COVID-19 Confirmed Cases by Colorado County

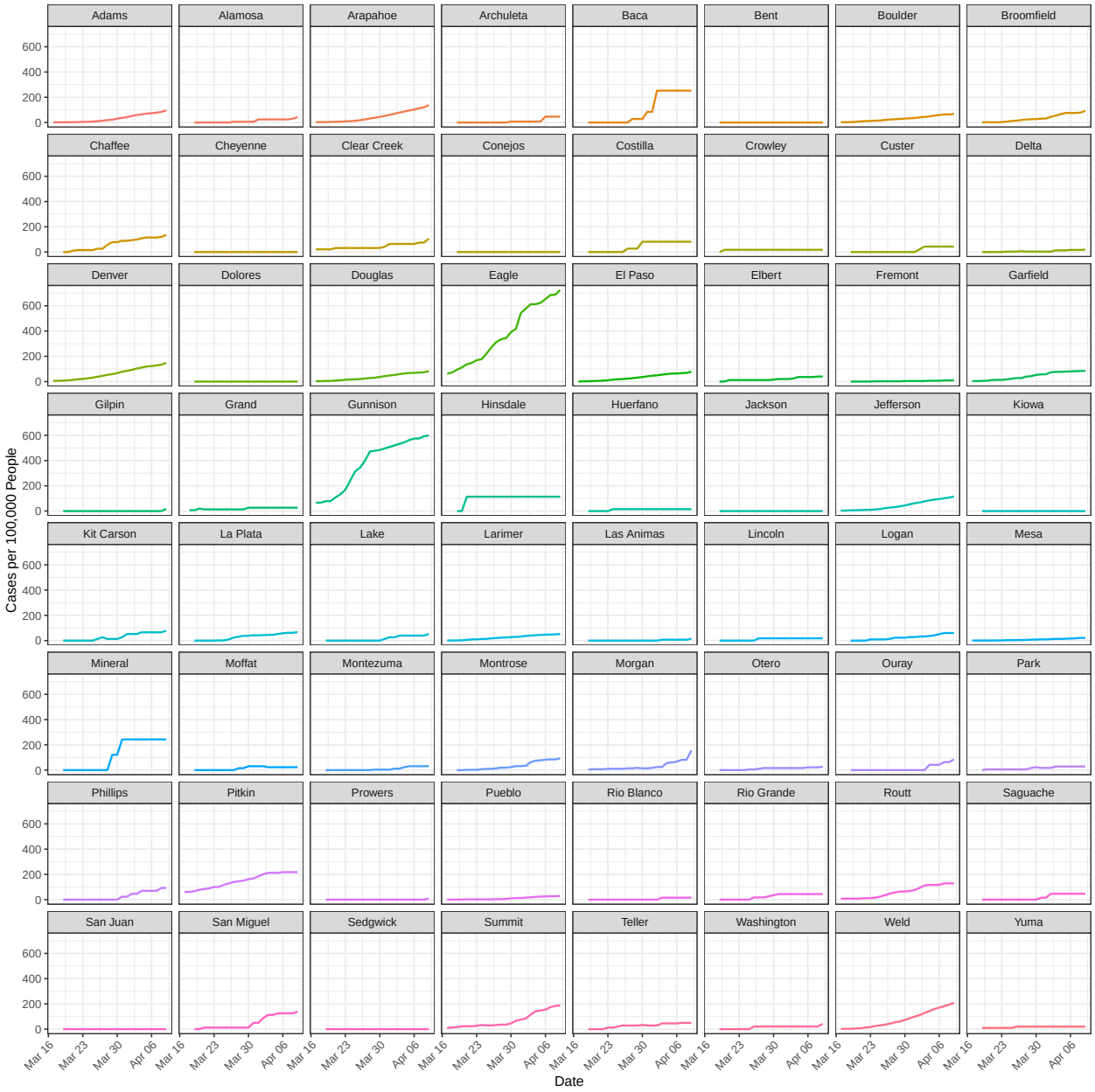
Joseph Tuccillo, University of Colorado-Boulder Department of Geography

