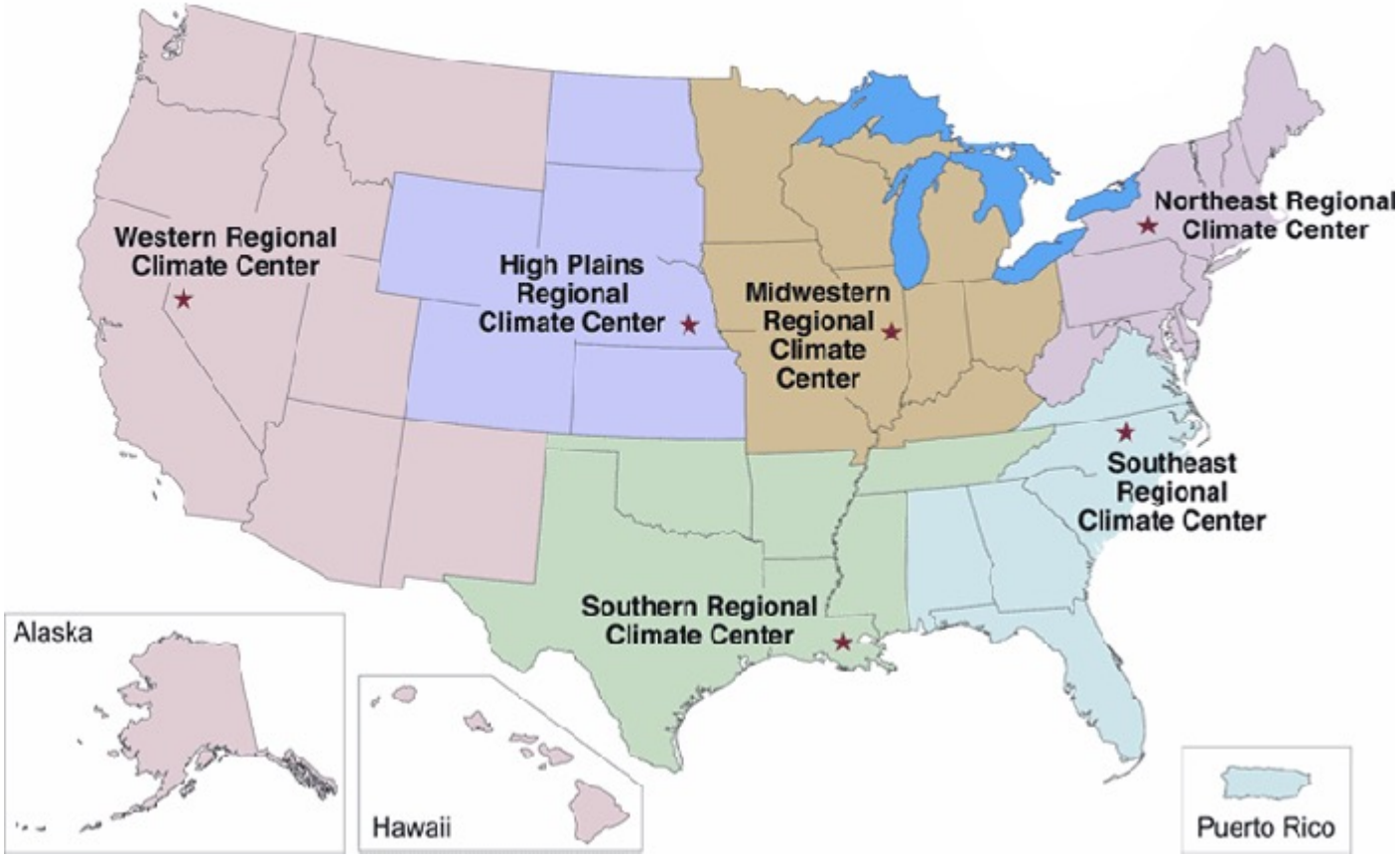
Vegetation Impact Program

Michael S. Timlin
Midwestern Regional Climate Center

WERA 1012
May 19, 2021

MRCC Midwestern Regional Climate Center

MRCC VIP Vegetation Impact Program



MRCC
Midwestern Regional Climate Center

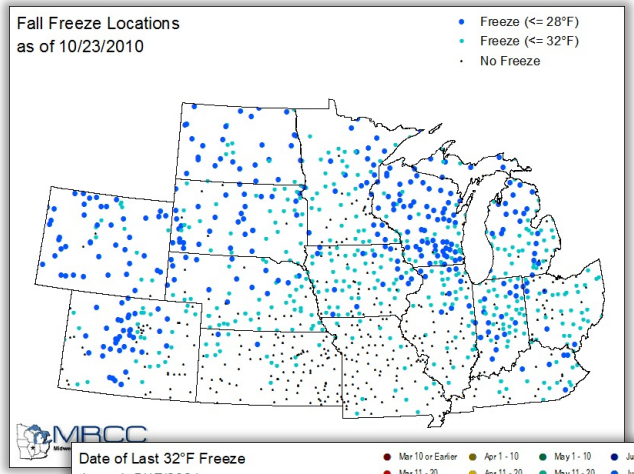
MRCC

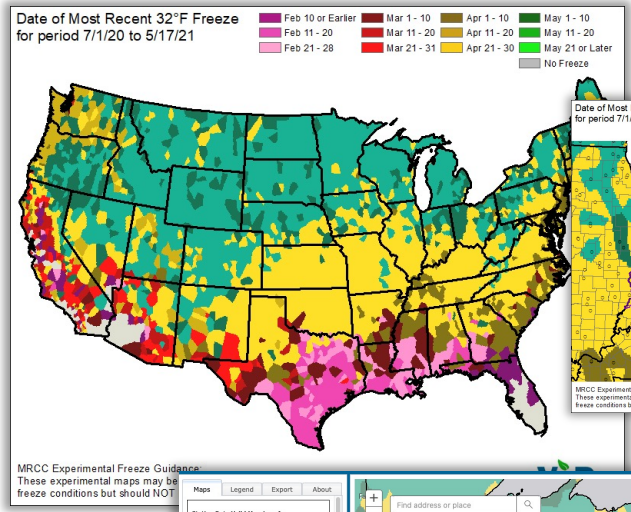
