

# The Evolution of Stormwater Regulations

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Virtual Event  
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# *History*

- A water rich state
- The Common Enemy Doctrine
- Early state laws - drainage

# *Program Evolution Beginning in 1970s*

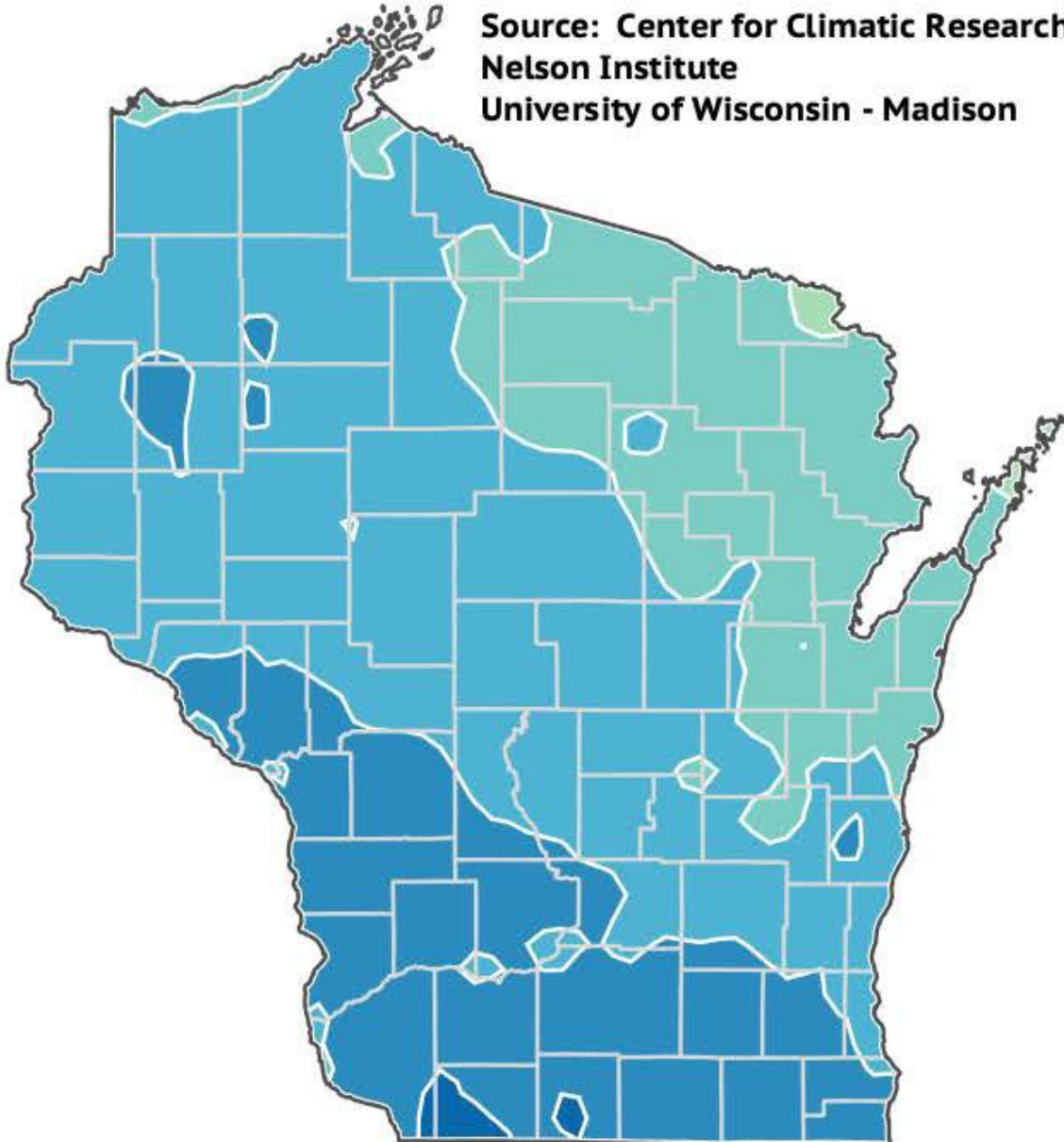
- *Overturning common enemy – move to reasonableness standard*
- *Development of new regulations*
  - Wetlands*
  - Flood control*
  - Runoff Management*
  - Navigable Water and Dam Regulations*
  - Pollution Control*

# *Emerging Challenges*

- Climate change is producing storms with increased frequency and intensity.
- We have increased urbanization.
- Demands related to both stormwater quality and quantity.