10 April, 2020

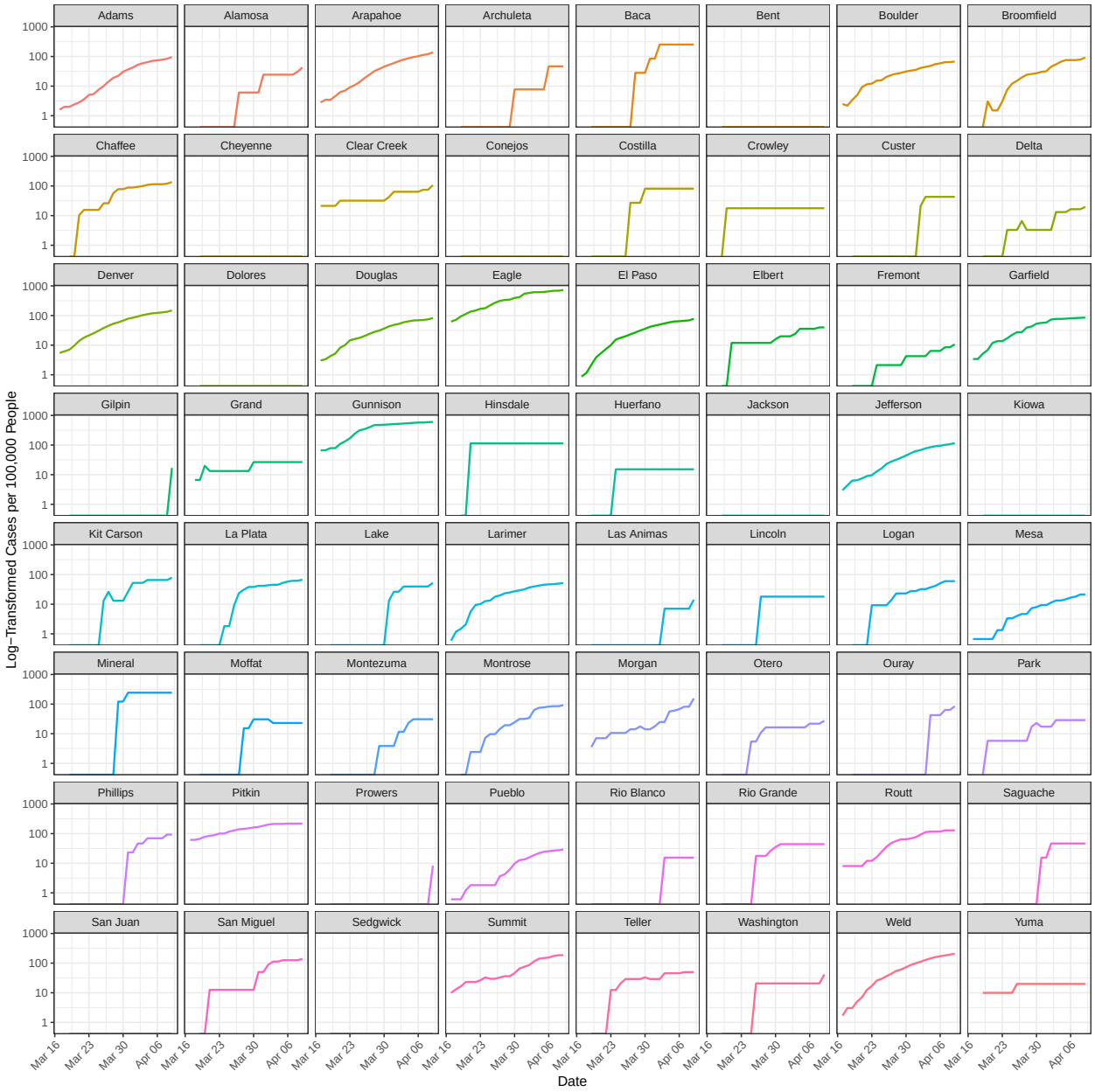
Daily Cases by Colorado County

```
## Using an auto-discovered, cached token.
## To suppress this message, modify your code or options to clearly consent to the use of a cached toke
## See gargle's "Non-interactive auth" vignette for more details:
## https://gargle.r-lib.org/articles/non-interactive-auth.html
## The googledrive package is using a cached token for jotu9073@colorado.edu.
```

Raw Cases per 100,000 People by County



Log-Transformed Cases per 100,000 People by County



County Confirmed Case Trajectories (Experimental)