VIP

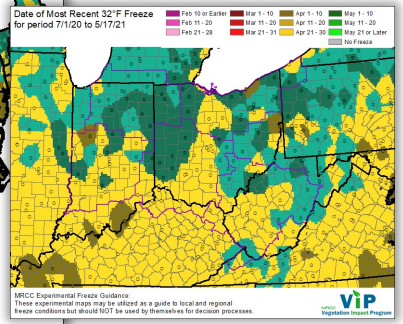
Vegetation Impact Program

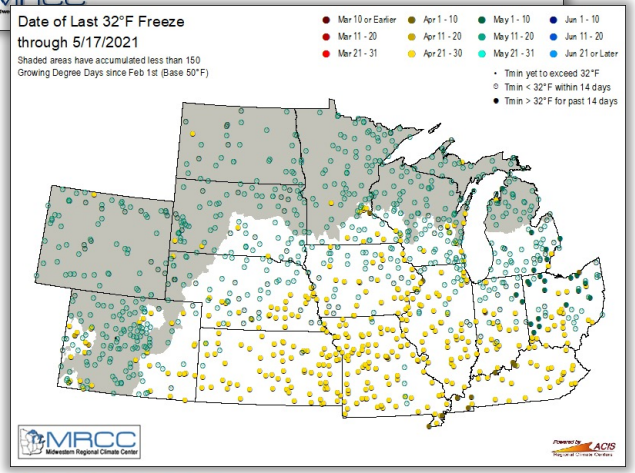
https://mrcc.illinois.edu/VIP/

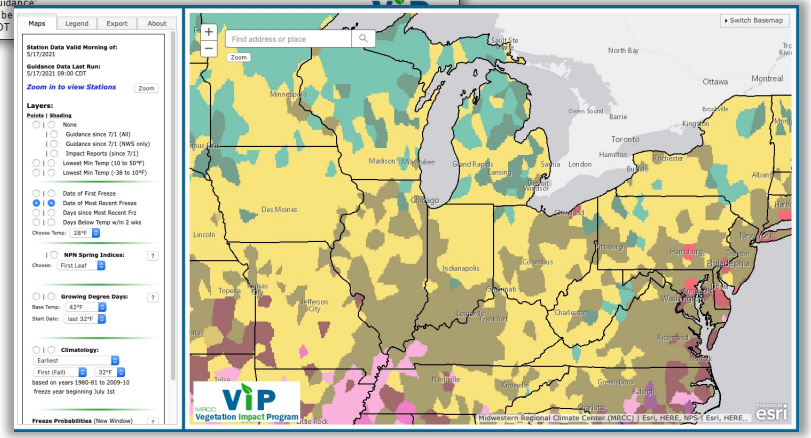
MRCC
Midwestern Regional
Climate Center





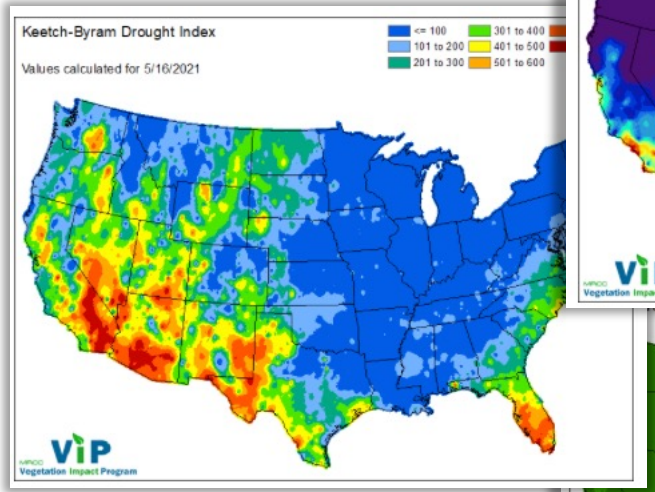


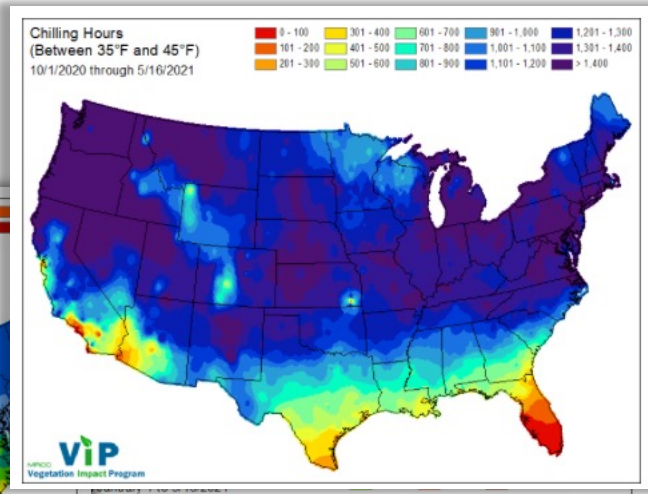


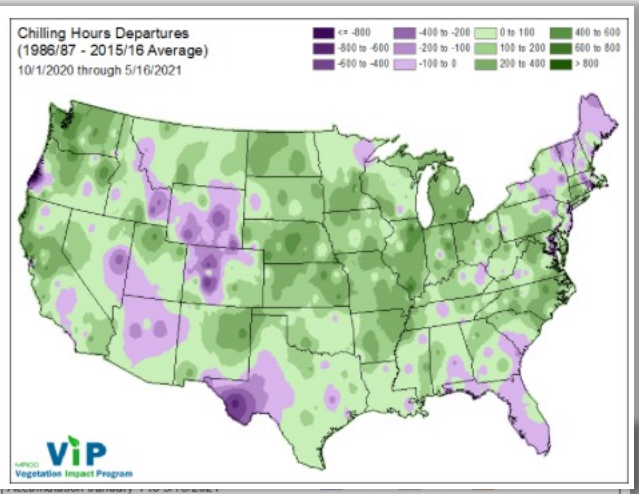


