

2024 WEATHER IMPACTS ON TREE FRUIT CROPS

NANCY NYQUIST, MICHIGAN TREE FRUIT COMMISSION



WHAT IS THE MICHIGAN TREE FRUIT COMMISSION?

- The MTFC was established in 2014 to bring together the tree fruit industry to address the infrastructure needs at the tree fruit research stations in Michigan
- Partnership with cherry, apple, plum & peach growers along with MI State Horticultural Society, MACMA, MSU & MDARD
- Priorities of the Commission are centered around upgrading/maintaining the fruit research stations; MSU research positions; MSU Extension positions being filled & supported; plot fee assistance for industry supported research
- Program renewal occurs by a vote of tree fruit farmers and MTFC was recently extended for another 5 years



MICHIGAN'S TREE FRUIT INDUSTRY



*Nearly 500
Cherry Growers*



*400+ Peach
Growers*



\$700+
million

Economic Impact



160+ Plum Growers

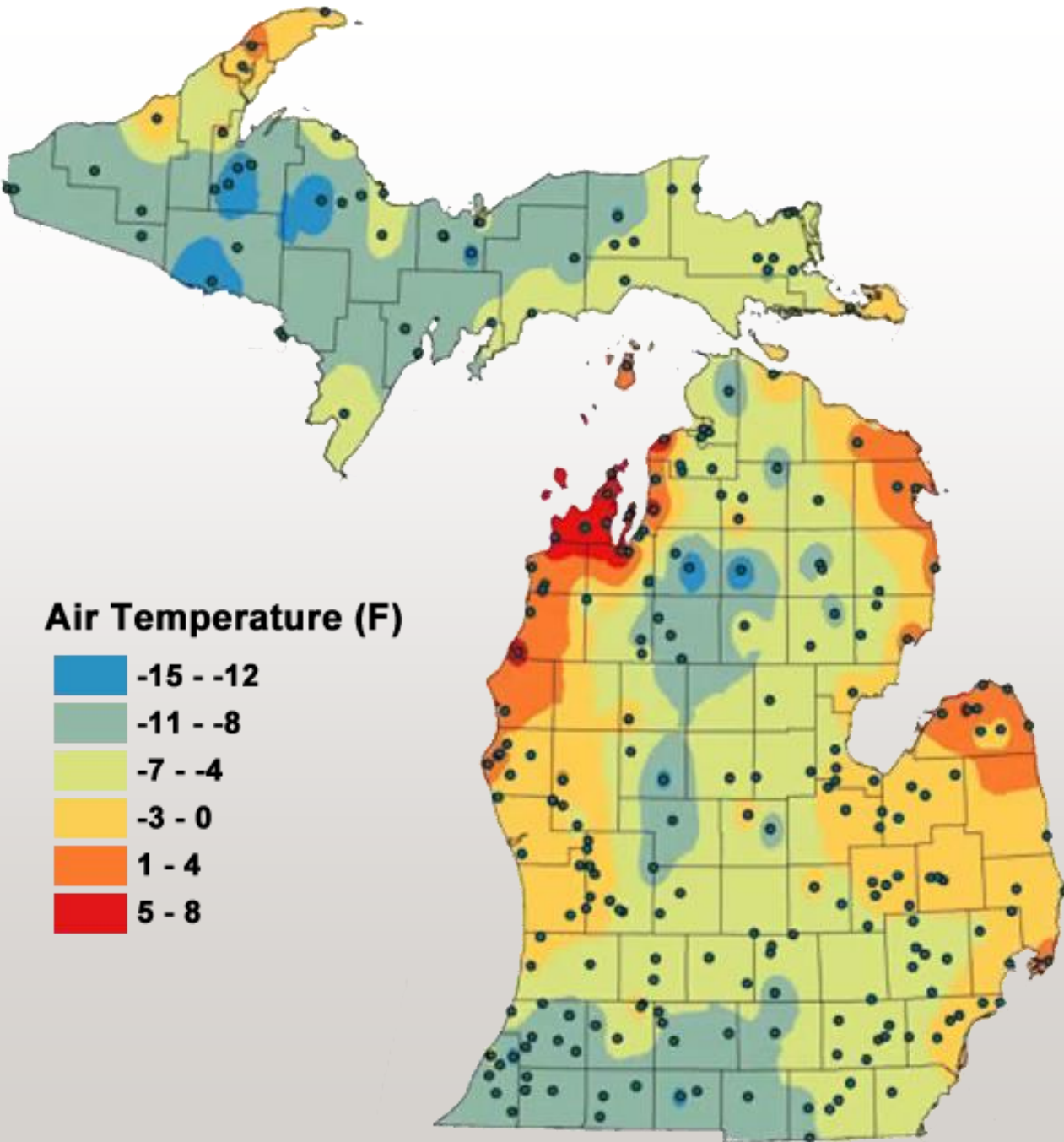


*1,300+ Apple
Growers*

EXTREME MINIMUM TEMPS

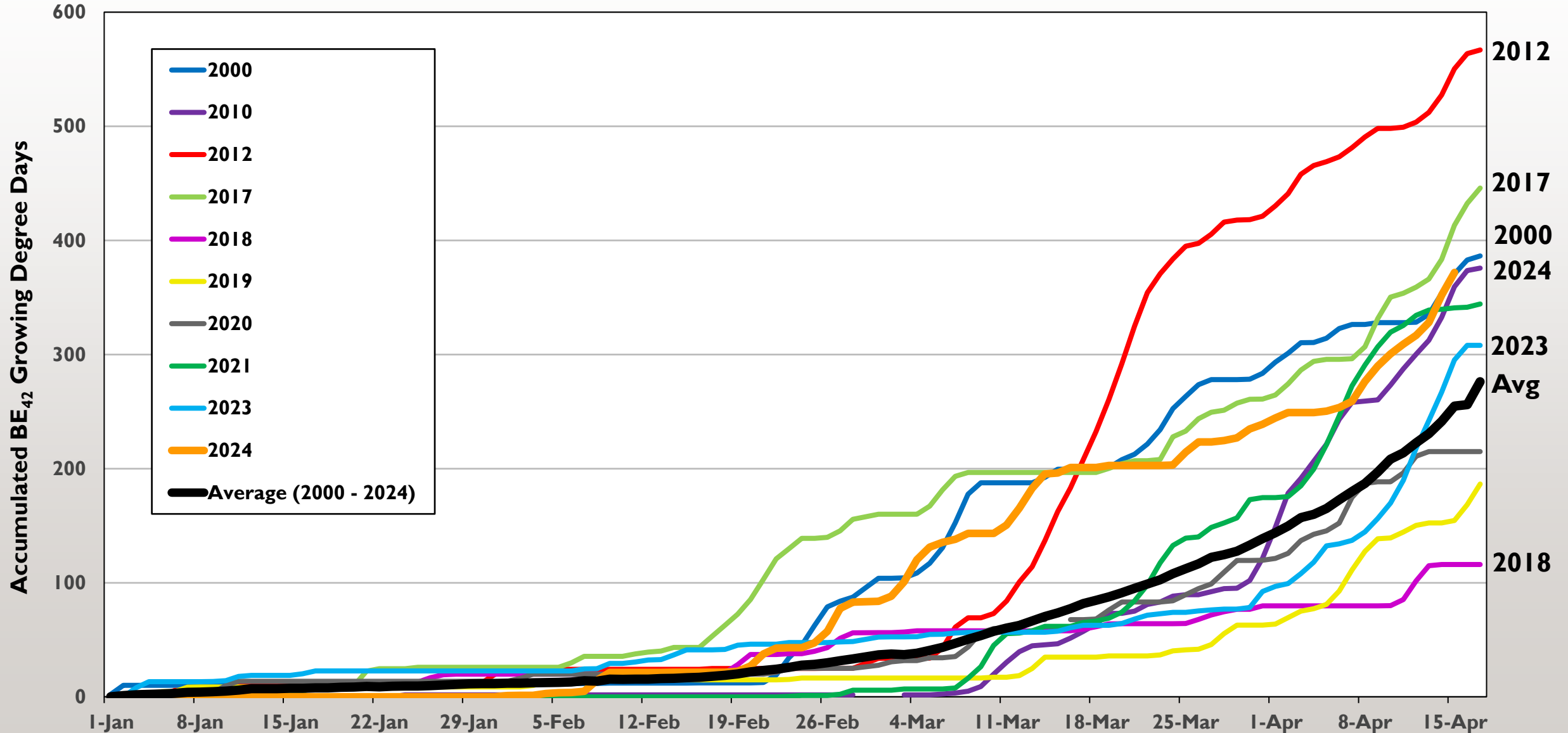
(OCTOBER 2023 – MARCH 2024)

