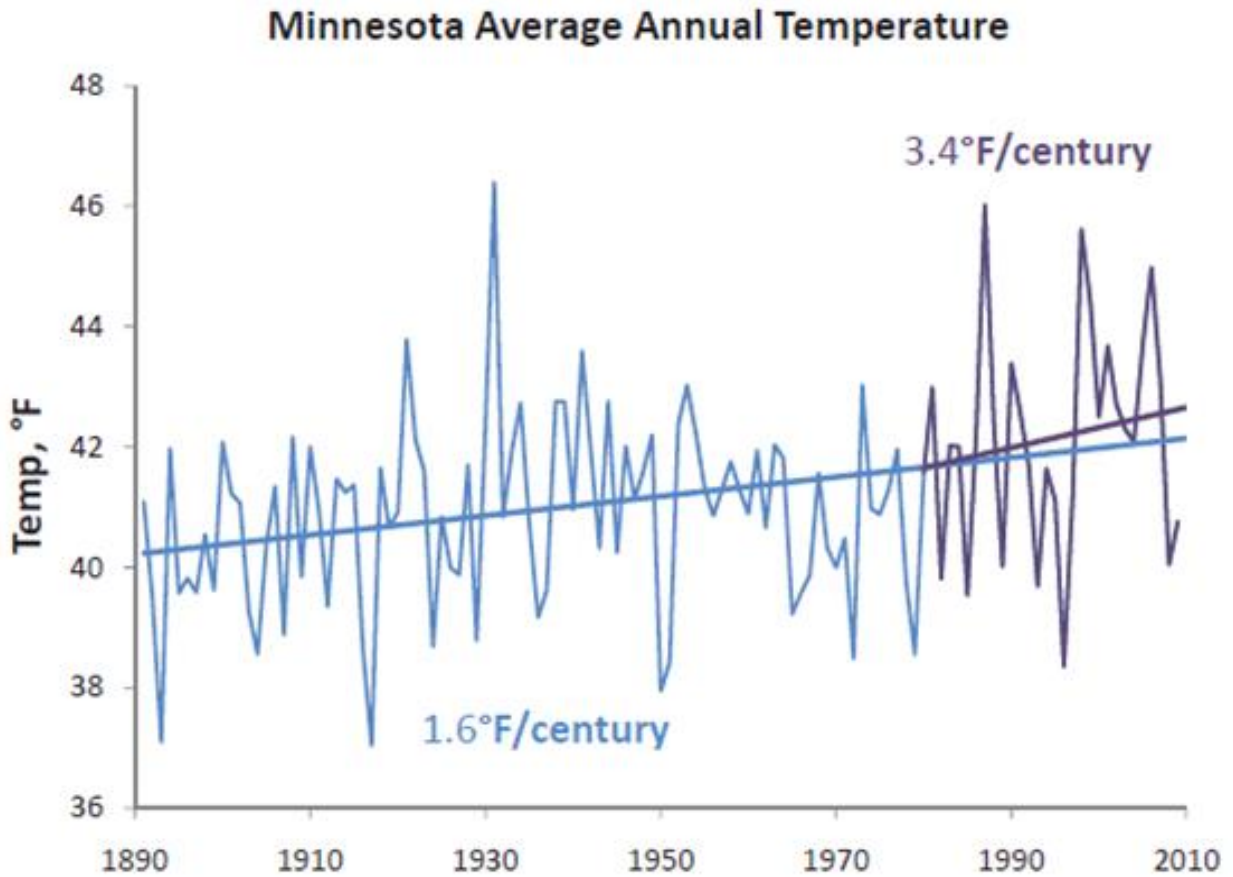