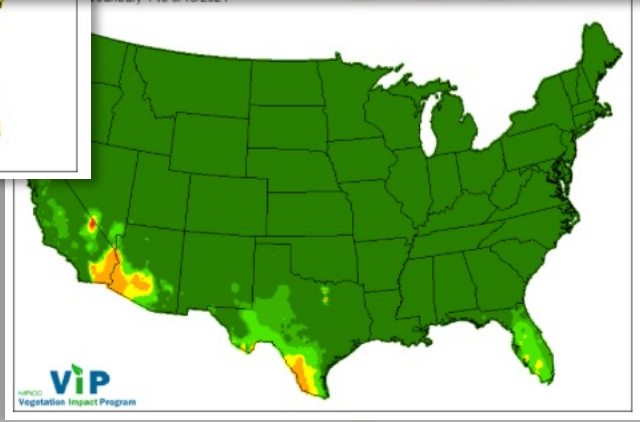
MRCC
Midwestern Regional Climate Center

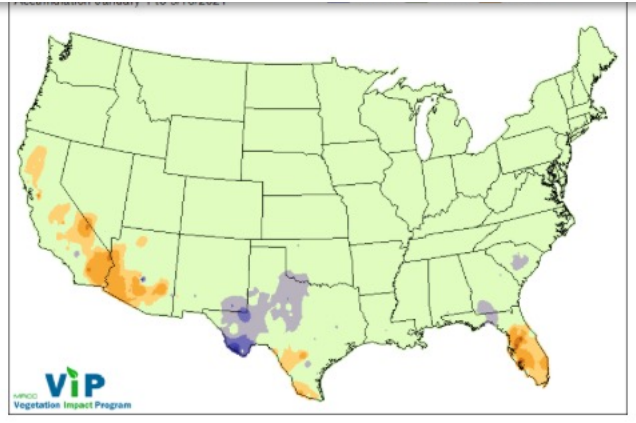
MRCC ViP
Vegetation Impact Program







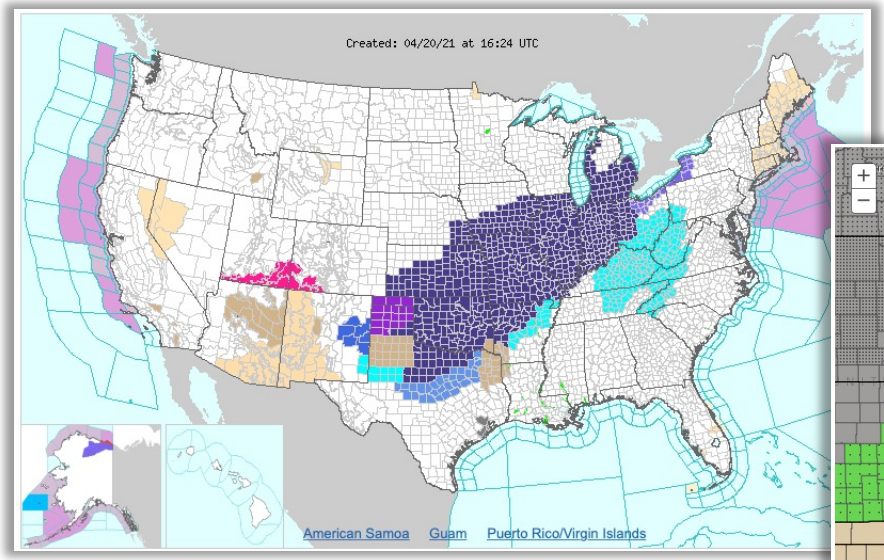


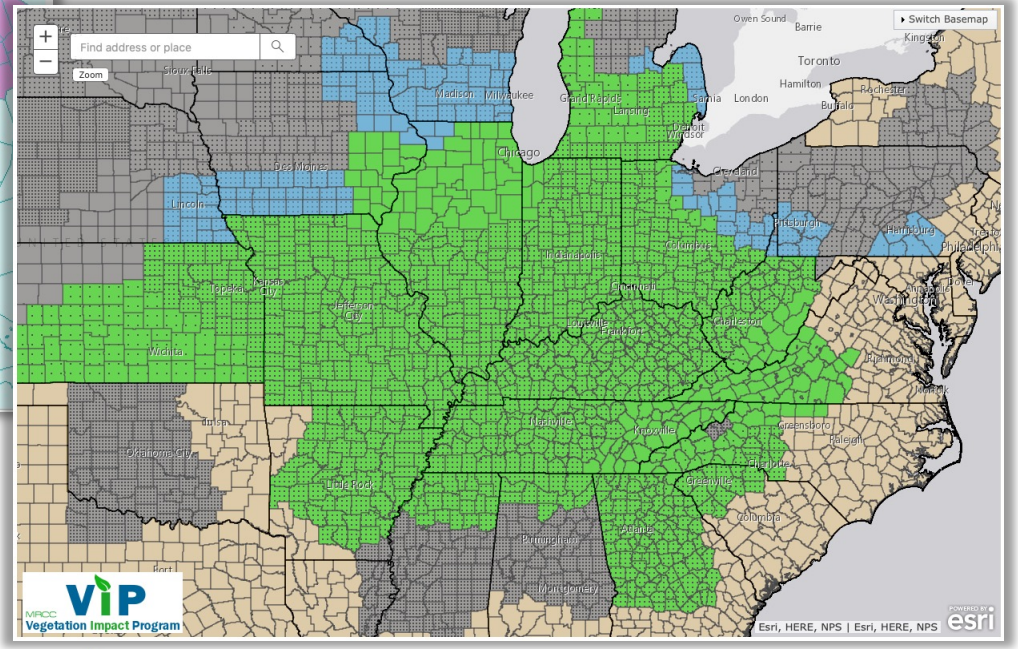


MRCC
Midwestern Regional
Climate Center

MRCC VIP
Vegetation Impact Program

