# West Nile Virus Prediction in the City of Chicago

**Problem statement:**

When and where the West Nile Virus could be observed in the City of Chicago?

**Context:**

West Nile Virus is a disease transmitted to human beings through the bite of an infected mosquito. About 20% of infected people develop severe symptoms that can result in death. It was first reported in 2002 in Chicago. To control the epidemic, the City of Chicago and the Chicago Department of Public Health (CDPH) started a surveillance program to control the mosquitoes by spraying in the region where the potential outbreak may occur. Thus, we need to predict when and where the mosquito will test positive for the virus, analyzing weather, location, and training data.

**Criteria for Success:**

Accurately predict time and location when and where the mosquito will test positive for West Nile Virus.

**Scope of solution space:**

The city of Chicago and the CDPH could effectively allocate resources to control mosquito in the predicted region and time. This will help in controlling the outbreak of virus as well as optimization in resource allocation and expenditures.

**Constraints within solution space:**

Mosquitoes are trapped only from Monday through Wednesday but not entire week. The training data provides information from 2007 to 2013 for every two years apart from late May to early October.

**Key data sources:**

Dataset available in Kaggle. It provides weather, GIS and spray data for making a prediction whether or not the West Nile virus is present, for a given time, location, and mosquito species.