Air Temperature (F)



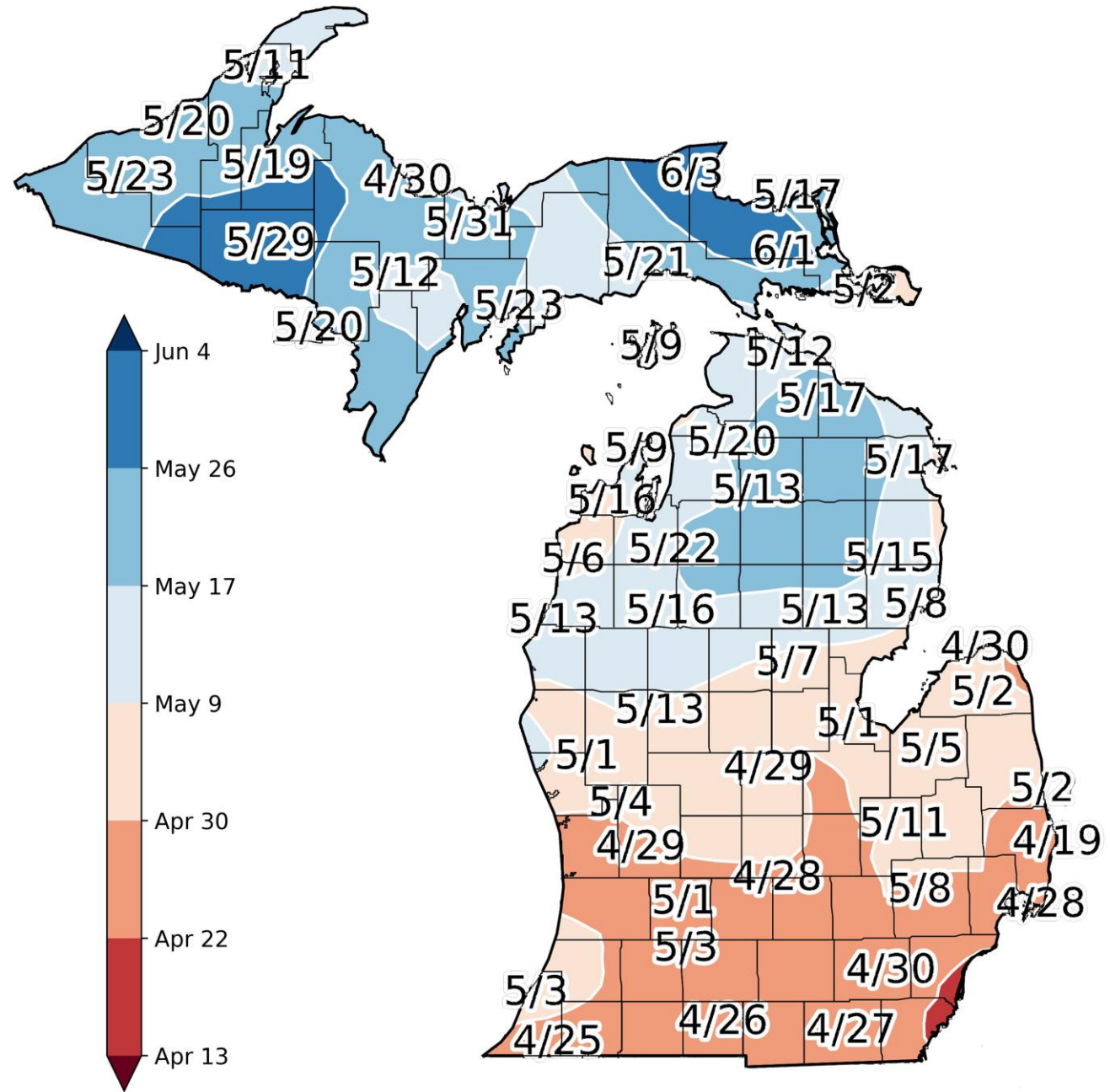
- Temperatures observed in mid-January during polar vortex
- Cold air came in from the southwest so Lake Michigan didn't help to moderate the temps
- Due to the warm winter, crops were not fully cold acclimated yet
- Damage to peaches, apricots and some wine grapes in SW MI