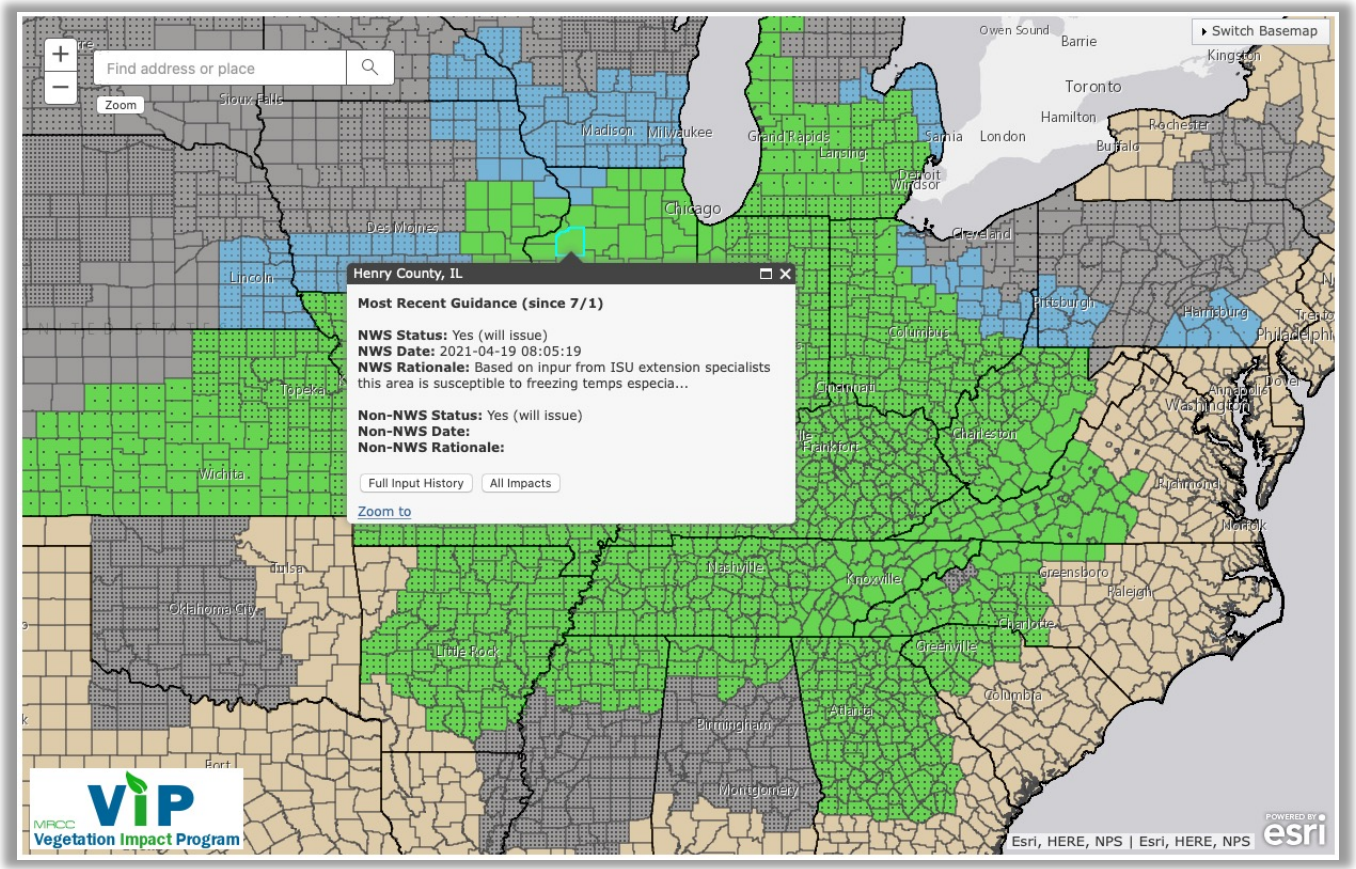
Back to the freeze products:





MRCC
Midwestern Regional Climate Center

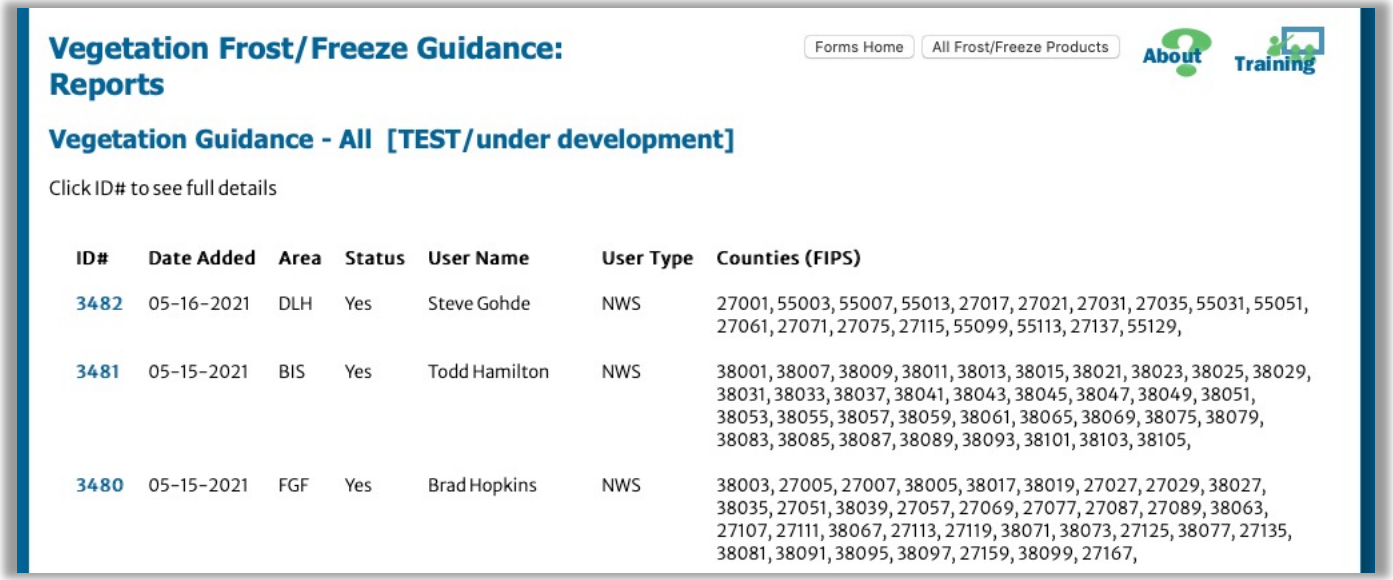
MRCC VIP Vegetation Impact Program



MRCC Midwestern Regional Climate Center

MRCC Vegetation Impact Program

Users can submit guidance for susceptibility.
Also have option to report impacts.



