

# Projected Changes in Minnesota's Climate

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Minnesota*

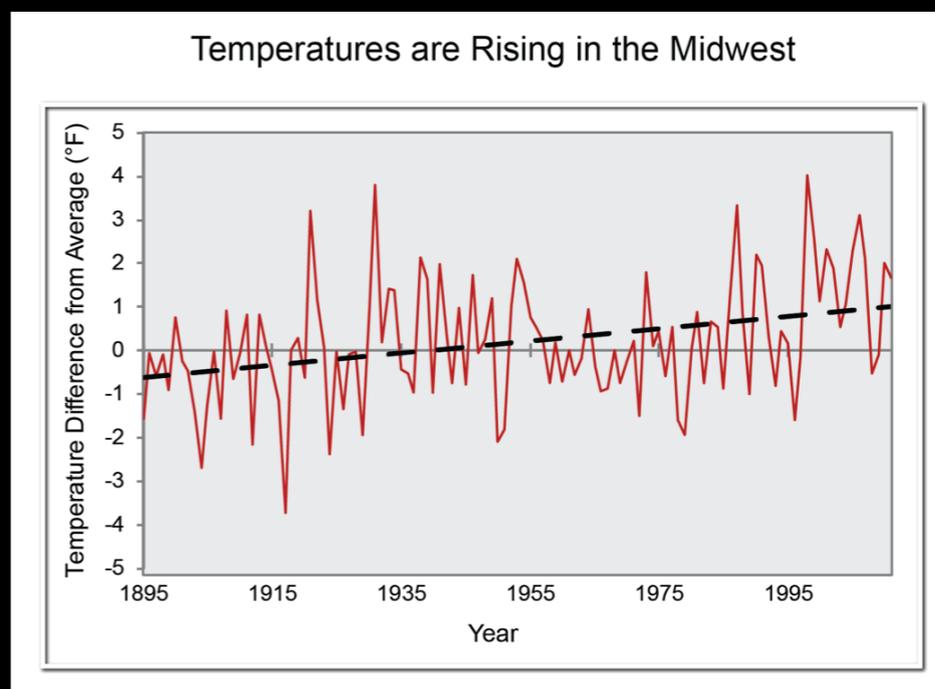
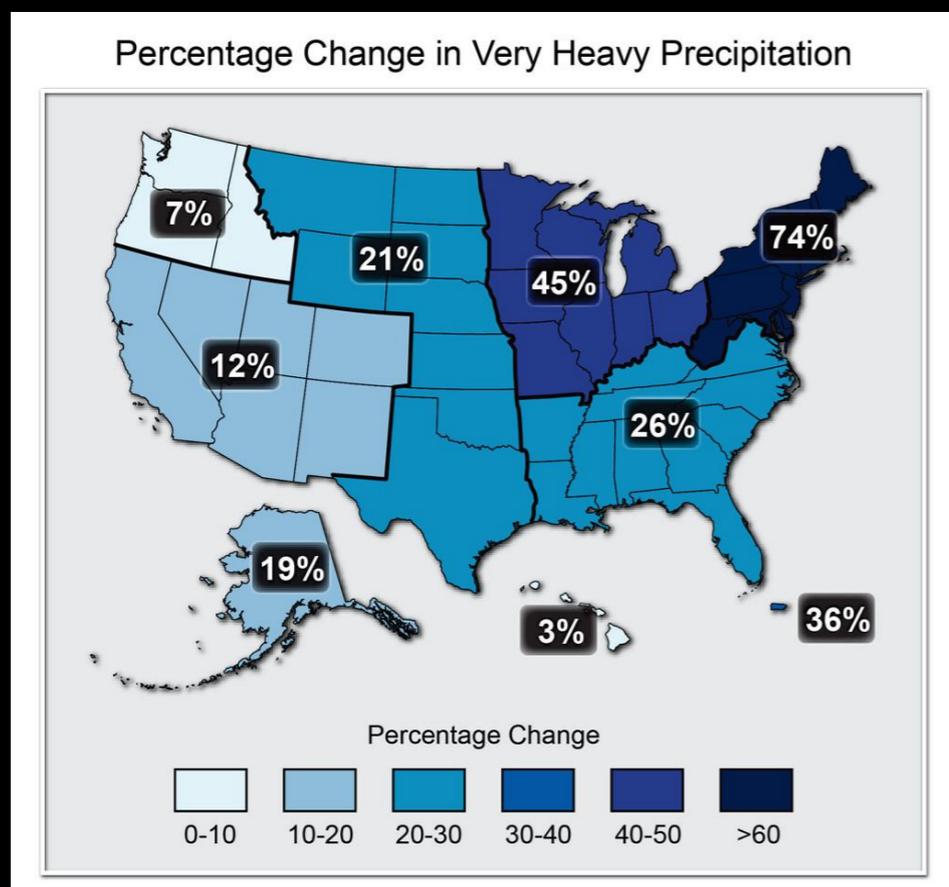
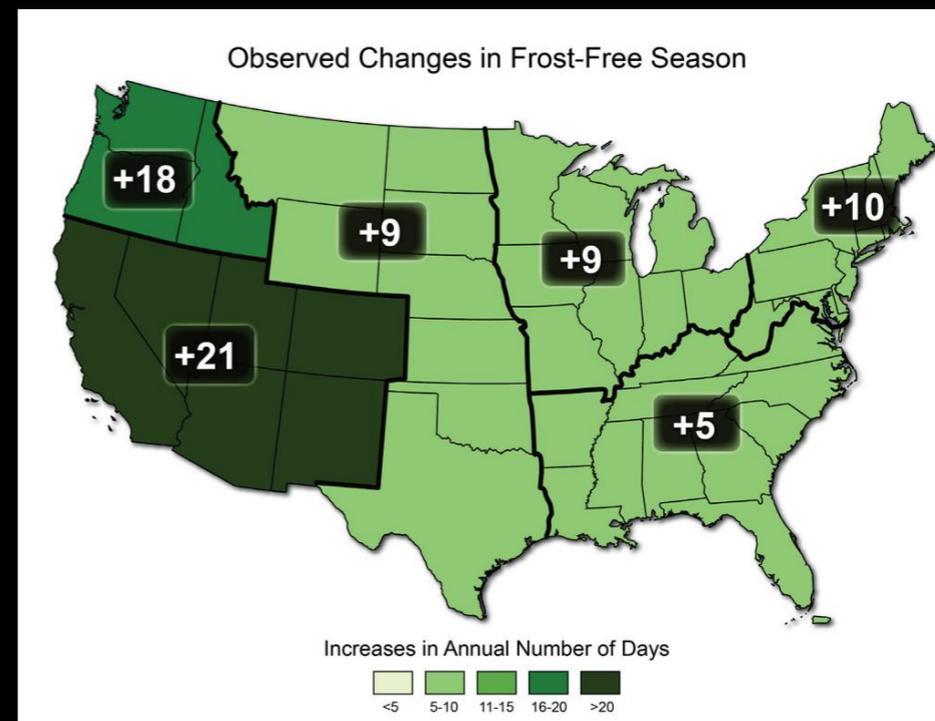
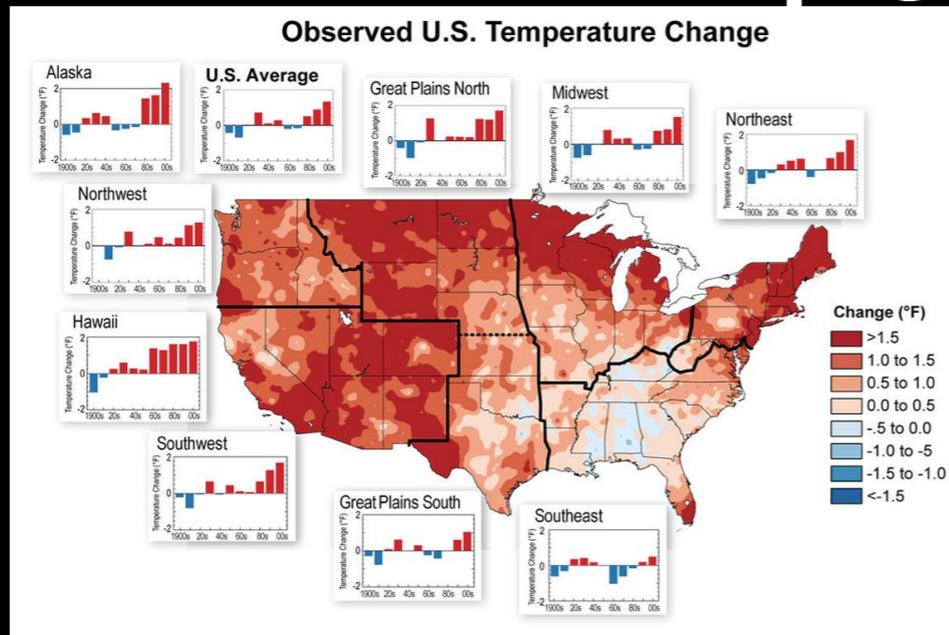
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**ENVIRONMENT**

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UNIVERSITY OF MINNESOTA

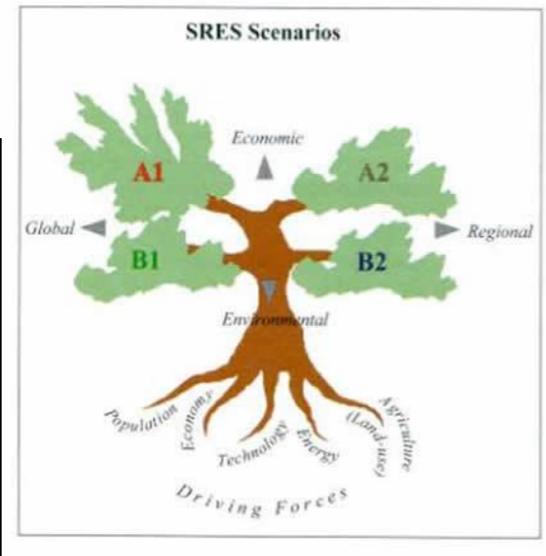
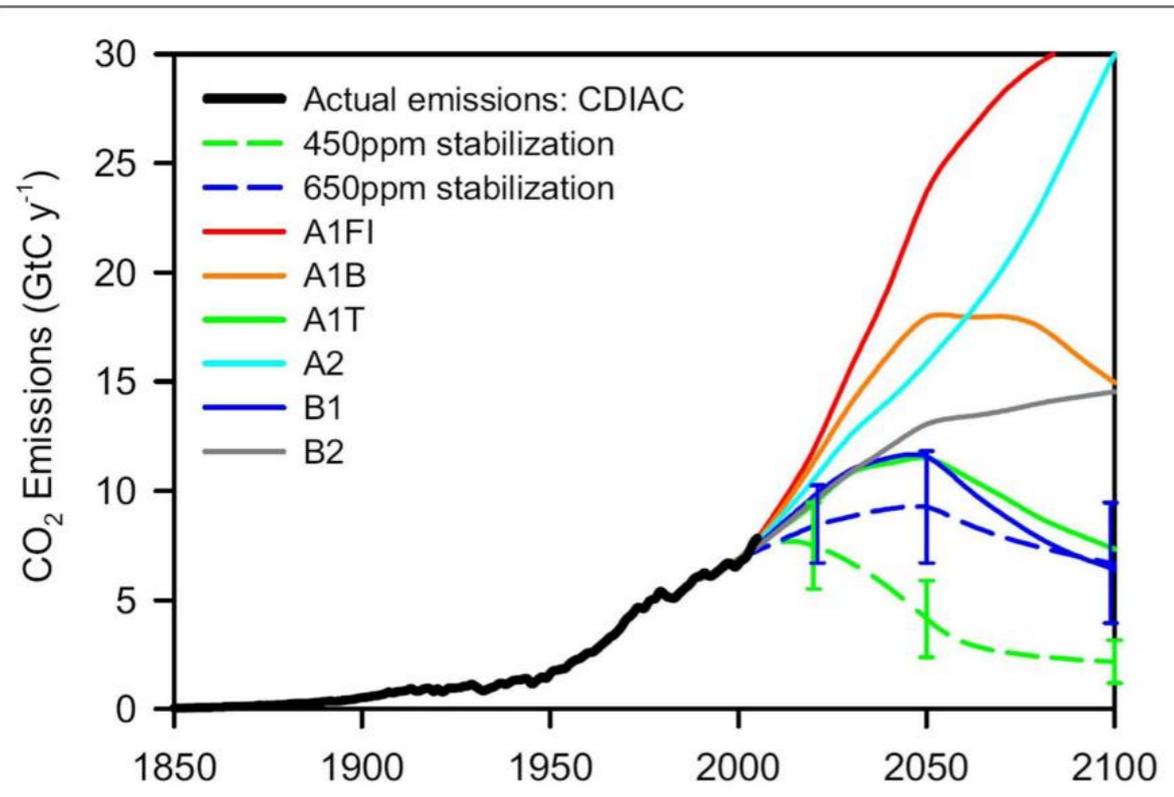
**Driven to Discover<sup>SM</sup>**

