Mississippi Valley Conservation

Trends in Temperature, Precipitation UPCWC

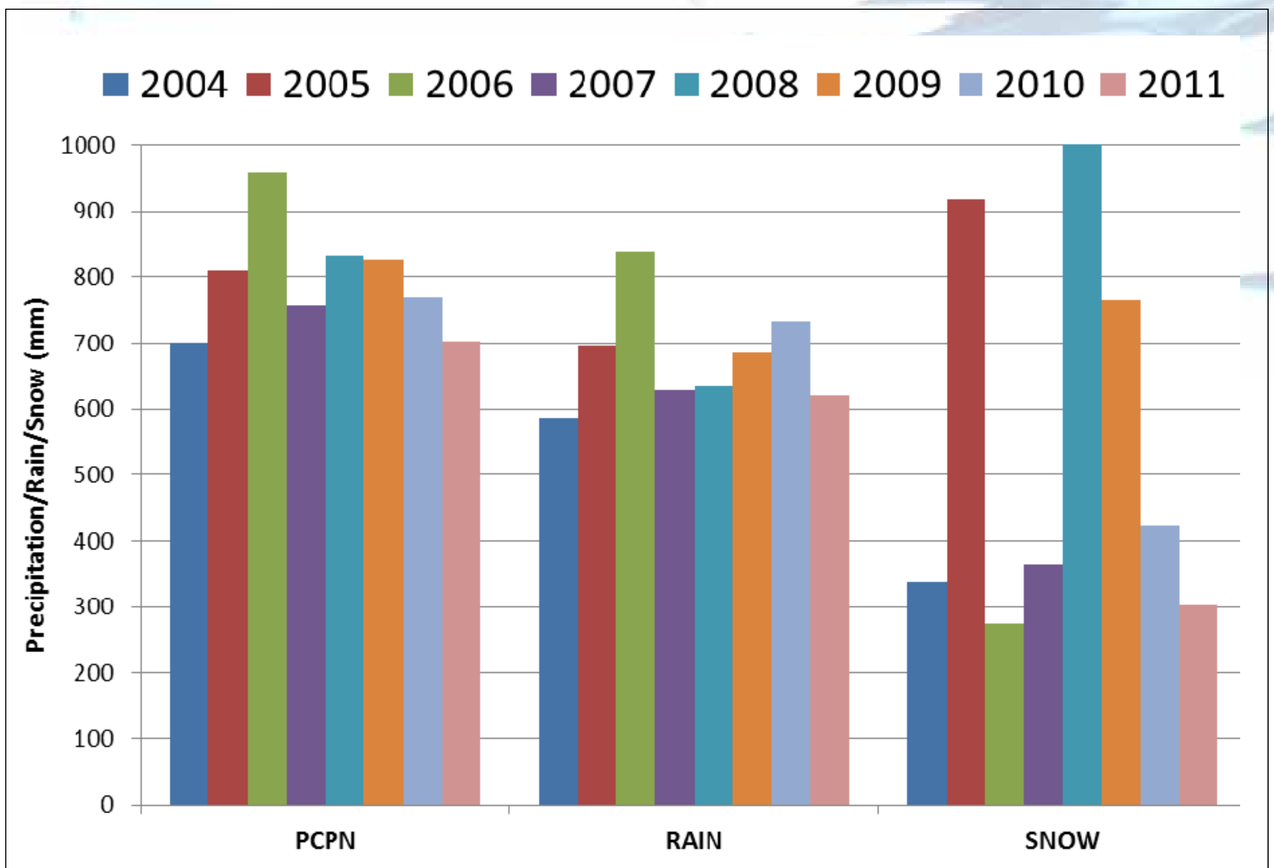

Figure A –Total Precipitation, Rainfall and Snow in UPCWC 2004 to 2011

Figure A Illustrates yearly trends from 2004 to 2011 in total precipitation, and rain and snow.