Vegetation Frost/Freeze Guidance: Reports

Forms Home | All Frost/Freeze Products | About | Training

Vegetation Guidance - All [TEST/under development]

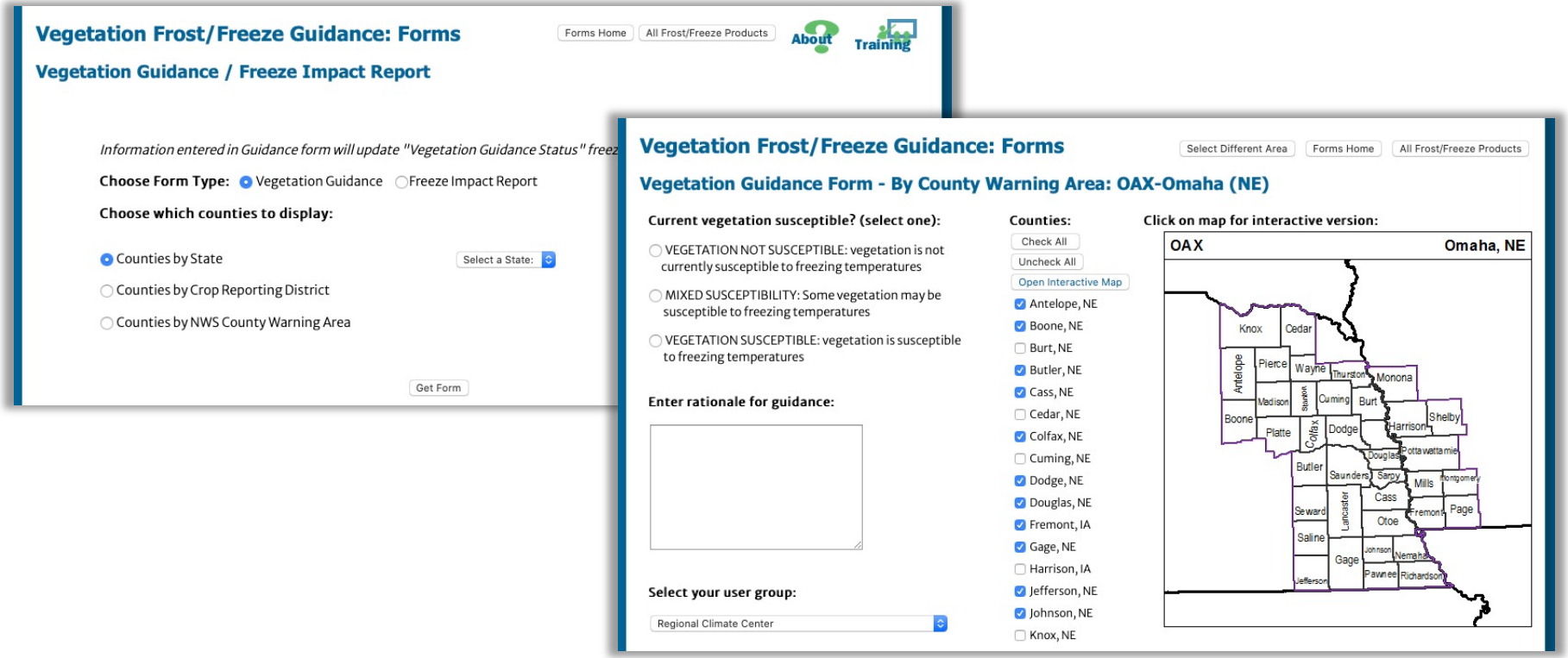
Click ID# to see full details

ID#	Date Added	Area	Status	User Name	User Type	Counties (FIPS)
3482	05-16-2021	DLH	Yes	Steve Gohde	NWS	27001, 55003, 55007, 55013, 27017, 27021, 27031, 27035, 55031, 55051, 27061, 27071, 27075, 27115, 55099, 55113, 27137, 55129,
3481	05-15-2021	BIS	Yes	Todd Hamilton	NWS	38001, 38007, 38009, 38011, 38013, 38015, 38021, 38023, 38025, 38029, 38031, 38033, 38037, 38041, 38043, 38045, 38047, 38049, 38051, 38053, 38055, 38057, 38059, 38061, 38065, 38069, 38075, 38079, 38083, 38085, 38087, 38089, 38093, 38101, 38103, 38105,
3480	05-15-2021	FGF	Yes	Brad Hopkins	NWS	38003, 27005, 27007, 38005, 38017, 38019, 27027, 27029, 38027, 38035, 27051, 38039, 27057, 27069, 27077, 27087, 27089, 38063, 27107, 27111, 38067, 27113, 27119, 38071, 38073, 27125, 38077, 27135, 38081, 38091, 38095, 38097, 27159, 38099, 27167,

MRCC Midwestern Regional Climate Center

MRCC VIP Vegetation Impact Program

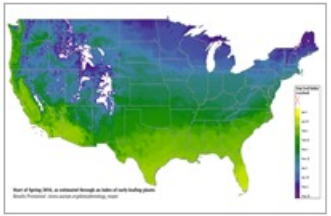
Users can submit guidance for susceptibility.
Also have option to report impacts.



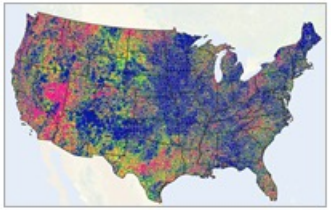
MRCC Midwestern Regional Climate Center

MRCC VIP Vegetation Impact Program

Other links:



National Phenology Network: Phenology refers to key seasonal changes in plants and animals from year to year—such as flowering, emergence of insects and migration of birds—especially their timing and relationship with weather and climate.



USDA VegScape: From the National Agricultural Statistics Service of the USDA, this tool allows you to view vegetation indices in a GIS format for years back to 2000. The GIS format allows you to zoom far into the county level, get statistics for the chosen area, and output into a pdf file.

NOAA STAR Global Vegetation Health Products:
The Center for Satellite Applications and Research at NOAA has a tool with 17 vegetation health products, ranging from Vegetation Heath and Greenness to Fire Risk and Thermal Stress. Output is a large image in png format.

MRCC Midwestern Regional Climate Center

MRCC VIP Vegetation Impact Program

Other links:

National Phen
year to year—su
relationship with

USDA VegScap
view vegetation
the county level,

Specialty Crop Information

The Specialty Crop Information section of VIP is meant as a general source of information pertaining to climate im
vegetation. VIP users are welcome to submit anything they wish to help better communicate these interactions. P
info@illinois.edu.