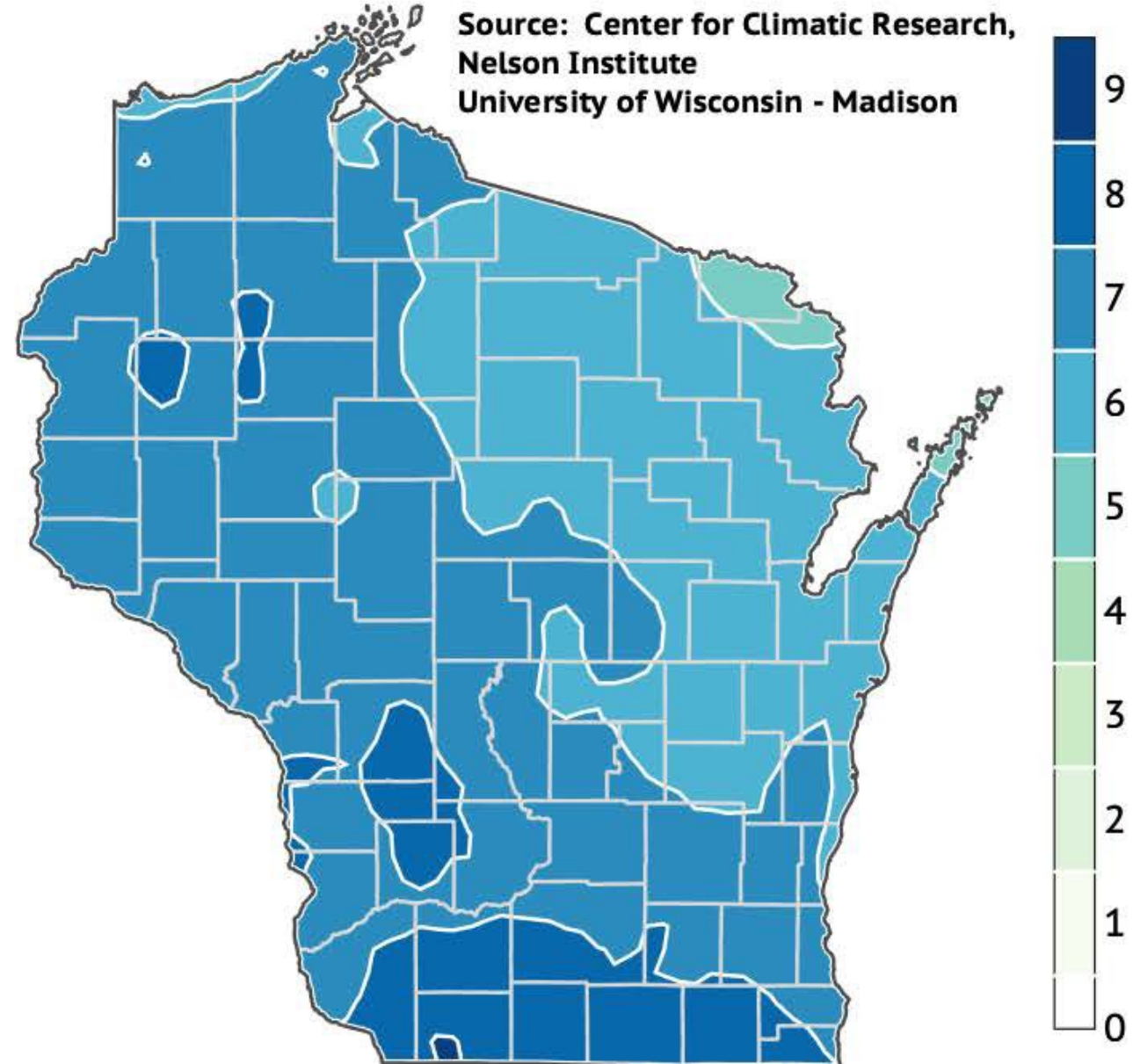
## Days per Year with PRCPDays > 1in 1981-2010 Conditions (HISTORICAL)

Source: Center for Climatic Research,  
Nelson Institute  
University of Wisconsin - Madison



