DengAI: Predicting Disease Spread

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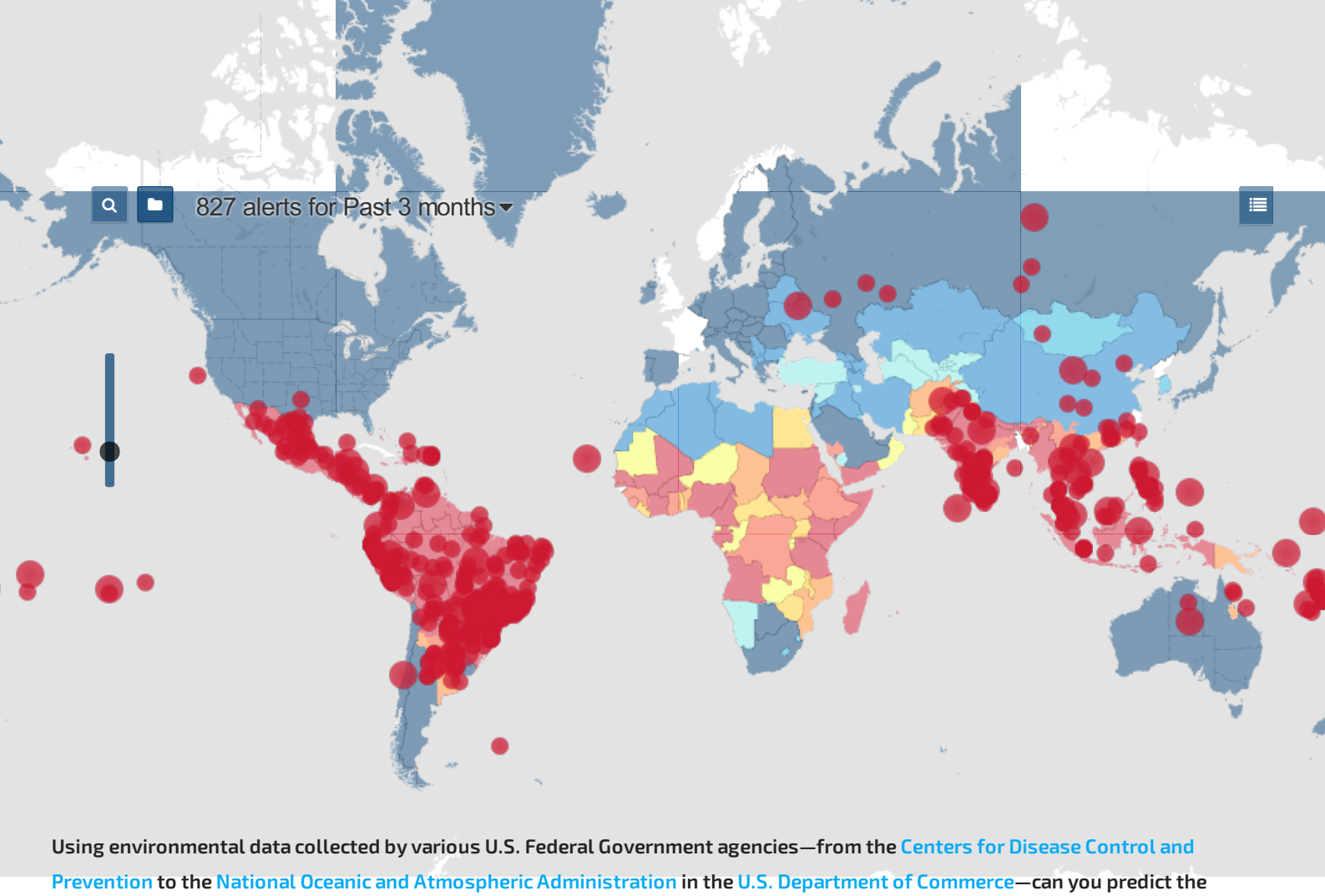
Challenge Summary

Can you predict local epidemics of dengue fever?

Dengue fever is a mosquito-borne disease that occurs in tropical and sub-tropical parts of the world. In mild cases, symptoms are similar to the flu: fever, rash, and muscle and joint pain. In severe cases, dengue fever can cause severe bleeding, low blood pressure, and even death.

Because it is carried by mosquitoes, the transmission dynamics of dengue are related to climate variables such as temperature and precipitation. Although the relationship to climate is complex, a growing number of scientists argue that climate change is likely to produce distributional shifts that will have significant public health implications worldwide.



Using environmental data collected by various U.S. Federal Government agencies—from the Centers for Disease Control and Prevention to the National Oceanic and Atmospheric Administration in the U.S. Department of Commerce—can you predict the number of dengue fever cases reported each week in San Juan, Puerto Rico and Iquitos, Peru?

This is an intermediate-level practice competition. Your task is to predict the number of dengue cases each week (in each location) based on environmental variables describing changes in temperature, precipitation, vegetation, and more.

An understanding of the relationship between climate and dengue dynamics can improve research initiatives and resource allocation to help fight life-threatening pandemics.

Competition End Date:

Dec. 22, 2017, 7:38 p.m.

This competition is for learning and exploring, so the deadline may be extended in the future.

Mosquito image courtesy of flickr user sanofi-pasteur

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