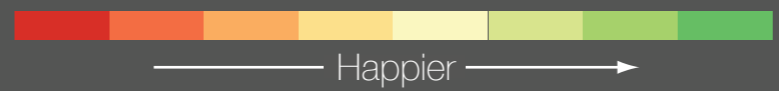


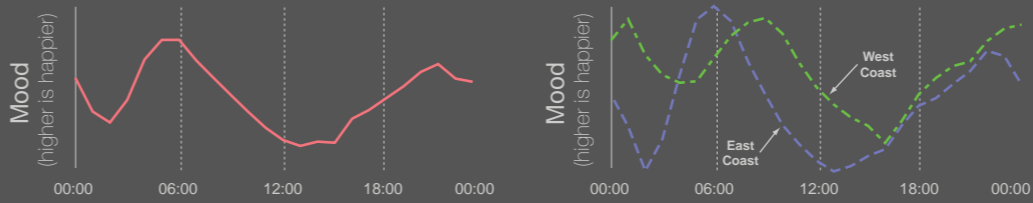
# Pulse of the Nation: U.S. Mood Throughout the Day, as inferred from Twitter

All times are Eastern Standard Time (EST)



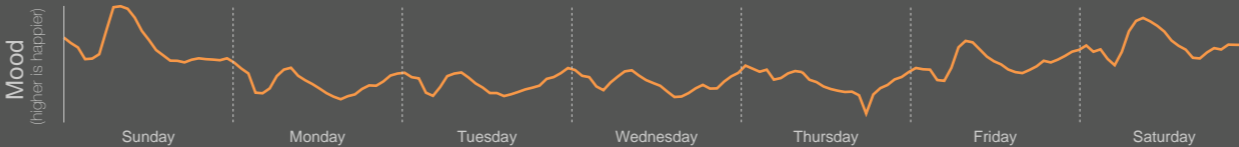
### Mood Variations

A number of interesting trends can be observed in the data. First, overall daily variations can be seen (first graph), with the early morning and late evening having the highest level of happiness. Second, geographic variations can be observed (second graph), with a significantly happier west coast that is consistently three hours behind the east coast.



### Weekly Variations

Weekly trends can be observed as well, with weekends much happier than weekdays. The peak in mood is on Sunday mornings, and the trough occurs on Thursday evenings.

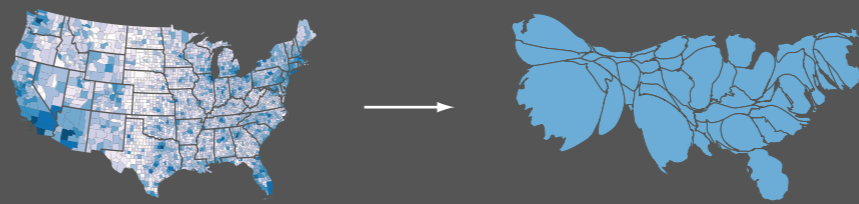


### About the Data and Visualization

The plots were calculated using over 300 million tweets (Sep 2006 – Aug 2009) collected by MPI-SWS researchers, represented as density-preserving cartograms. The mood of each tweet was inferred using ANEW word list (Bradley, M.M., & Lang, P.J. *Affective norms for English words (ANEW): Stimuli, instruction manual and affective ratings*. Technical report C-1, The Center for Research in Psychophysiology, University of Florida). County area data was taken from the U.S. Census Bureau at <http://factfinder.census.gov>, and the base U.S. map was taken from Wikimedia Commons. User locations were inferred using the Google Maps API, and mapped into counties using PostGIS and U.S. county maps from the U.S. National Atlas. Mood colors were selected using Color Brewer 2.

### About Cartograms

A cartogram is a map in which the mapping variable (in this case, the number of tweets) is substituted for the true land area. Thus, the geometry of the actual map is altered so that the shape of each region is maintained as much as possible, but the area is scaled in order to be proportional to the number of tweets that originate in that region. The result is a density-equalizing map. The cartograms in this work were generated using the cart software by Mark E. J. Newman.



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