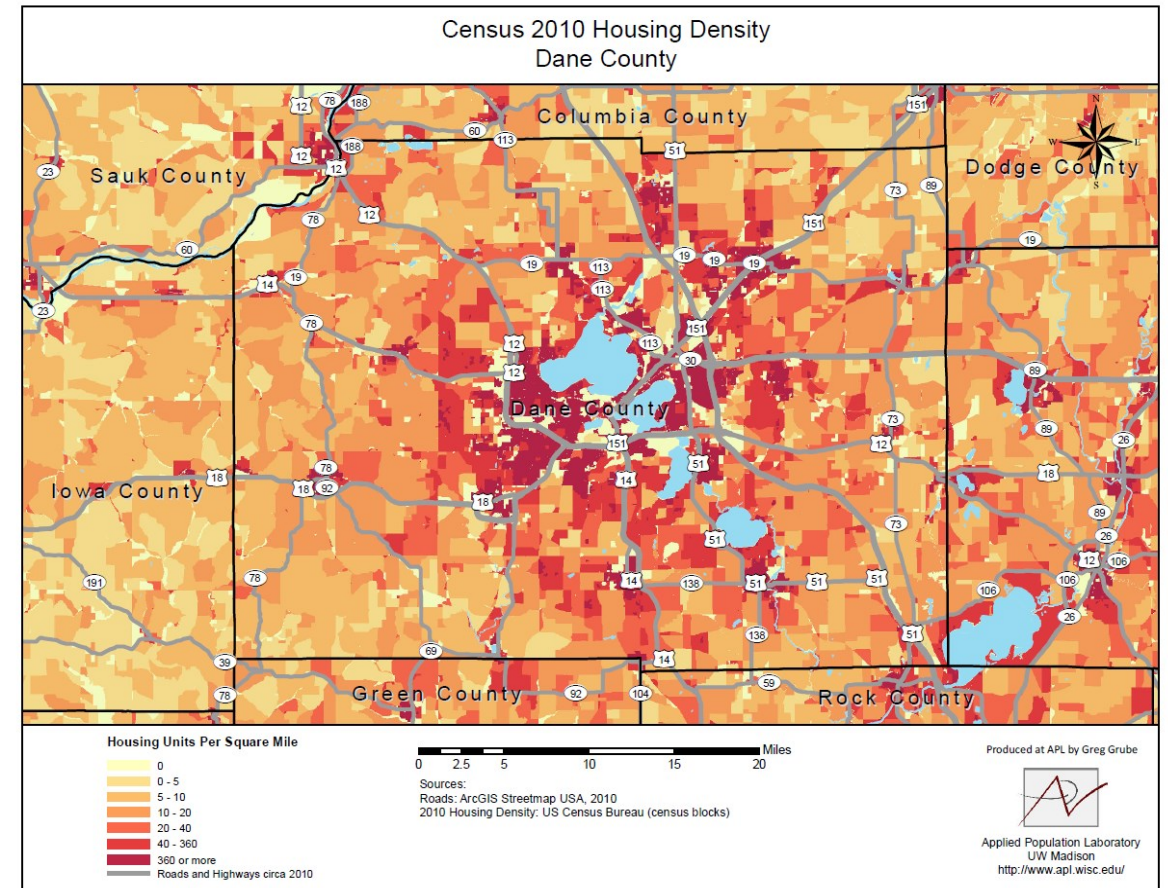
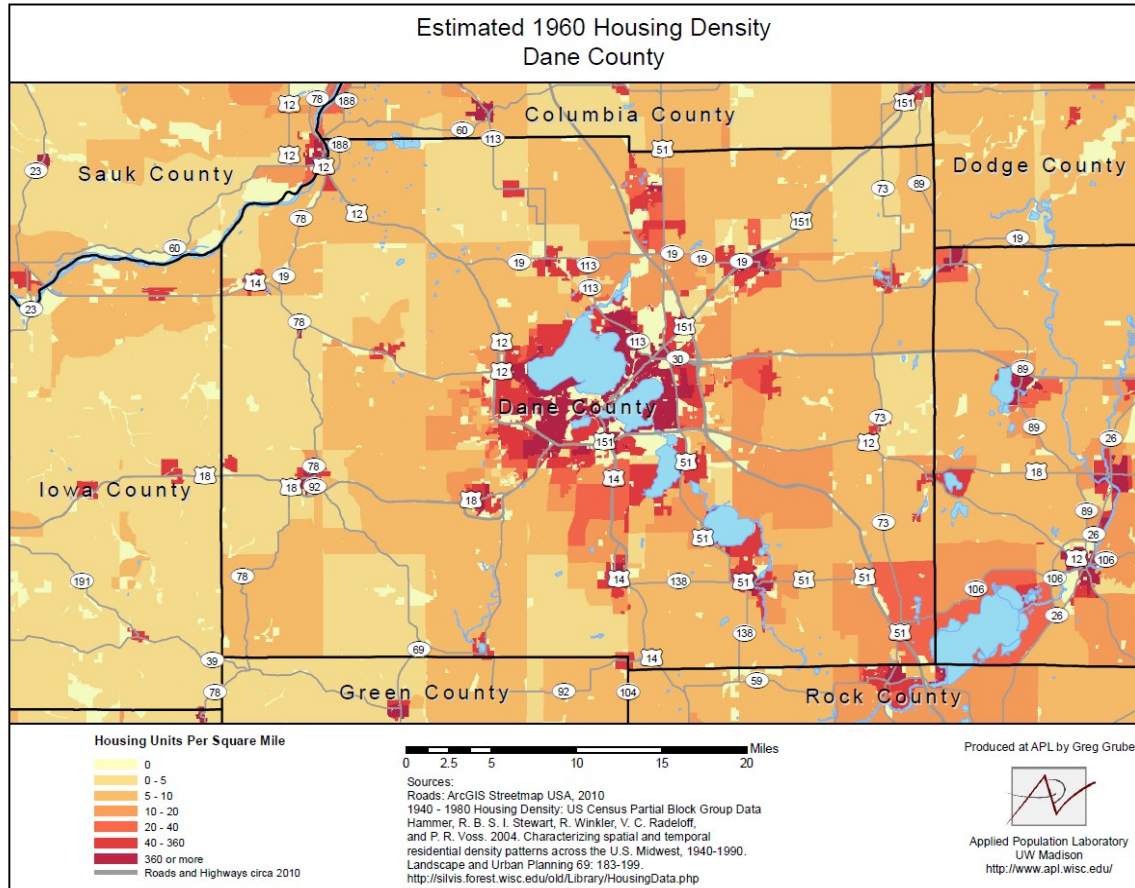
## Days per Year with PRCPDays > 1in 2041-2060 Conditions (RCP45)