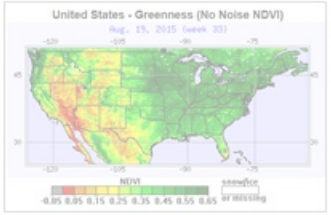
(+/-) **Chilling Hour requirements by type of fruit**

(+/-) **How susceptible are fruits and vegetables to cold temperatures?**

(+/-) **Extreme cold impacts on fruit crops**

Critical low temperatures for specialty crops:

(+/-) **Critical temperatures for fruit flower buds**

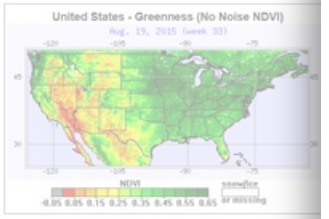


NOAA STAR Global Vegetation Health Products:
The Center for Satellite Applications and Research at NOAA has a tool with 17 vegetation health products, ranging from Vegetation Heath and Greenness to Fire Risk and Thermal Stress. Output is a large image in png format.

MRCC Midwestern Regional Climate Center

MRCC VIP Vegetation Impact Program

Other links:



Specialty Crop Information

National Phen

year to year—su The Specialty Crop Information section of VIP is meant as a general source of information pertaining to climate im

actions. P

State Agricultural Weather Resources

Weather and climate data from our partners and other state ag resources.

Illinois Climate Network

Illinois Climate Network:
On the left-hand menu, there is a list of products and tools for agricultural weather applications across Illinois, including a Pest Degree Day calculator.

IEM IOWA ENVIRONMENTAL MESONET

Iowa Environmental Mesonet:
Growing Degree Days, precipitation, soil moisture and temperature, Stress Degree Days, freeze risk, and aridity index are a few products available for Iowa.

KENTUCKY MESONET

Kentucky Mesonet:
Live soil moisture data and graphs and other weather and climate information, serves diverse needs in communities across Kentucky.

UKAg

University of Kentucky Ag:
Weather website devoted to agricultural weather applications and tools across Kentucky.

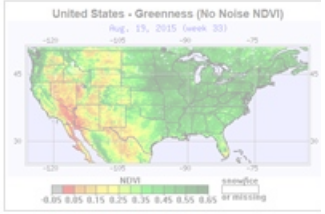
MICHIGAN STATE UNIVERSITY

Michigan State University Enviro-weather:
Provides weather-based pest, natural resources, and production management tools for Michigan.

MRCC Midwestern Regional Climate Center

MRCC VIP Vegetation Impact Program

Other links:



Specialty Crop Information

National Phen

year to year—su The Specialty Crop Information section of VIP is meant as a general source of information pertaining to climate im

State Agricultural Weather Resources

actions. P

Weather and

Illinc
Clim

across

IOWA EN

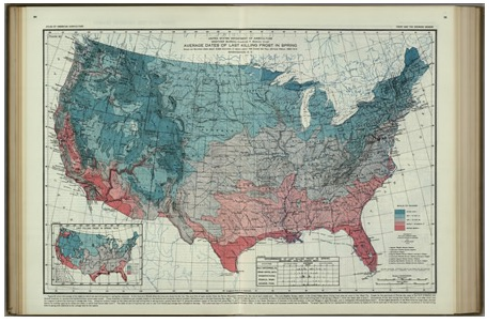
risk, and

KEN
ME

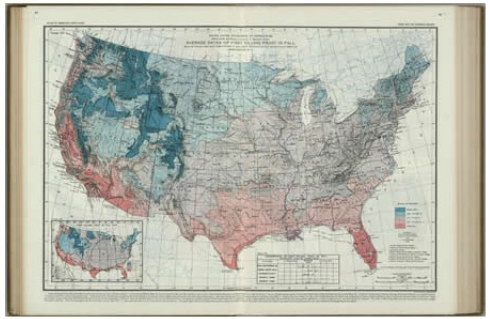
eeds in

Average Dates of First & Last Killing Frost in 1916

From the David Rumsey Map Collection, more information on frost and the growing season, and other portions of the *Atlas*, can be found on their website.



Average Dates of Last Killing Frost in Spring, 1916 **– click for large image**



Average Dates of First Killing Frost in Fall, 1916 **– click for large image**

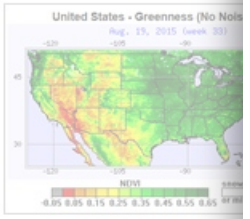
MICHIGAN STATE UNIVERSITY

Michigan State University Enviro-weather:
Provides weather-based pest, natural resources, and production management tools for Michigan.

MRCC Midwestern Regional Climate Center

MRCC VIP Vegetation Impact Program

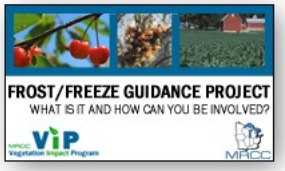
Other links:



VIP Training & Materials

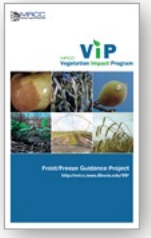
Training

Frost/Freeze Guidance Training Webinars



National Weather Service Climate Services Training – 9/2019

Materials

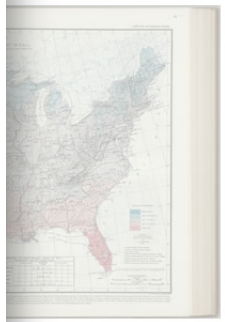


Brochure:

About the MRCC Frost/Freeze Guidance Project

Brochure:

About the Vegetation Impact Program



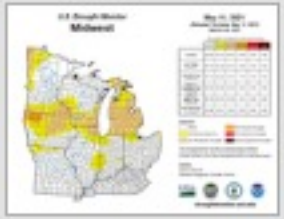
in Fall, 1916 – click for large

MRCC Midwestern Regional Climate Center

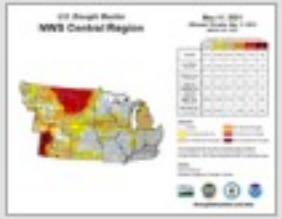
MRCC VIP Vegetation Impact Program

Future additions to ViP?

