Homer Township

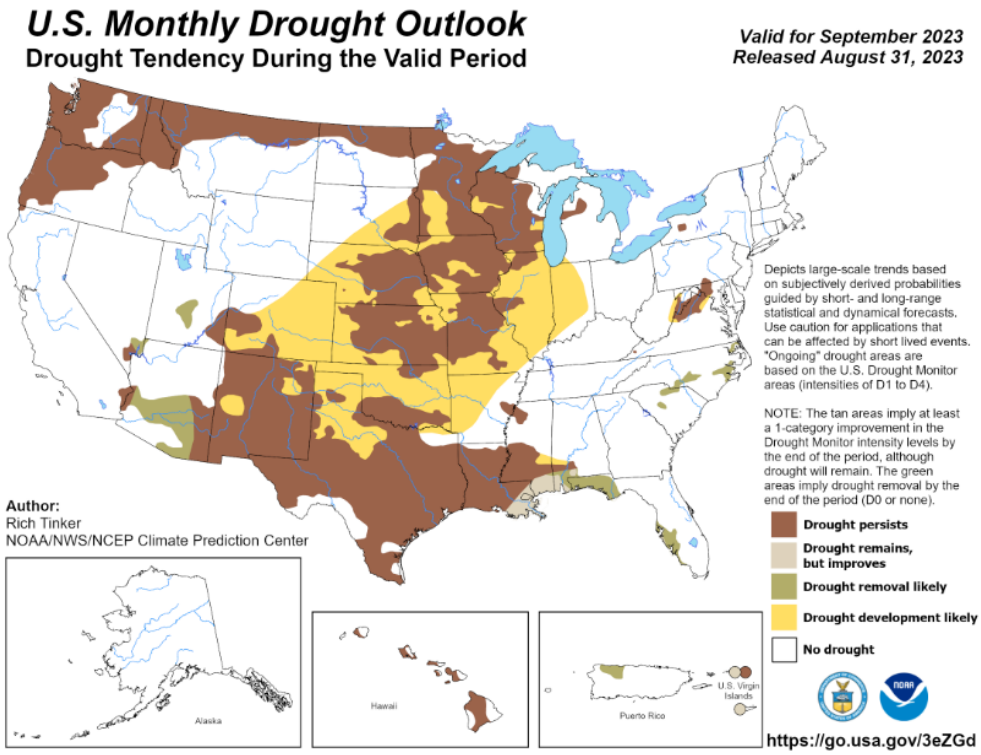
September 2023 - Status Report

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.

Drought conditions rebound in August as West Nile virus spikes.

After over 6 inches of rain in late June and July to improve soil moisture levels, persistent hot and dry August weather rebounded drought conditions. The following Drought Outlook map for September depicts the intensification of drought conditions in northern Illinois monthly drought outlook:



As a result of 2023 drought conditions, the impact of predicted floodwater mosquito (*Aedes vexans*) broods and significant periods of mosquito annoyance was diminished.

By contrast, the Culex mosquito population thrived. WNV typically peaks in August and is expected to be a significant factor for the balance of the 2023 season. On August 23rd, the Illinois Department of Public Health issued the following news release:

IDPH Reports First Illinois West Nile Virus Death of 2023

News – Wednesday, August 23, 2023

PRINT EMAIL

CHICAGO – The Illinois Department of Public Health (IDPH) announced the first Illinois human West Nile virus (WNV)-related death in 2023. Testing by CDC confirmed the case was WNV-related. The individual, who was in their 90's and lived in suburban Cook County, had an onset of symptoms of WNV in early August and died soon after. IDPH is also reporting 11 non-fatal cases of WNV confirmed to date this year.

Of the 12 human cases, seven were reported from Cook County, including two in Chicago. To date, Kane, Macon, Madison, Will and Woodford counties have each reported one human WNV case. ¶

As of September 11th, the following chart summarizes the number of WNV-positive *Culex* mosquito samples in northern Illinois confirming the increase in WNV activity:

County	No. of WNV-positive *Culex* Samples
Boone	10
Cook	2,313
DuPage	146
Kane	24
Lake	115
McHenry	37
Will	57

Operations Plan. For the balance of the season, Clarke operations will focus on permanent water larval development habitats for the control of *Culex.* 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)

