CEE3430 Engineering Hydrology
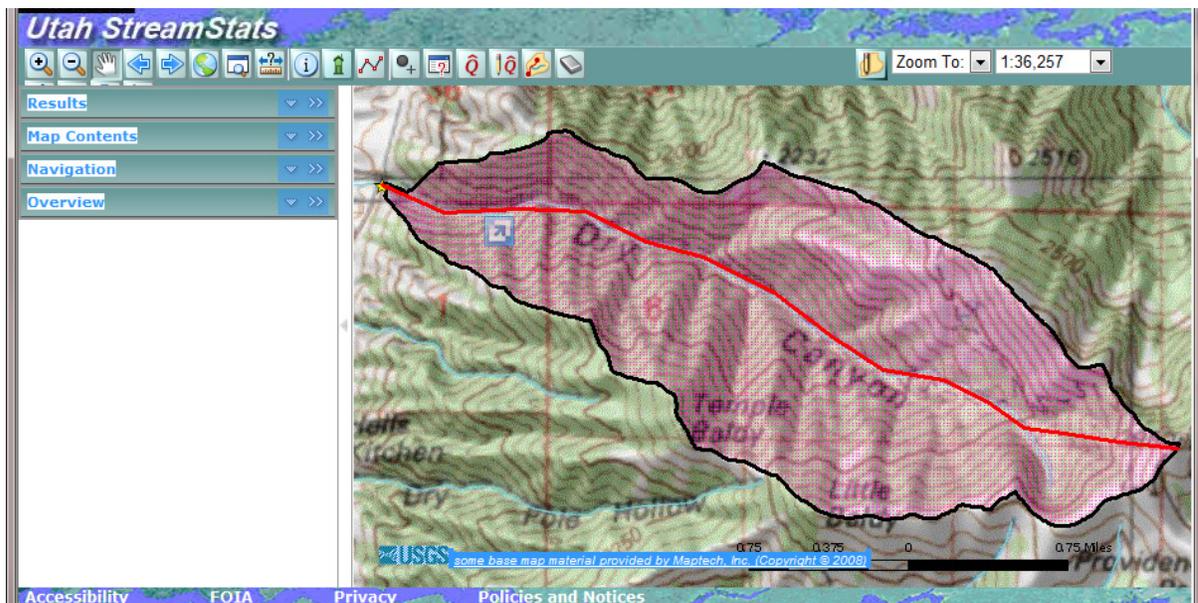
Homework 7. Surface Runoff

Date: 3/5/12
Due: 3/23/12

Objective. The objective of this homework is to gain experience in hydrologic analysis using unit hydrograph methods.

1. Mays 8.2.3

2. Mays 8.2.5

3. Mays 8.3.1

4. Mays 8.3.2

5. Mays 8.3.6

6. Mays 8.4.1

7. Consider Logan Dry Canyon with the following watershed properties determined from StreamStats

A=3.58 mi^2, L=4 mi, L$_{ca}$=2 mi

Assume
C$_t$=1.5, C$_p$= 0.8

Find the peak discharge Q_p, the basin lag time t_p, and the time base of the unit hydrograph T_b using Snyder's method. (Follow Mays pages 338-339 and Table 8.4.1.) Find the corresponding duration of rainfall D, and sketch the Snyder unit hydrograph.

8. Mays 8.5.1

9. Mays 8.5.4

10. Mays 8.7.1

11. Mays 8.7.3

12. Mays 8.7.5

13. Mays 8.8.1

14. Mays 8.8.2