Note the steady decline in snow fall and rainfall. This continued lack of precipitation may steadily decrease the water table making it more difficult for the levels to "catch up" after particularly dry periods. The ability for wetlands to function successfully has always included some periods of dry conditions that are then followed by normal or wetter conditions to re-saturate the area.

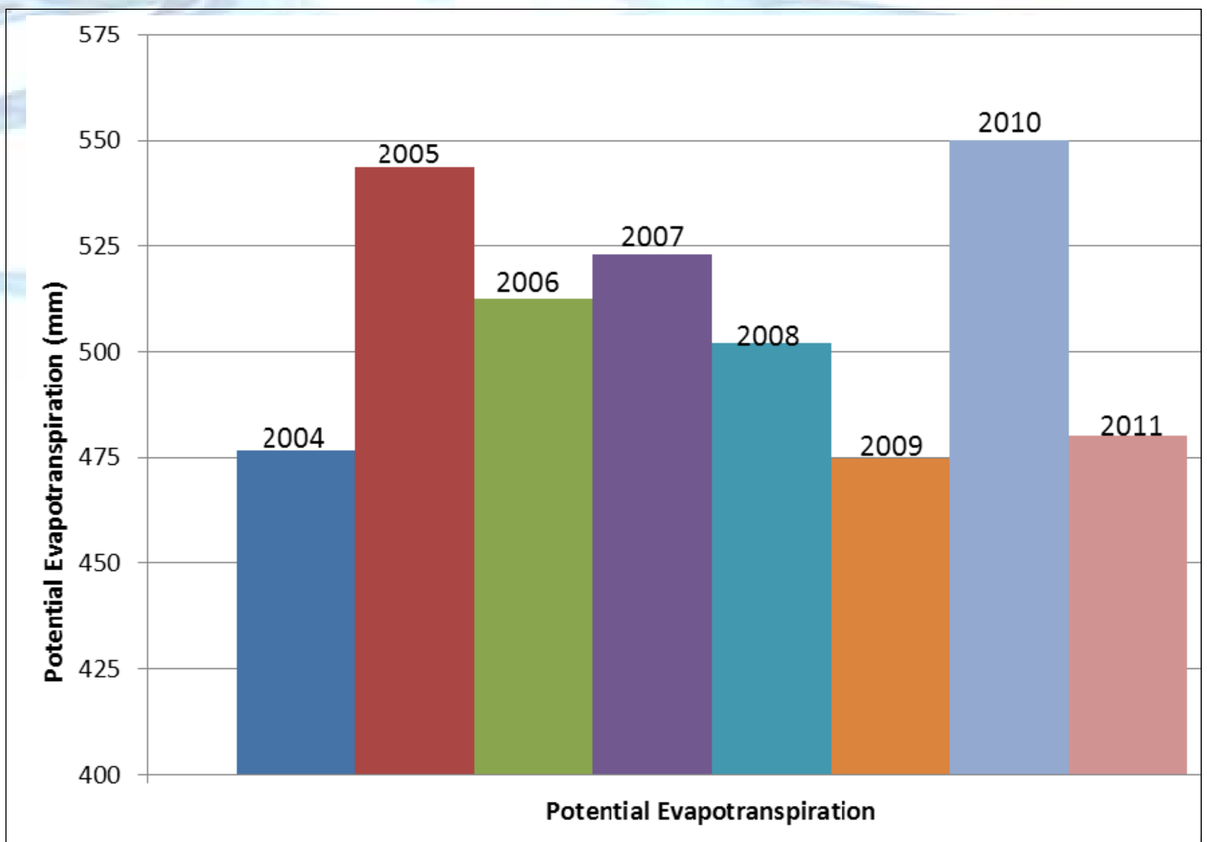

Figure B –Potential Evapotranspiration 2004 to 2011

Figure B Illustrates the potential evapotranspiration trends over time. *Evapotranspiration describes the transport of water into the atmosphere from surfaces, including soil (soil evaporation), and from vegetation (transpiration). The latter two are often the most important contributors to evapotranspiration. Other contributors to evapotranspiration may include evaporation from wet canopy surface and evaporation from vegetation-covered water surface in wetlands.*

