surflog

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Figure 1: Not all surfers have the luxury of time.

***surflog*: a tool to predict the best surf for you**

- User inputs
- Ocean conditions
- *surflog* outputs
    1. Visualize your sessions
    2. Predict where and when to surf

Visualize your sessions

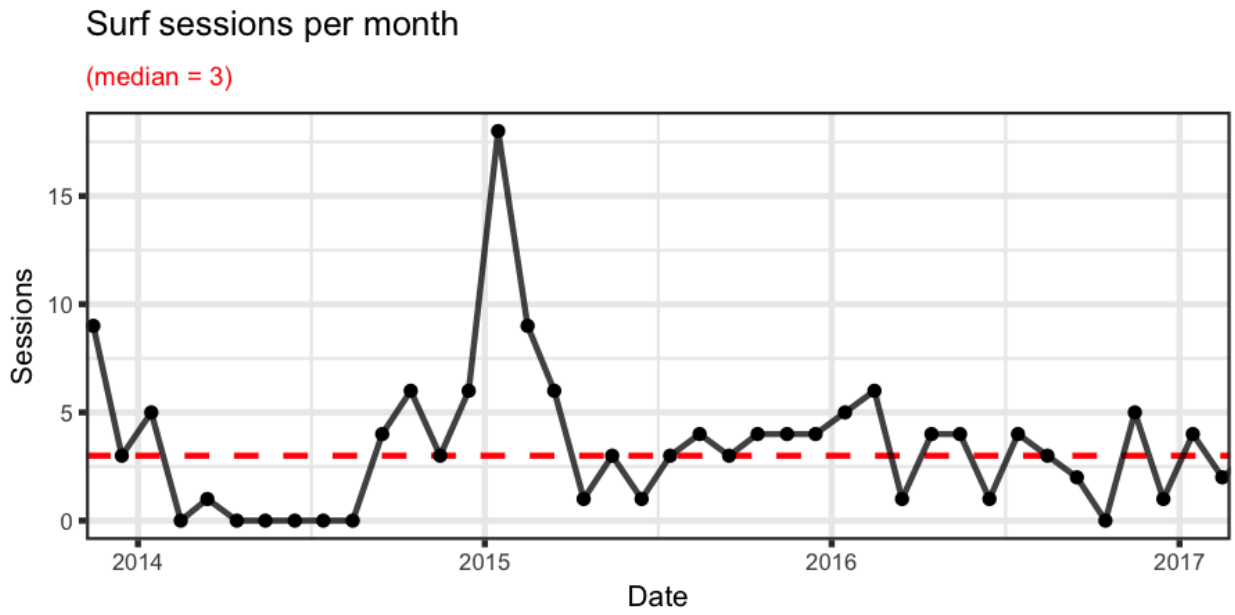

Figure 2: Number of surf sessions per month over a three year period in Central California.

