

C_{ounty} W_{atershed} A_{nal}ysis on a L_{ocal} L_{evel}

C_{ommunity}

B_{ackyard}

C_{itizen}

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CCBC Geospatial Applications Program



Background Information to the WALL Project

- Spring Grove Arboretum - Pilot Project

Client: Jim Himel, Urban Forester and Planner representing the Catonsville Rec and Parks, Catonsville Rotary Club, and the Catonsville Chamber of Commerce

- *Project Deliverables:*

For the Spring Grove Arboretum site determine:

- [1] The area of the watershed
(part of the West Branch of the Herbert Run Watershed)
- [2] The type and area of impervious and pervious surfaces
- [3] The tree canopy coverage

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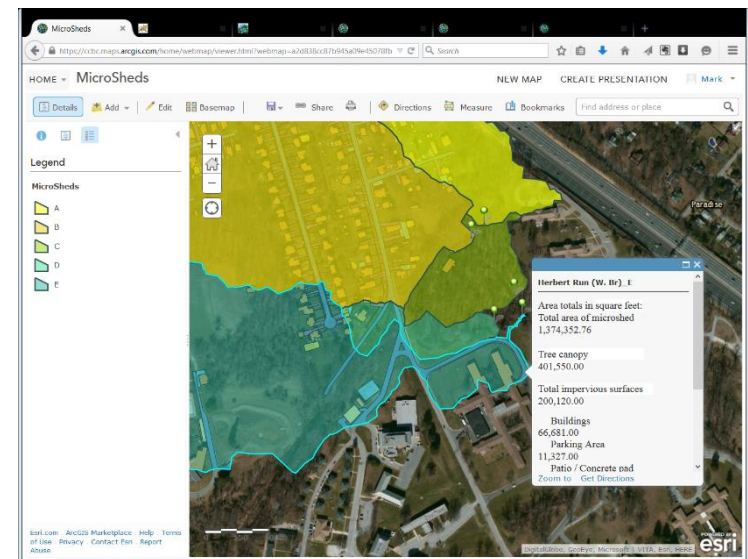
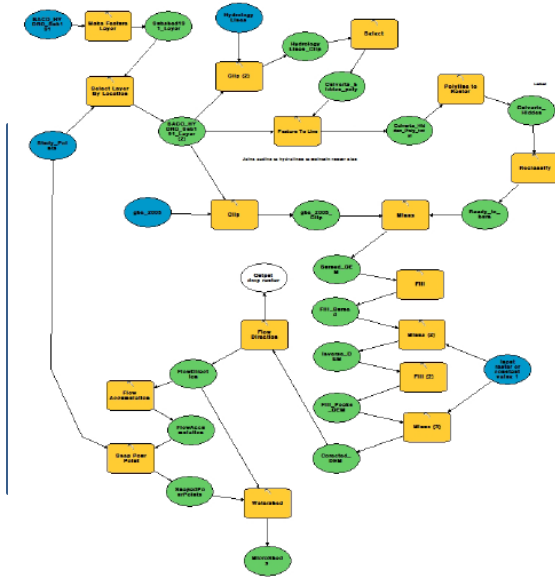
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[3] the tree canopy coverage

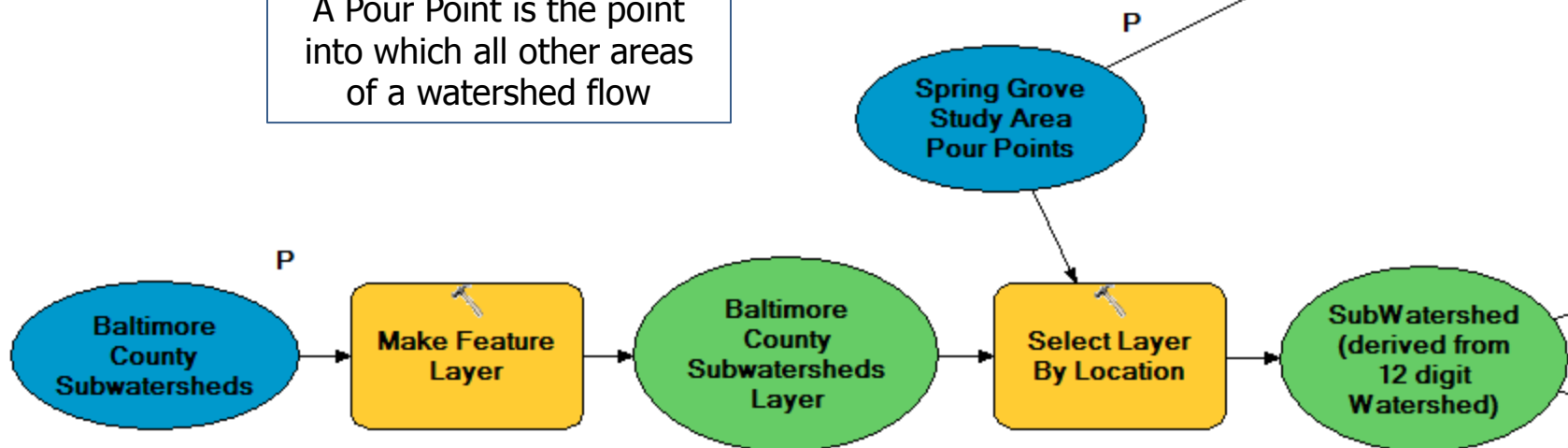
- The MDP Sustainable Growth Challenge - An Evolution