Floodwater Mosquito Brood Prediction

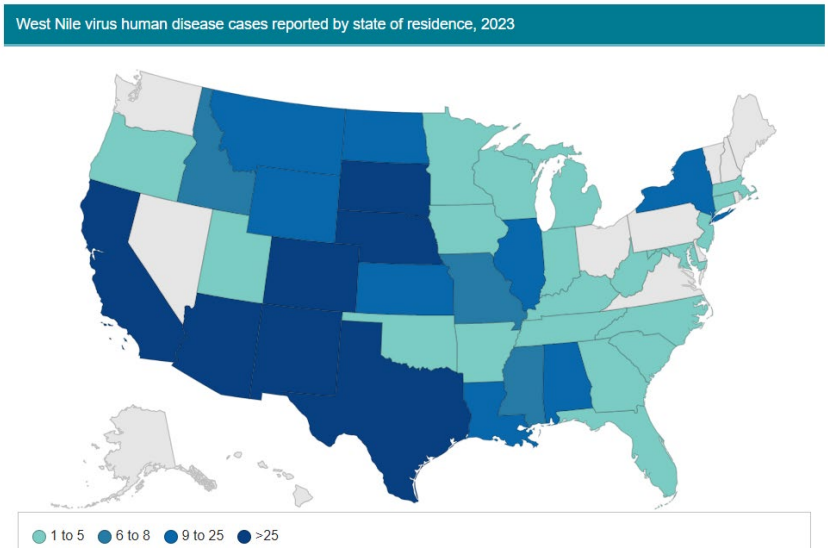
The floodwater mosquito (*Aedes vexans*) is the key nuisance species in the Chicagoland area. Floodwater mosquito population hatches, or broods, are triggered by significant rainfall events. The Clarke Brood Prediction Model calculates peak annoyance periods based on rainfall and temperature data collected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

Weather Station Name	Rain Date	Rain Amount	Brood Prediction Date
Will Co.	8/5	0.58	8/23
Will Co.	8/14	1.19	8/29
Will Co.	8/17	0.43	9/5
Will Co.	9/5	3.50	9/19
Will Co.	9/11	0.76	9/25
Will Co.	9/16	0.71	9/30
Will Co.	9/17	0.91	10/1

MOSQUITO-BORNE DISEASE UPDATE

West Nile Virus (WNV)

2023 – USA. As of September 6th, five hundred fifty-two (552) USA human WNV cases have been reported to the CDC in the following thirty-eight states as shown on the following map:

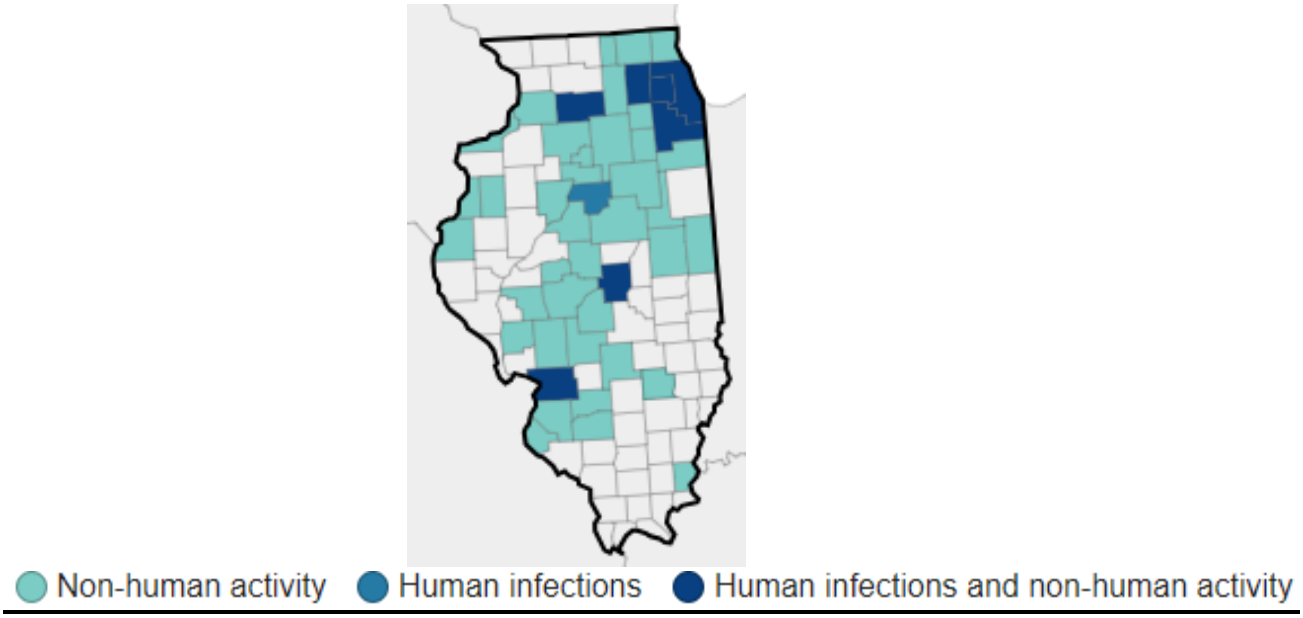


Colorado has the most diagnosed cases of 101.

2023 – Illinois. To date, the Illinois Department of Public Health has reported 2,910 WNV-positive mosquito samples tested from 57 counties. Twenty-five birds have tested positive for WNV this year. Twenty-eight (28) WNV human cases including 1 fatality have been officially reported in Illinois so far, as of September 11th.

County	No. WNV Human Cases
Cook	20
DuPage	2
Kane	1
Lee	1
Macon	1
Madison	1
Woodford	1
Will	1
TOTAL	28

As of September 7th, the following map shows the counties with WNV human cases:



OPERATIONS UPDATE

Services Performed – August & Early September 2023:

Service Item	Completion Date(s)
Biomist 3+15 Truck ULV	08/01/2023
Natular G 5#/Acre Hand	08/29/2023
Complete Site Larval Insp Serv	08/29/2023