Visualize your sessions

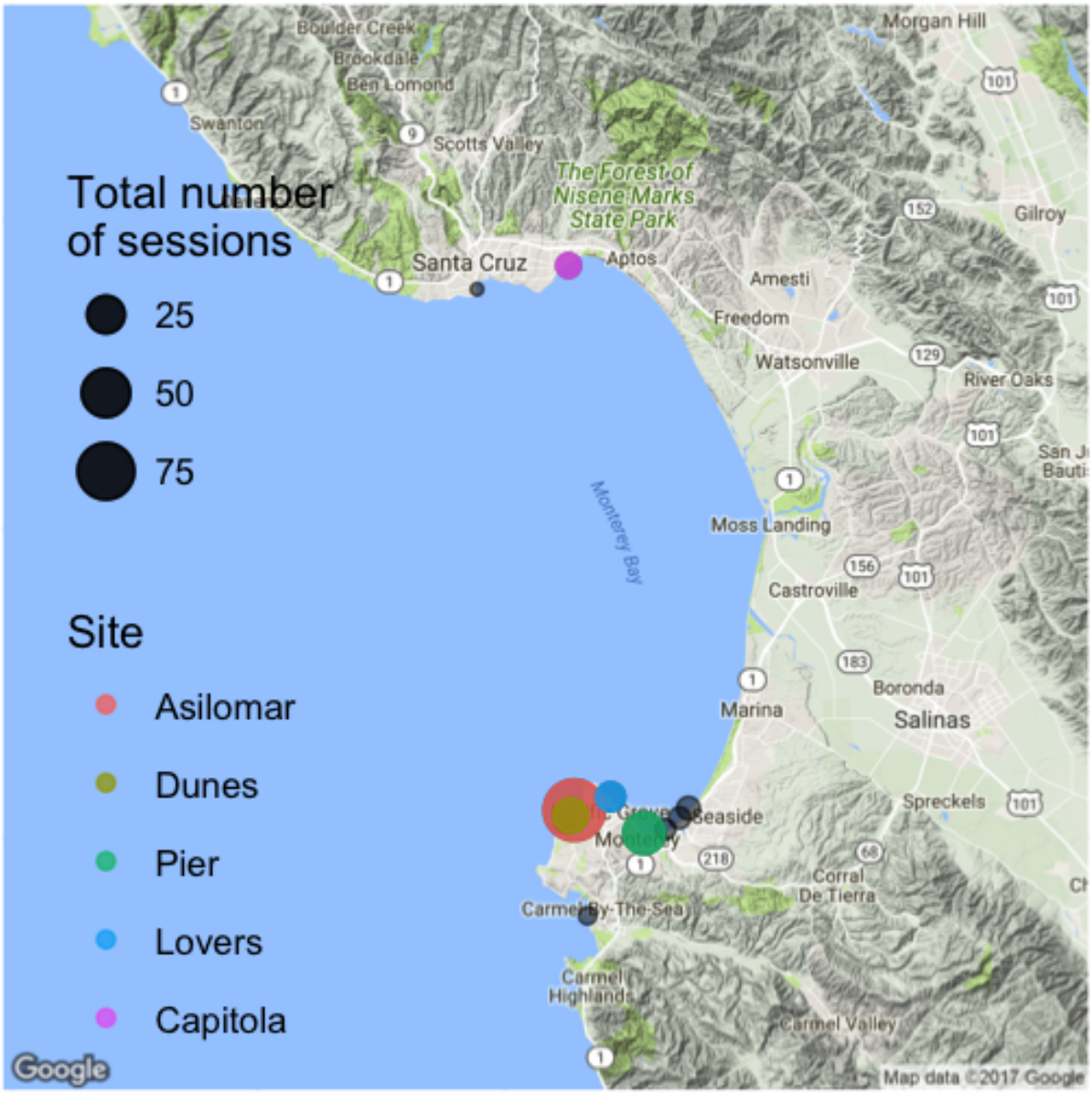

Figure 3: Visualizing a surf log from Monterey Bay, California. Colored sites will be used in model predictions.

Predict where and when to surf

Generalized linear model with four predictors

- Swell height (WVHT), period (DPD) and direction (MWD)
- Tidal height (TideHeight)

$$Rides_i = Poisson(\mu_i)$$
$$E(Rides_i) = var(Rides_i) = \mu_i$$
$$log(\mu_i) = \alpha + \beta_h Height_i + \beta_p Period_i + \beta_d Direction_i + \beta_t Tide_i$$

