

Distributed Hydrological Modeling of Runoff and Dissolved Phosphorus Transport in the Cannonsville Basin

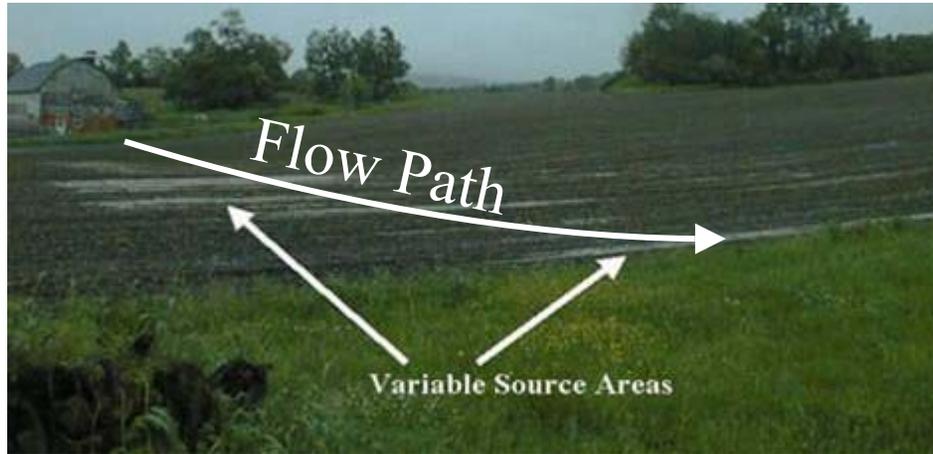
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BMP's should be
installed where
ObVIOUSly
runoff is generated