Watershed Analysis on a Local Level Application:

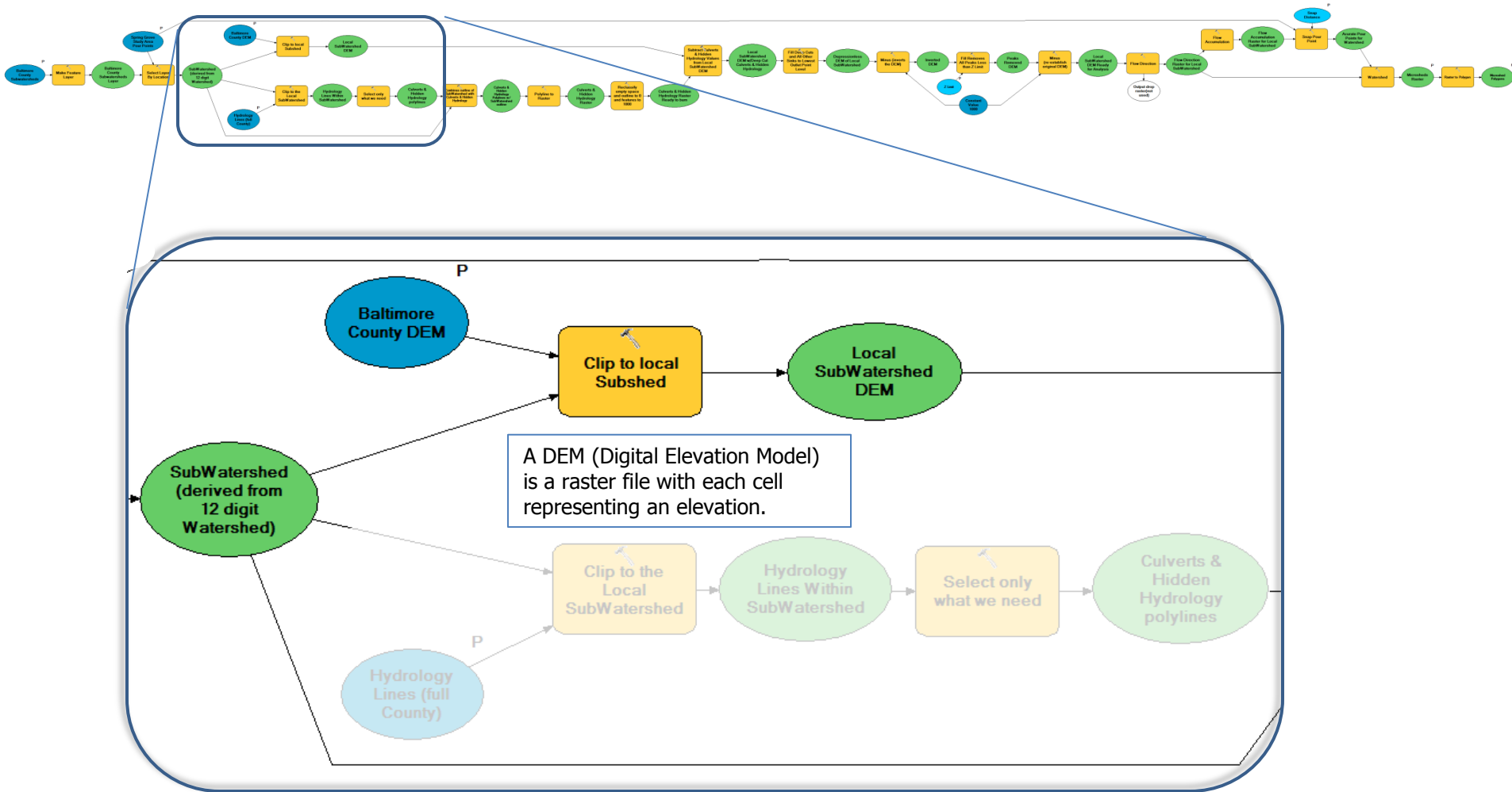