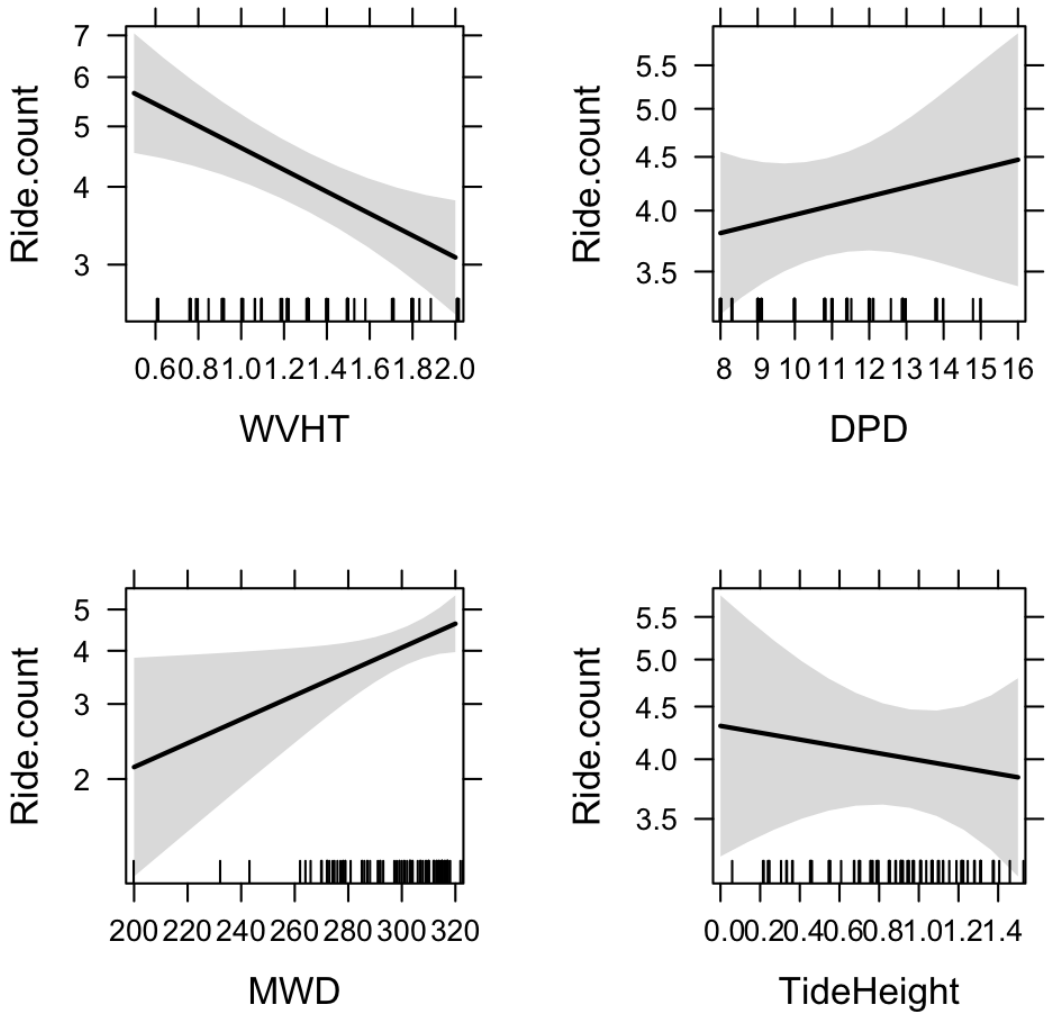

Figure 4: Partial effects of each predictor from the model fit to the surf log data from Asilomar.