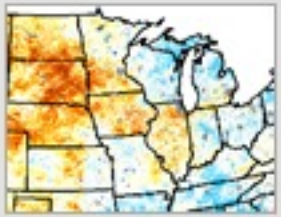
Drought Monitoring Maps



Midwest Drought Monitor



Central Region Drought Monitor



Quick Drought Response Index

High Resolution Drought Trigger Tool

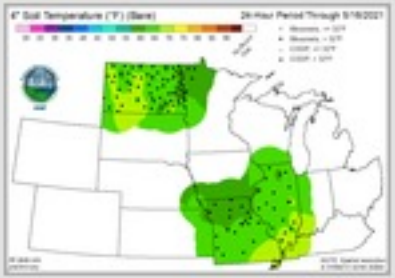
MRCC Midwestern Regional Climate Center

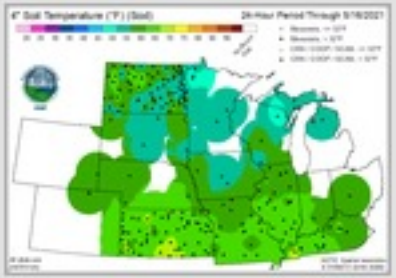
MRCC ViP Vegetation Impact Program

Future additions to ViP?

Soil Temperature Maps

info





4" Soil Temp: Under Bare Soil

4" Soil Temp: Under Sod

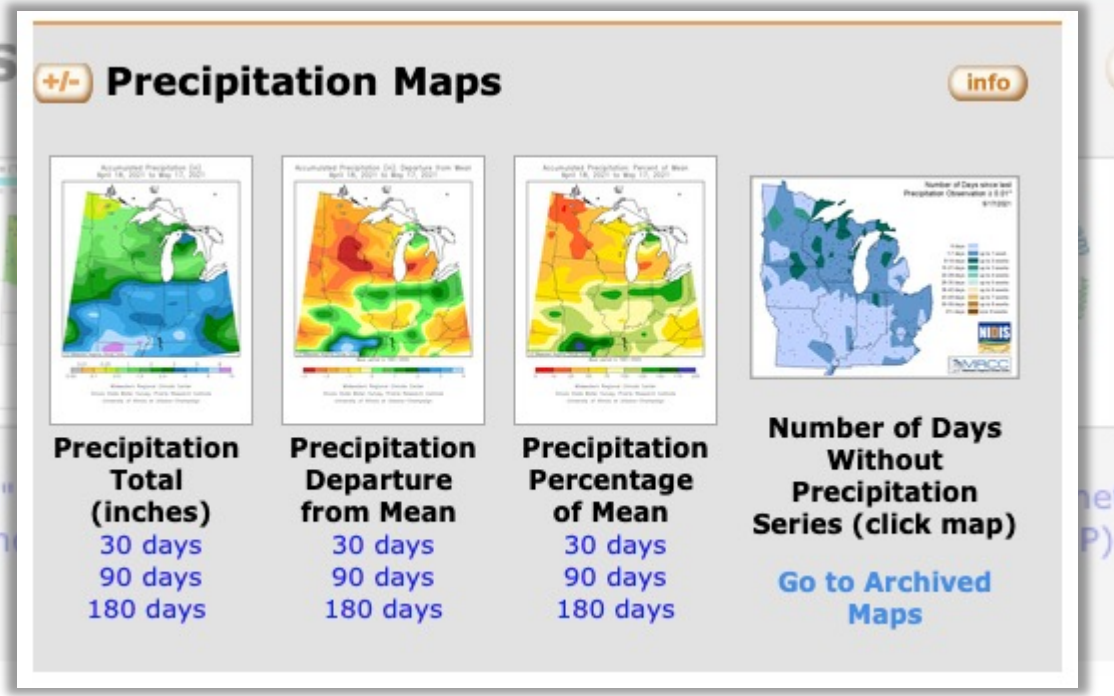
Regional Mesonets Program (RMP)

For 2", 4" 7-day averages, and PET, see the RMP section

MRCC Midwestern Regional Climate Center

MRCC ViP Vegetation Impact Program

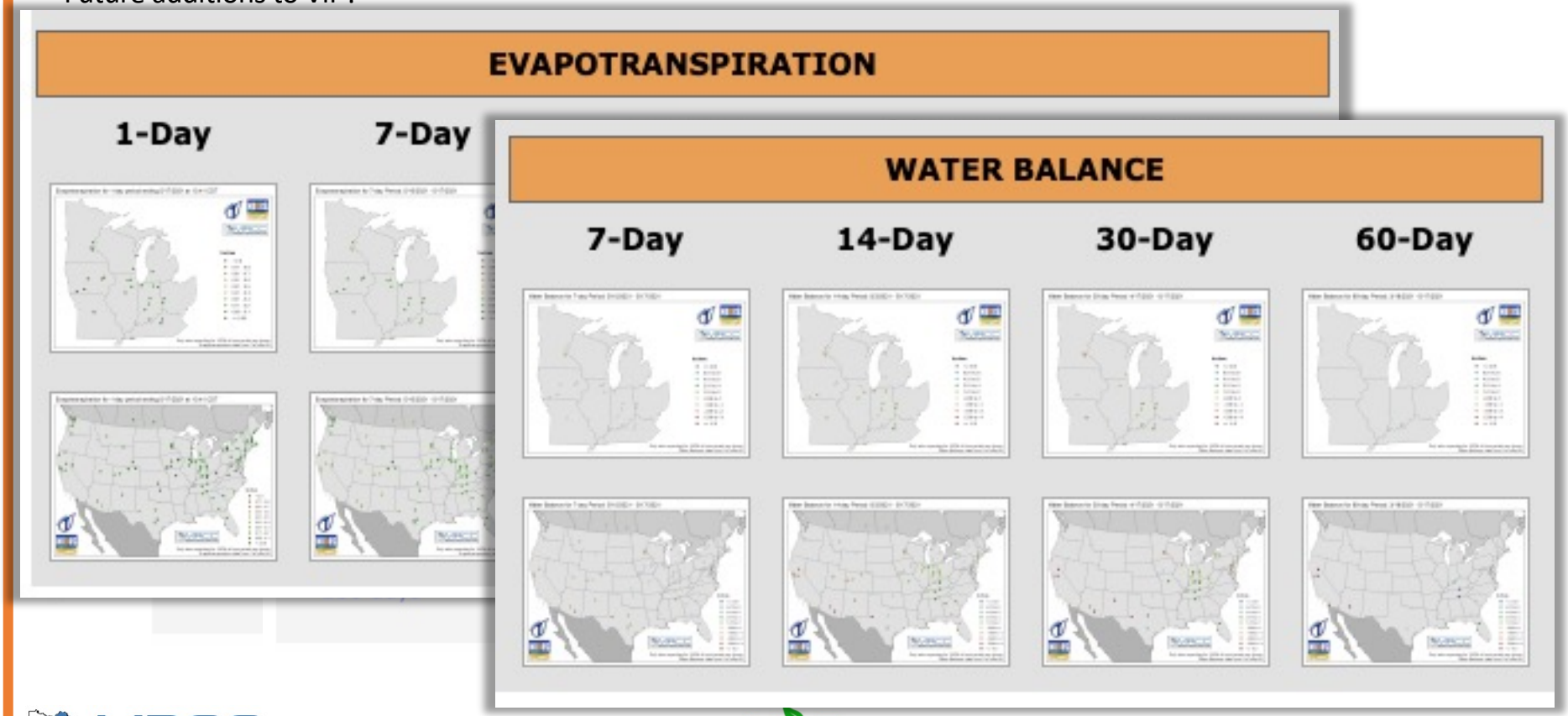
Future additions to ViP?



