HACK THE BAY
AUGUST 3RD – AUGUST 31ST
HACKTHEBAY-VIRTUAL.EVENTBRITE.COM

HACK THE BAY: Chesapeake Bay Water Quality Hackathon

In celebration of the 50-year anniversary of Earth Day, Booz Allen Hamilton has partnered with the Chesapeake Monitoring Cooperative (CMC) to host a virtual, month-long hackathon to explore data monitoring the health of the watershed. From August 3rd to August 31st, we invite data scientists, developers, designers, problem solvers, and storytellers to explore CMC's data and create solutions to address some of their core challenges. By exploring the Bay's chemical and wildlife observations and their intersection with other geospatial, temporal, environmental and demographic data, we hope to further empower decision-making and inspire action for watershed restoration.

Participants will have the option to address one of four challenge questions presented, either as an individual or as a team. Data and background research on challenges will be provided to teams beforehand, and participants will have the opportunity to receive guidance from subject matter experts within the water community throughout the month. Teams with the most compelling entries in each track will be invited to virtually present their findings to a distinguished panel from the Chesapeake Monitoring Cooperative, Booz Allen Hamilton, and other experts in the field. Winners will also be recognized in post-event press and publications about the event. The Hackathon will launch on **Monday, August 3rd** and complete entries should be submitted by **11:59pm ET** on **Monday, August 31st.**

THE CHALLENGES

CHALLENGE 1: DEVELOPING A RESTORATION CASE STUDY (TIME SERIES / VISUALIZATION CHALLENGE)
Using data from CMC, the Chesapeake Bay Program, and supplementary sources, tell a story about how water quality has changed over time in the Chesapeake Bay watershed.

CHALLENGE 2: IDENTIFYING DATA GAPS (GIS / MAPPING CHALLENGE)
With one or more visualizations, demonstrate how and where CMC's data fills the gaps in the Chesapeake Bay Program's database, and where data gaps in the watershed still exist. Provide an analysis that recommends locations and parameters that CMC should prioritize for new data collection, and why.

CHALLENGE 3: MODELING WATER POLLUTION (MACHINE LEARNING / DEEP LEARNING CHALLENGE)
CMC's water quality indicators can be linked to types of pollution in the tributaries of the Chesapeake Bay. Analyze potential causes and/or build a predictive model for pollution in a section of the Bay using CMC, CBP, and supplementary geospatial datasets.

CHALLENGE 4: DESIGNING A WATER QUALITY REPORT CARD (DESIGN / WEB DEV CHALLENGE)
Design a local or regional version of the Chesapeake Bay report card that ties water quality to the values of communities living in the watershed.

HOW TO PARTICIPATE

Register as a team or individual at **hackthebay-virtual.eventbrite.com** to explore one of the challenges above. No prior coding skills necessary. All are welcome!