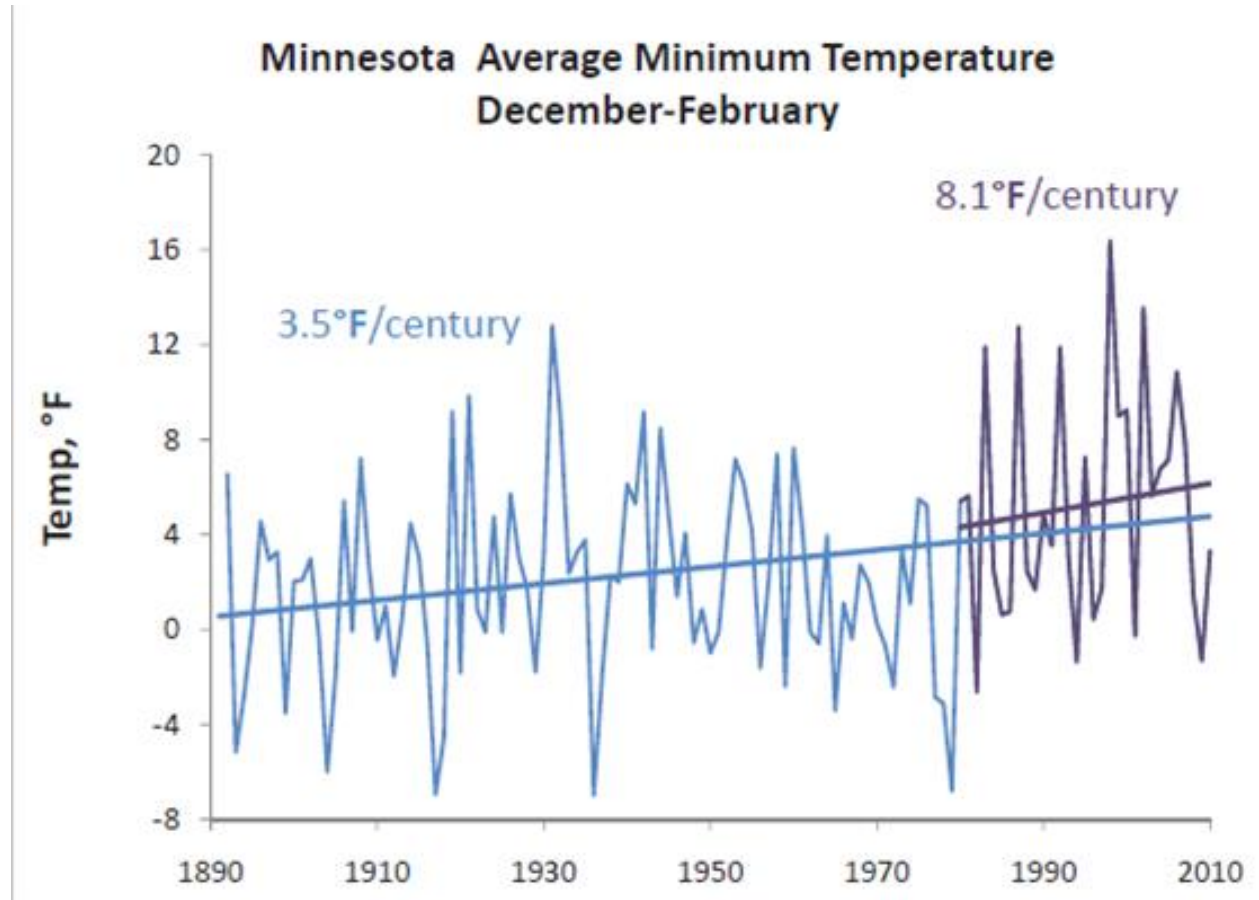


