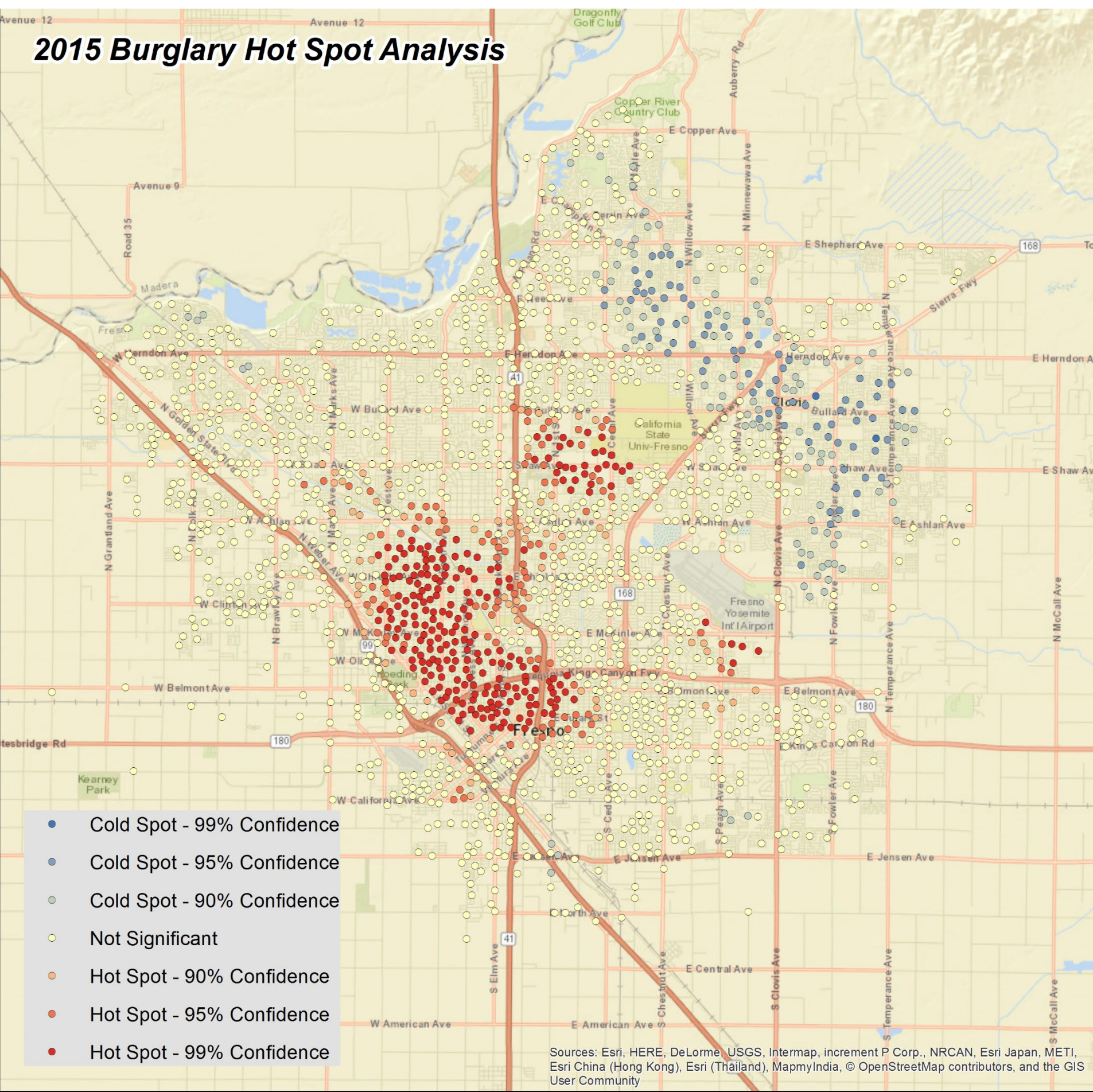
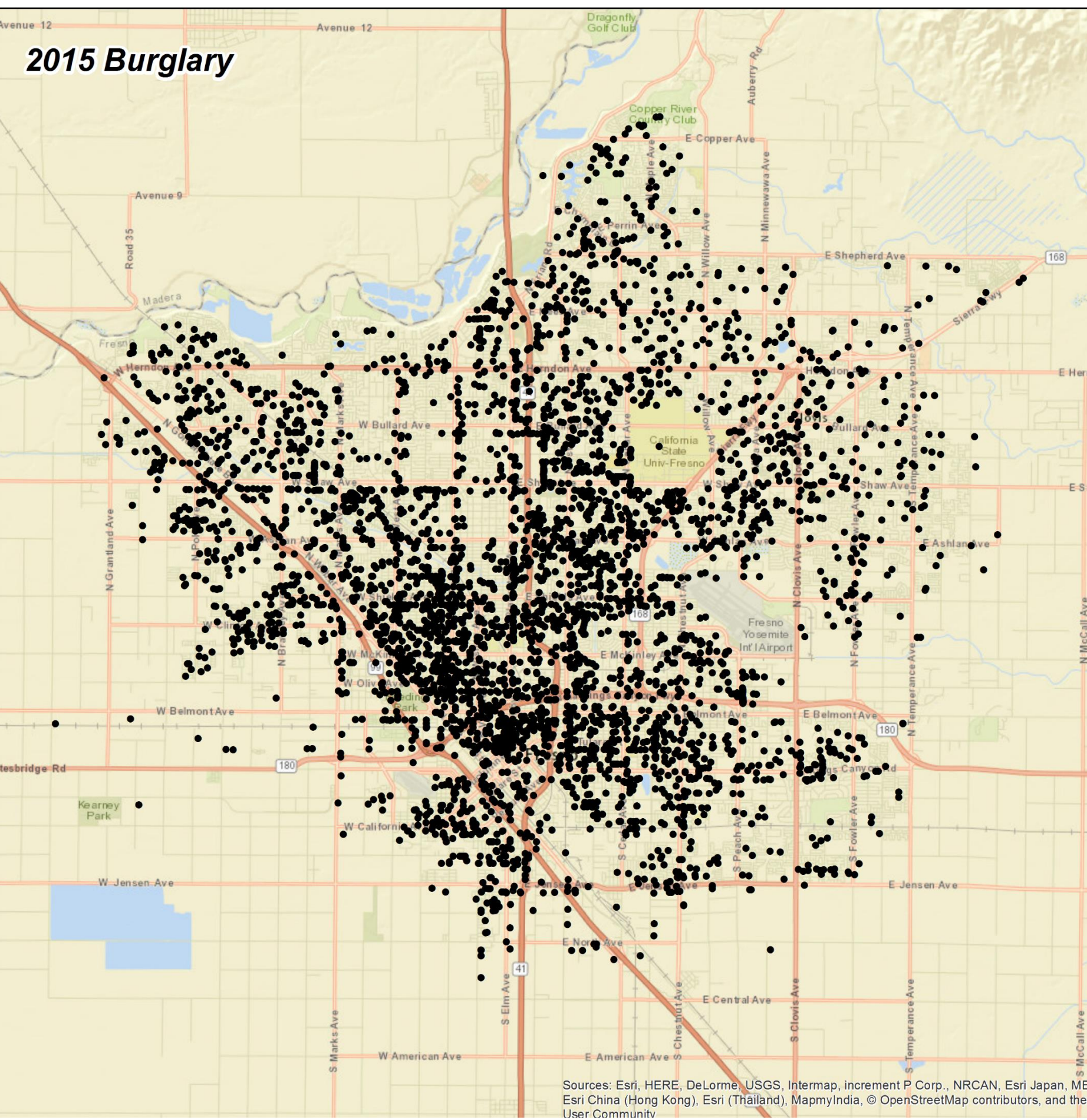
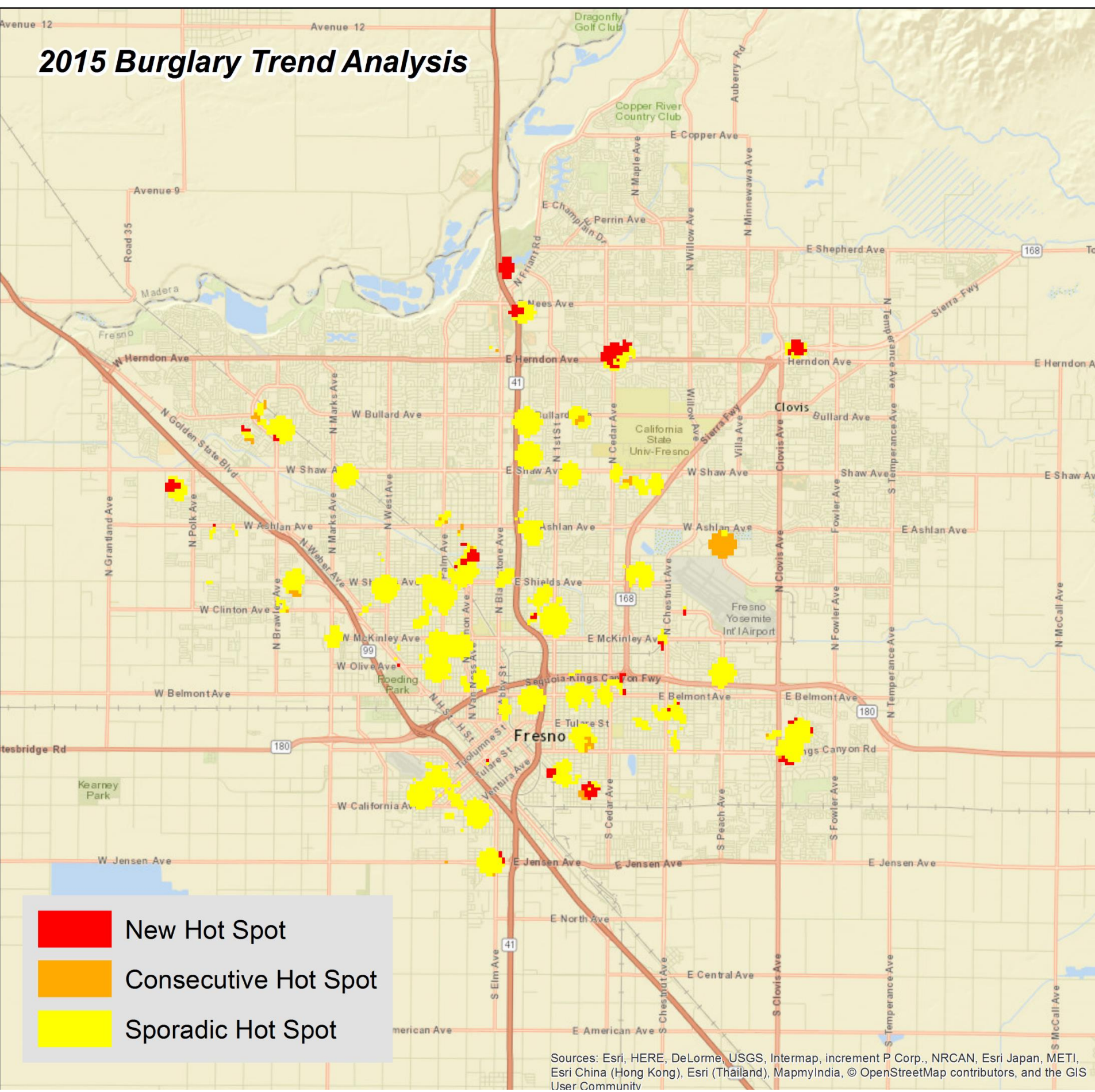
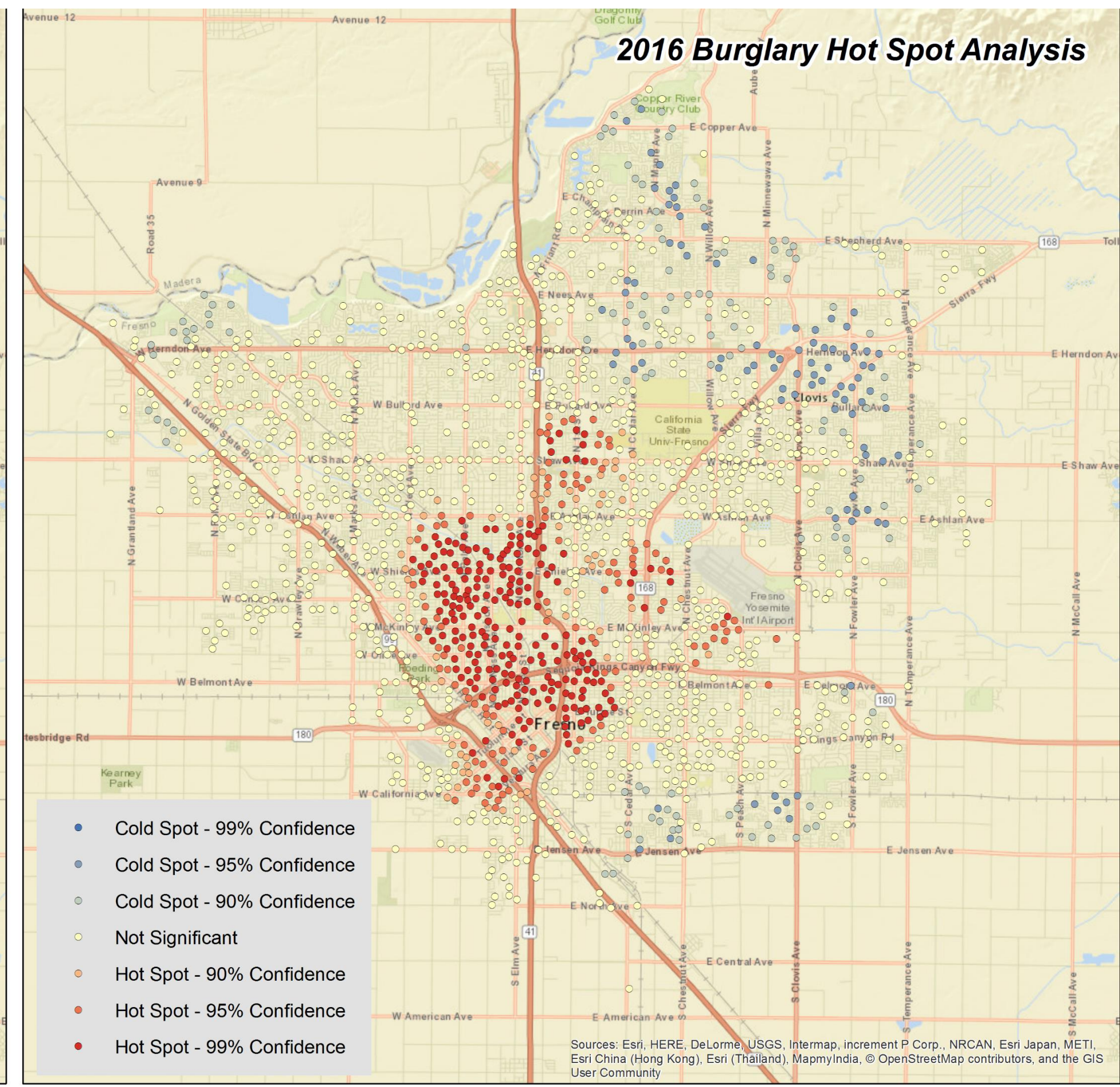
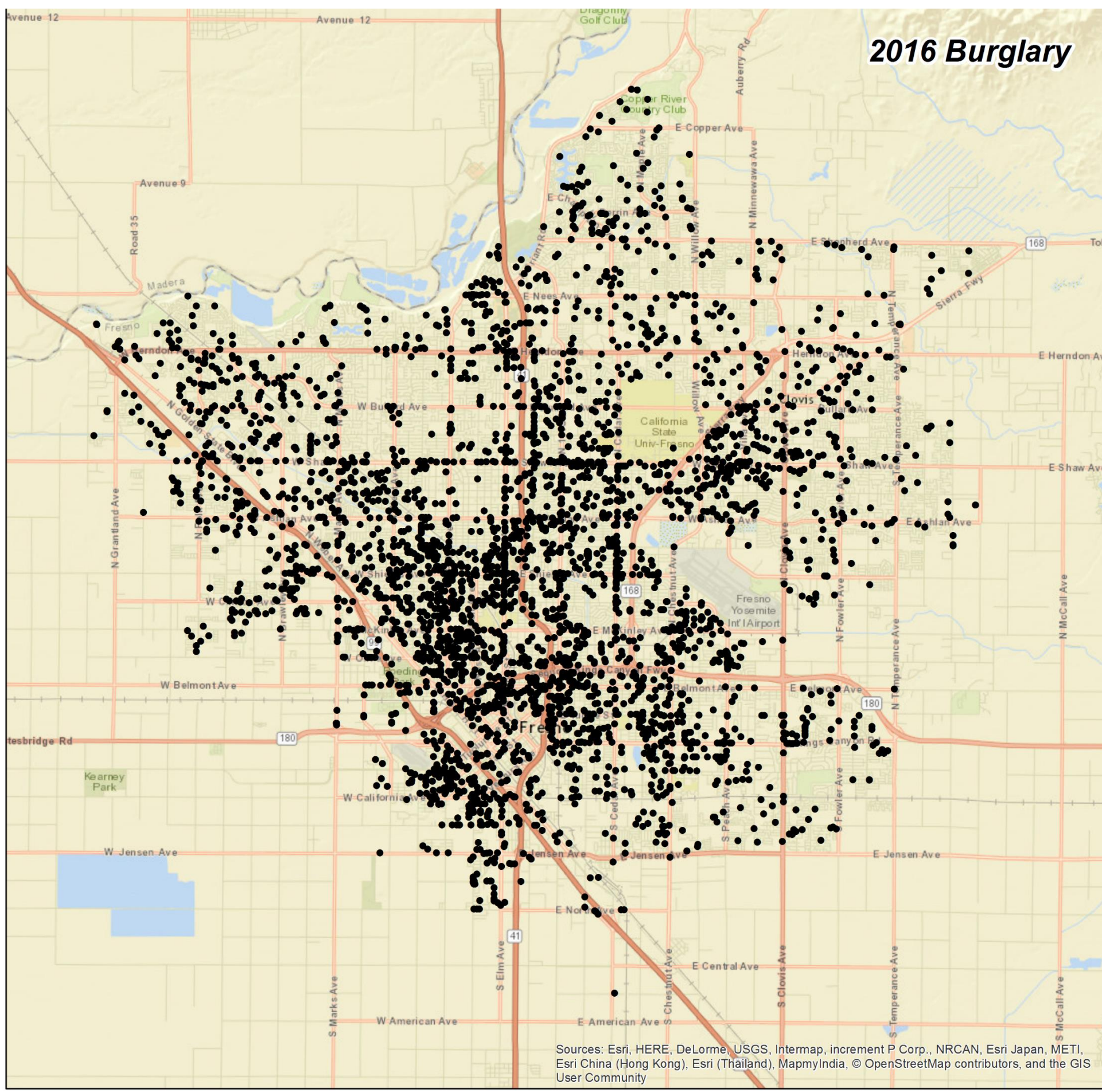


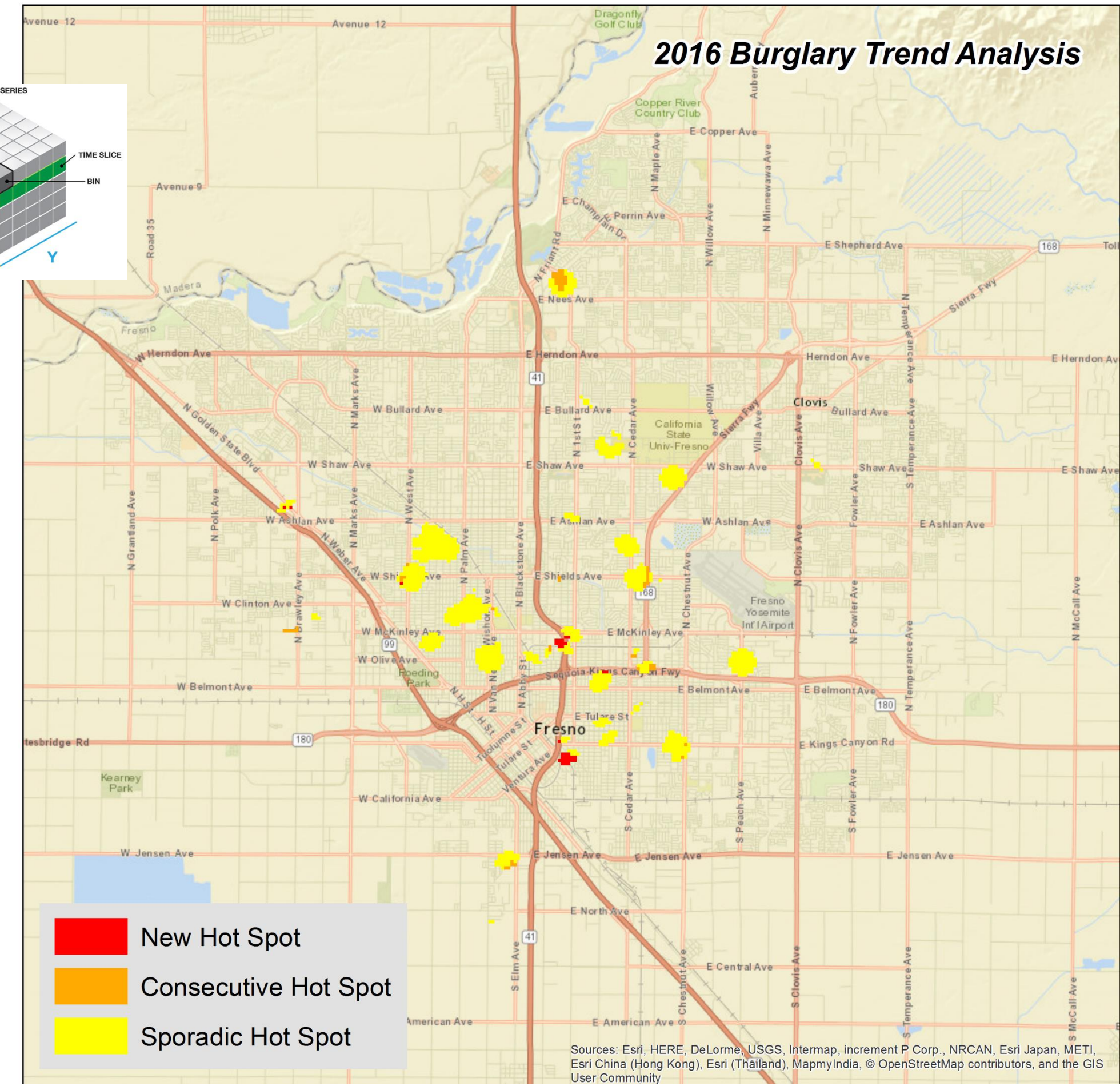
Cities of Fresno and Clovis Burglary Hot Spots and Trend Mapping 2015 and 2016