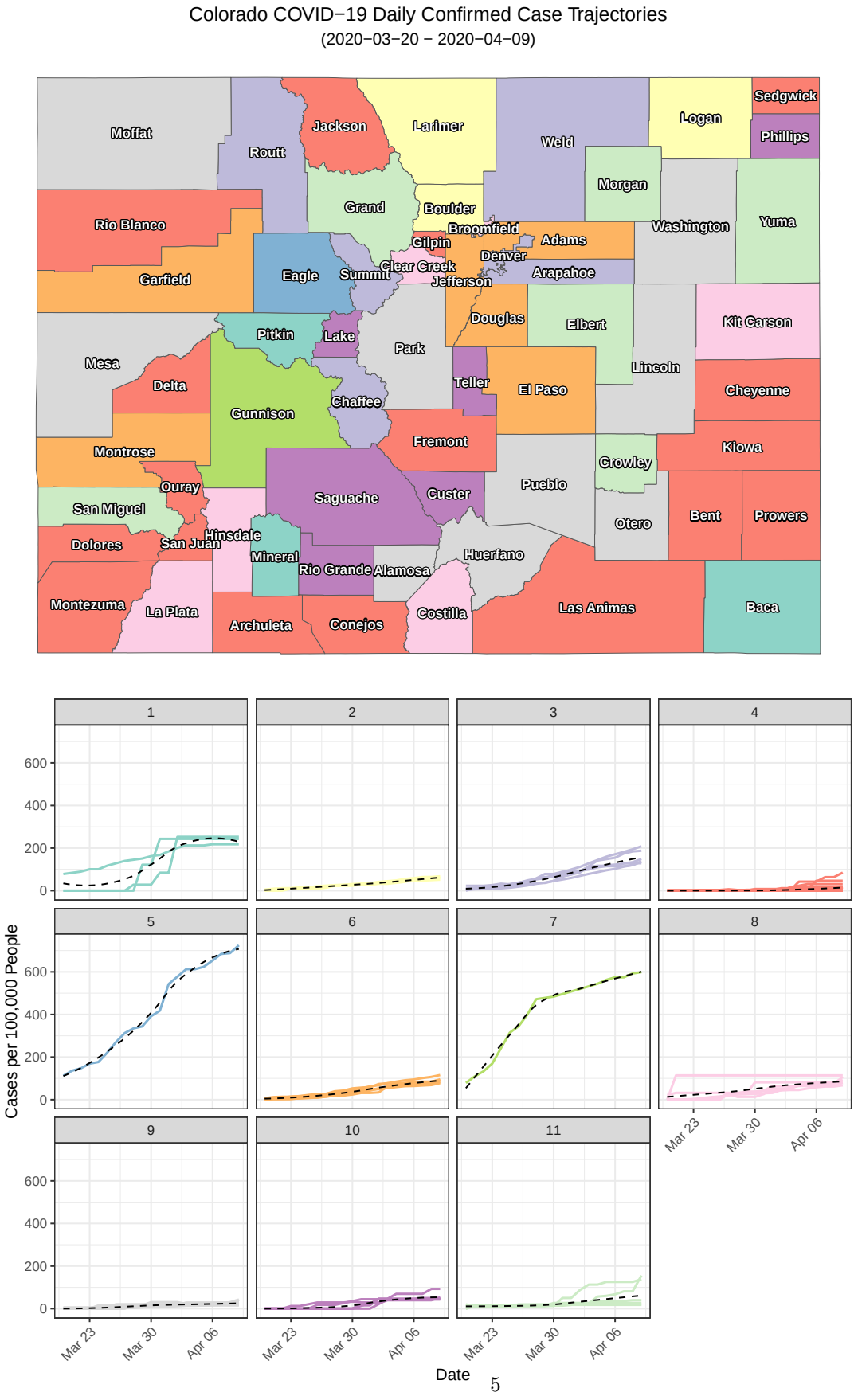
Methodology

Use Affinity Propagation clustering to group daily reports of confirmed cases by county based on two criteria:

1. The current rate of confirmed cases per 100,000 people.
2. The change in confirmed cases per 100,000 people since the previous day.

- March 20, 2020 is used as the intial date, since it is the first day at which the change in cases/100k people by county can be measured (3/19/2020 marks the first day in which all counties were reporting).
- From the ensemble of daily clusterings, measure the percentage of days to date that any two counties shared a cluster label.
- Perform a final clustering (also using Affinity Propagation) to group the change trajectories from 3/20/2020 to present.

Raw Cases per 100,000 people by cluster



Log-transformed Cases per 100,000 people by cluster