How has the climate changed and how might that impact our waters?

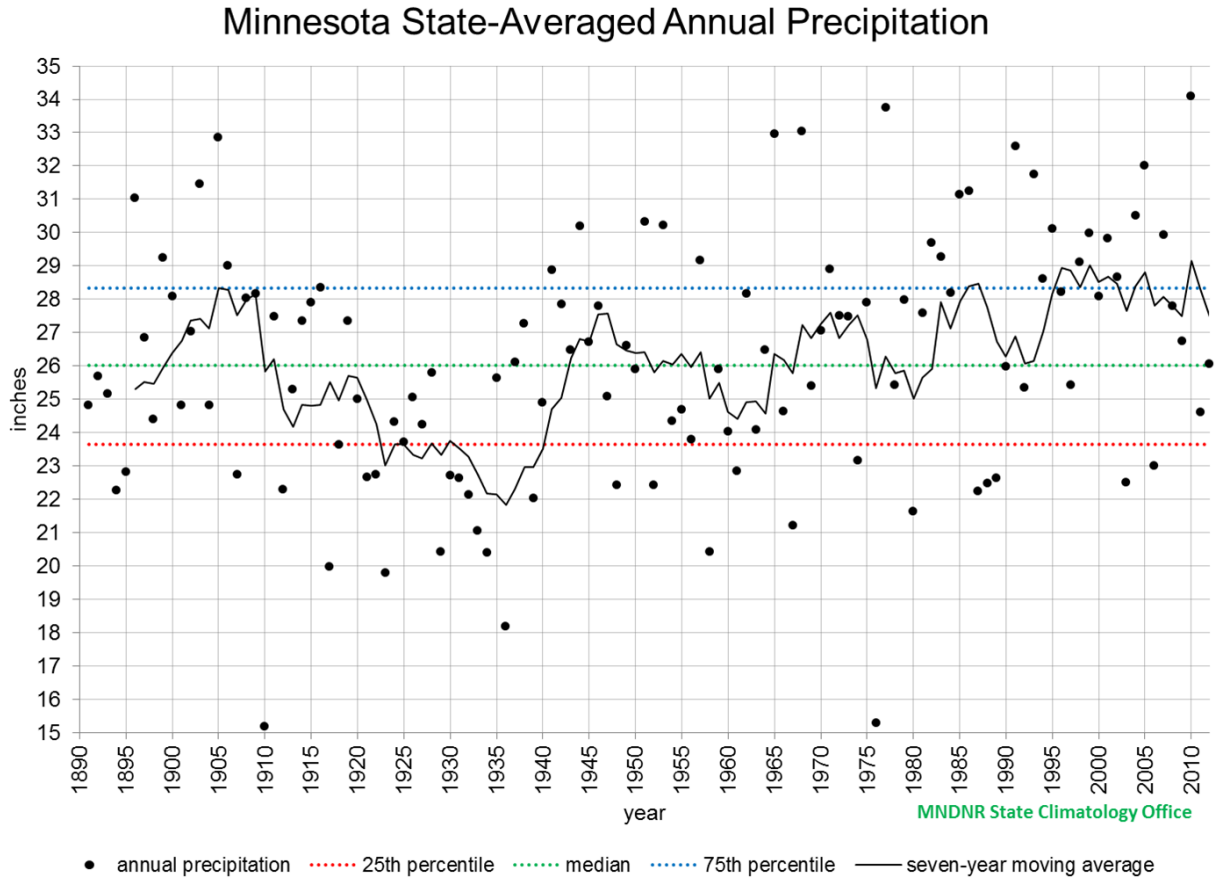
The State Climatology Office has tracked average annual temperature in Minnesota since the 1890s. This graph shows that temperature has steadily increased, but the rate of increase has accelerated in the last 25 years.