# A few words about the past...



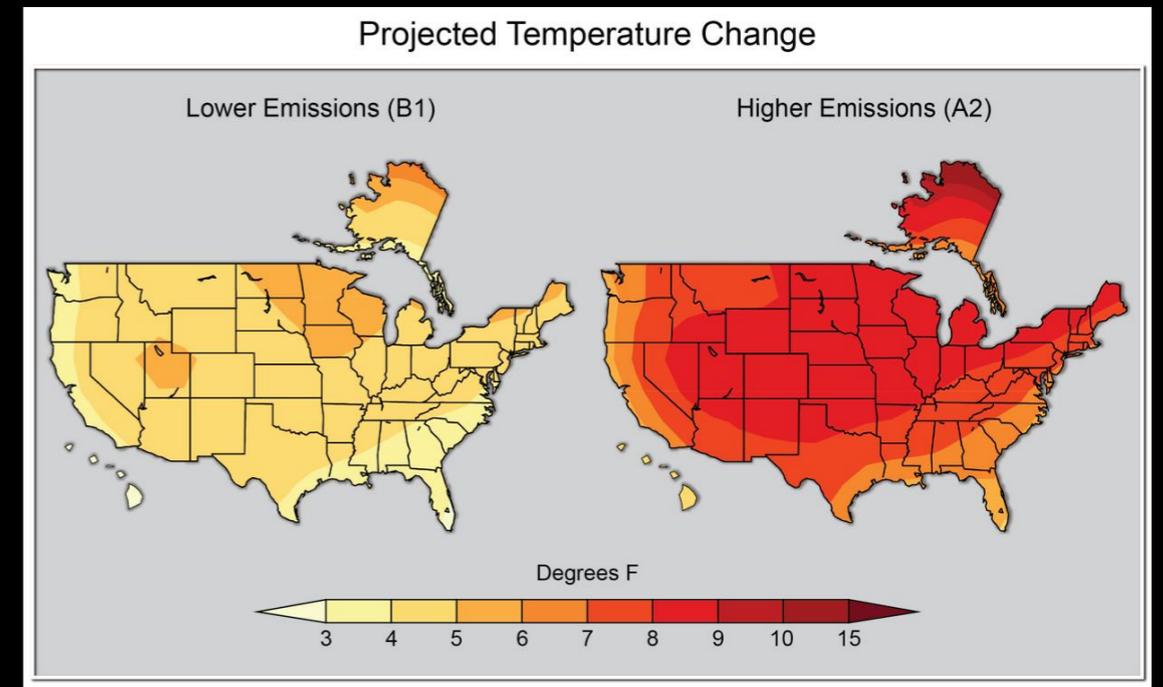
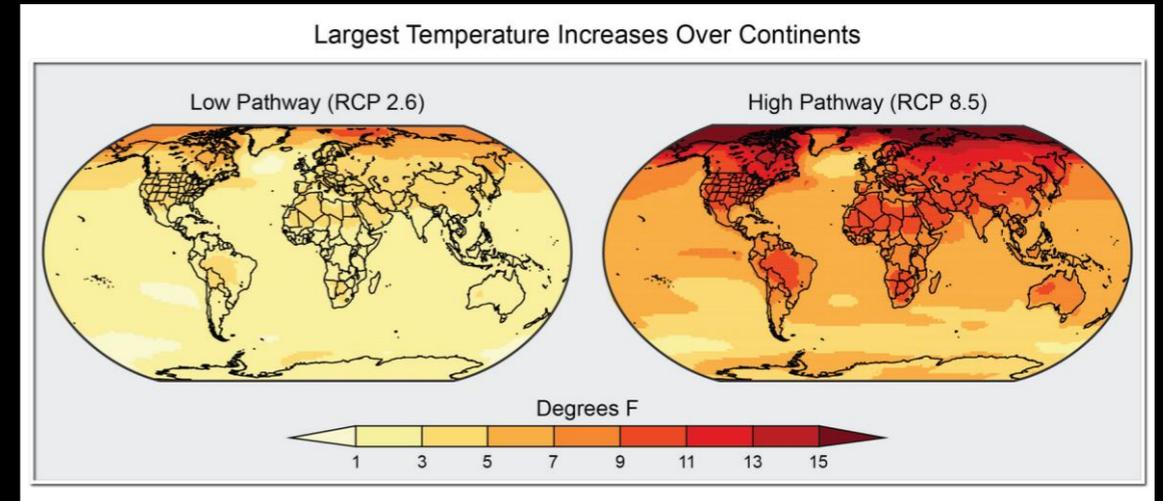
# A few words about the future...

<http://canute2.sealevelrise.info/slr/Scenario%20Information>



source:

<http://sedac.ciesin.columbia.edu/ddc/sres/20Information>

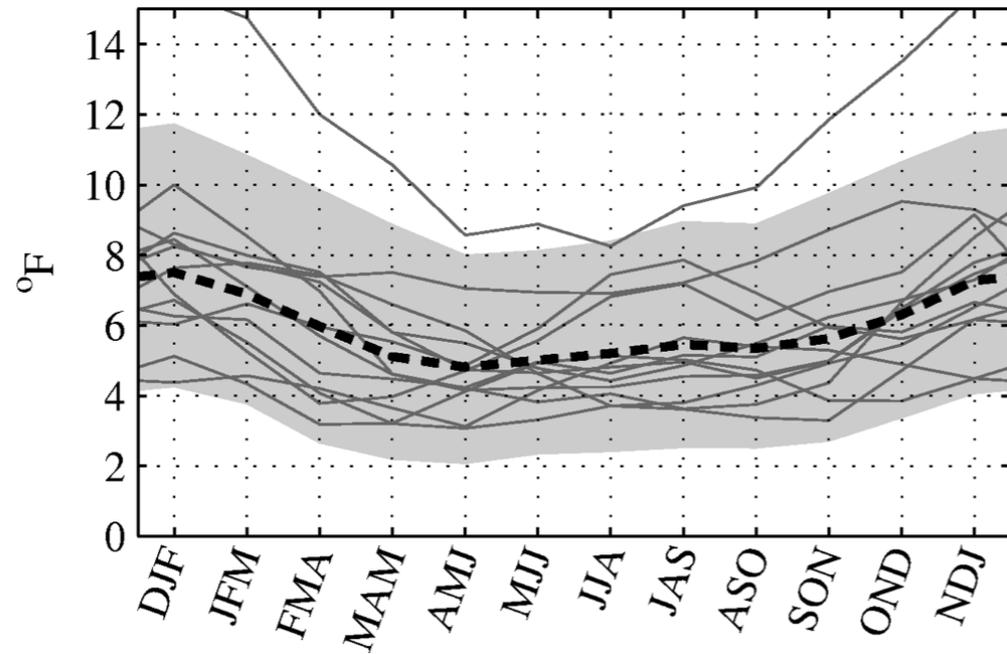


“prediction is hard, especially the future”

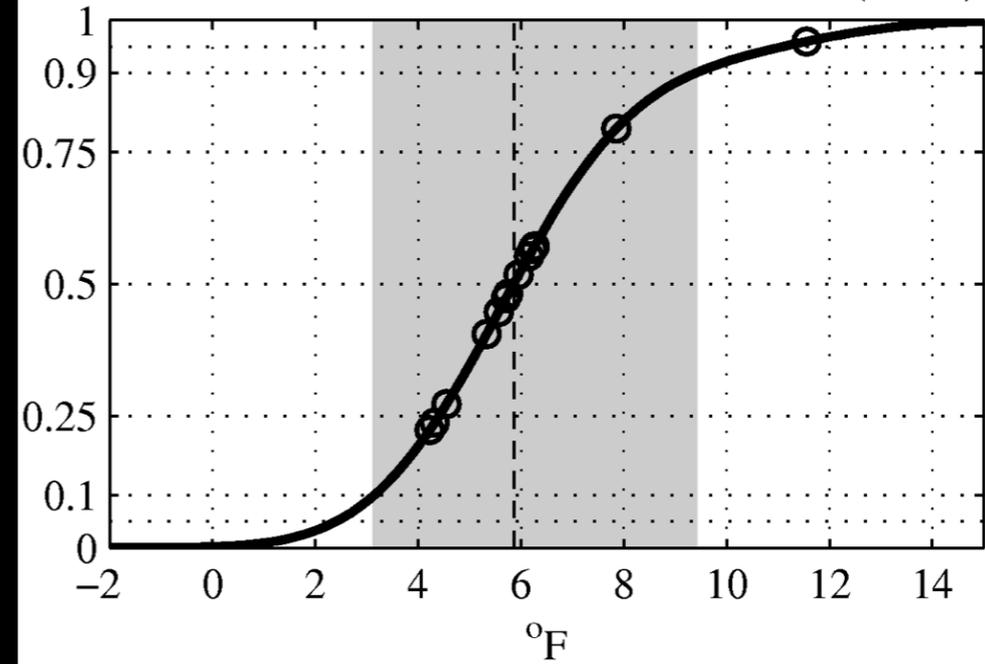
source: Draft for Public Comment / Third National Climate Assessment Report

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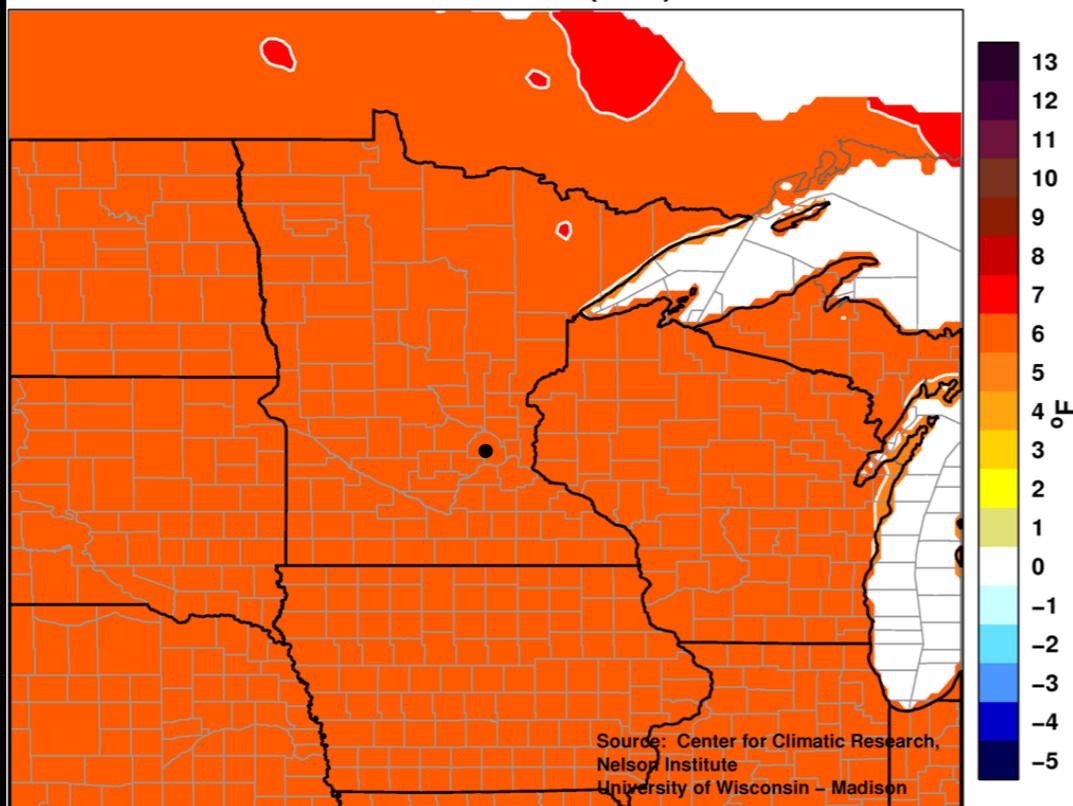
**MN: CDF of Projected Change in TMEAN from 1980 to 2055 (A1B)**



**MN: CDF of Projected Change in ANN TMEAN from 1980 to 2055 (A1B)**



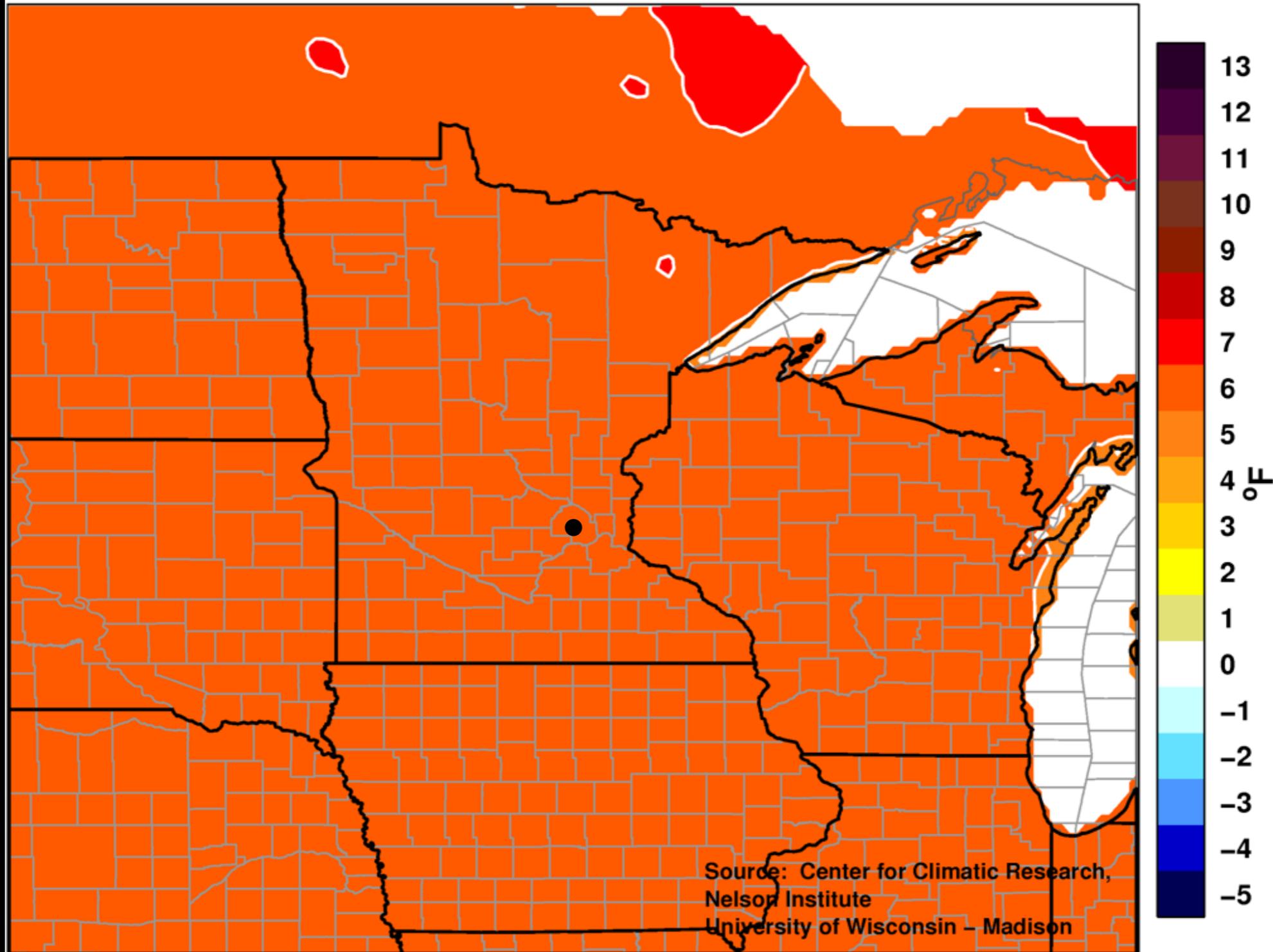
**Projected Change in Annual TMEAN (°F) from 1980 to 2055 (A1B)**