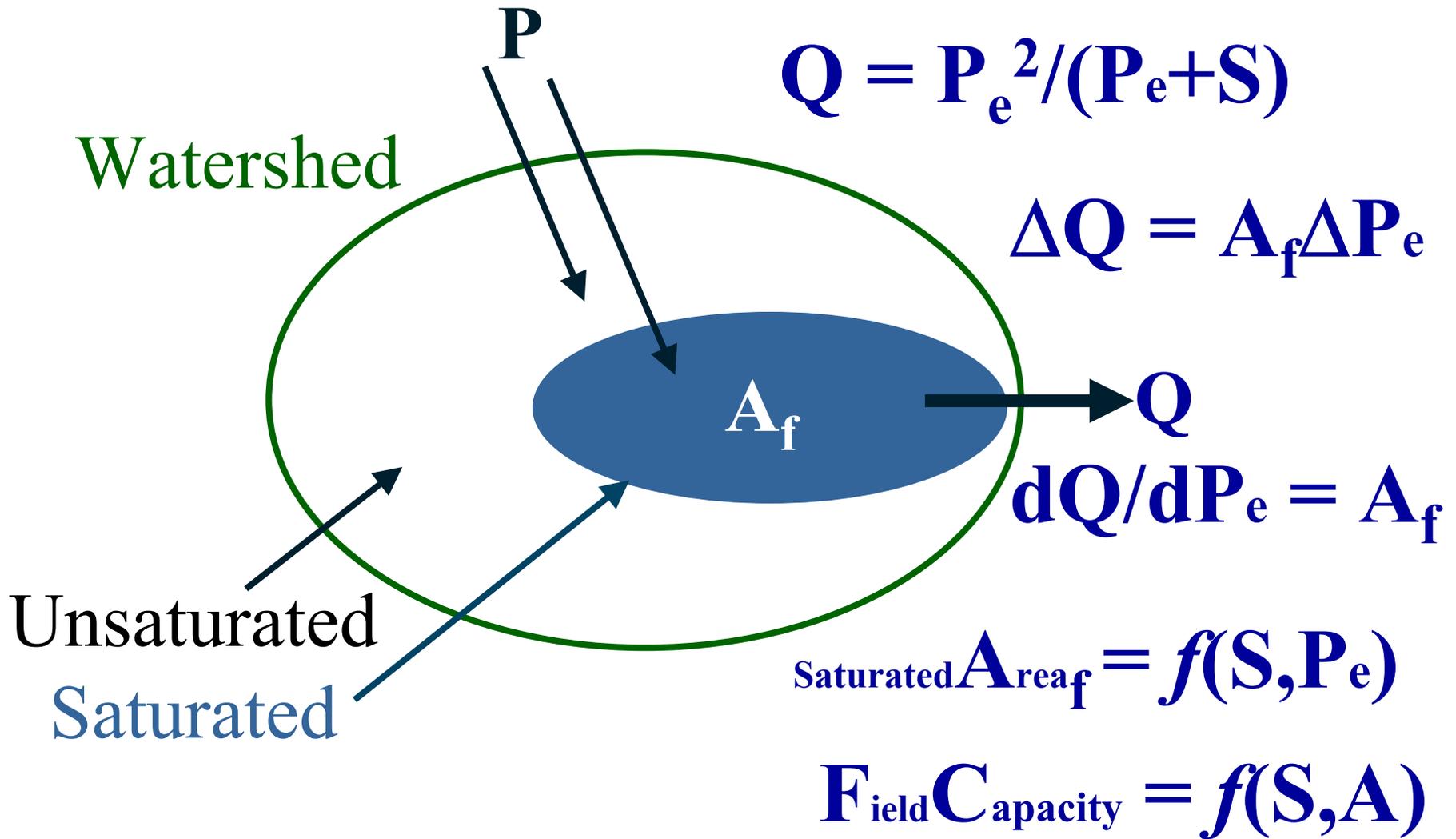
Runoff location



Variable Source Areas (VSA)
Need include VSA in runoff models



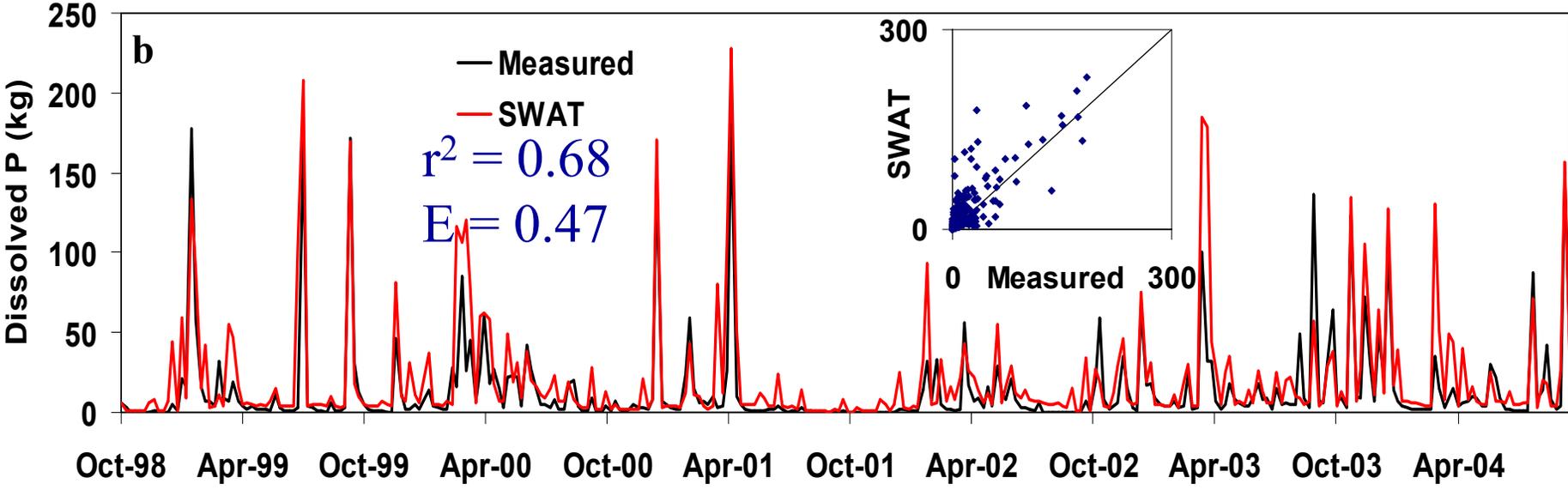
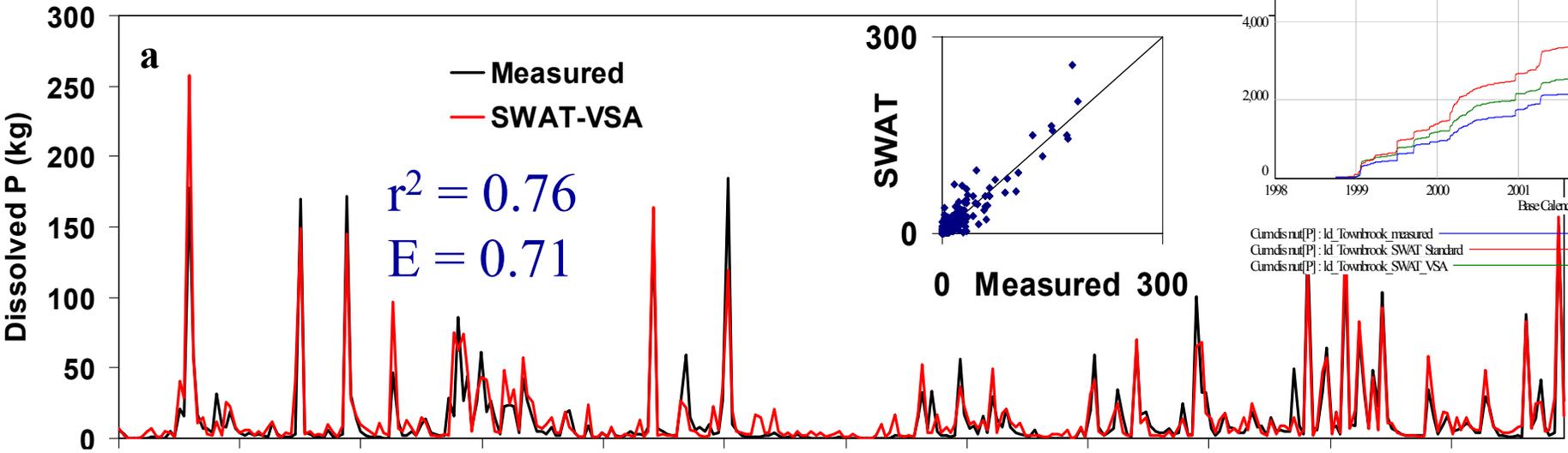
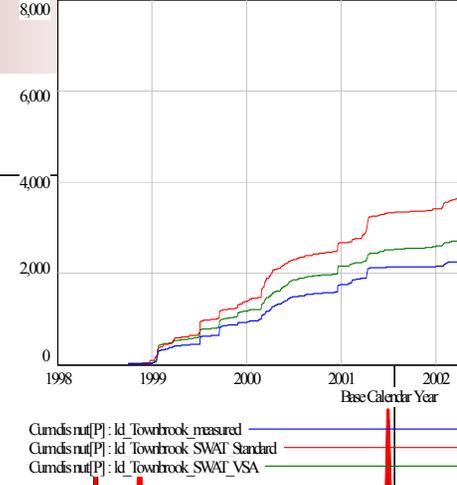
VSA hydrology based on the Curve Number





SWAT VSA

- **Use original code**
- **Redefine the hydrologic response unit according to topography, soil depth and vegetation**
- **Redefine field capacity**
- **Similar to predicting runoff from saturated areas**