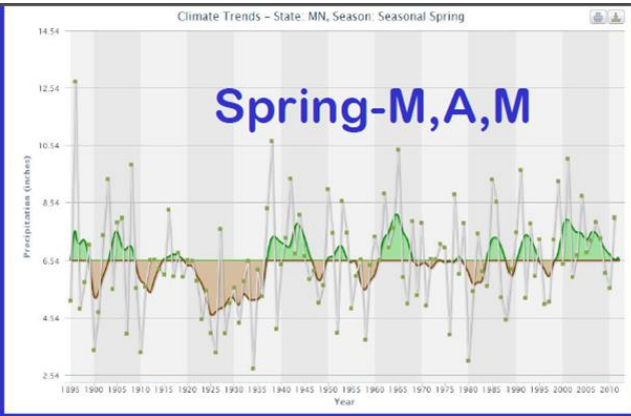
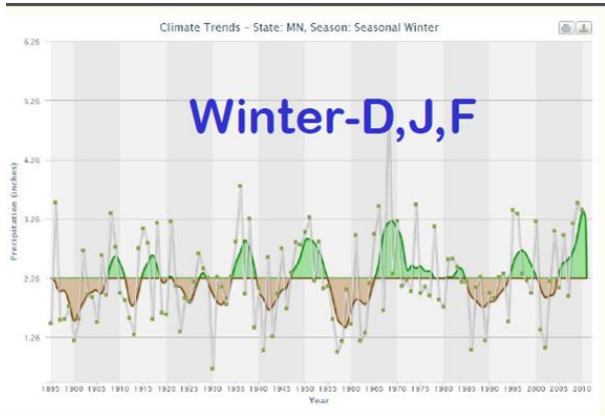
This next graph shows that our winters are getting warmer, with the average winter low temperature increasing more rapidly. This impacts the growing season length, the types of vegetation that can thrive in this climate, and the types of invasive species that can gain a foothold.



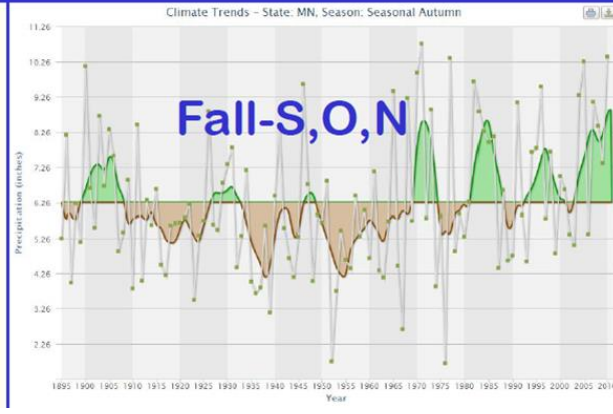
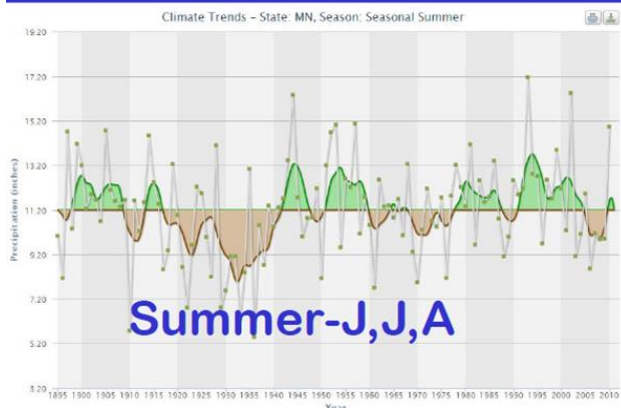
It also appears to be getting wetter. The seven year moving average of precipitation has exceeded the average for all but a few of the last 25 years.



