# Smoothing and Spatial Data: hedging on a Bayesian perspective

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Methodology for estimating a smooth curve or surface from irregular data is a core problem in statistics and has wide application in the geosciences. This series of talks is an introduction to smoothing from the perspective of penalized likelihoods, leading to splines and a discussion of the more general framework that interprets splines and other penalized methods as solutions to a Bayesian problem. As example, a robust smoother will be presented from the standpoint of efficient algorithms for computation and some asymptotic theory. A broader Bayesian perspective will be developed with the problem of characterizing extreme rainfall over Colorado and including companion measures of uncertainty.