**80% range: 3-9°F**

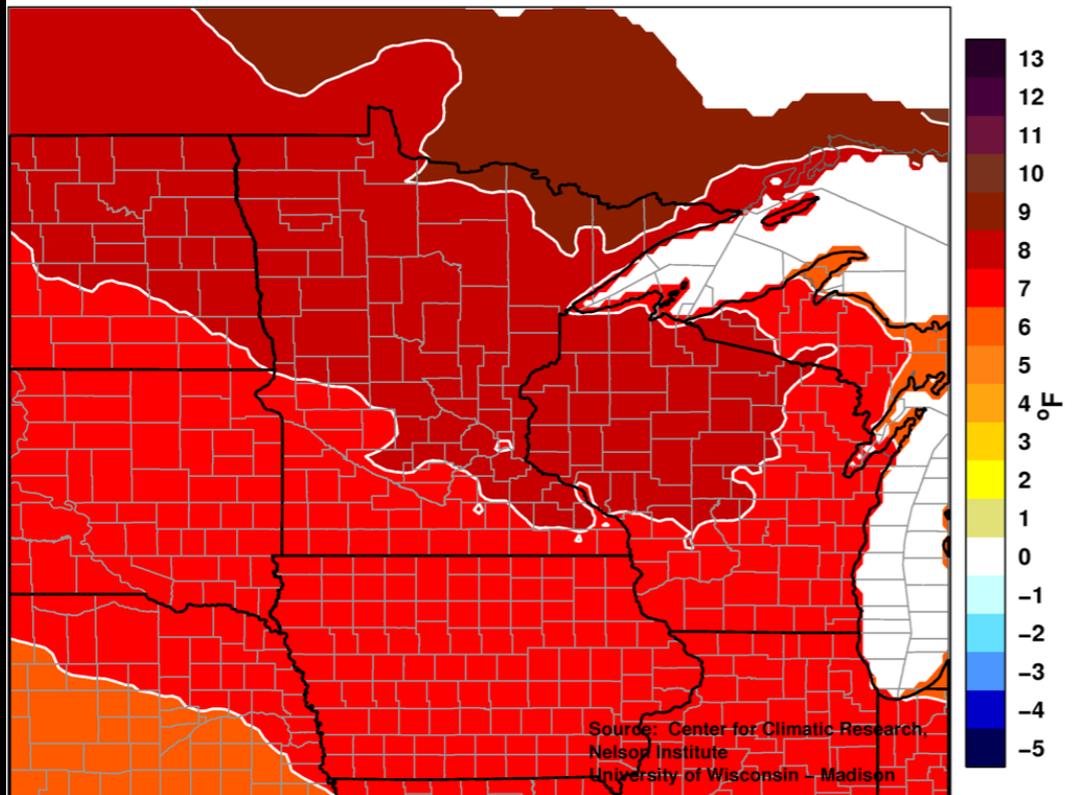
Source: Center for Climatic Research,  
Nelson Institute  
University of Wisconsin - Madison

# Projected Change in Annual TMEAN (°F) from 1980 to 2055 (A1B)

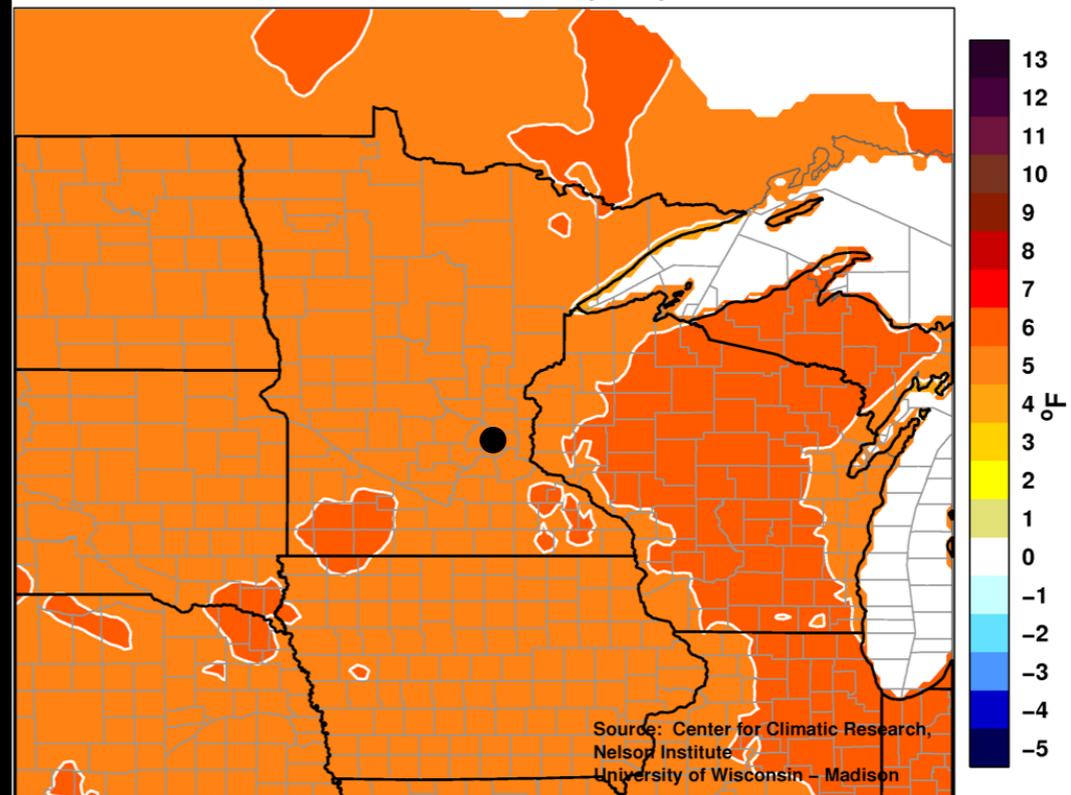


80% range: 3-9°F

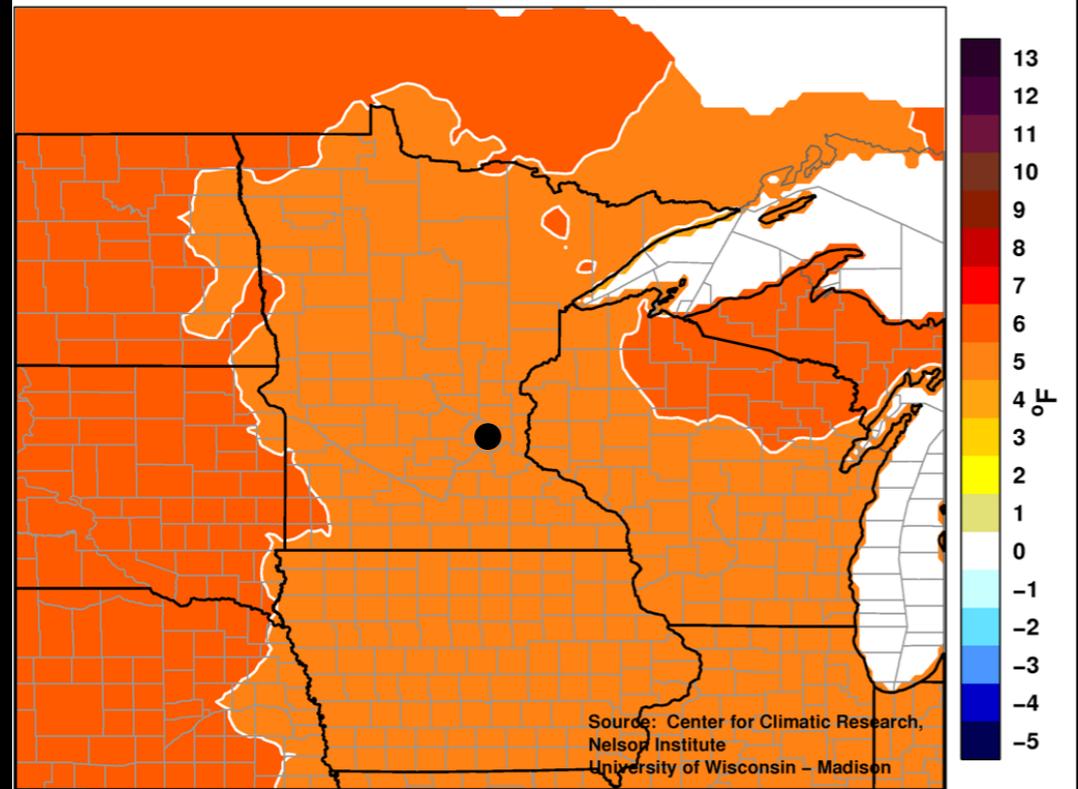
Projected Change in DJF TMEAN (°F)  
from 1980 to 2055 (A1B)



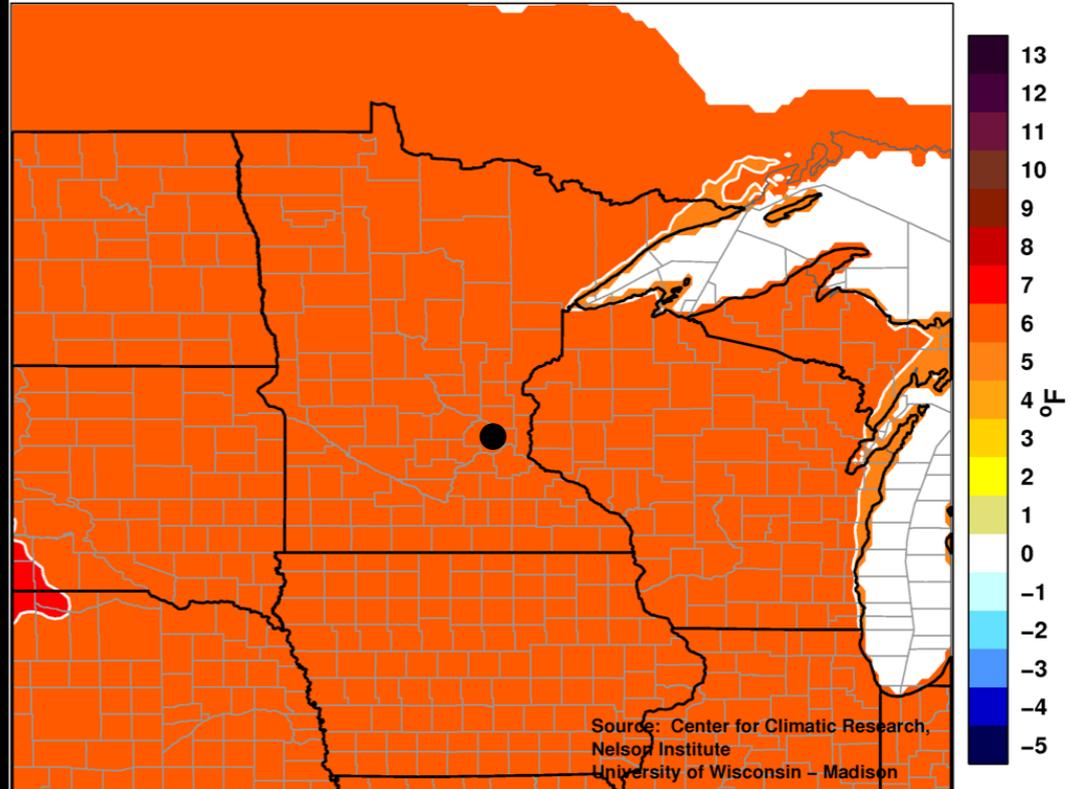
Projected Change in MAM TMEAN (°F)  
from 1980 to 2055 (A1B)



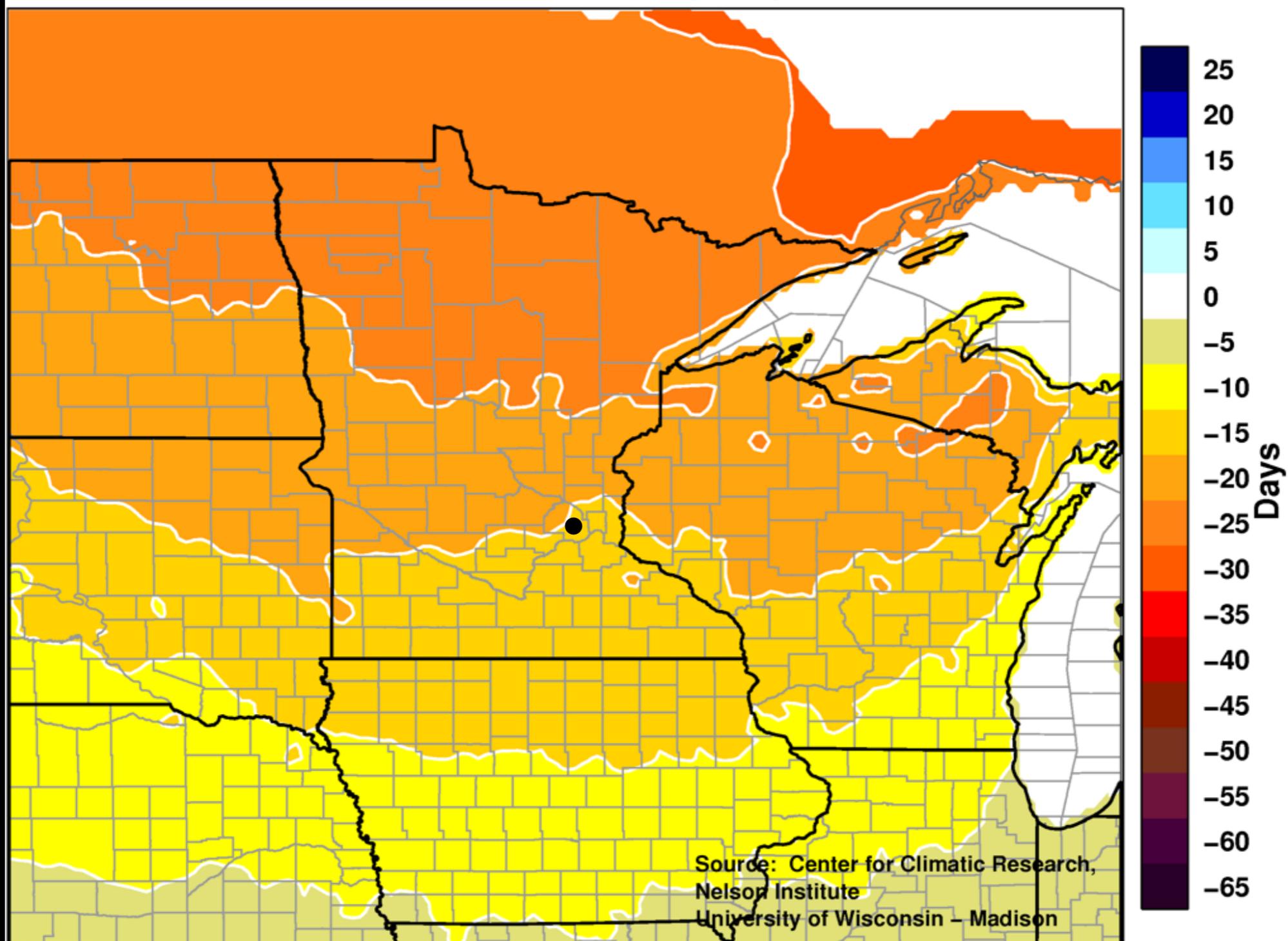
Projected Change in JJA TMEAN (°F)  
from 1980 to 2055 (A1B)



