



Interdisciplinary Consortium  
for Applied Research in the  
Environment

National Science Foundation  
Research Training Grant

*Broadening Participation Across the  
Environmental Sciences in & around  
Baltimore Harbor*



Project Title: Intense flood-generating rainfall over Baltimore City: Magnitude, duration and frequency

UMBC mentor name & department: Dr. Andrew Miller, Geography & Environmental Systems

Partner mentor name & institution: Kim Grove, P.E., Baltimore City Department of Public Works

Brief project description:

Evidence suggesting increased frequency of local flooding related to intense rainfall in Baltimore City has raised concerns about how best to assess the likelihood of and hazards associated with these events. Existing databases from the National Weather Service may not be sufficient to characterize the relationship between magnitude, duration and frequency of intense short-duration storms. Working with colleagues at Princeton University, we seek to use a 20-year record of radar rainfall over the region to assess spatial patterns and frequency of intense rainfall and to work with the Department of Public Works to provide improved estimates that can help in identifying and responding to resulting hazards.