Cherry Blossom Prediction Competition 2025

For my entry, I decided to make my predictions based on a nonlinear model. I used splines instead of a linear model. The generalized additive model with splines allows for a more flexible fit of the data. Bloom data is not naturally linear so using a more flexible, nonlinear models allows for a more accurate fit and ultimately, a more accurate prediction. The splines allow for a smoother prediction. As compared to the demo analysis of this project, some of the confidence intervals were smaller and some were bigger. My predictions were based on a 95% confidence level.

In my model, Washington DC had a five day confidence interval from March 27th to April 1st with a predicted bloom date of March 30th. In the demo, Washington DC had a 26 day confidence interval with a predicted bloom date of March 29th. As for DC, my model appears better than the demo.

For Liestal, my model predicted a bloom date of April 5th with a confidence interval of four days from April 3rd to April 7th. The demo analysis predicted a bloom date of April 3rd with a 26 day confidence interval. In this case, my model may be better.

In the city of Kyoto, I predicted a bloom date of April 4th with a buffer of four days between April 2nd and April 6th. The demo analysis predicted a bloom date of April 3rd with a 26 day window at the 90% level.

Up in British Columbia, I predicted the cherry blossoms to bloom on March 30th, within a 16 day window of March 22nd to April 7th. The demo model predicted the trees to bloom on March 31st in a 12 day window. My model appears less precise in Vancouver.

The last city is New York, New York. My model predicted a bloom of March 30th with a confidence interval of 28 days between March 16th through April 13th. The demo predicted a 12 day confidence interval with a predicted date of April 1st. My model had a much larger interval this time.

The nonlinear model that I found to predict bloom dates at the 95% confidence level appears to be more precise in three of the five cities. The three cities in North America were predicted to bloom on the same day, which I believe makes sense. I believe the nonlinear model allows for a more flexible fit and more accurate predictions.