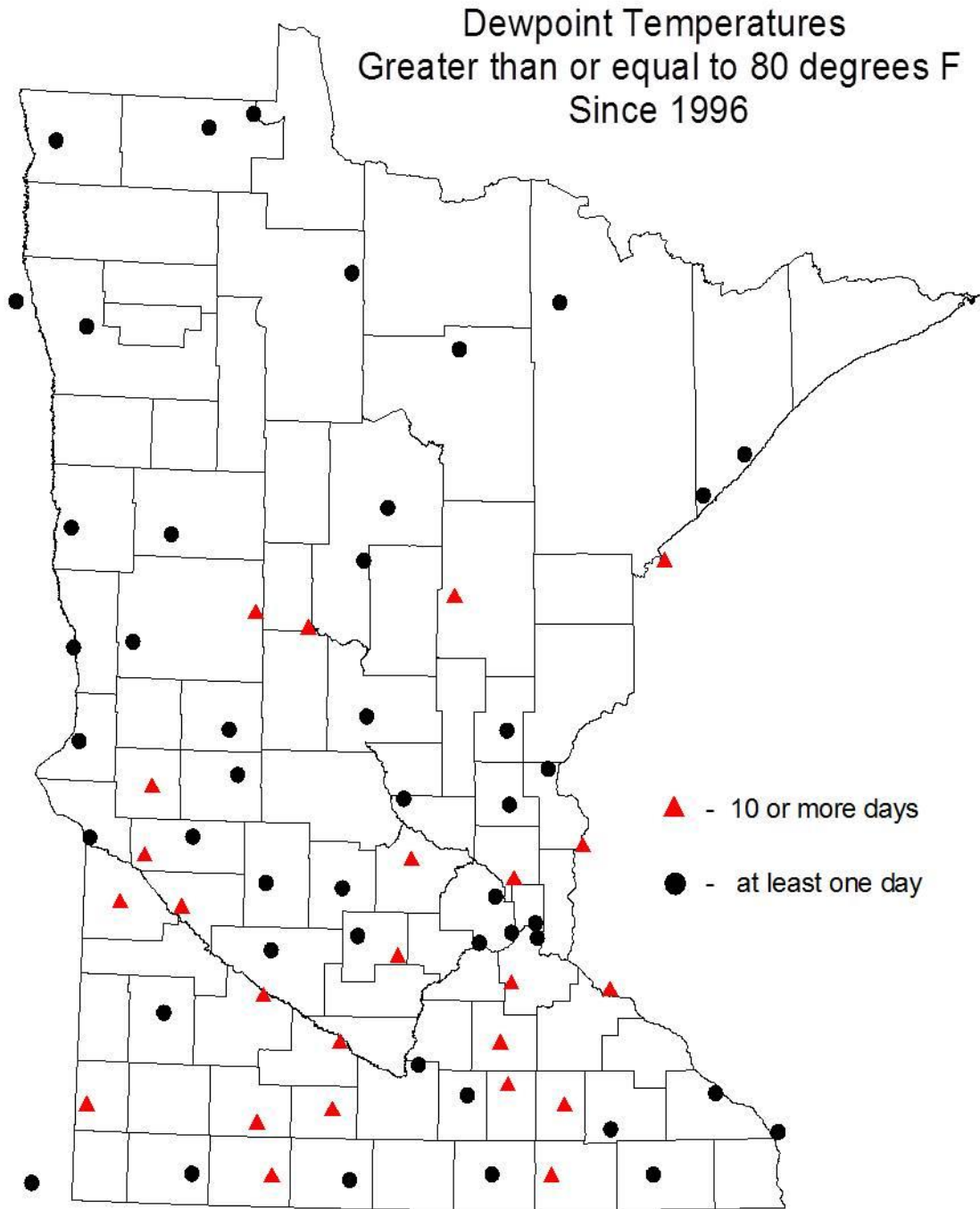
That increased precipitation is seasonal, with more falling in the autumn than in past years.



Seasonality in MN Precipitation Trends



The final observation is that summer dew points are increasing, and the number of instances of days with a dew point exceeding 80 degrees is growing.



State Climatology Office - DNR Waters

Over time, the changing climate characteristics may have profound changes on our water resources.

- Warmer temperatures: more ET
- Some areas dryer, others get more rain
- Rain events more intense
- Warmer winters: less snow and snowpack
- Longer growing season: more irrigation withdrawals
- Increase in water temperature

Learning Activity

Watch this video on how climate change will affect the water cycle. In the Discussion Forums, write a short reflection on what you think the major effects of climate change will be on Minnesota's water resources, and what we should do first to minimize disruption. How might the effects of climate change described in this video be seen and felt in Minnesota?

<https://www.youtube.com/watch?v=f15b5bwpdVE>

Write a response to two of your colleagues' posts. What has someone else written that you can support, or challenge?