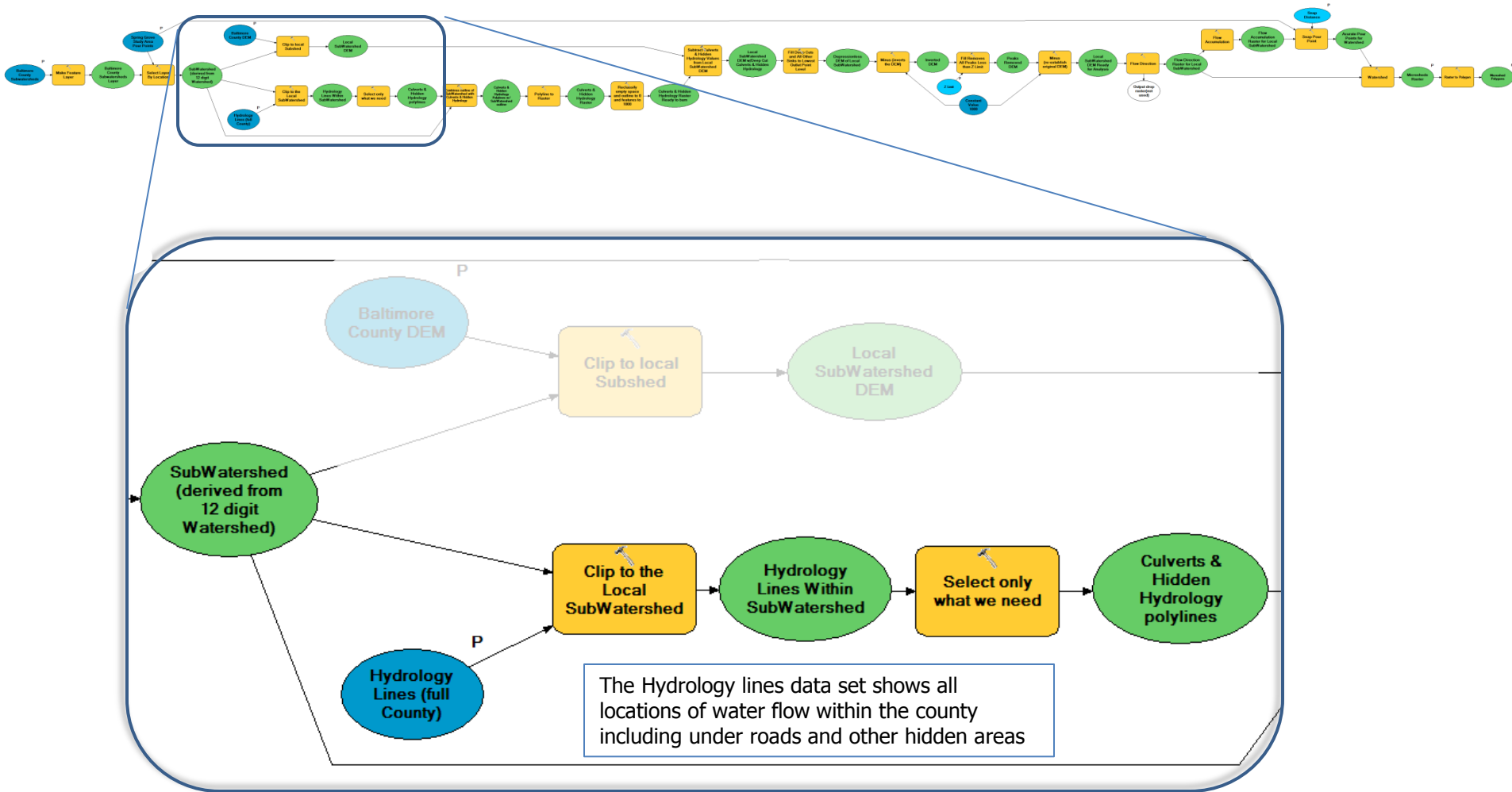
A Pour Point is the point into which all other areas of a watershed flow