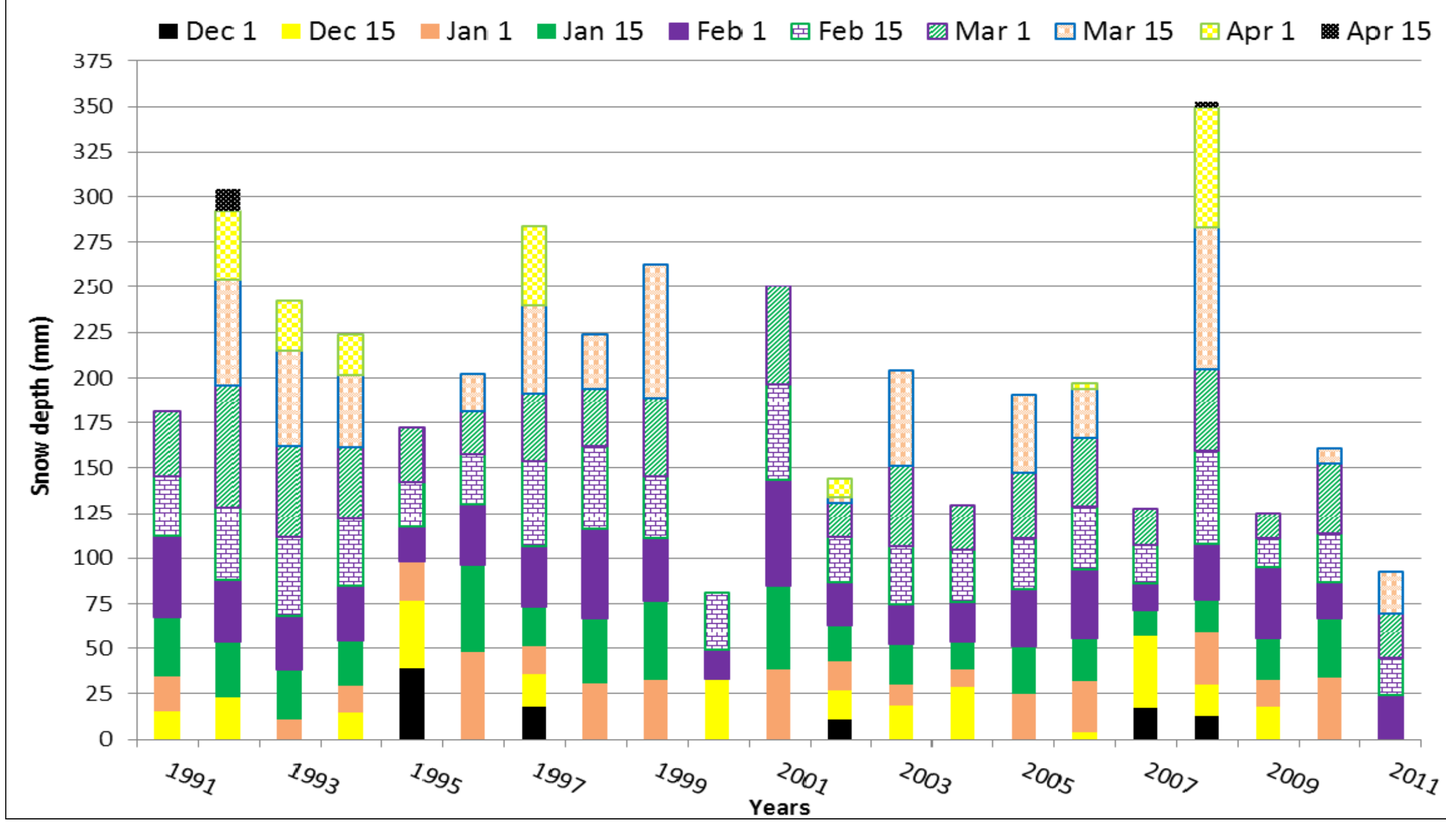

Figure C –1st snowfall and freshet 1991 to 2011

Figure C Illustrates snow depth on the ground using snow course data collected by MVC staff yearly across the watershed. This data is taken from the Kinburn Snow Course.