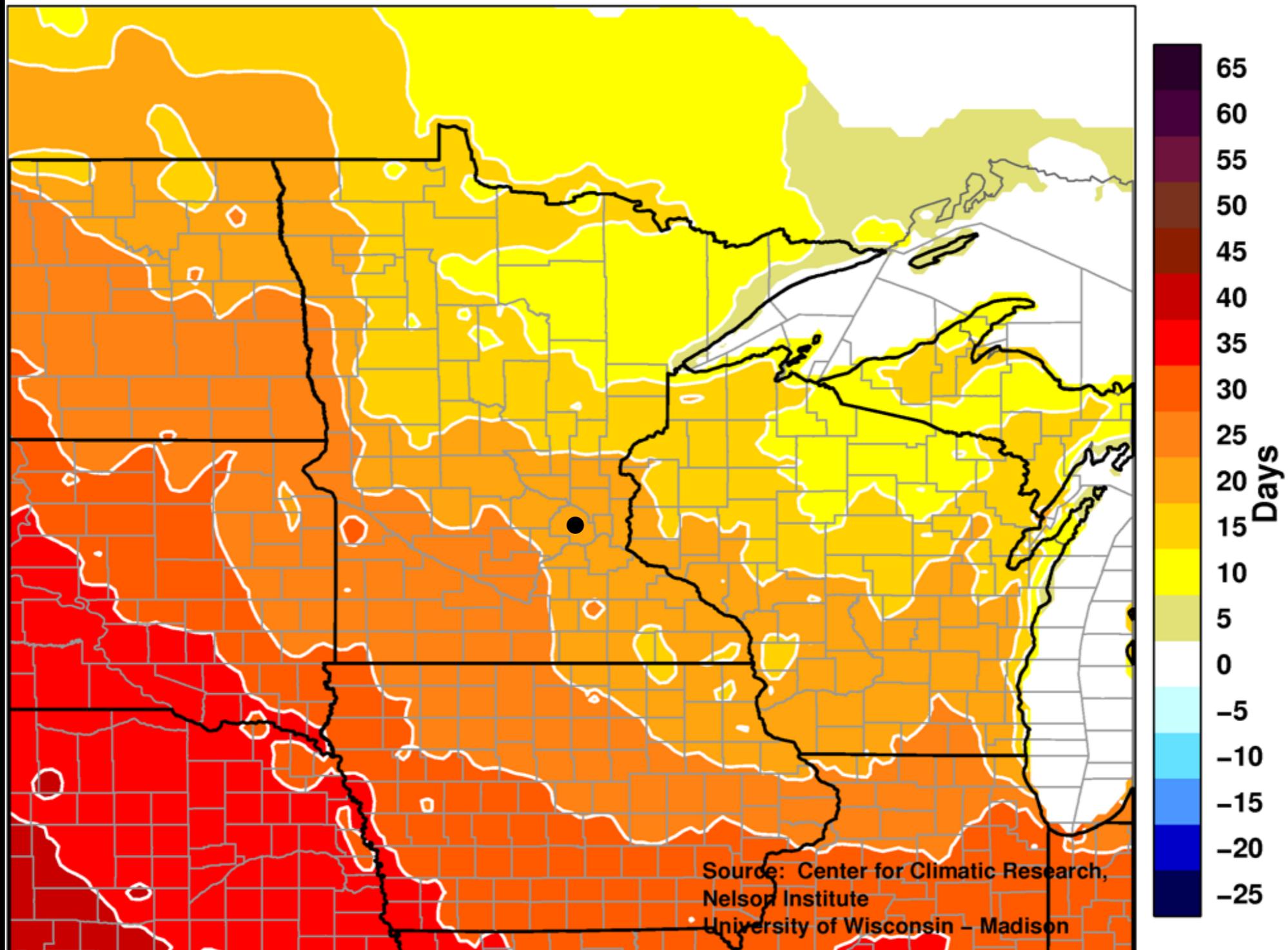
Projected Change in SON TMEAN (°F)  
from 1980 to 2055 (A1B)



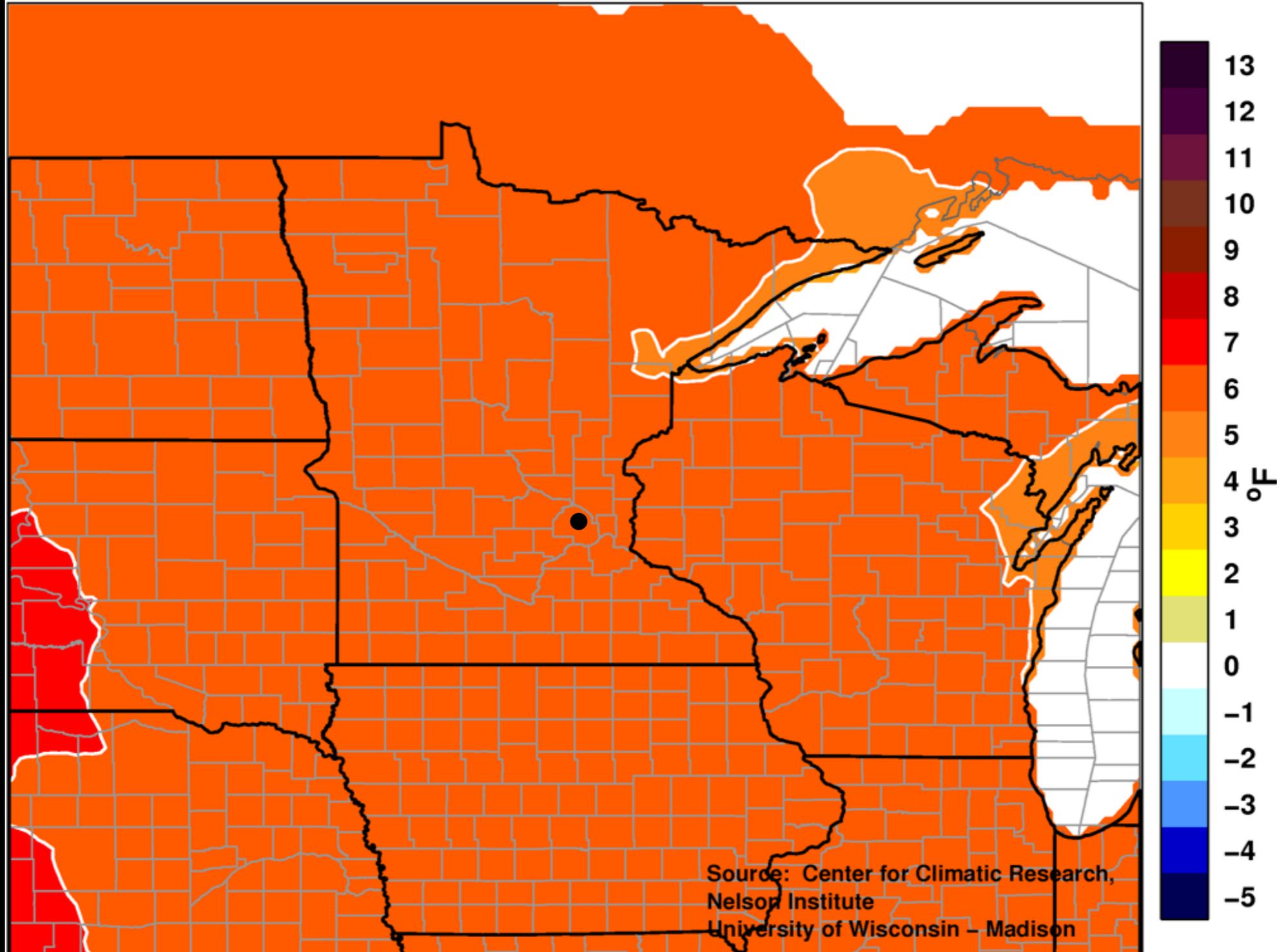
# Projected Change in Days < 0°F from 1980 to 2055 (A1B)



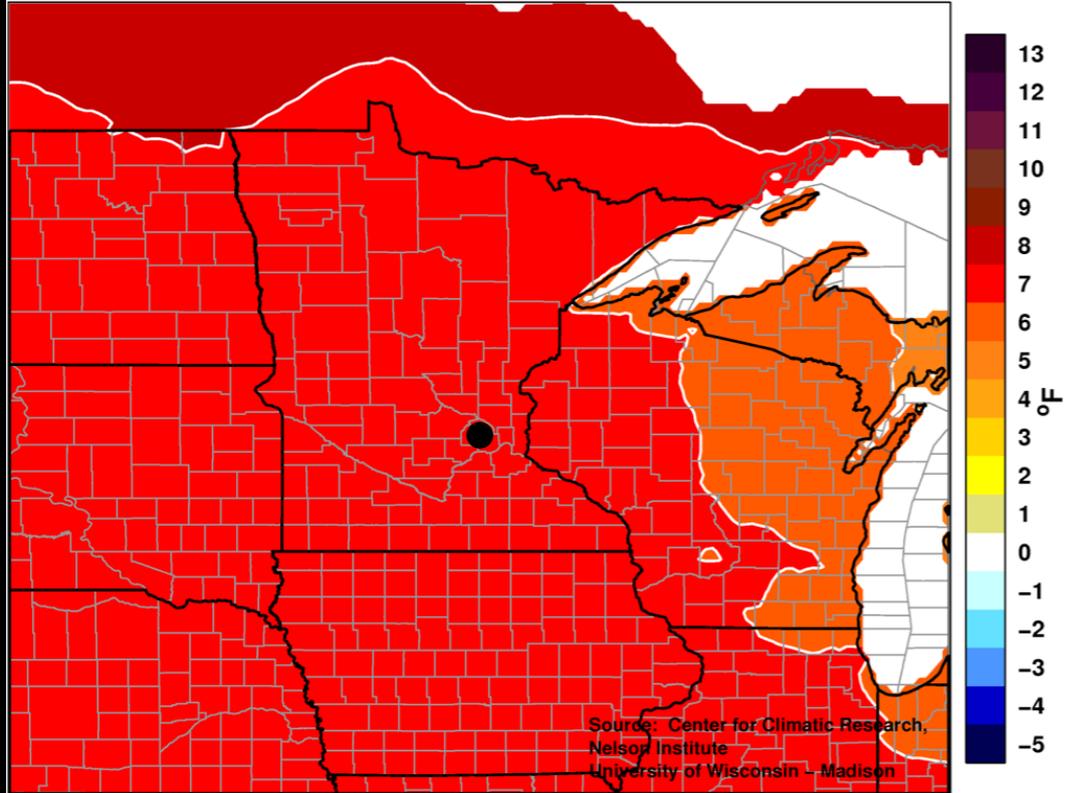
# Projected Change in Days > 90°F from 1980 to 2055 (A1B)



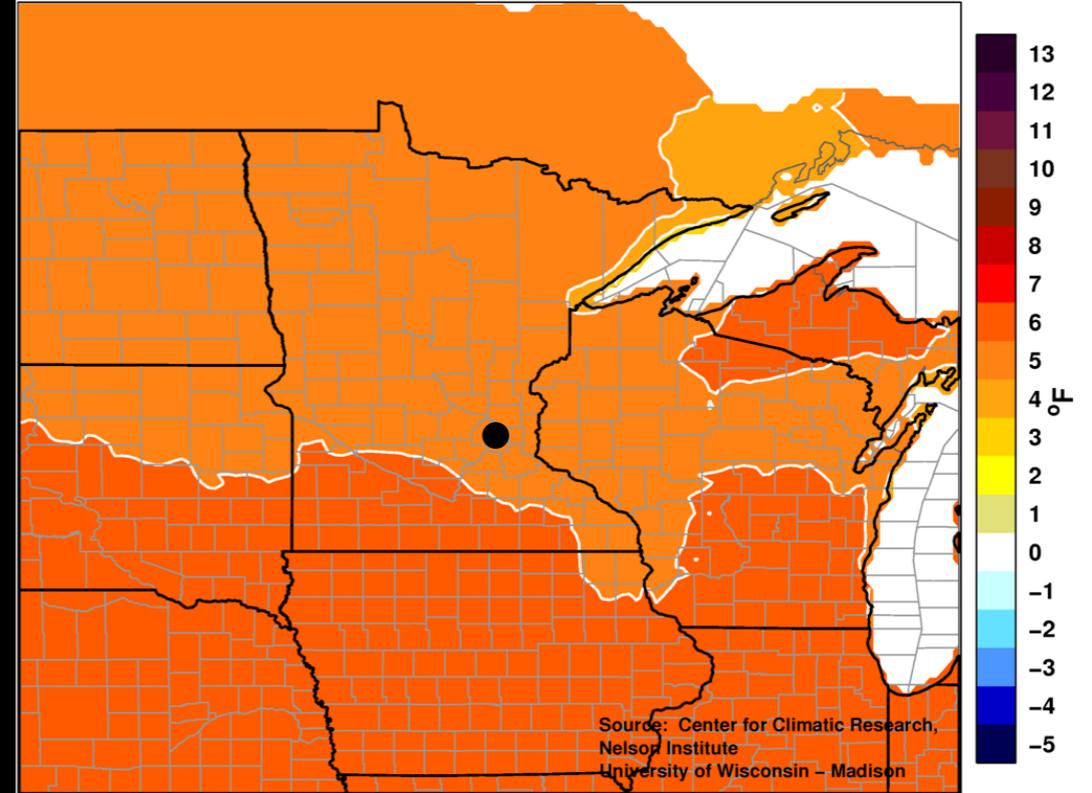
# Projected Change in Annual TMAX (°F) from 1980 to 2055 (A1B)



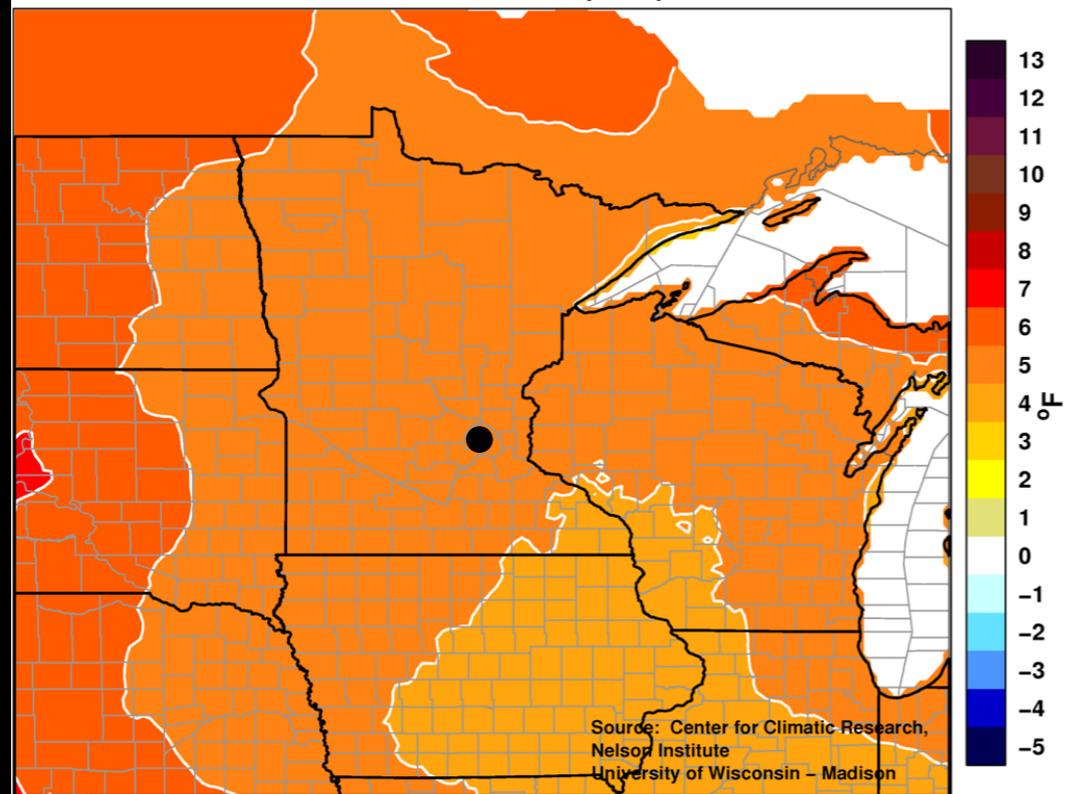
Projected Change in DJF TMAX (°F)  
from 1980 to 2055 (A1B)



