

By: Sam Kunz, Peter Erni and Julia Cavell

Objective: We would like to create a more efficient drainage system in the city of Jeddah. After hearing the lecture by Scott Edelman and seeing the pictures and videos of the horrendous floods, it is clear this city is in need of help. Overall, the goal would be to reduce flooding in main roadway systems. Storing the water that flows down from the mountain tops would allow for a reduction in flooding as well as a possible municipal source of water. The picture of the double decker flooding showed that the streets are unusable during these floods. More drainage is need in these systems. By implementing gutters, permeable materials, and piping the flooding can be reduced.

Project Data:

In order to complete this project there are numerous documents and data that are needed including:

- GIS maps of Jeddah
- Slope gradients of roadways
- Flood maps
- 10, 25, 50 and 100 year flood data
- Rainfall intensity charts
- Soil infiltration data
- Current water systems
- AECOM data for large scale flooding
- Building density

The Simulation Models needed include:

- GIS
- Slope gradation
- Lidar (TIN)
- StormCAD

Key Project Elements:

- Stormwater drainage systems in roadways
- Flood control during high rainfall intensity

Breakdown of Work:

Sam: Roadway/Stormwater Design

Peter: Contact with AECOM and filter through data and documents

Julia: Flood data and current system operations