



City of Oakbrook Terrace

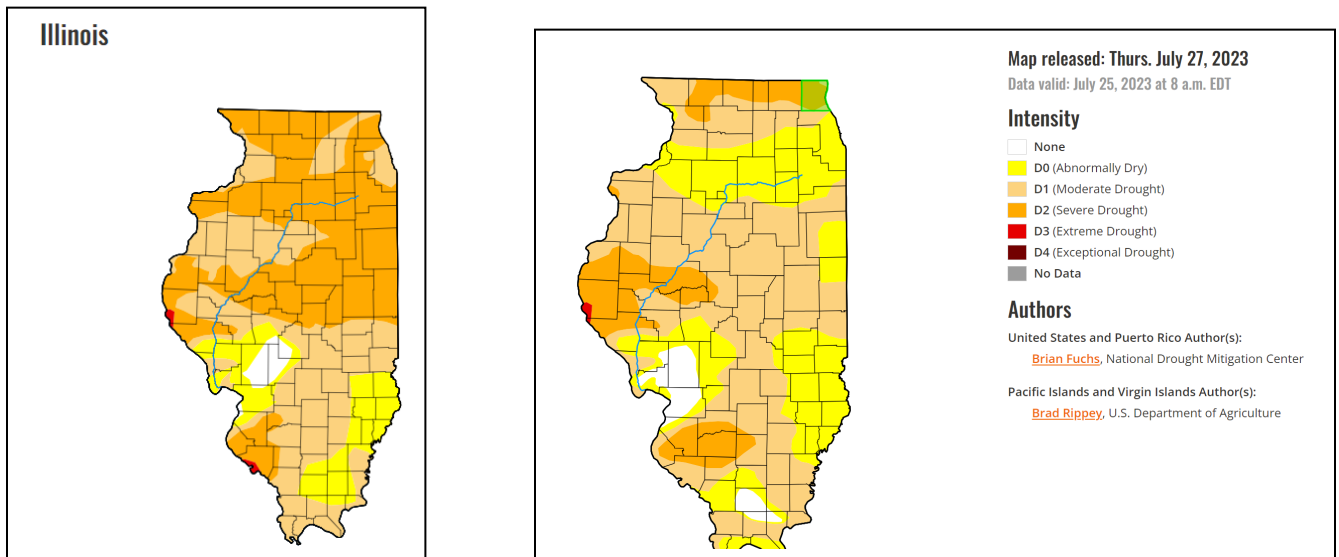
August 2023 - Status Report

SEASON PERSPECTIVE

Introduction. Weather conditions critically affect the seasonal mosquito population. Excessive rainfall periods trigger hatches of floodwater mosquitoes (*Aedes vexans*), the dominant annoyance species in northern Illinois that has a flight range of 15 to 20 miles. The other target species is the northern house mosquito (*Culex pipiens*), the primary vector of West Nile virus (WNV) that flourishes under stagnant water and drought conditions.

July rainfall improves soil moisture and drought conditions.

A series of late June and July rainfalls, totaling 6.03 inches at O’Hare Airport, improved the northern Illinois soil moisture and drought conditions as shown by the following Illinois Drought Monitor maps for July 4th vs. July 27th ^h <https://droughtmonitor.unl.edu/>:



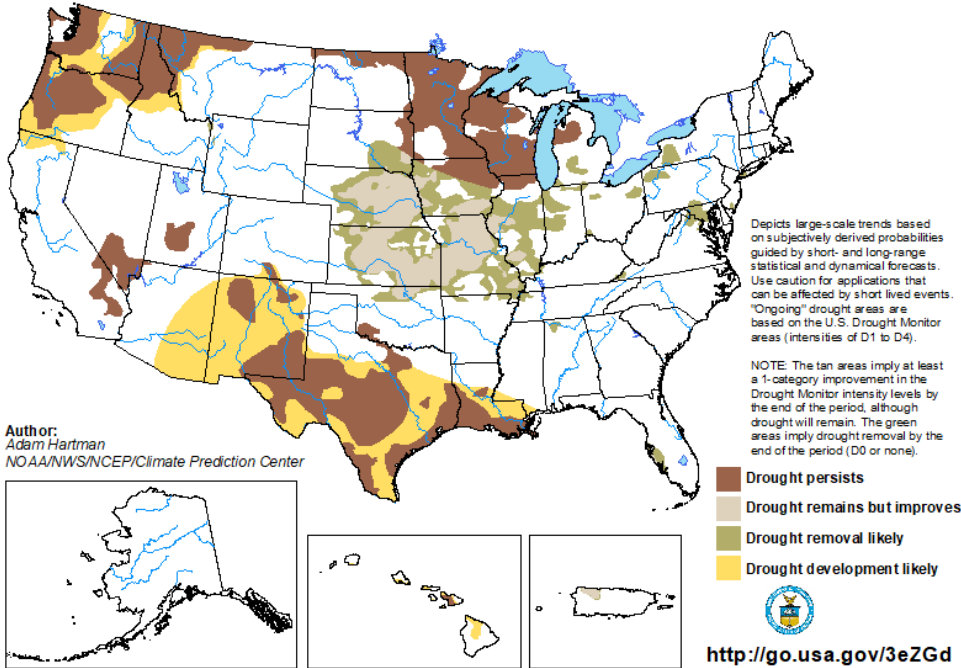
Illinois Drought Conditions: 7/4 vs. 7/27



