



Problem Solving Scenario: Rainfall and Flooding

Business name: Buckeye Hills-Hocking Valley Regional Development District

Position/Department of business partner (if applicable): Bret Allphin, Development Director

Grade level and subject: Grade 6 Social Studies/Math (possible grade range of 4-12)

Standards and skills addressed: Geography standards 3 & 5; Economic standard 11; Number system benchmark compute fluently; Expressions and equations benchmark quantitative relationships between variables; Geometry benchmark solve real-world mathematical problems

Career Cluster: Agriculture, Food, and Natural Resources; STEM

Problem Description:

You have recently moved to a new area in Southeastern Ohio. As a new community member, you were encouraged to attend a meeting at the Local Environmental Governing Board when a colleague learned of your interest in improving the interactions between Humans and the Environment in order to improve life quality for the community members. At the meeting, you become aware of increasing issues due to rainfall and flooding. Many of the issues include erosion of the land near the rivers, deterioration of local landmarks, and house and property damage for the residents. Using what you have learned about GIS Systems and how water positively and negatively interacts with the humans around it, develop an action plan of steps to address this issue for your new community.

Things to be considered or defined for the solution:

- Capabilities of the GIS (Geographic Information System)
- Understanding of Human-Environment Interactions - Water
- Calculations of an Area's Various Elevations and Distances from Water Sources
- Weather History and Predictions of Flooding
- Average Monthly and Yearly Rainfall in an Area

16 Career Clusters:

Agriculture, Food, Natural Resources
Architecture and Construction
Arts, A/V technology & Communications
Business Management & Administration
Education & Training
Finance
Government & Public Administration
Health Science

Hospitality & Tourism
Human Services
Information Technology
Law, Public Safety, Corrections & Security
Manufacturing
Marketing
Science, Technology, Engineering & Math
Transportation, Distribution, & Logistics