

## Fire Factor uses GEE to enable address-level wildfire risk models

Spatial Informatics Group (SIG) plays a big role in the science behind annualized predictions at [firststreet.org/risk-factor/fire-factor](https://firststreet.org/risk-factor/fire-factor). SIG uses GEE workflows to automate, update, and modify fuels datasets that feed the wildfire modeling.

### The challenge

The existing continental US wildfire risk model only addressed risk at the community level; only captured a single snapshot in time; utilized fuels data from 2014 and only considered current risk. No model could incorporate real-time wildfire and forest treatment data or accurately capture risk at the individual property scale, particularly for wildlife-urban interface (WUI) areas at high risk.

### The solution

SIG data analysts developed a GEE workflow that imports all available wildfire and forest treatment data and updates existing publicly available fuels layers to create near-real time fuels layers so that the annual product can be as close to up-to-date as possible. SIG also developed a GEE workflow to estimate fire severity and define WUI boundaries in order to fill gaps in federal datasets.

### The results

First Street Foundation's Fire Factor model shows the risk of wildfire on a property-by-property basis across the United States today, and up to 30 years into the future. The hyper-local resolution of the model allows for an extremely granular understanding of wildfire risk, empowering communities, states, and national government actors to take steps to mitigate wildfire risk.

"Fire Factor's success is directly attributable to the innovative wildfire science and data analytics that SIG and its Pyregence partners brought to the project. Using GEE allowed them to innovate and scale nationwide quickly to meet our common goal of communicating climate-driven wildfire risk in a highly personal way." said Ed Kearns, First Street's Chief Data Officer.



#### About First Street Foundation

First Street Foundation is a non-profit research and technology group dedicated to quantifying and communicating climate-related risks. First Street incorporates world class modeling techniques and analysis to simply, and effectively, inform Americans of their risk today and into the future from all environmental changes.

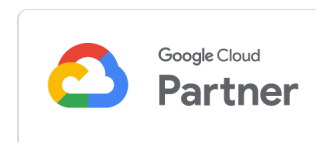
Industry: Non-Profit

Primary project location: United States



#### About Spatial Informatics Group LLC

Spatial Informatics Group researches and models the impact of climate change around the world. SIG is a certified Google Cloud Partner.



#### Products

Google Cloud Platform