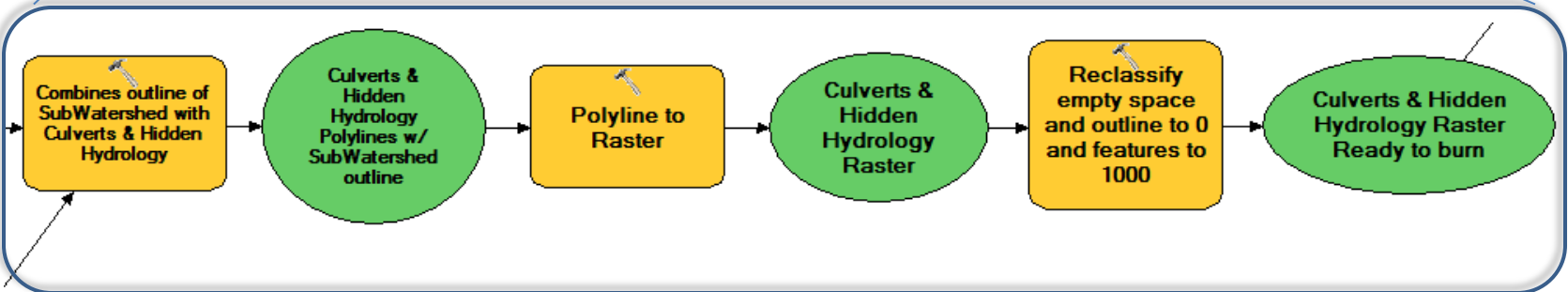
Isolate the area of interest. Pour Points within the study area are chosen and are used to select the local SubWatershed from the full county data set.



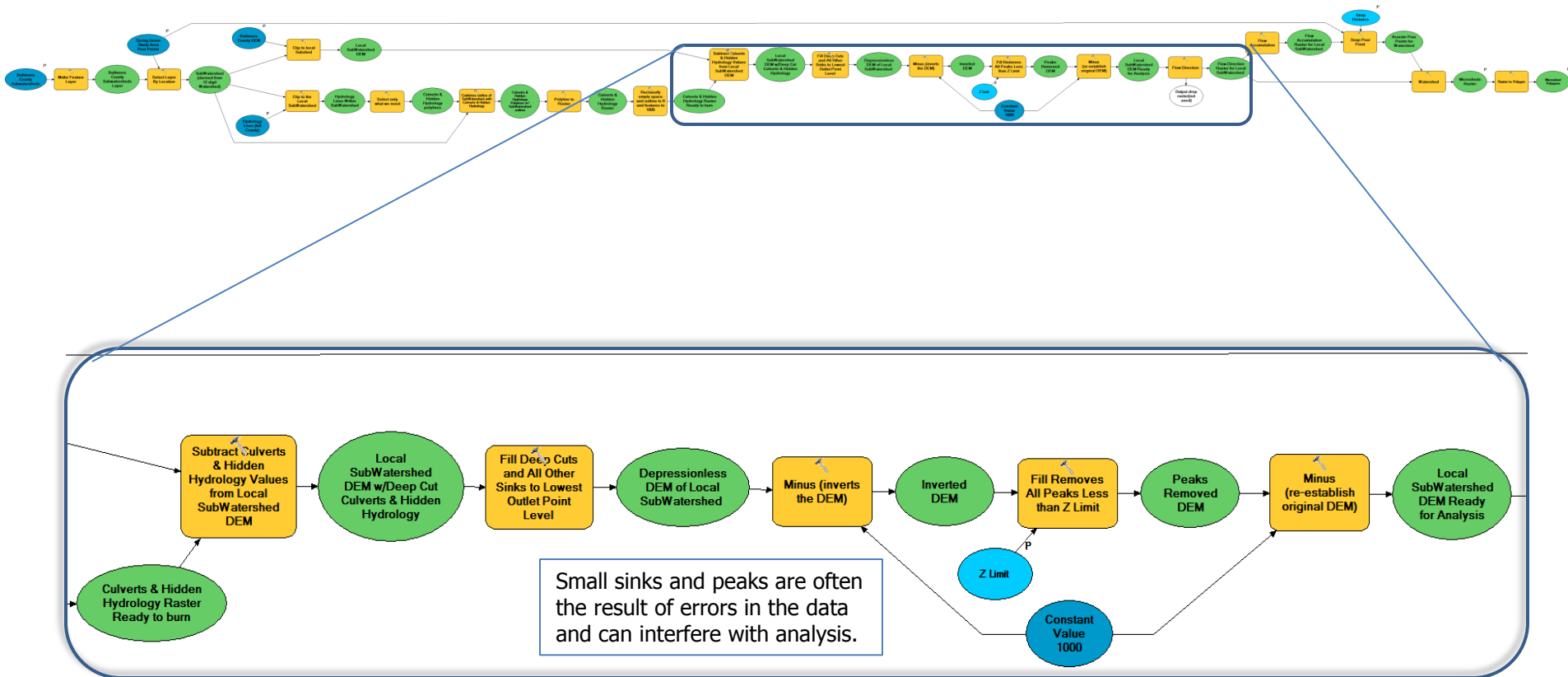
Using the Subwatershed from the previous step as a “cookie cutter”, we clip the full county DEM for computational efficiency.



