Phase II Storm Water Program

Summer 2020

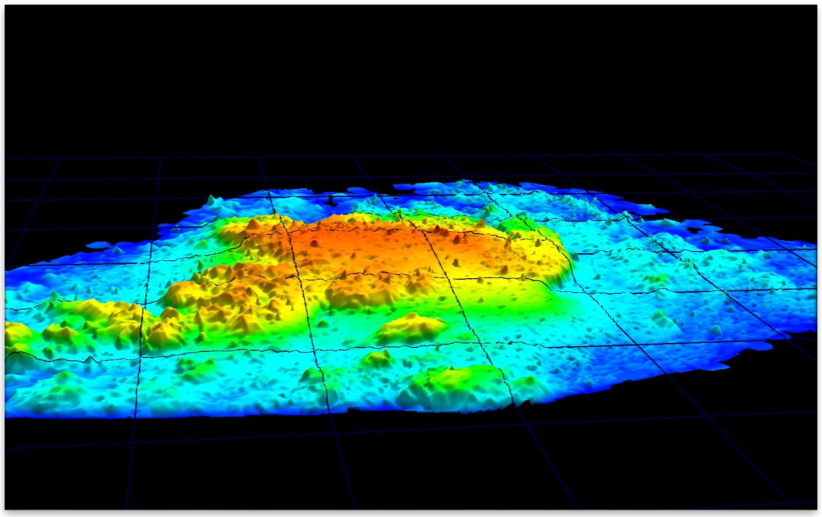
Drones: Aerial Imagery and Inspections

As technology improves so does the effectiveness and accuracy of tools used for collecting data. One of the fastest growing technologies being used to gather data and monitor storm water is unmanned aerial vehicles (UAV), commonly called drones. The use of UAVs can be an effective way to collect data for a jobsite that could otherwise prove difficult. In this months newsletter we will discuss some practical applications for the use of drones in the collection of data, with the purpose of preserving water quality of natural waterbodies.

Aerial photography has long been used for surveying applications, such as using hot air balloons and airplanes, but in the past was costly and therefore used for larger areas. The use of drone aerial imagery has reduced the cost and broadened the potential applications of aerial surveying. Modern drones can be equipped with high definition camera equipment, GPS, LIDAR or photogrammetry, and other surveying equipment and can be made to fly autonomously. Drones can operate at low altitudes which can increase the accuracy of measurements and the quality of imagery. Construction projects use drones to monitor their jobsites and are using drones to perform volume report calculations of stockpiles as well as hydrology reports. Having a drone on site gives access to real time imagery which can be used to maximize efficiency.

UAVs have increased the efficiency and safety of jobsite inspections. Drones allow the inspector to view areas that are inaccessible or potentially dangerous and can be used to remotely collect samples for further testing. Some examples where this could be an advantage are waterbodies, holes or cliffs, chemical waste spills, criminal pollution sites, and any other area of pollution where observation and sample collection could be difficult or dangerous. Drones are used for jobsite inspections to fly autonomously while ground observations are made. This increases the speed at which an inspection is performed and increases the accuracy of the inspection. With aerial imagery the inspector can better determine the environmental impact of construction sites, reduce cost, improve safety, and protect natural waterbodies from pollution.

An example of LIDAR imagery



Pictures from NASA.GOV