality](#)
- May 18, 2022: [Local Governments and Integrated Long-Term Master Planning](#)
- June 15, 2022: [Hazard Adaptation at the Building Scale](#)
- February 8, 2023: [Indoor Air Quality with Practical Post-COVID-19 Strategies](#)
- March 8, 2023: [From Homes to Infrastructure, Building Community Resilience](#)
- April 19, 2023: [New York City's Coastal Resiliency Initiatives](#)
- May 10, 2023: [Hold onto your HATS \(Harbor and Tributaries Study\)—How Do We Get Regional Flood Engineering Accomplished Now that We Have the Study in Hand?](#)

A summary of the 2023 summit is available here: <https://www.usgbc.org/articles/recap-usgbc-middle-atlantic-and-new-england-region-hosts-summit-resilience>

SAME and Resilience

The Society of American Military Engineers Resilience [Community of Interest](#) (COI) directly supports the second SAME strategic plan goal to “Build and Sustain Resilient Communities.” The national effort contributes to government and private sector collaborations that serve to minimize the impacts of and enhance effective response and recovery to natural and man-made threats.

The goal of the SAME NYC Post Emergency Preparedness and Infrastructure Resilience Committee is to support such efforts in the New York/New Jersey region. After Superstorm Sandy in 2012, flood mapping from the Federal Emergency Management Agency changed. Structures lining 100 miles of shoreline, both along the Atlantic Ocean and deeper inland, along the regions' many rivers, need to respond to new flood inundation heights. The design and construction response to this need affects owner economics, insurance rates, insurance risk underwriting, engineering feasibility and facility usability. SAME NYC Post is committed to being the facilitator to generate dialogue between government and the private sector about solutions.

Thank you to our joint planning committee:

- [Erik C. Backus](#), P.E., LEED AP BD+C, ENV SP, FMP, Professor of Practice/Director of Construction Engineering Management at Clarkson University and Lieutenant Colonel (U.S. Army, retired)
- Sarah Cwikla, PE, BCEE, LEED AP, ENV SP, Vice President and Regional Growth Leader, Stantec
- Suzanne DiGeronimo, FAIA, F.SAME (dist) President, DiGeronimo PC, Chair, Emergency Preparedness and Infrastructure Resiliency Committee NYC Post SAME, and member of the Storm Surge Working Group
- [Joseph Porrovecchio](#), LEED AP, CRM, Manager of Carbon-Key, LLC, and Lieutenant Colonel (U.S. Army, retired)
- [Medea Villeré](#), Project Manager, Market Transformation and Development—Middle Atlantic and New England region, USGBC

- Vesna Vujinovic, Document Control Specialist, Stantec
- [Benjamin M. Wallen](#), Ph.D., PE, PMP, Colonel (U.S. Army), Associate Professor, Associate Dean for Faculty Development, United States Military Academy, West Point