For the remainder of the 2023 mosquito season, the following U.S. Seasonal Drought Outlook map depicts a drought reversal and the return to normal soil moisture conditions:

U.S. Monthly Drought Outlook
Drought Tendency During the Valid Period

Valid for August 2023
Released July 31, 2023



As a result, the floodwater mosquito (*Aedes vexans*) is expected to produce significant periods of mosquito annoyance as the season progresses into Labor Day. In addition, WNV typically peaks in August and is expected to be a significant factor for the balance of the 2023 season. As of July 31st, the following chart summarizes the number of WNV-positive *Culex* mosquito samples in northern Illinois:

County	No. of WNV-positive <i>Culex</i> Samples
Boone	5
Cook	515
DuPage	21
Kane	7
Lake	28
McHenry	5
Will	11

Operations Plan. Clarke operations will focus on permanent water larval development habitats for the control of *Culex*, as well as floodwater mosquito sites. To protect public health, truck ULV adulticide applications will be recommended as warranted by surveillance data for WNV and



annoyance levels per the following Centers for Disease Control & Prevention (CDC) strategy guidelines:

“The objective of the adult mosquito control component of an IVM (Integrated Vector Management) program is to complement the larval management program by reducing the abundance of adult mosquitoes in an area, thereby reducing the number of eggs laid in breeding sites. Adult mosquito control is also intended to reduce the abundance of biting, infected adult mosquitoes in order to prevent them from transmitting WNV to humans and to break the mosquito-bird transmission cycle.” (West Nile Virus in the United States: Guidelines for Surveillance, Prevention, and Control. Page 35. June 2013); [wnvGuidelines.pdf \(cdc.gov\)](http://www.cdc.gov/wnvGuidelines.pdf)

Floodwater Mosquito Brood Prediction – DuPage Airport

The floodwater mosquito (*Aedes vexans*) is the key nuisance species in the Chicagoland area. Floodwater mosquito population hatches, or broods, are triggered by significant rainfall events. The Clarke Brood Prediction Model calculates peak annoyance periods based on rainfall and temperature data collected from weather stations in your area.

Weather Station Name	Rain Date	Rain Amount	Brood Prediction Date
DuPage Co. Airport	6/24	0.83	7/11
DuPage Co. Airport	7/02	0.41	7/16
DuPage Co. Airport	7/05	1.00	7/19
DuPage Co. Airport	7/11	1.36	7/29
DuPage Co. Airport	7/12	0.48	7/29
DuPage Co. Airport	7/14	1.33	7/30
DuPage Co. Airport	7/22	1.03	8/5
DuPage Co. Airport	7/27	0.66	8/10
DuPage Co. Airport	7/28	2.51	8/11