Predict where and when to surf

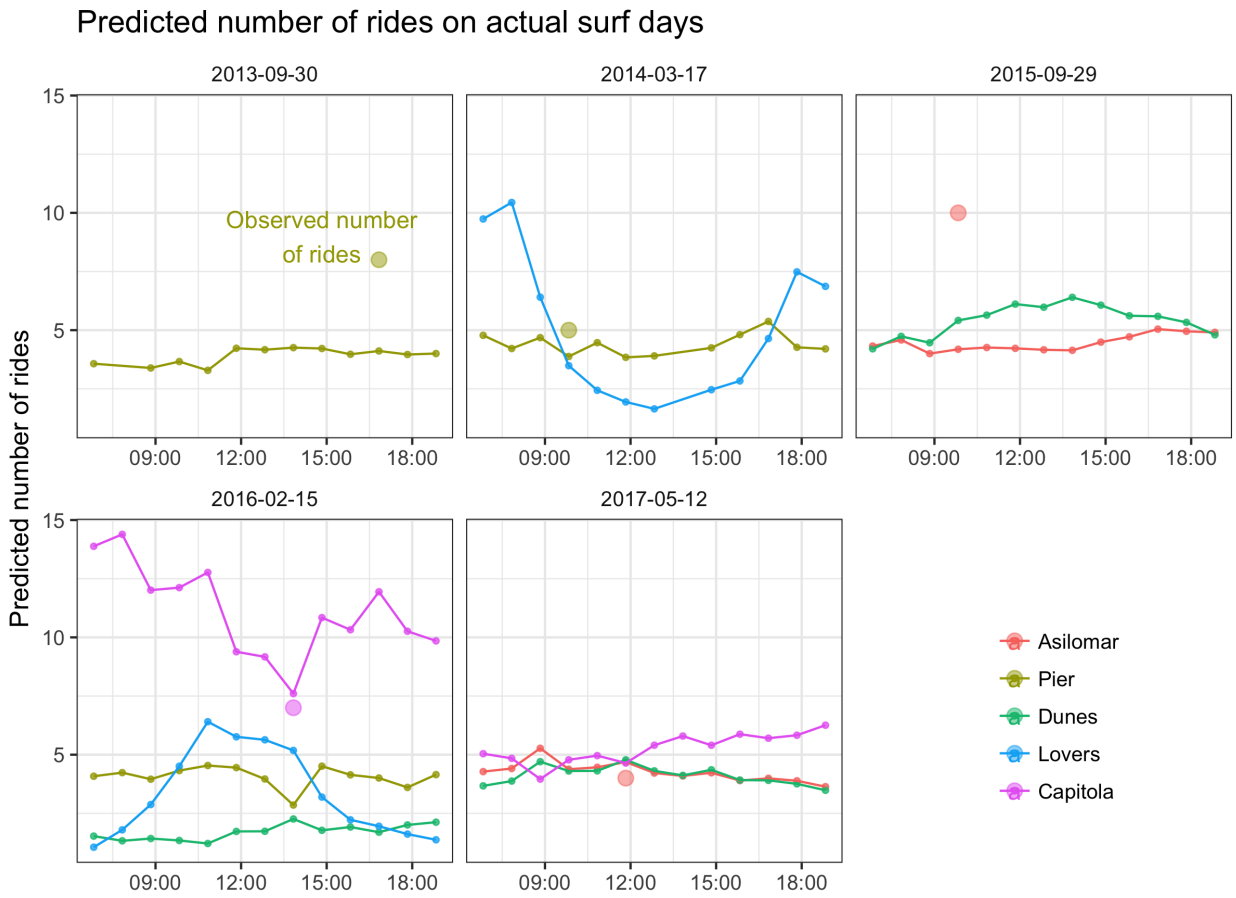

Figure 5: Predicted number of rides on five randomly selected surf days. The lines represent the predictions, and the single large point on each panel represents the observed number of rides. Predictions of zero rides have been omitted for clarity.

Predict where and when to surf

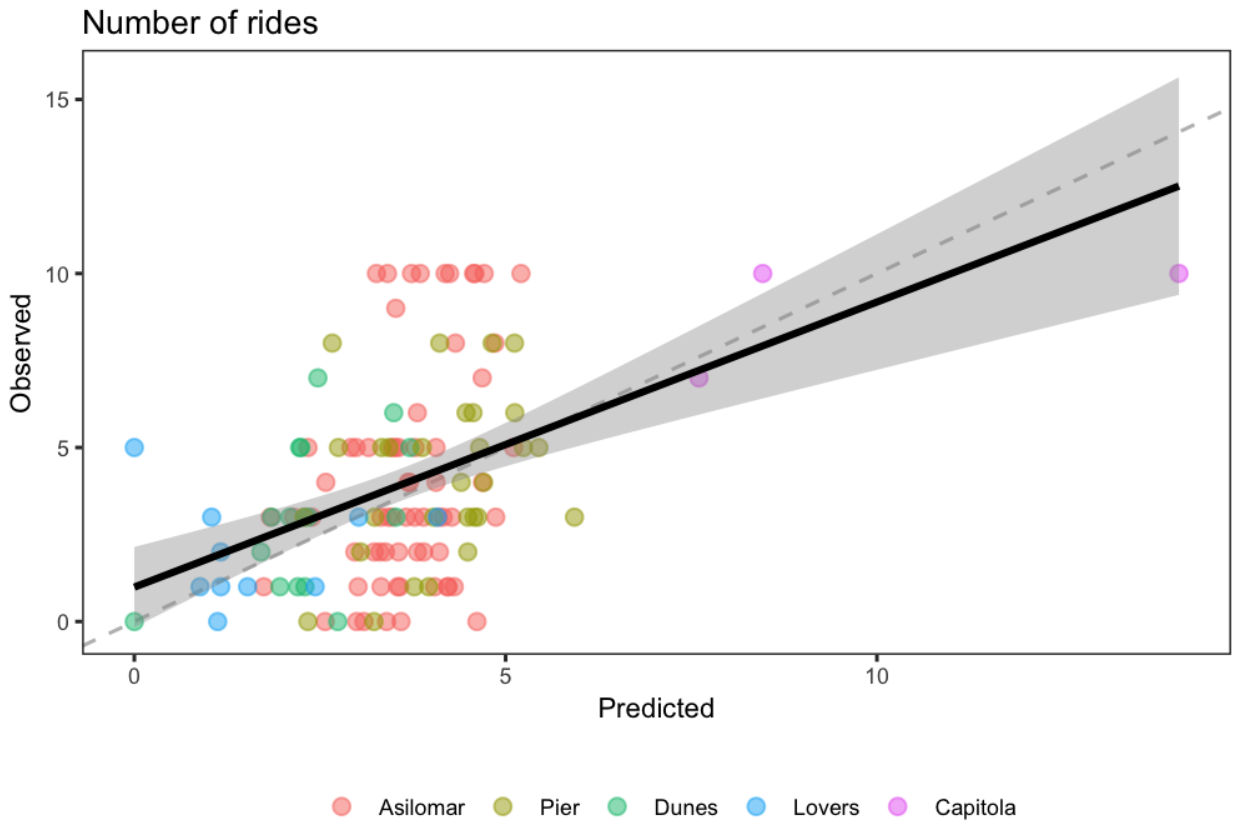

Figure 6: Observed number of rides plotted against the predicted number of rides. The predictions explain 19% of the variation in the observations.

Github page

https://github.com/elahi/surflog/