GROWING DEGREE DAY ACCUMULATIONS





















AVERAGE DATE OF LAST SPRING FREEZE

(1990 - 2023)





50th Percentile Date of Air Temperature Last Spring Date Below 32 °F
based on NWS COOP and IEM Daily Estimates, period of record: 1990-2023

CRITICAL SPRING TEMPS FOR TREE FRUIT

















Pome Fruit (Apples and Pears)									
Apples									
Apples	Silver tip	Green Tip	Half inch green	Tight Cluster	First Pink	Full Pink	First Bloom	Full Bloom	Post Bloom
Old temp	16	16	22	27	27	28	28	29	29
10% kill	15	18	23	27	28	28	28	28	28
90% kill	2	10	15	21	24	25	25	25	25
Pears									
Pears	Bud scales separating	Blossom buds exposed	No name	Tight cluster	First White	Full White	First Bloom	Full Bloom	Post Bloom
Old temp	18	23	No data	24	28	29	29	29	30
10% kill	15	20	No data	24	25	26	27	28	28
90% kill	0	6	No data	15	19	22	23	24	24



CRITICAL SPRING TEMPS FOR TREE FRUIT

Stone Fruit (Apricots, Peaches and Plums)									
Apricots									
Apricots	Swollen Bud	Tips separate	Calyx red	First White	First Bloom	Full Bloom	In the shuck	Green Fruit	
Old temp	--	23	--	25	--	28	--	31	
10% kill	15	20	22	24	25	27	27	28	
90% kill	--	0	9	14	19	22	24	25	
Peaches									
Peaches	Swollen Bud	Calyx Green	Calyx Red	First Pink	First Bloom	Full Bloom	Post Bloom		
Old temp	23	--	--	25	--	27	30		
10% kill	18	21	23	25	26	27	28		
90% kill	1	5	9	15	21	24	25		
European Plums									
European Plums	First Swelling	Side White	Tip Green	Tight Cluster	First White	First Bloom	Full Bloom	Post Bloom	
Old temp	--	--	--	--	23	27	27	30	
10% kill	14	17	20	24	26	27	28	28	
90% kill	0	3	7	16	22	23	23	23	

CRITICAL SPRING TEMPS FOR TREE FRUIT

Cherries									
Sweet Cherries					No picture				
Sweet Cherries	Swollen Bud	Side Green	Green Tip	Tight Cluster	Open Cluster	First White	First Bloom	Full Bloom	Post Bloom
Old temp	23	23	25	28	28	29	29	29	30
10% kill	17	22	25	26	27	27	28	28	28
90% kill	5	9	14	17	21	24	25	25	25
Tart Cherries									
Tart Cherries	Swollen Bud	Side Green	Green Tip	Tight Cluster	Open Cluster	First White	First Bloom	Full Bloom	
10% kill	15	24	26	26	28	28	28	28	
90% kill	0	10	22	24	24	24	24	24	