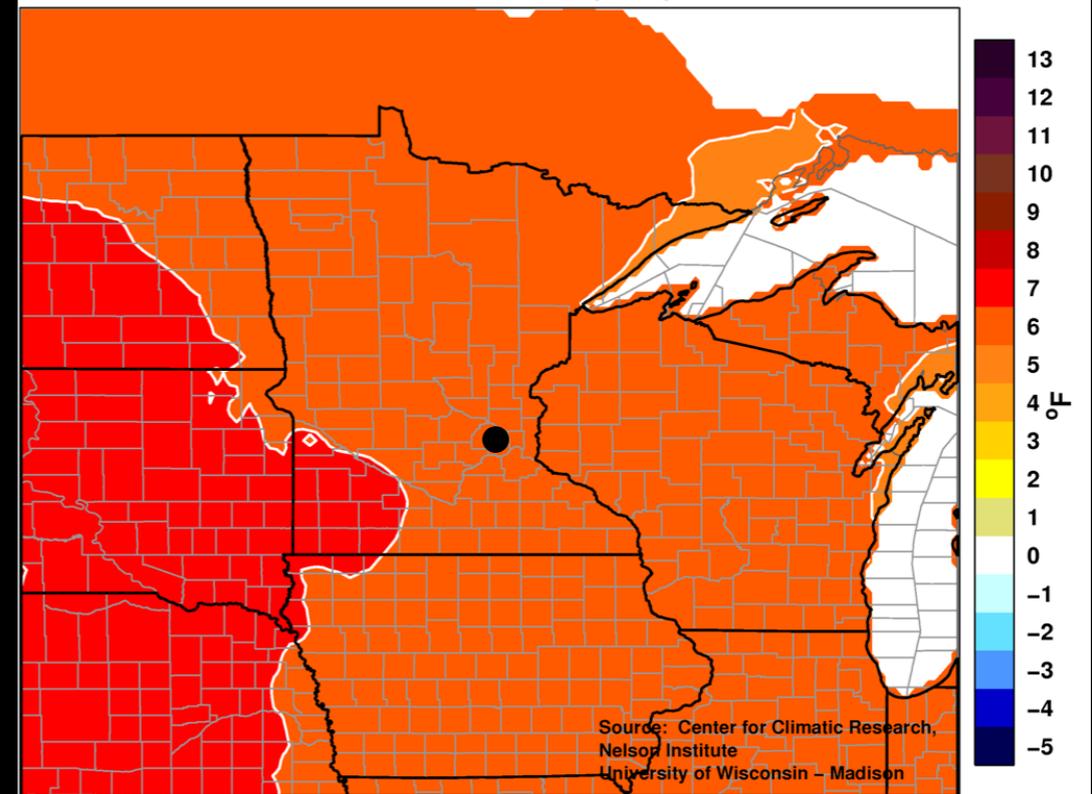
Projected Change in MAM TMAX (°F)  
from 1980 to 2055 (A1B)



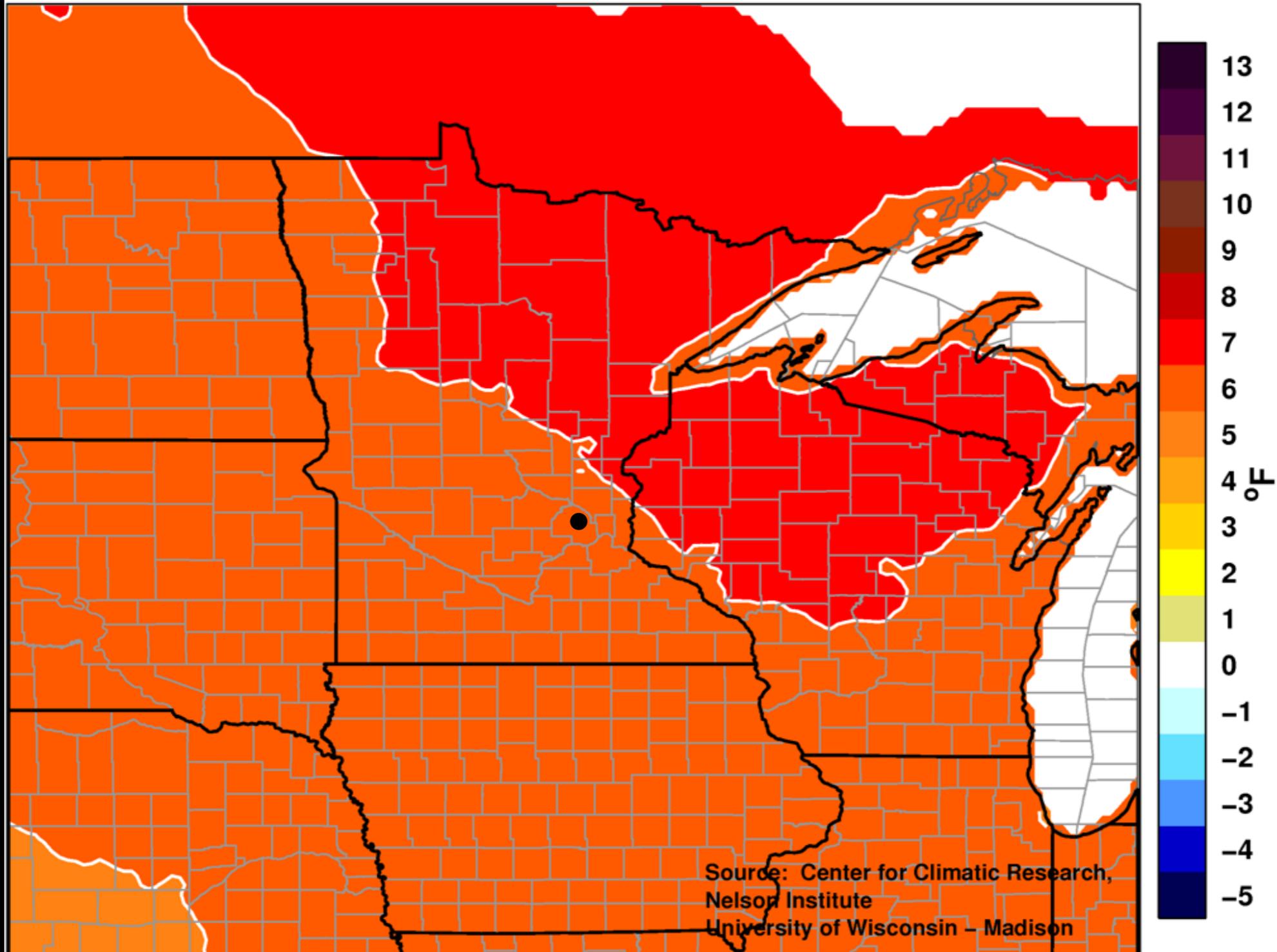
Projected Change in JJA TMAX (°F)  
from 1980 to 2055 (A1B)



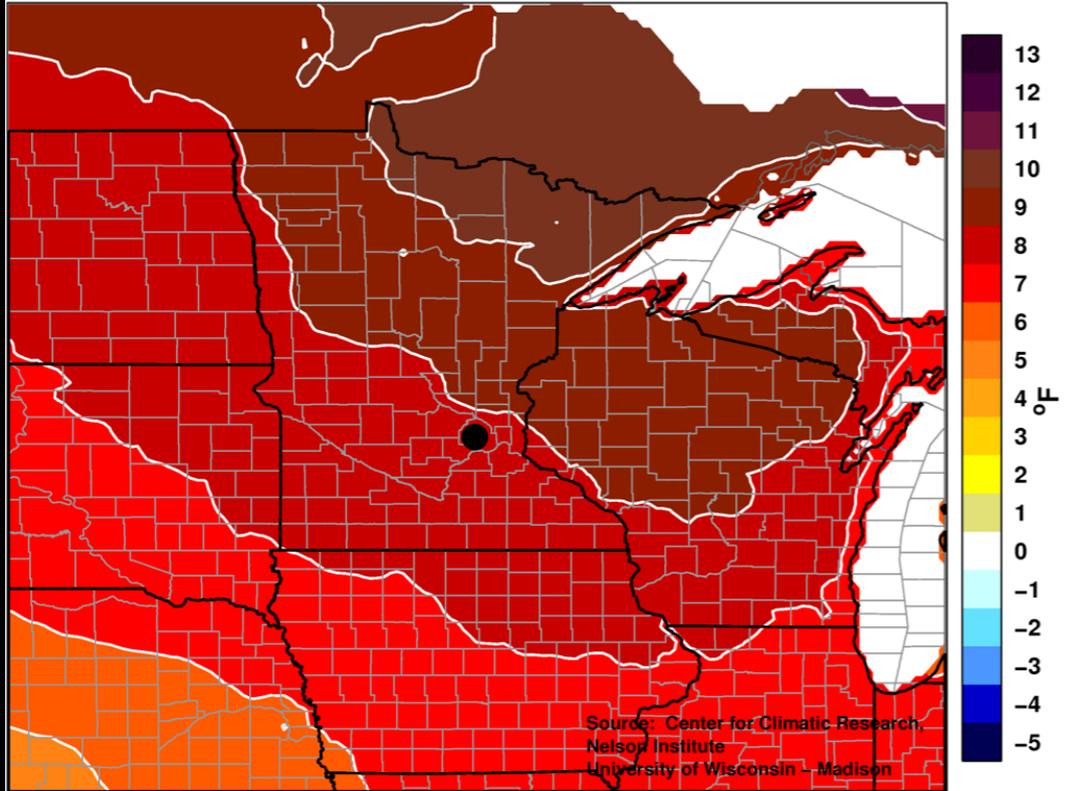
Projected Change in SON TMAX (°F)  
from 1980 to 2055 (A1B)



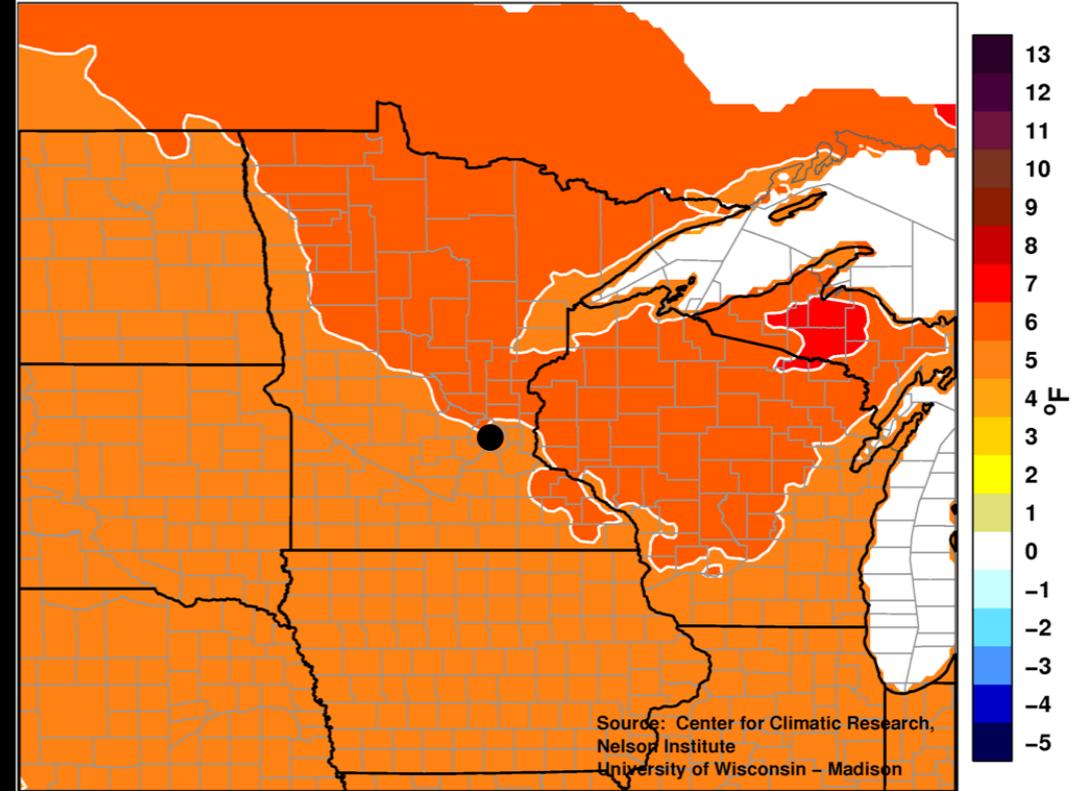
# Projected Change in Annual TMIN (°F) from 1980 to 2055 (A1B)



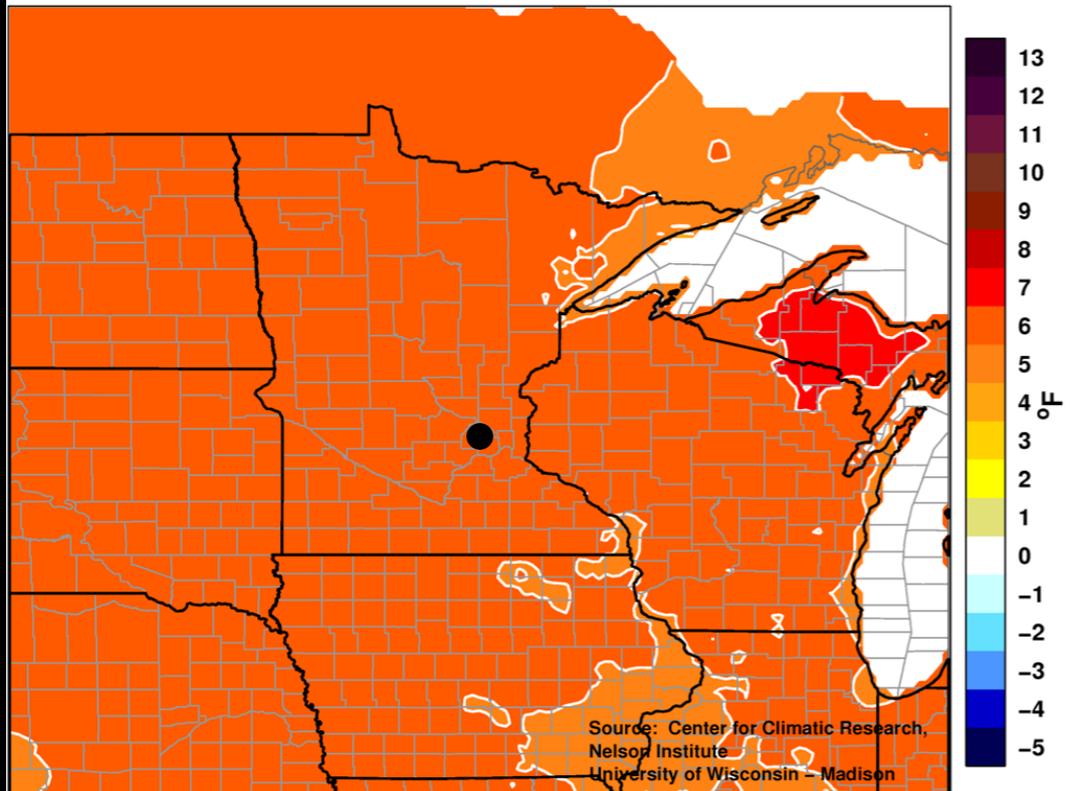
Projected Change in DJF TMIN (°F)  
from 1980 to 2055 (A1B)



