

Resource Assessment

Introduction

In 2010 the Coon Creek Watershed District reviewed the resource inventory for the watershed, analyzed trends and considered the implications of those trends for water management over the next ten years.

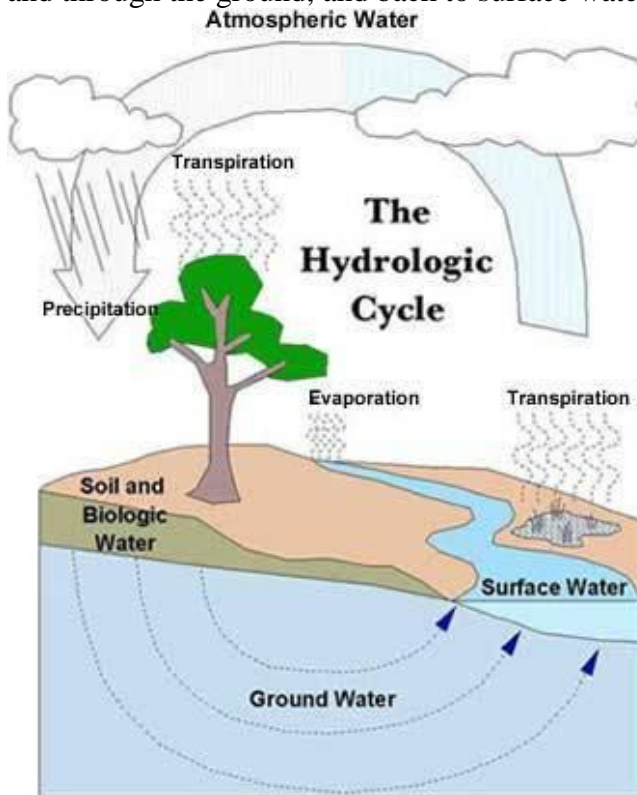
The 2010 Resource Assessment is the third prepared in response to the requirements of the Metropolitan Water Management Act and Watershed Act (M.S. 103B and 103D).

The assessment is the second prepared in response to the requirements of the NPDES permit and the District's Storm Water Pollution Prevention Plan (SWPPP)

Several features of the watershed's surface, such as soil type, slope, storm sewer and impervious are, are key in affecting the hydrology and peak discharges as well as the water quality of Coon Creek.

The term "hydrologic cycle" denotes the general circulation of water in various states (liquid, solid, gaseous) from surface water to the atmosphere, from the atmosphere over and through the ground, and back to surface water again.

The Hydrologic Cycle



Water Budget

Quantification of the hydrologic cycle is accomplished by developing a drainage basin water budget. The parameters of the hydrologic cycle (precipitation, evaporation, transpiration, infiltration, and runoff) are balanced until all of the water entering and leaving the watershed is accounted for. The budget of any drainage basin may be represented by the equation:

$$P = ET + R + \Delta SMS + \Delta GMS + \Delta DS + GWF$$

Where

Variable	Definition
P	Total precipitation input
ET	Total evapotranspiration loss
R	Total stream flow
ΔSMS	Change in soil moisture storage
ΔGMS	Change in groundwater storage
ΔDS	Change in depression storage
GWF	Groundwater flux (groundwater flow into or out of the drainage basin).

Emphasis has been placed on the components and characteristics of stream flow. This is because sources, quantity and distribution of stream flow and any changes that may result from future development have direct impacts on the water quality and quantity downstream.