Integration of the Meadowlands Environmental Research Institute into Rutgers University-Newark Meadowlands Environmental Research Institute (MERI)

Dr. Alexander Gates, Dept. of Earth & Environmental Sciences, FASN

MERI | Meadowlands Environmental Research Institute

RUTGERS UNIVERSITY | NEWARK

MERI MISSION

"Our mission is to generate the knowledge and predictive understanding necessary to sustain and conserve the Hackensack Meadowlands Estuary and through scientific endeavor foster the next generation of earth and environmental scientists."

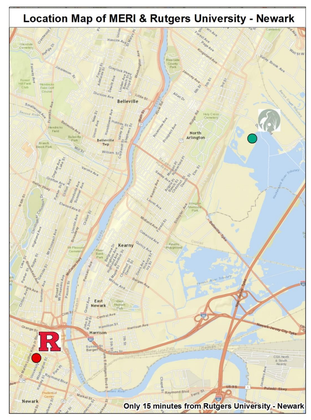
HOW MERI MEETS RUTGERS UNIVERSITY STRATEGIC PRIORITIES

Cross Cutting – The Meadowlands is a unique area that brings up numerous issues in conservation, ecology, transportation, flood control, waste disposal, and greenhouse gas production/sequestration.

Sustainability – Enhanced external funding opportunities for RU faculty and MERI scientists

Bridge Building – Provides a vehicle for Rutgers and MERI to bridge to other universities, agencies, and private and public groups

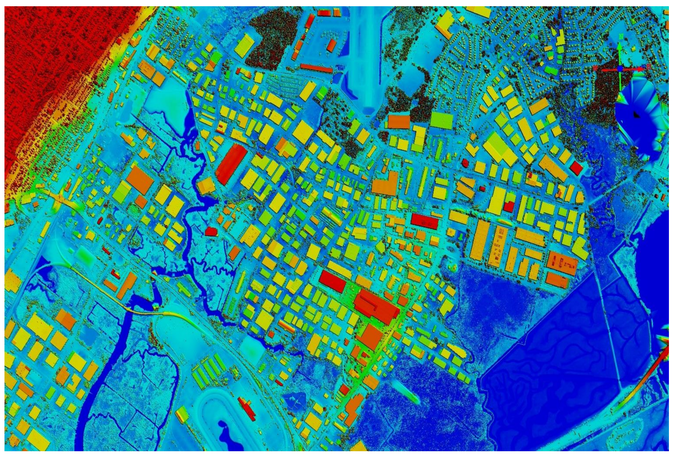
Impact – MERI allows for premier access to the Meadowlands ecosystems and firmly establishes Rutgers-Newark as the leading research university in Northern New Jersey.

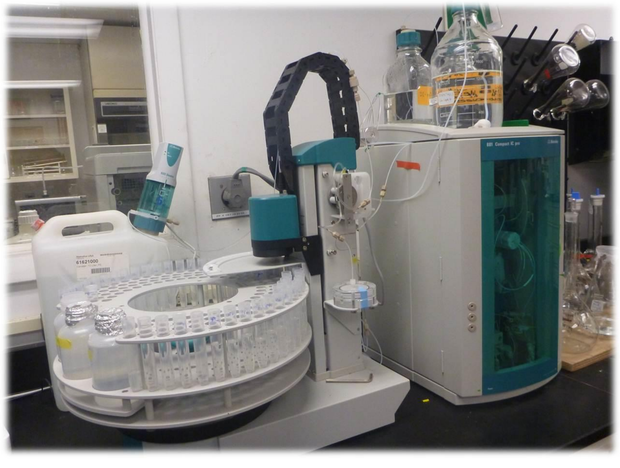


MERI HISTORY

- MERI was founded by a team from Rutgers University - Newark led by Dr. Nabil Adam in 1999.
- Between 2003-2015 under the New Jersey Meadowlands Commission MERI evolved into a premier environmental research institute and ecological think tank for the Meadowlands region.
- In 2016, MERI was acquired by Rutgers University – Newark, Dept. of Earth & Environmental Sciences (DEES).

RUTGERS UNIVERSITY – NEWARK: ENVIRONMENTAL FIELD STATION





GIS Laboratory

- Fully equipped Geographic Information Systems laboratory (GIS)
- Survey grade sub-meter GPS capability
- State of the art remote sensing and image processing capabilities
- Spatial modeling
- Datasets include high resolution cadastral, hydrological, hyperspectral, topographic, LiDAR, and orthoimagery

Chemical Laboratory

- Fully equipped NJDEP certified environmental analytical laboratory
- Perform chemical analysis and determine inorganic and organic pollutants in soil, water, air, and tissue
- Main laboratory instruments includes:
  - ICP-MS
  - GC-ECD/FID and GC-MS
  - Low-level mercury analyzer
  - Ion Chromatography for anion and cation species

Field Monitoring

- Network of continuous field monitoring stations measuring water and air quality
- Network of sediment elevation tables measuring sediment accretion and sea level rise
- Continuous ambient air monitoring of O_3, CO, SO_2, NO_x and CO_2
- Continuous weather monitoring station

Education & Research

- Environmental analytical chemistry training program
- Earth and environmental science field methods
- Geoprocessing and database management training
- Internship program in environmental science
- Grant driven research in wetland impairment, greenhouse gas emissions, benthic biodiversity and contaminant loads, carbon sequestration, and water quality