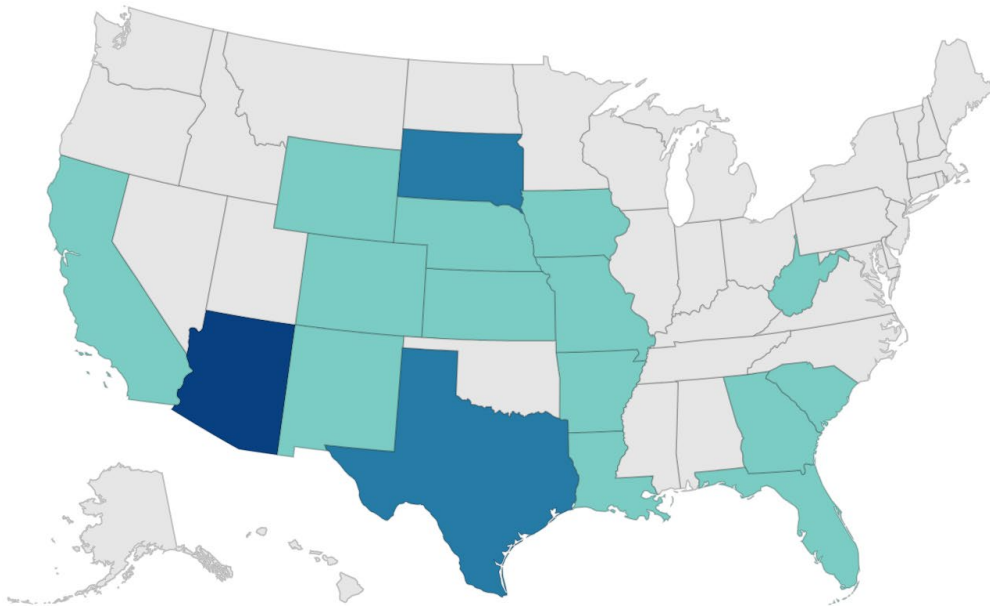


MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

2023 – USA. As of August 1st, seventy (70) USA human WNV cases have been reported to the CDC in the following seventeen states: AR-AZ-CA-CO-GA-IA-LA-MD-MO-NE-NM-OR-SC-SD-TX-WV-WY. Forty-nine (49) of the cases have been diagnosed in AZ.

West Nile virus human disease cases reported by state of residence, 2023



2023 – Illinois. To date, the Illinois Department of Public Health has reported 366 WNV-positive mosquito samples, 5% of the 7,373 samples tested from 30 counties. No human cases of West Nile virus have been reported in Illinois so far this year.



West Nile Virus Activity Comparison and Summary (as of July 27, 2023)

	Number Collected in all Counties	# WNV Positives	% WNV Positives
2023 Data as of July 27			
2023 Mosquito Surveillance Samples	7,373	366	5.0%
2023 Bird Surveillance Samples	77	1	1.3%
2023 WNV Positive Counties	30		
2023 Human Cases as of July 27	0		
2022 Historical Data as of July 27 for Comparison			
2022 Mosquito Surveillance Samples	8,339	316	3.8%
2022 Bird Surveillance Samples	114	1	0.9%
2022 WNV Positive Counties	20		
2022 Total Human Cases	34		
2012 Historical Data as of July 27 for Comparison			
2012 Mosquito Surveillance Samples	10,006	1,819	18.2%
2012 Bird Surveillance Samples	359	38	10.6%
2012 WNV Positive Counties	32		
2012 Total Human Cases	290		

2023 – DuPage County Surveillance Data & Personal Protection Index – July 29, 2023

2023		
DUPAGE COUNTY WEST NILE VIRUS SURVEILLANCE DATA 2023	YTD 2023	WEEK: 30 7/23-29
Mosquitoes Tested	18,136	1,509
WNV Total Tests	510	44
WNV Positive Tests	21	7
Positive Mosquito Pool Rate %	4%	16%
Reported Human Cases onset	--	--
Communities with Human WNV Cases	--	--
Personal Protection Index	Risk Level >>>	1

FIGHT THE BITE
 TODAY'S PERSONAL PROTECTION INDEX: 1 (LOW)
 Risk Level Recommendations:
 0: NONE
 1: LOW: Drain items that collect standing water around home or business. Defend by using insect repellent containing DEET.
 2: MODERATE: Drain; Defend; Wear repellent outdoors during Dusk to Dawn.
 3: HIGH: Drain; Defend; Dusk to Dawn; Dress for the outdoors with long sleeves and pants.
 DCHD

Municipality	Date Collected	Animal/Insect
LEMONT	07/03/2023	MOSQUITO
MEDINAH	07/05/2023	MOSQUITO
WHEATON	07/05/2023	MOSQUITO
WOOD DALE	07/05/2023	MOSQUITO
WOOD DALE	07/05/2023	MOSQUITO

DuPage County surveillance, testing, and analysis of Culex mosquitoes for West Nile virus is a collaboration of the following agencies:



- DuPage County Information Technology Department, GIS Division
- City of Naperville
- Clarke Environmental Mosquito Management, Inc.
- Forest Preserve District of DuPage County
- Illinois Department of Public Health
- DuPage County Health Department Public Health Center and Health Promotions Staff

OPERATIONS UPDATE

Services Performed - July & Early August 2023:

Service Item	Completion Date(s)
Natular G 5#/Acre Hand	07/03/2023
Complete Site Larval Insp Serv	07/03/2023
NatularG30 Helicopter Prehatch	07/03/2023
Merus 4th of July Truck ULV	07/03/2023
Merus Truck ULV	07/14/2023
Natular G 5#/Acre Hand	07/17/2023
Targeted Site Larval Insp Serv	07/17/2023
Merus Truck ULV	07/20/2023
Natular T30 CB Bike	07/25/2023
Targeted Site Larval Insp Serv	07/31/2023
NatularG30 Helicopter Prehatch	08/02/2023

Upcoming August 2023 Operations

Work Type	Number of Treatments
Merus Truck ULV	1
NatularG30 Helicopter Prehatch	1
Complete Site Larval Insp Serv	1
Natular T30 CB Bike	1
Targeted Site Larval Insp Serv	1