

# DENGAI: PREDICTING DISEASE SPREAD

## OVERVIEW



*Using environmental data collected by U.S. Federal Government agencies, can you predict the number of dengue fever cases reported each week in San Juan, Puerto Rico and Iquitos, Peru?*

- Dengue fever is a mosquito-borne disease that occurs in tropical and sub-tropical parts of the world
- Symptoms of dengue fever can range from mild to severe, and in severe cases can lead to death
- Climate change is likely to produce distributional shifts that will have significant public health implications worldwide
- Dengue fever has been spreading in recent years, with many cases now occurring in Latin America
- Predicting the number of dengue cases each week in specific locations can help improve research initiatives and resource allocation to help fight life-threatening pandemics.

## OBJECTIVE



*Accurate dengue predictions would help public health workers, and people worldwide take steps to reduce the impact of these epidemics. However, predicting dengue is a hefty task that requires consolidating different data sets on disease incidence, weather, and the environment.*

### Data

- The goal is to predict total cases for each (city, year, weekofyear) in the test set.
- The test set has data for two cities, San Juan and Iquitos, spanning 5 and 3 years, respectively.
- The test data are sequential and non-overlapping with any of the training data.
- The features include climate data, precipitation measurements, dew point temperature, air temperature, relative humidity, specific humidity, and vegetation index.

### Group C

Ganegoda Appuhamilage Akila Shashith Ganegoda

M.L.N.Kaushalee

K. G. Inuka Manmitha

R Nilakshan

S.P.A.G.T Rajapaksha

(Resource: <https://www.drivendata.org/competitions/44/dengai-predicting-disease-spread/page/80/>)