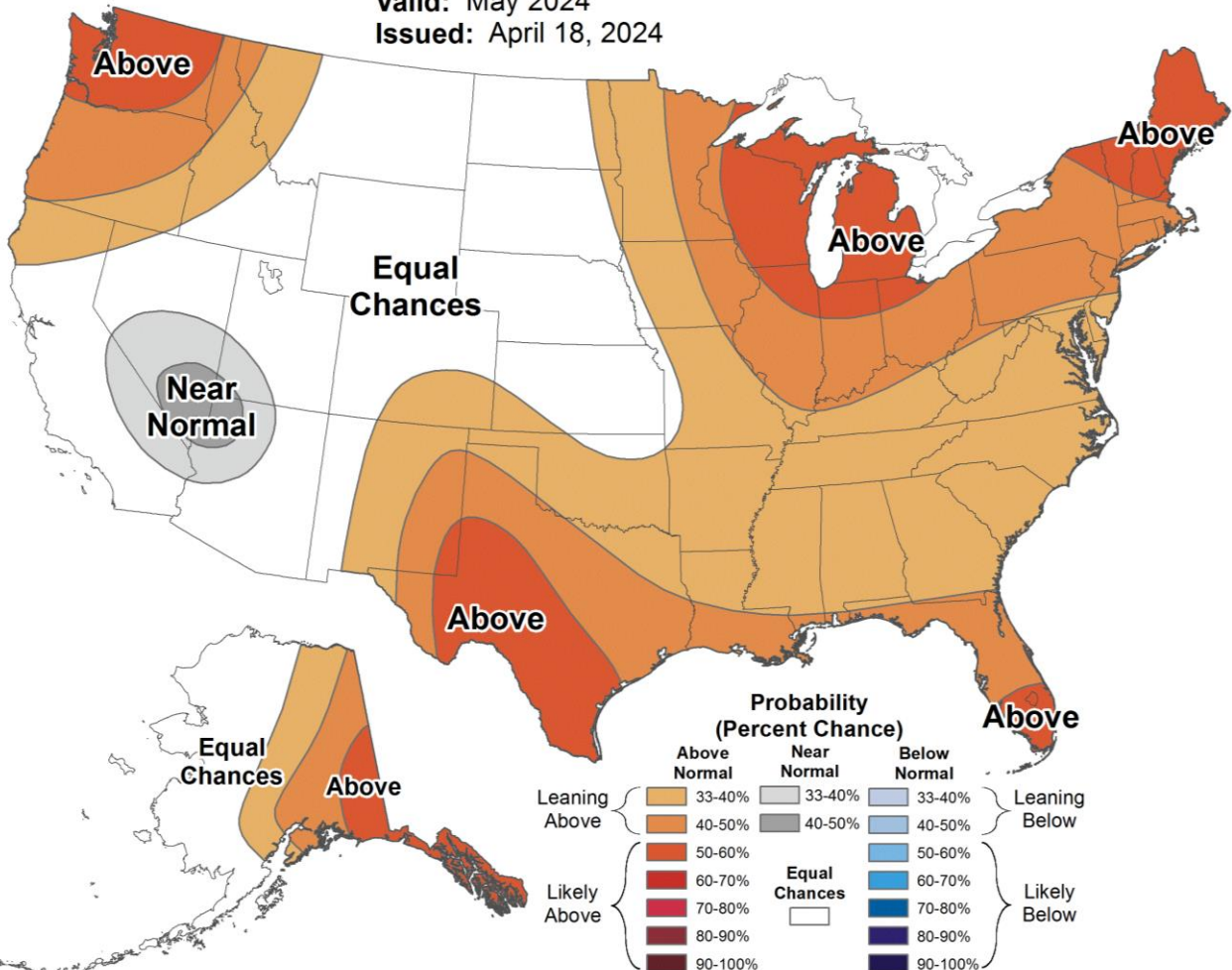


MONTHLY OUTLOOK – MAY 2024



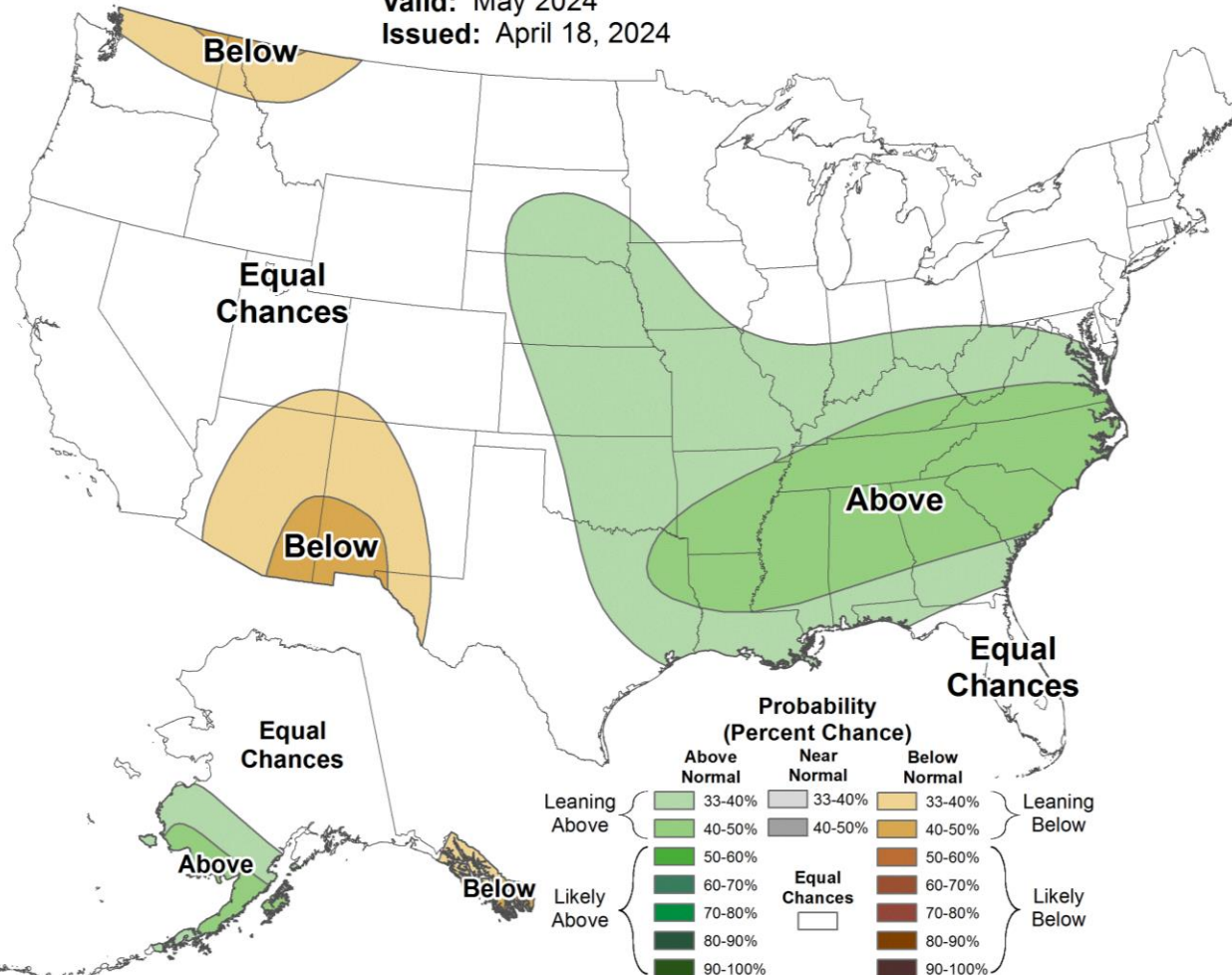
Monthly Temperature Outlook

Valid: May 2024
Issued: April 18, 2024