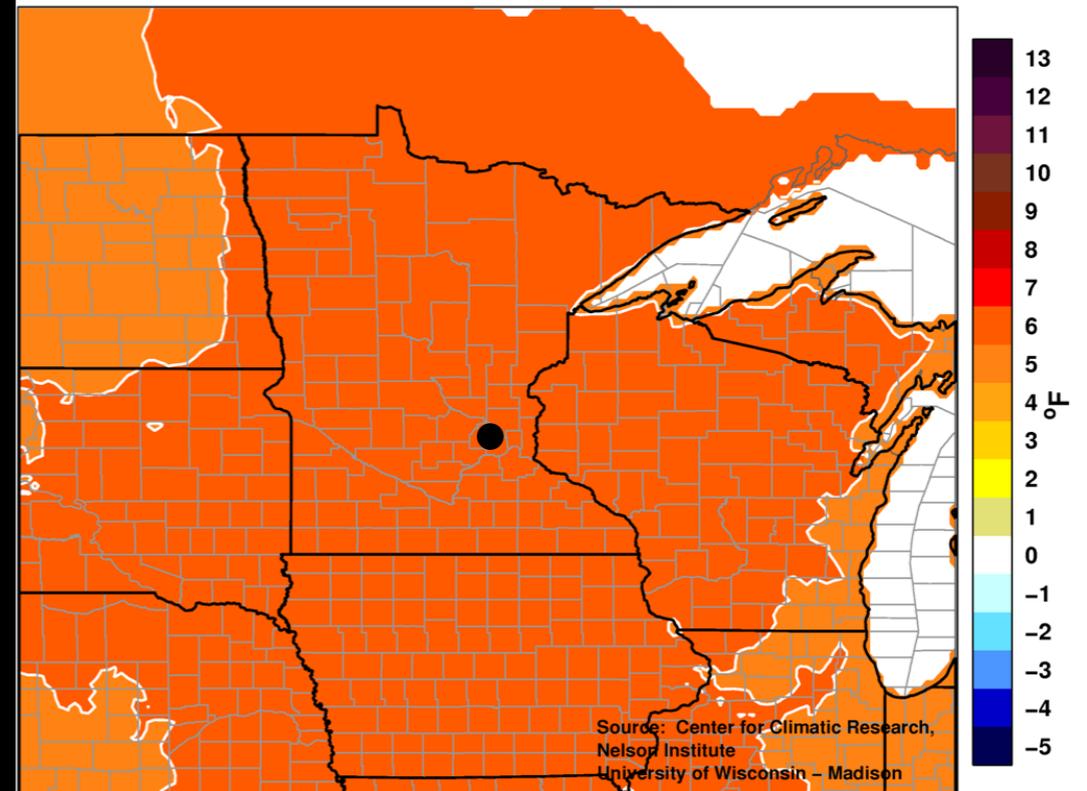
Projected Change in MAM TMIN (°F)  
from 1980 to 2055 (A1B)



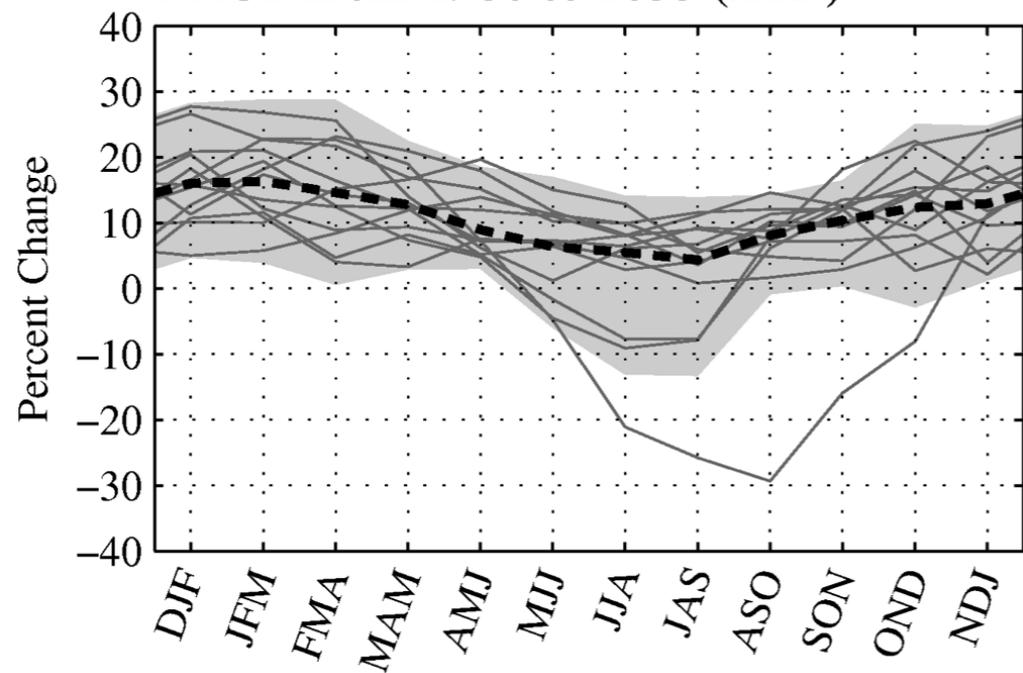
Projected Change in JJA TMIN (°F)  
from 1980 to 2055 (A1B)



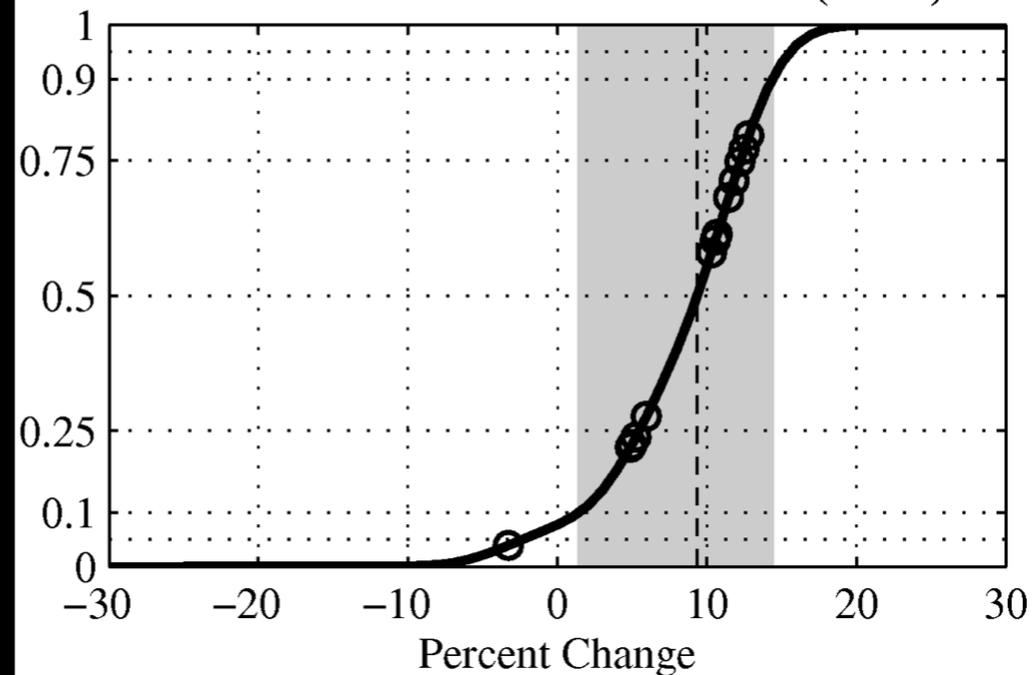
Projected Change in SON TMIN (°F)  
from 1980 to 2055 (A1B)



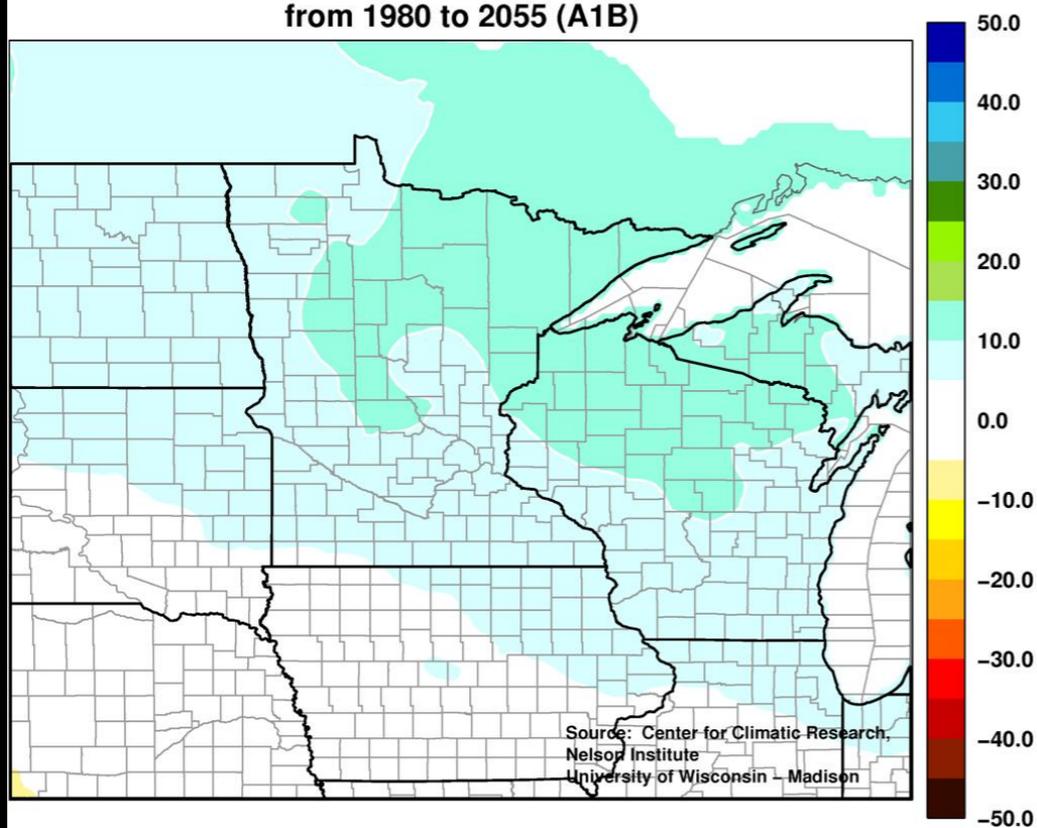
**MN: CDF of Projected Change in PRCP from 1980 to 2055 (A1B)**