MRCC Midwestern Regional Climate Center

MRCC ViP Vegetation Impact Program

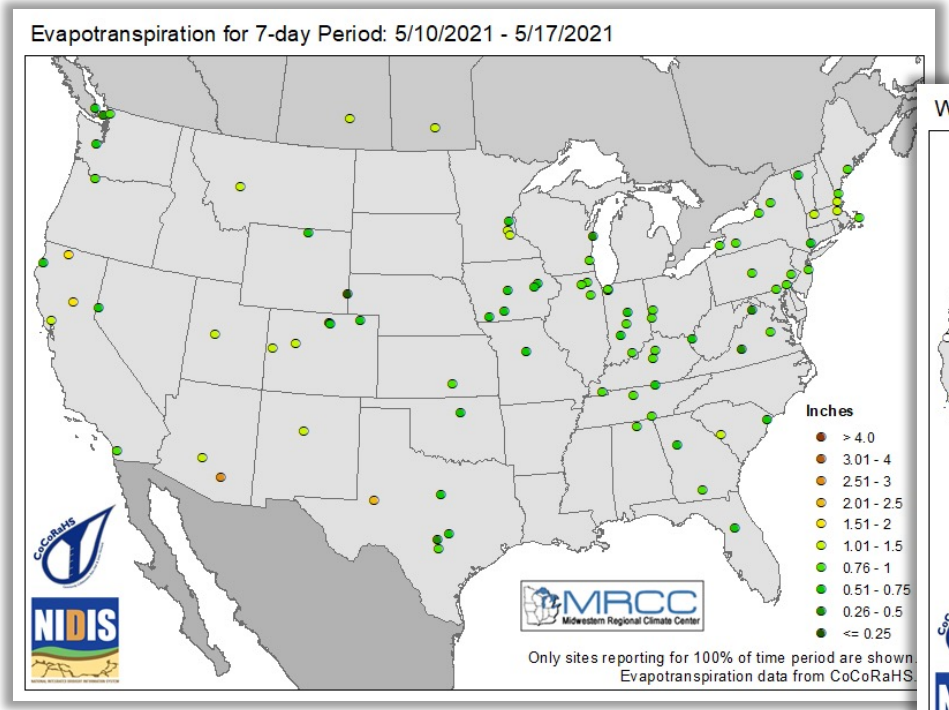
Future additions to ViP?

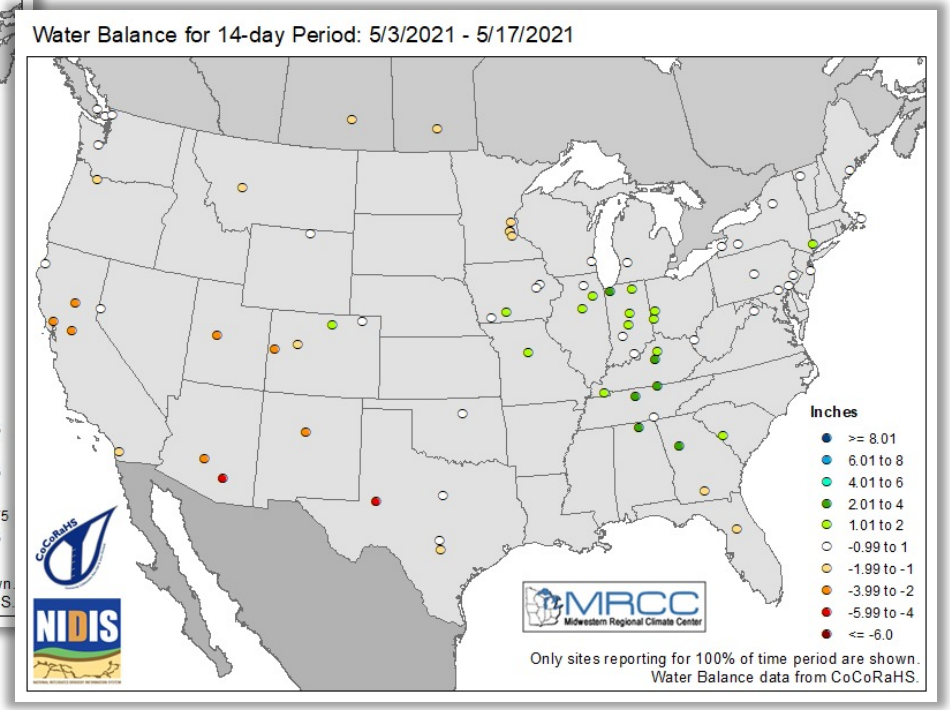


MRCC Midwestern Regional Climate Center

MRCC ViP Vegetation Impact Program

Future additions to ViP?





MRCC Midwestern Regional Climate Center

MRCC ViP Vegetation Impact Program

Thanks!

mtimlin@Illinois.edu

https://mrcc.Illinois.edu

MRCC Midwestern Regional Climate Center

MRCC VIP Vegetation Impact Program