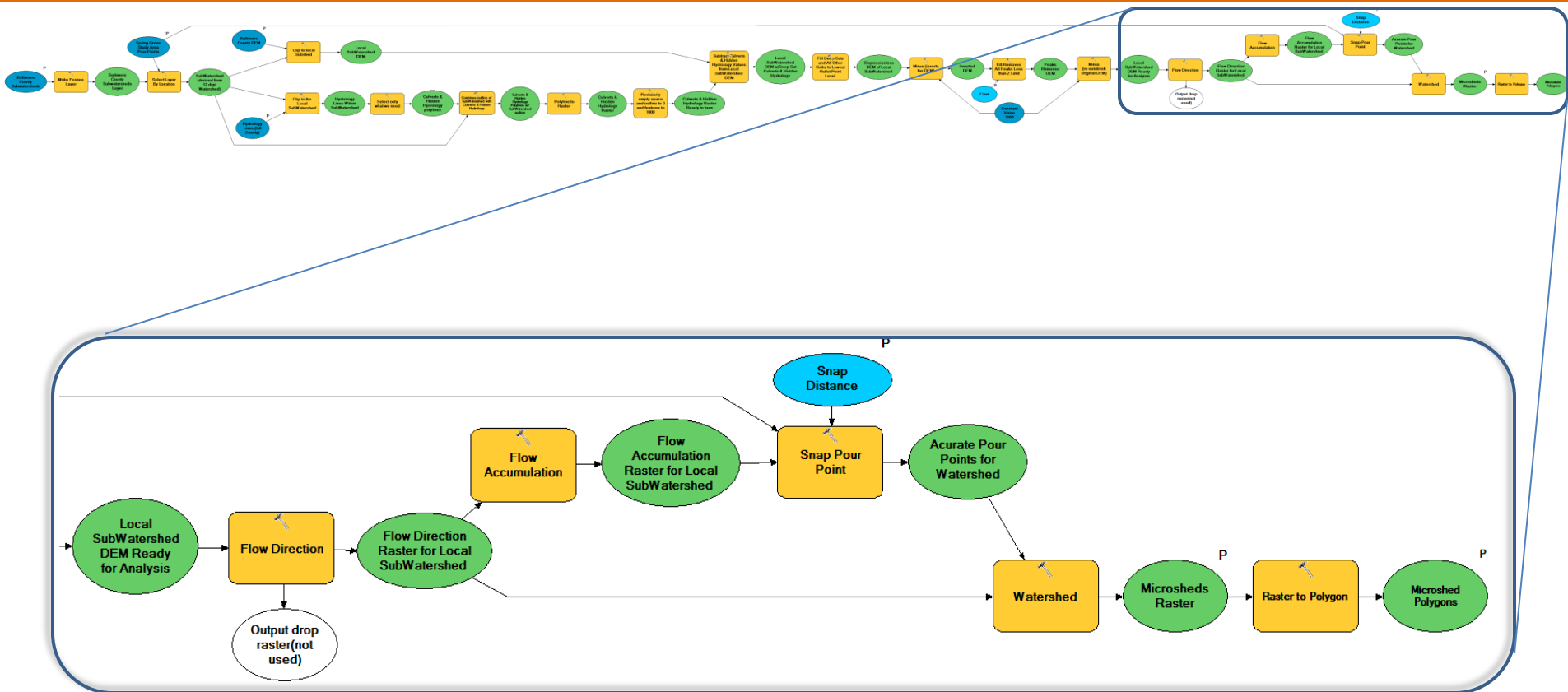
We must identify all locations where the DEM does not accurately represent how stormwater will flow.

