Bayesian Approach to Extreme Value Theory:
How to study unusual weather events?

Davide Fabbrucci, Matteo Pierdomenico, Giacomo Randazzo

Abstract

Keywords:

1. Introduction

1.1. Extreme Value Theory

Due to their rarity, events like mutational occurrances during evolution, atmospheric pollutions or natural disasters have long captured the public's attention and often they are shrouded in mystery.
A particular branch of statistics, Extreme Value Theory (EVT), offers insights to their inherent scarcity and stark magnitude.
Moreover, in the few last decades the EVT literature has grown considerably, with applied interest in engineering, oceanography, environment and economics, among others, that is because it allows us extrapolate informations beyond the range of available data.
Unlike other statistical approaches, which are more concerned with the 'center' of the distributions, Extreme Value Theory focuses on the tail of the distributions, i.e. either on maxima or minimal values observed.

1.2. Extreme daily high gust in Ireland

References