**Learning Goals – Activity 4**

Students will model the collaborative process of investigative Earth science.

Students will be able to:

* **Work collaboratively in groups to collect and interpret data, and to communicate results (including presentation of ideas via whiteboard to larger group).**

Students will understand that Earth’s water is constantly cycling among the reservoirs of the atmosphere, streams, lakes, ocean, glaciers, and groundwater.

Students will be able to:

* Interpret hydrographic and meteorologic data to draw conclusions regarding the interaction between precipitation, stream flow, and groundwater flow.

Students will explore the societal implications of Earth processes on resource use and management.

Students will be able to:

* **Discuss societal impact of flooding in a river basin.**

Students will understand that natural hazards, such as floods, result from natural Earth processes.

Students will be able to:

* Calculate recurrence intervals of major flooding for one river system using stream gauge data.
* **Describe some of the hazards caused by a river system and evaluate their impact on ecosystems and human society.**

**Embedded Assessment Rubric For Activity 4 Homework**

***Assessed Objective #1 – 9 Points Possible***

Work collaboratively in groups to collect and interpret data, and to communicate results (including presentation of ideas via whiteboard to larger group).

1. Both students contribute to the creation of the brochure (3 points).
2. Brochure contains scientifically accurate and relative information (3 points).
3. Brochure written in non-technical language so members of the general population can comprehend the document’s main ideas (3 points).

***Assessed Objective #2 – 11 Points Possible***

Discuss societal impact of flooding in a river basin.

1. Students identify the monetary costs of the target flood (3 points).
2. Brochure describes the city’s measures (if any exist) to control flooding or state why none have been constructed (2 points).
3. Students evaluate the effectiveness of any attempts to control flooding (3 points).
4. Brochure describes any positive impacts for being located along the river (3 points).

***Assessed Objective #3 – 8 Points Possible***

Describe some of the hazards caused by a river system and evaluate their impact on ecosystems and human society.

1. Students identify the number of deaths for the target flood (2 points).
2. Brochure describes the impact of the target flood on the ecosystem (3 points).
3. Brochure describes the recurrence interval for the target flood (3 points).