Source: Center for Climatic Research,  
Nelson Institute  
University of Wisconsin - Madison





# Housing Density

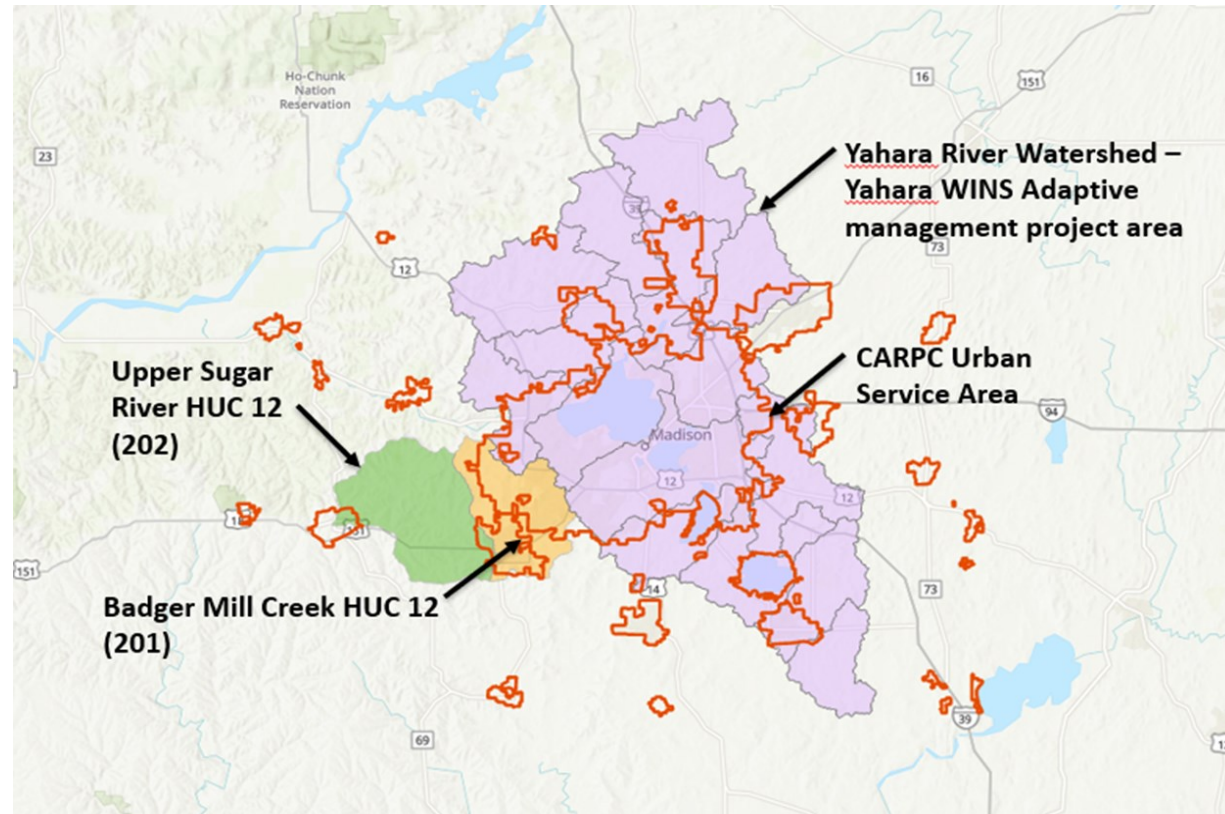


# *Limitations of Current Programs*

- Programs remain largely discrete and uncoordinated, mostly reacting to site-specific problems.
- Programs fail to acknowledge water resources function in complex relationships to the land and to each other across watersheds.

# Watershed Basics

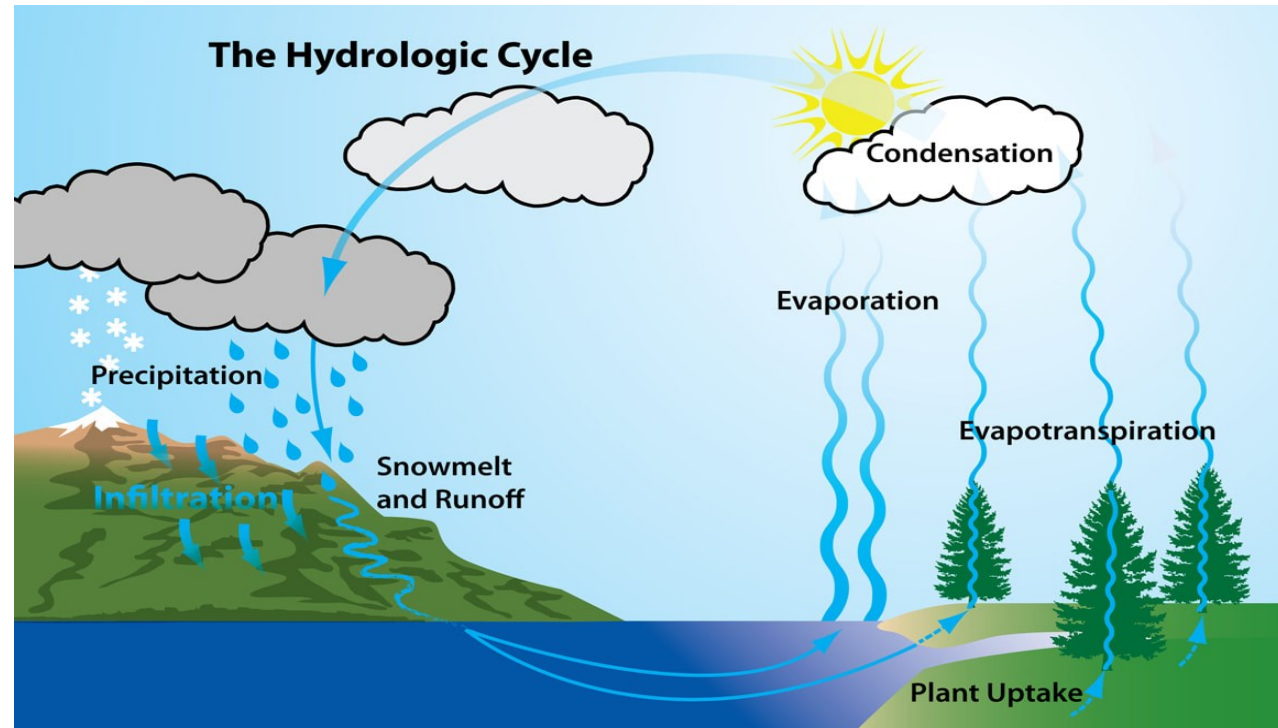
- Watersheds or drainage basins are land areas that drain into waters – lakes, streams, wetlands