Monthly Precipitation Outlook

Valid: May 2024
Issued: April 18, 2024



IT'S NOT JUST THE WEATHER



Workforce



**Depressed
Markets**



Supply Chain



Inflation Rates



Regulations

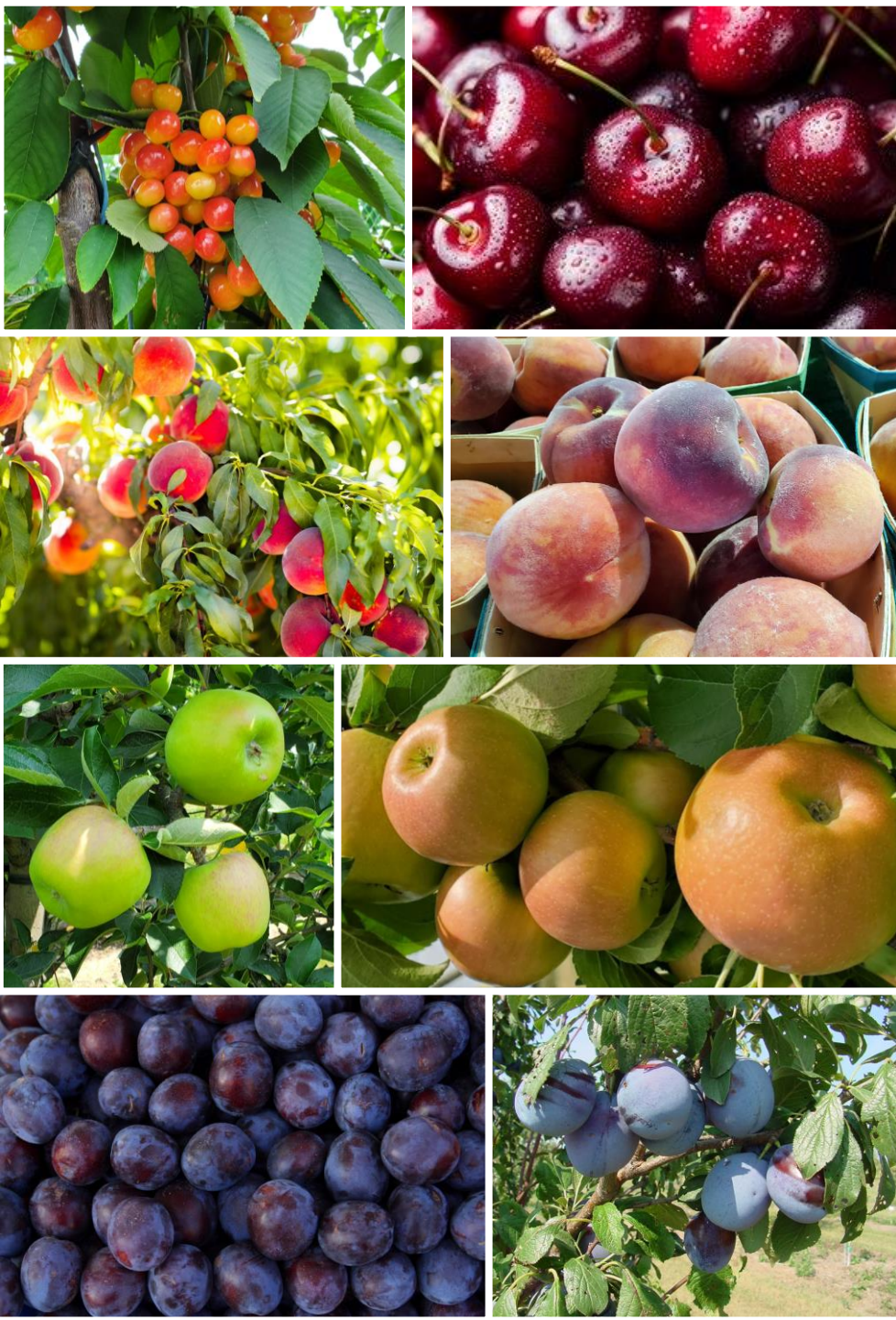


THANK YOU!

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517-290-2029



Michigan Tree Fruit Commission