**MN: CDF of Projected Change in ANN PRCP from 1980 to 2055 (A1B)**

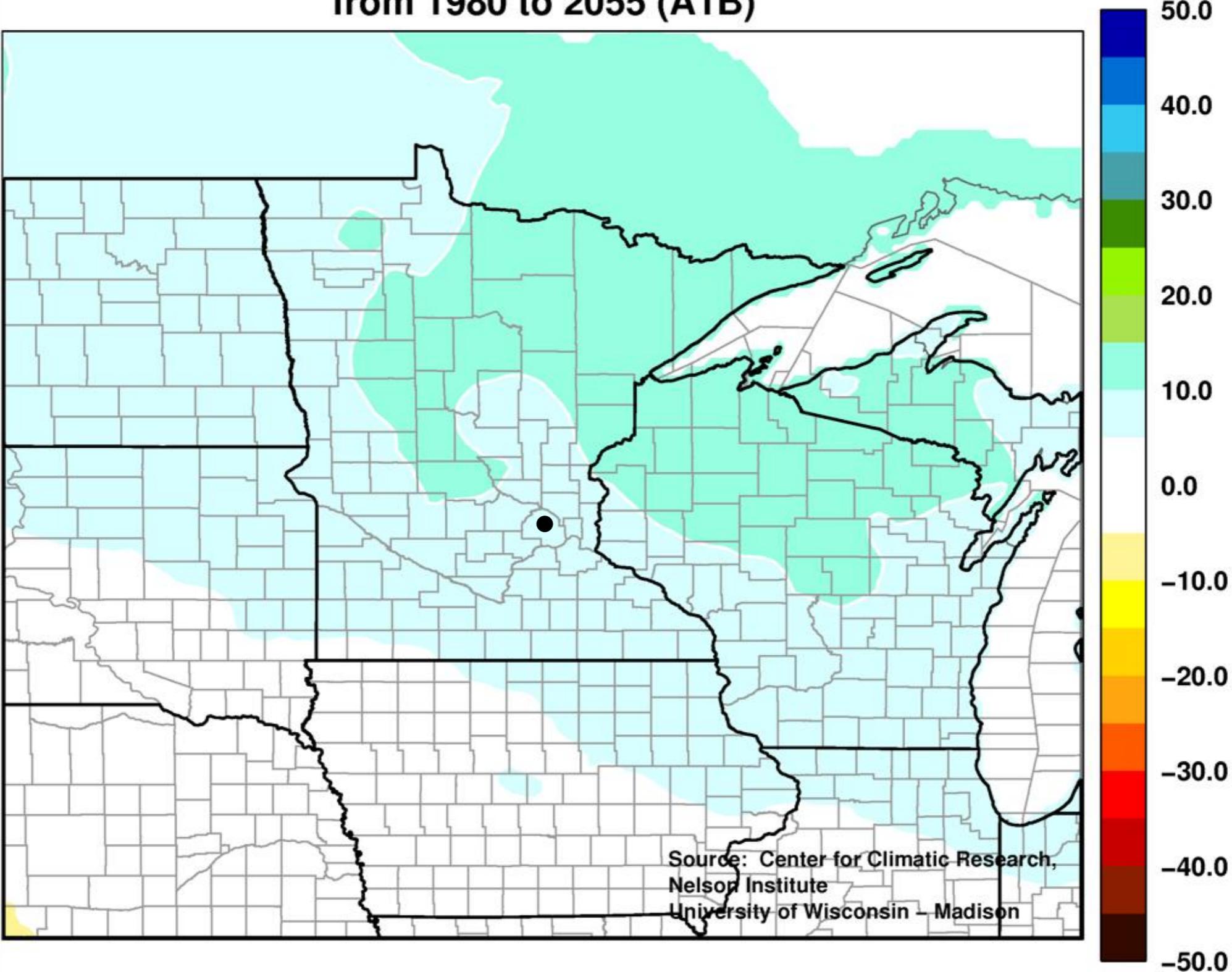


**Projected Change in Annual PRCP (%) from 1980 to 2055 (A1B)**

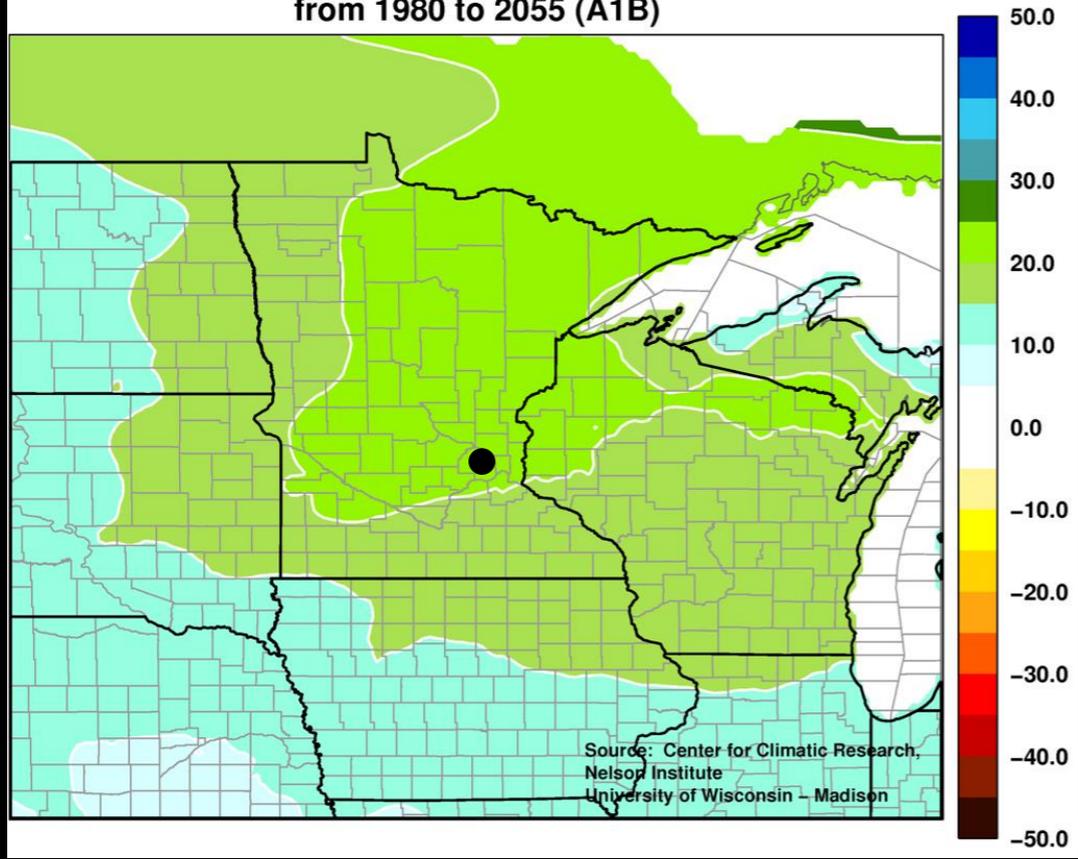


80% range: 1% - 13%

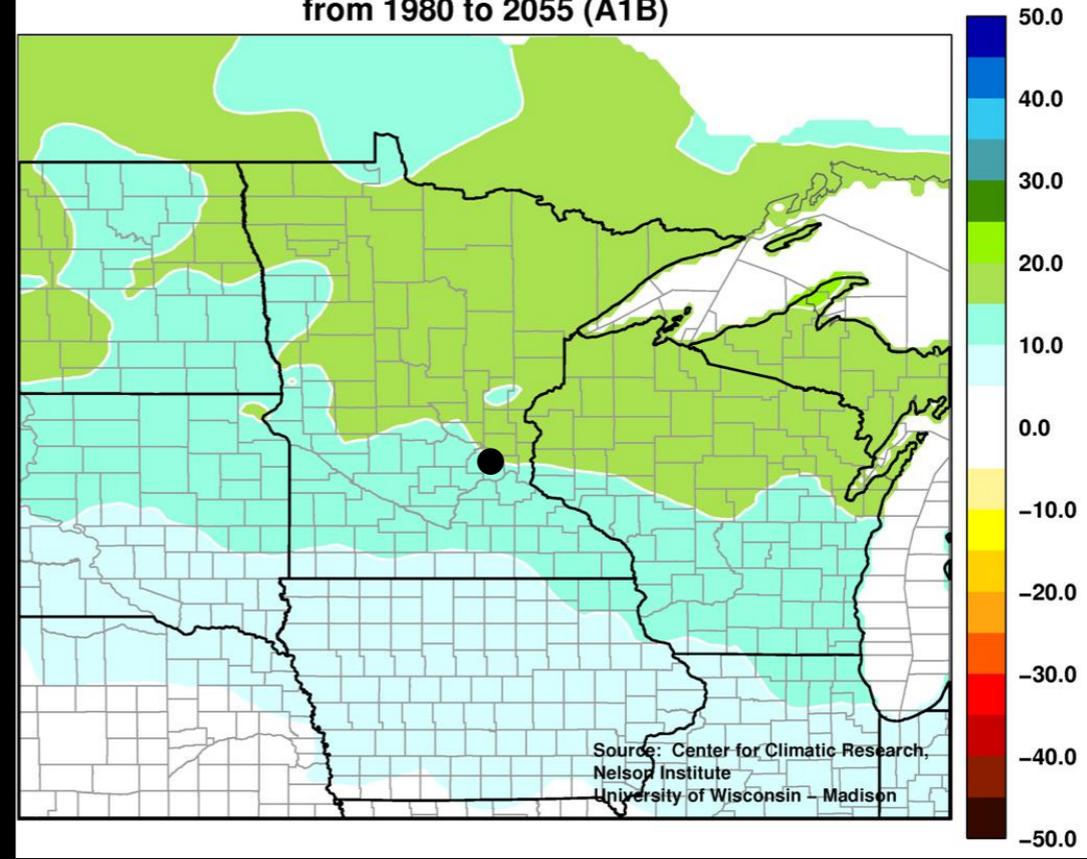
# Projected Change in Annual PRCP (%) from 1980 to 2055 (A1B)



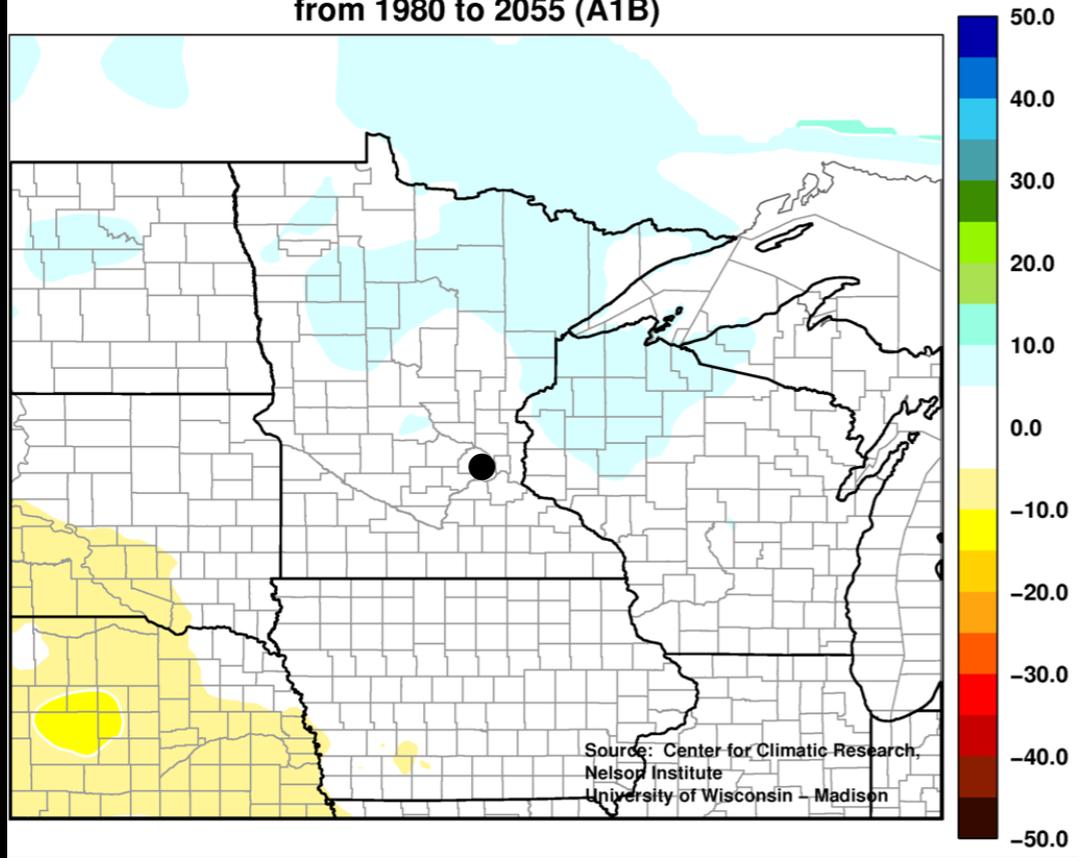
Projected Change in DJF PRCP (%)  
from 1980 to 2055 (A1B)



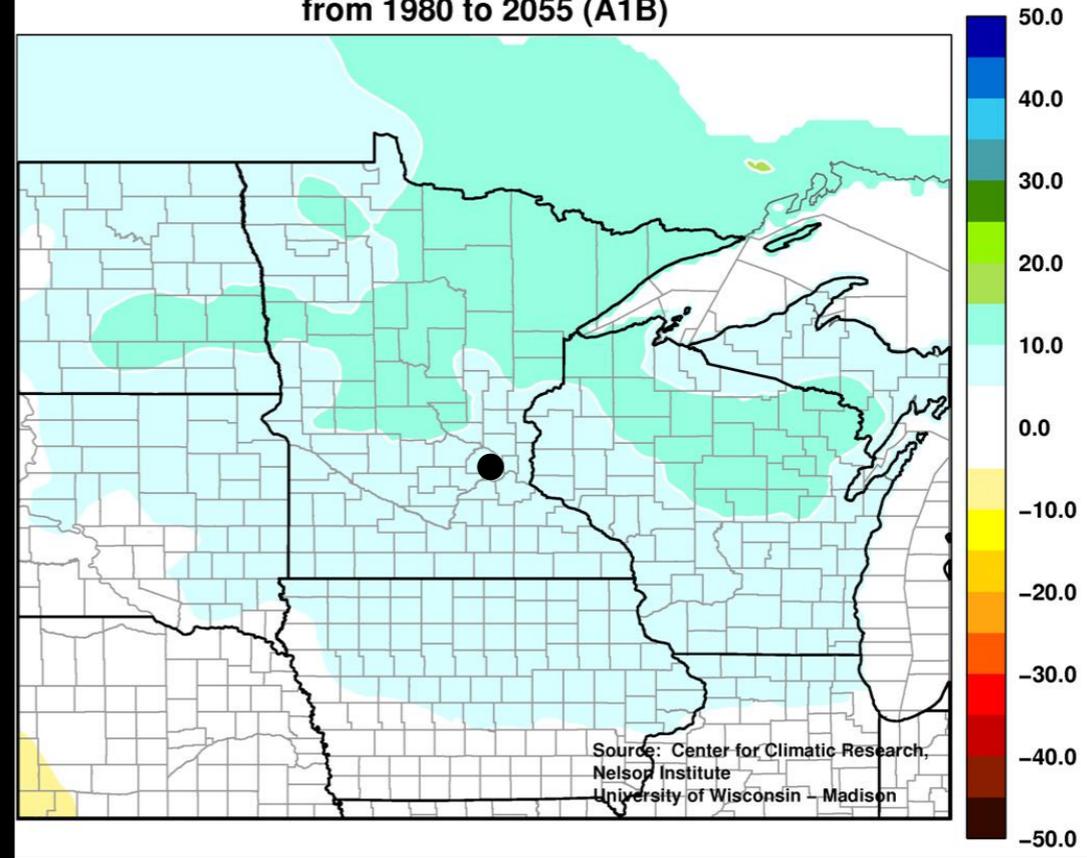
Projected Change in MAM PRCP (%)  
from 1980 to 2055 (A1B)



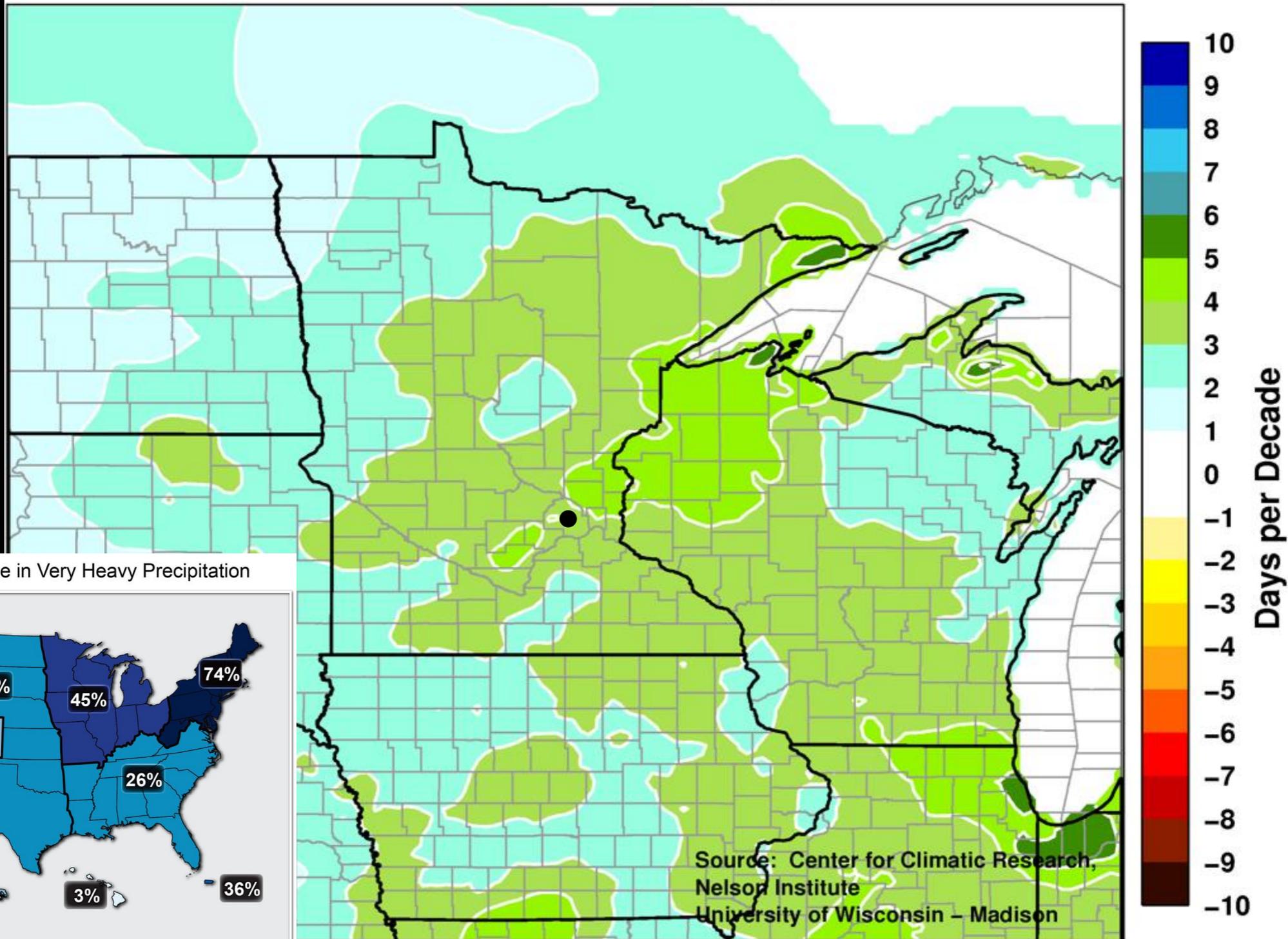
Projected Change in JJA PRCP (%)  
from 1980 to 2055 (A1B)



