



# STEM

## SPATIAL TEMPORAL EPIDEMIOLOGICAL MODELER

The Spatio-Temporal Epidemiological Modeler (STEM) is a tool designed to help scientists and public health officials create and use models of emerging infectious diseases. STEM uses mathematical models of diseases (based on differential equations) to simulate the development or evolution of a disease in space and time.

These models could aid in understanding, and potentially preventing, the spread of such diseases.

STEM comes pre-configured with a vast amount of reference or denominator data for the entire world. As an open source project, the ultimate goal of STEM is to support and encourage a community of scientists that not only use STEM as a tool but also contribute back to it.

STEM is designed so that models and scenarios can be easily shared, extended, and built upon.



### HOW TO USE STEM

STEM can be downloaded to any computer running Windows, Mac OS X, or other operating systems.

The STEM website (<http://wiki.eclipse.org/STEM>) offers full download links (<http://www.eclipse.org/stem/downloads.php>), tutorials ([http://wiki.eclipse.org/Tutorials\\_for\\_Developers](http://wiki.eclipse.org/Tutorials_for_Developers)), installation guides ([http://wiki.eclipse.org/STEM\\_Installation\\_Guide](http://wiki.eclipse.org/STEM_Installation_Guide)), and YouTube video tutorials in English, Hebrew, Japanese, and Spanish. STEM also has many sample projects that researchers from around the world have shared and made available for download. These scenarios include the recent 2014 Ebola epidemic, dengue fever, avian influenza, malaria, H1N1, and food-borne diseases. Other scenarios are part of tutorials that demonstrate basic functions of the tool.

The STEM wiki page has a full list of STEM resources and publications ([http://wiki.eclipse.org/Publications\\_and\\_Presentations\\_on\\_STEM](http://wiki.eclipse.org/Publications_and_Presentations_on_STEM)) that showcase disease models.



### INTERESTED IN THE STEM COMMUNITY

Anyone can join the STEM community ([http://wiki.eclipse.org/Join\\_the\\_STEM\\_Community](http://wiki.eclipse.org/Join_the_STEM_Community)) and participate in the monthly phone call. All are welcome to contribute to STEM, report bugs, or request new features or scenarios.