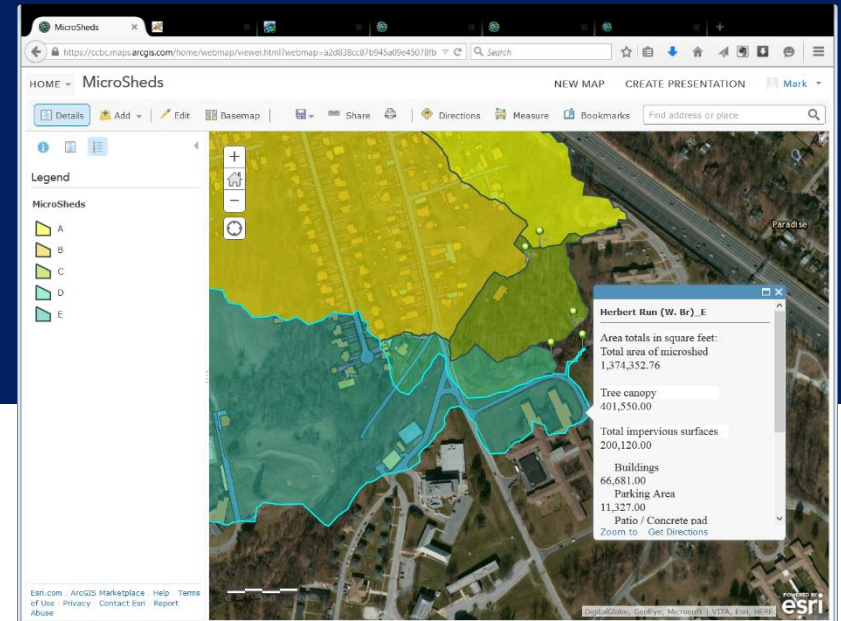
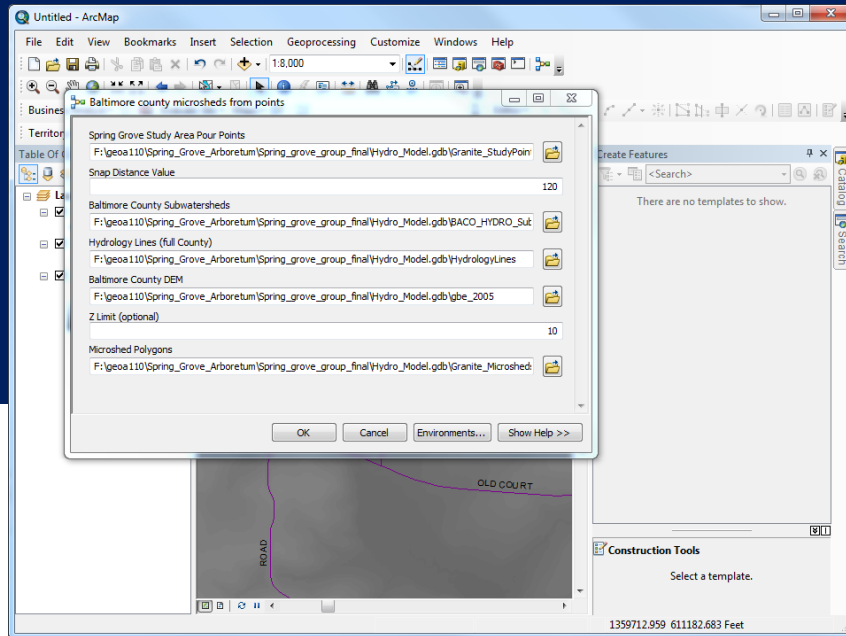


Put the culverts and hidden features into a format compatible with the DEM.



Combine the hidden features with the DEM and prepare it for the watershed analysis tools.





Implications on a Broader Level

- Interdisciplinary applications
- Easy to use web app
- No cost
- 1000's of small projects as opposed to one or two large scale projects

Next Steps

- Develop web app to function as a service for point-click capabilities
- Enhance model to run on areas outside of Baltimore County
- Collaborate with watershed surveyors to deliver stream discharge volume calculations to our client for future Spring Grove Arboretum purposes
- Incorporate soils data and land permeability into calculations for runoff
- Broadcast this app service to begin seeing people take action