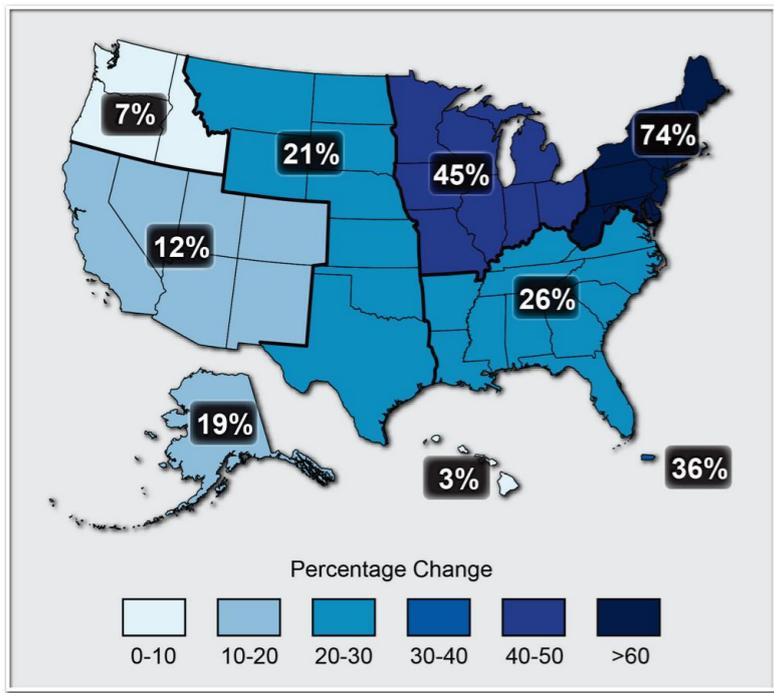
Projected Change in SON PRCP (%)  
from 1980 to 2055 (A1B)



# Projected Change in Days per Decade > 2in Rain from 1980 to 2055 (A1B)

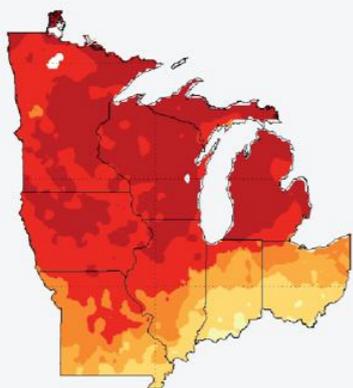


Percentage Change in Very Heavy Precipitation

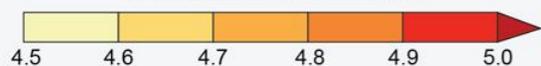


### Temperature Details Show a Range of Changes

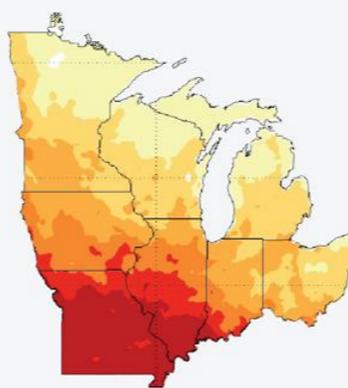
Annual Average Temperature



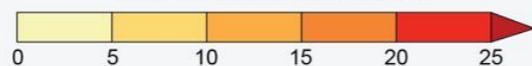
Temperature Difference (°F)



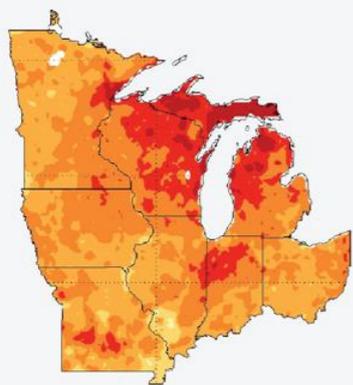
Days Above 95°F



Difference in Number of Days



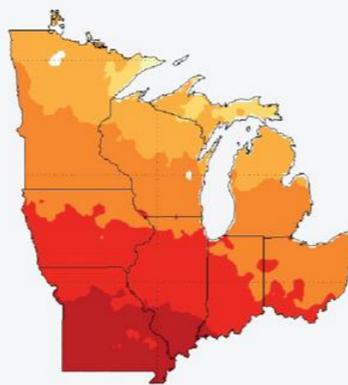
Frost-free Season



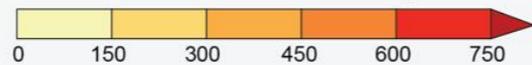
Difference in Number of Days



Cooling Degree Days

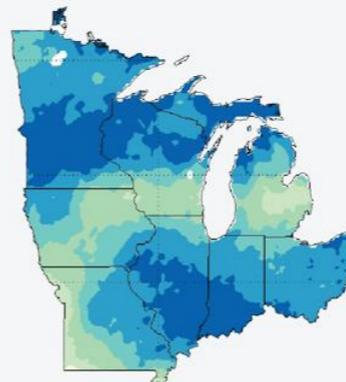


Difference in Number of Days



### When It Rains, It...

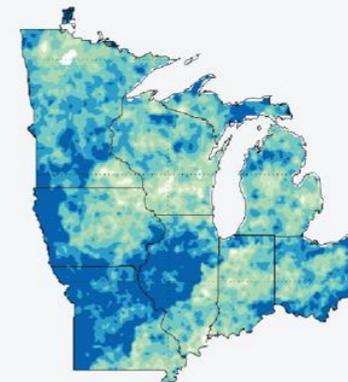
Annual Average Precipitation



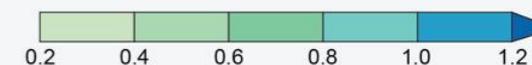
Precipitation Difference (Inches)



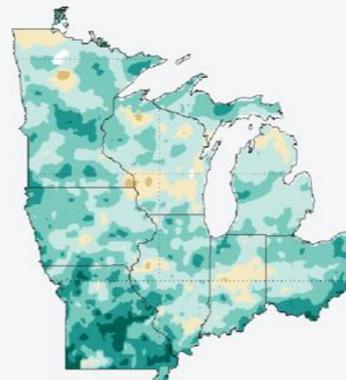
Heavy Precipitation



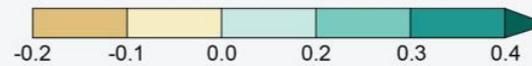
Difference in Number of Days



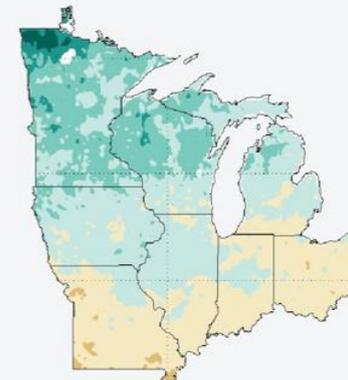
Wettest 5-Day Total



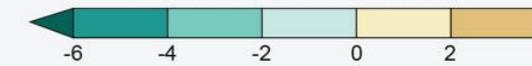
Precipitation Difference (Inches)



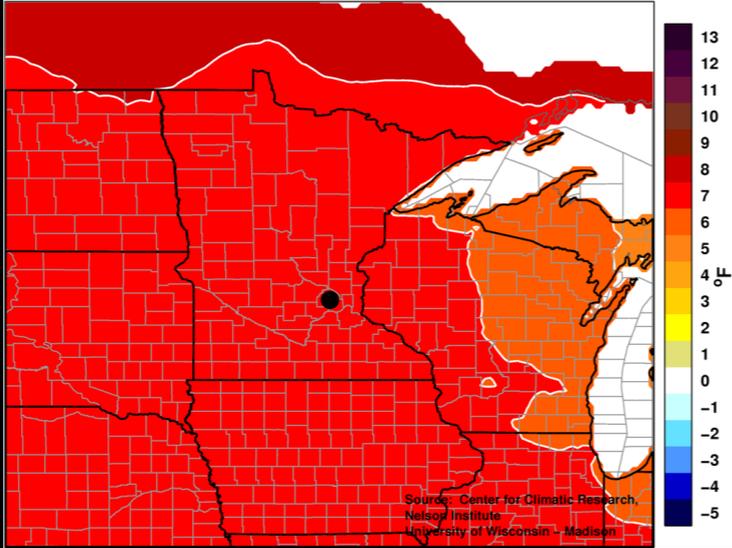
Dry Days



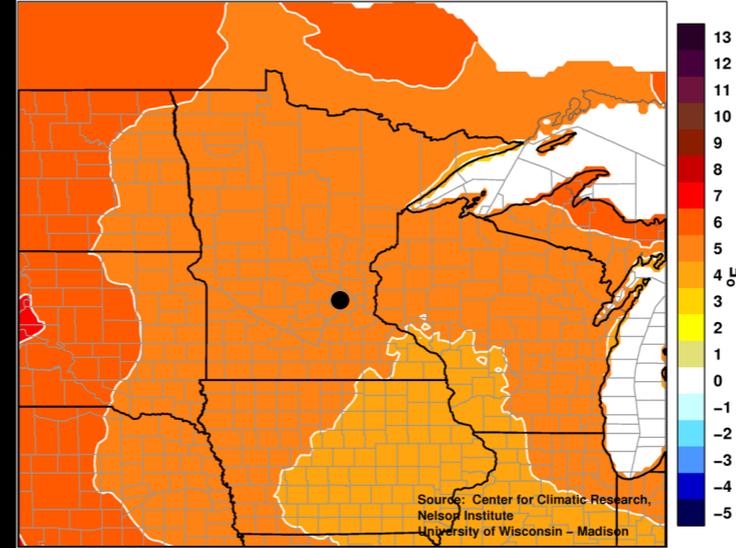
Difference in Number of Days



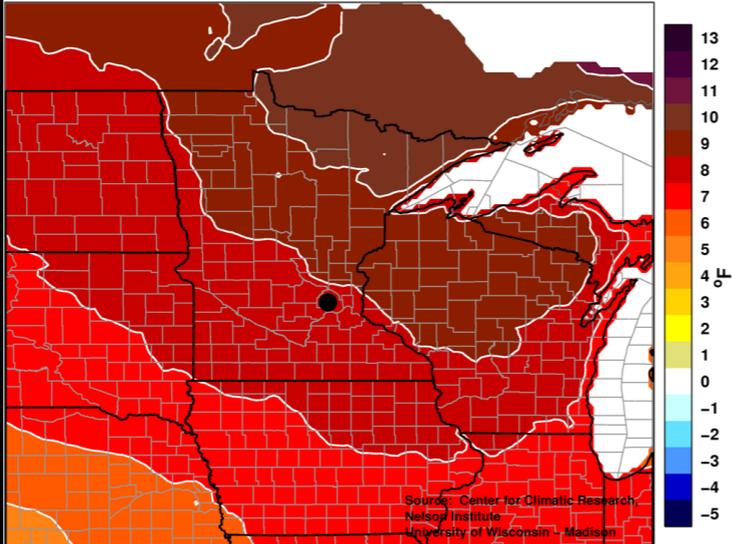
Projected Change in DJF TMAX (°F)  
from 1980 to 2055 (A1B)



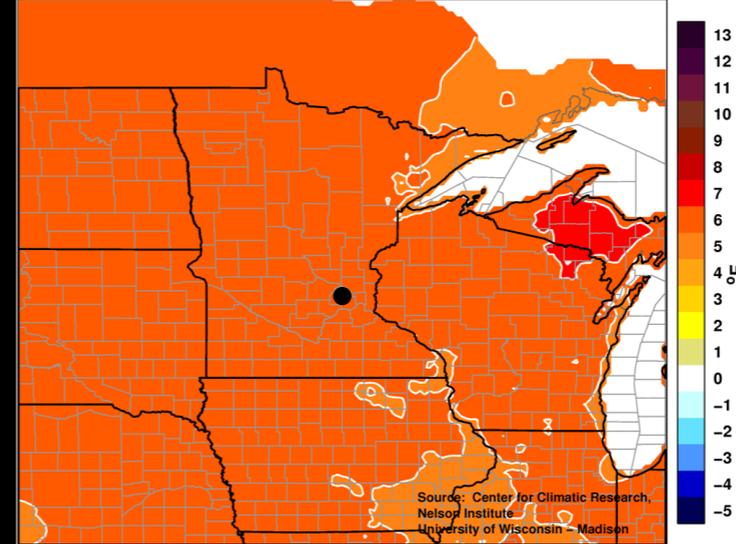
Projected Change in JJA TMAX (°F)  
from 1980 to 2055 (A1B)



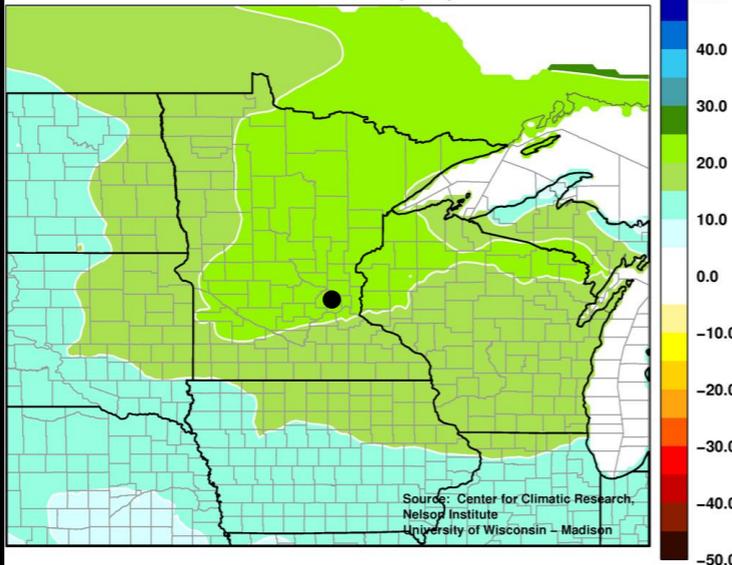
Projected Change in DJF TMIN (°F)  
from 1980 to 2055 (A1B)



Projected Change in JJA TMIN (°F)  
from 1980 to 2055 (A1B)



Projected Change in DJF PRCP (%)  
from 1980 to 2055 (A1B)



Projected Change in JJA PRCP (%)  
from 1980 to 2055 (A1B)