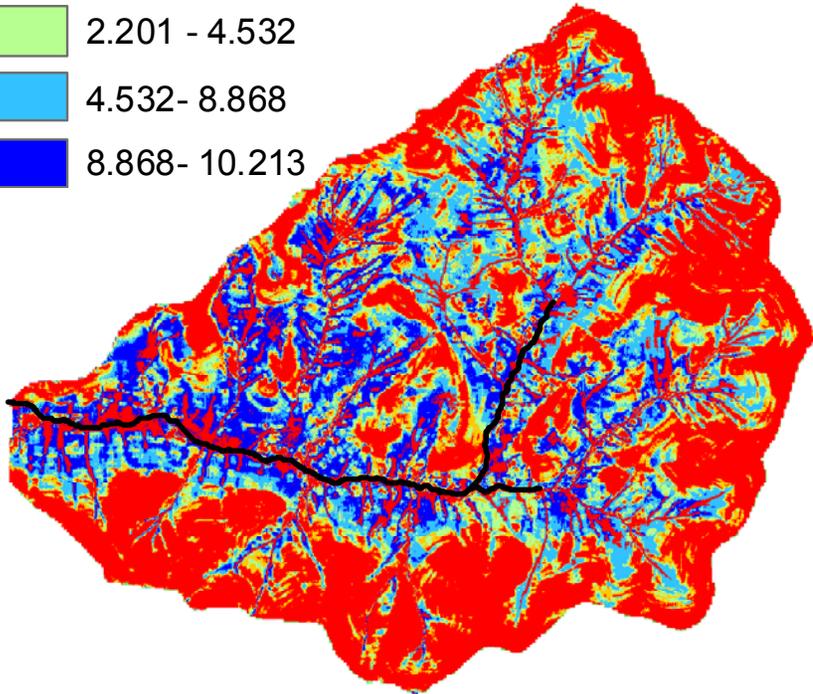
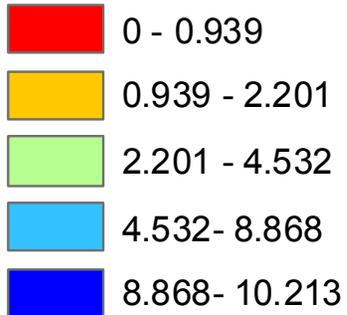


Runoff

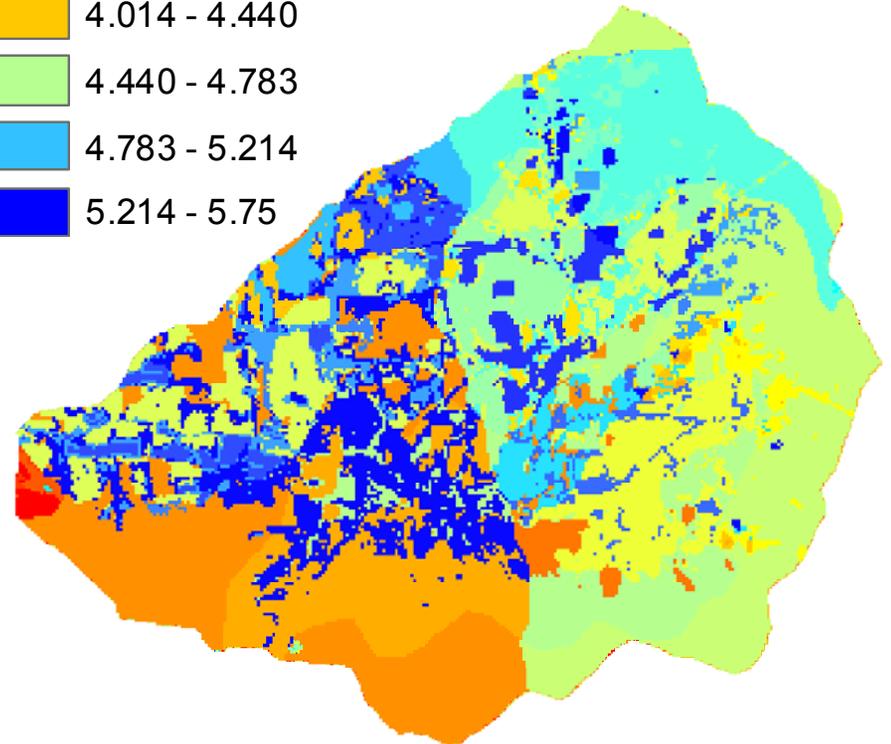
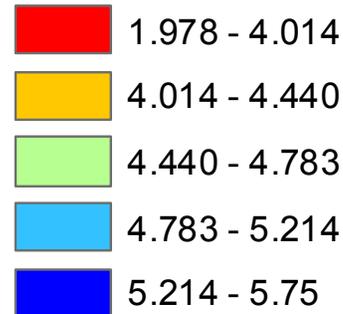
SWAT-VSA

SWAT-Standard

SWAT_VSA
Runoff (mm)



SWAT_Standard
Runoff (mm)





Conclusions

- **Designing BMP's in the Cannonsville Basin with the correct local runoff areas in mind has proven to decrease loss of dissolved phosphorus**
- **Model is adjusted to predict local runoff areas**