Similar legends are used to start and end the weeks; e.g. Dec 1st and Apr 15th – Dec 1st in solid black and Apr 15th in black pattern. To distinguish during which years snow is on the ground or melting early. Missing black/yellow solid fill in the lower depth range (low y axis data) means snow starts late and missing black/yellow pattern fill on y-axis top range means snow melts early.

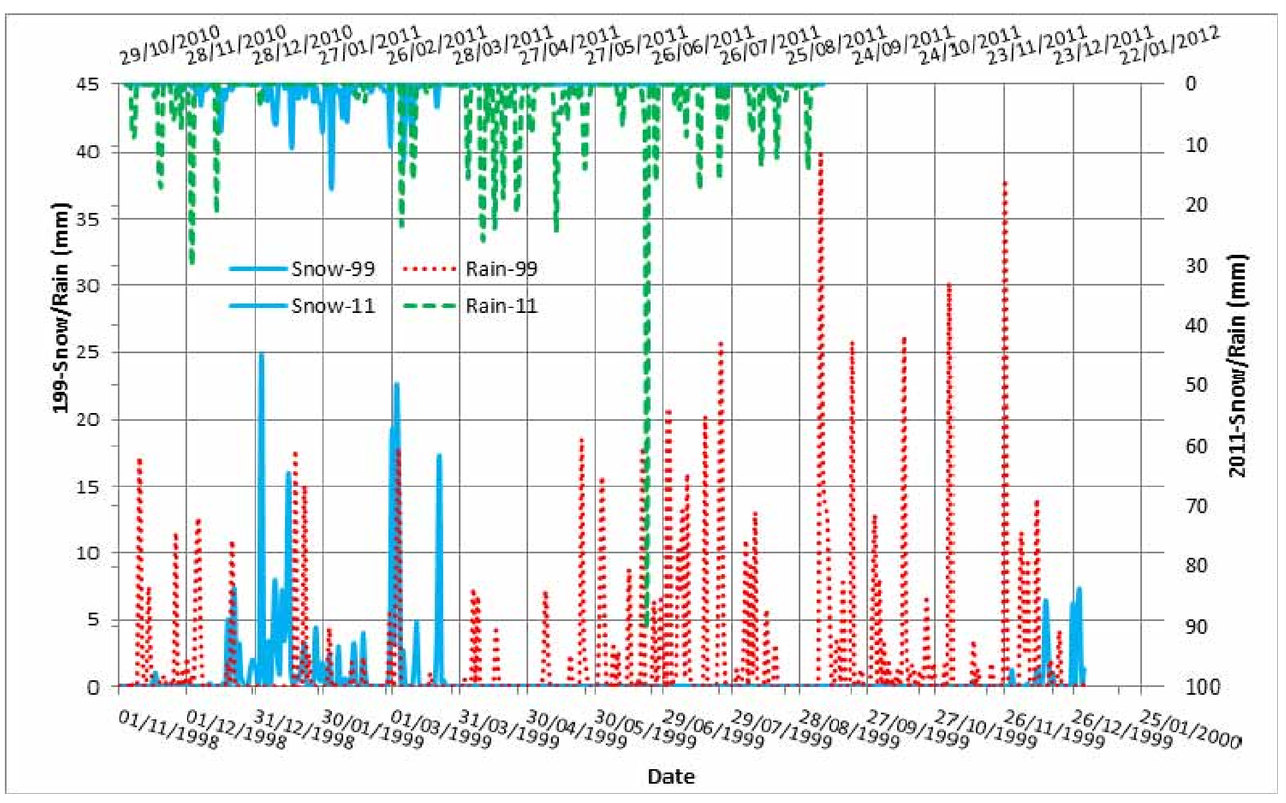

Figure D –Rain and Snowfall comparison 1999 AND 2011

Figure D illustrates the rain and snow amounts received in an extremely dry year (1999) with the current year, 2011.