# Watershed Basics

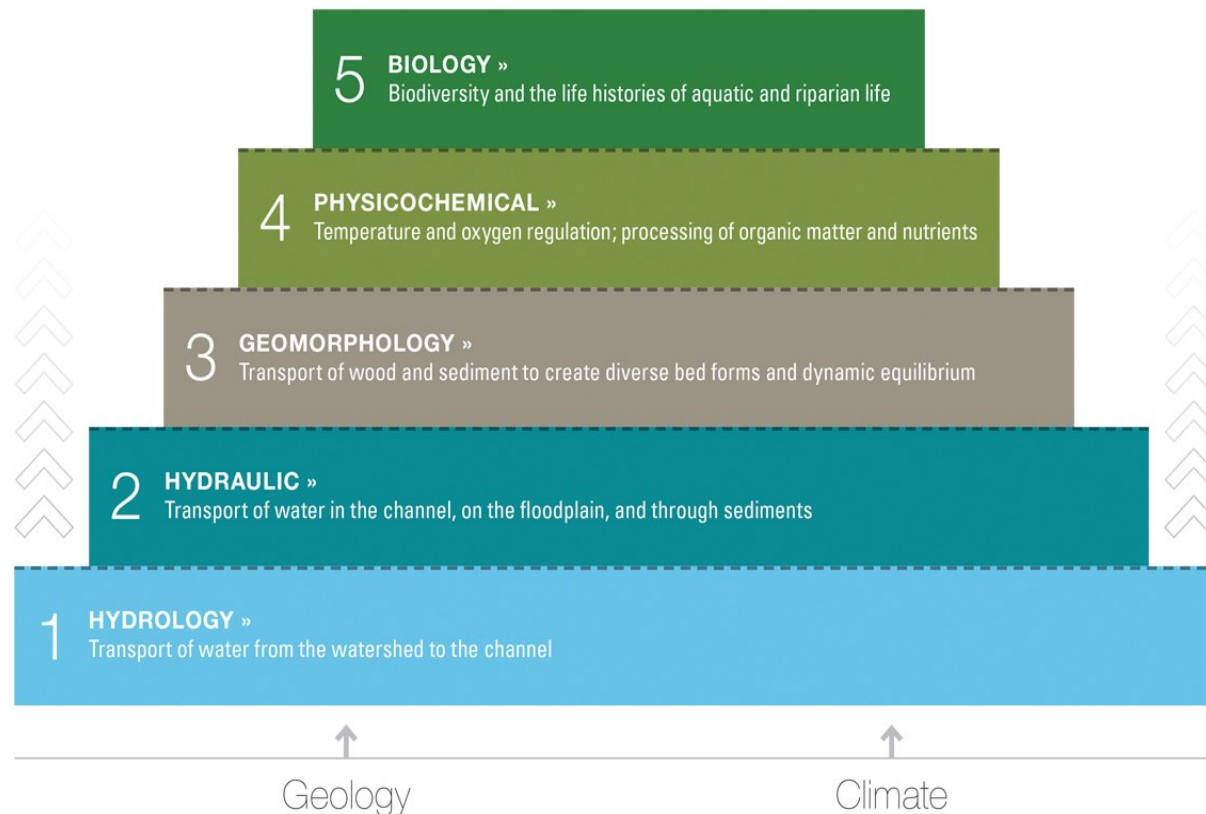
- Hydrogeologic cycle – water flows across land and into ground and is discharged to surface water



# Watershed Basics

## Stream Function Pyramid

Primary relationship flow from bottom to top



# *Watershed Based Approaches*

## *Change in Perspective*

- We need to shift from relying wholly on engineered infrastructure focused on treatment or containment, to incorporating more hydrology focused practices designed to restore functions;
- From projects designed for a single purpose, to projects that can provide multiple watershed benefits; and
- From policies focused on preventing harm, to policies that incentivize restoring health

# *Watershed Based Approaches*

## *Use Existing Regulatory Flexibility*

- *Wetlands*: “The net positive or negative environmental impact of the proposed project.” And “Practicable alternatives”
- *Stormwater* “Maximum Extent Practicable

# *Watershed Based Approaches*

## *Recognize the Need for Coordination*

- Coordinate programs within DNR and between agencies
- Recognize unique role of local government



*Watershed Based Approaches*

*Align Funding and Non-regulatory Approaches*

# Conclusion