The Hot Spot Analysis was used to calculate the Getis-Ord G_i^* statistic for each burglary incident of the year. The resultant z-scores and p-values tell you where burglary with either high or low values cluster spatially. The analysis works by looking at each burglary within the context of neighboring burglaries. A burglary with a high value is interesting but may not be a statistically significant hot spot. To be a statistically significant hot spot, a burglary will have a high value and be surrounded by other burglaries with high values as well. The G_i^* statistic returned for each burglary in the dataset is a z-score. For statistically significant positive z-scores, the larger the z-score is, the more intense the clustering of high values (hot spot).



The Emerging Hot Spot Analysis was used to identify burglary trends in 2015 and 2016 in the cities of Fresno and Clovis. The analysis can detect eight specific hot or cold spot trends: new, consecutive, intensifying, persistent, diminishing, sporadic, oscillating, and historical. The burglary incidents are first summarized into a space time cube by aggregating incidents into space-time bins. The trends are calculated based on weekly (time slice) burglary incidents of that year, starting first Friday of the year. The analysis uses the Neighborhood distance of 1320ft (a quarter of a mile) and Neighborhood Time Step of 1 (one week time slice) parameter values to calculate the Getis-Ord G_i^* statistic (Hot Spot Analysis) for each weekly time slice. Once the space-time hot spot analysis completes, each bin has an associated z-score, p-value, and hot spot bin classification added to it. Next, these hot and cold spot trends (eight categories) are evaluated using the Mann-Kendall trend test.



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