- More snow was received in 199 as compared to 2011
- Frequency of the rainfall was normal in 2011, but the amount was less except for a very high intensity rainfall received in May 2011
- Though the year 1999 was extremely dry, the snow amount received may have brought the water table up to meet ET requirements, as opposed to that in 2011.

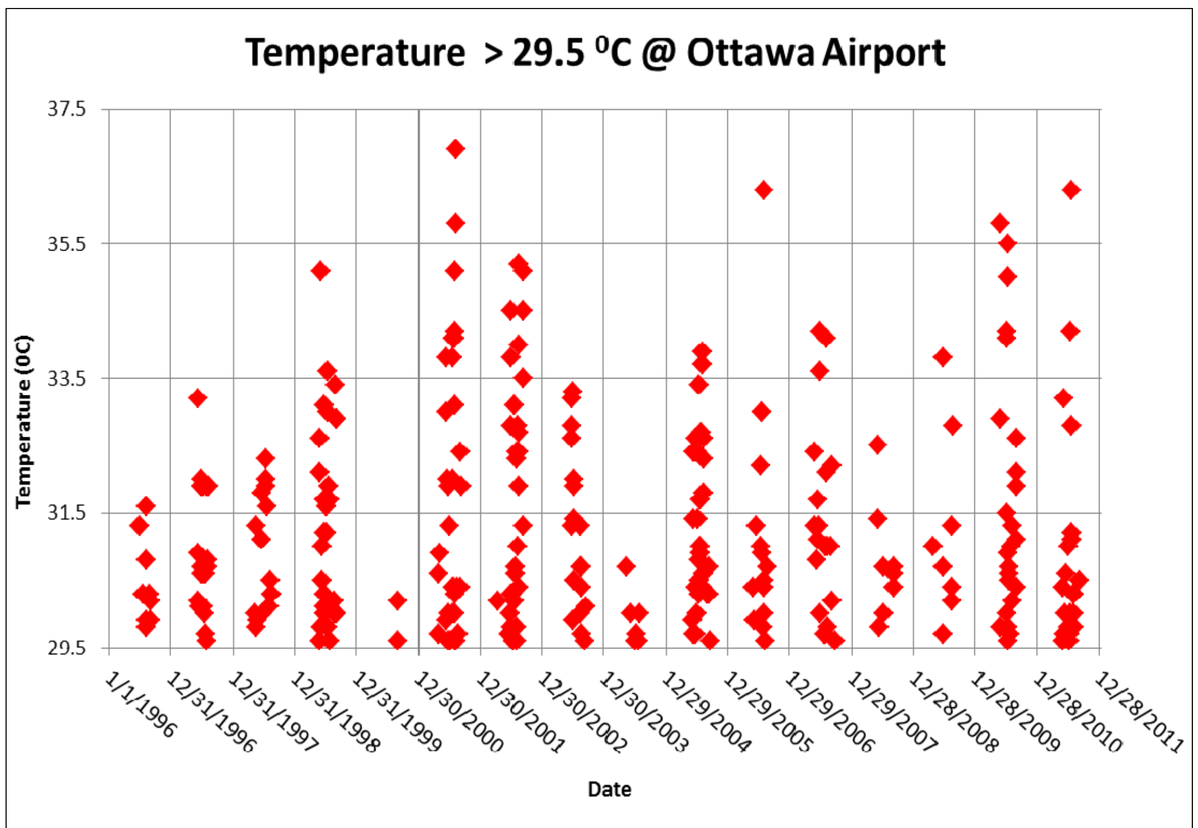

Figure e –INCREASED TREND IN DAYS ABOVE 29.5°C

Figure E Illustrates an increased trend in the number of days per year reaching a temperature greater than 29.5° C from 1996 to 2011.

Evapotranspiration begins when temperatures reach 30°C