## Introduction to Dynamic Spatio-Temporal Models

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## Abstract:

In the geometric distribution,  $\theta$  represents the probability of succes in each trial. Furthermore, it should follow that y is countable and greater than one. In general, in the negative binomial distribution, y is the number of trials until get the k first success. For this reason, the negative binomial distribution has certain assumptions considering that each event come from a Bernoulli distribution.(i) Each  $x_i$  is independent of any.In the geometric distribution,  $\theta$  represents the probability of succes in each trial. Furthermore, it should follow that y is countable and greater than one. In general, in the negative binomial distribution, y is the number of trials until get the k first success. For this reason, the negative binomial distribution has certain assumptions considering that each event come from a Bernoulli distribution.(i) Each  $x_i$  is independent of any.

**Keywords:** Spatio-temporal, Climate variability, Malaria prevalence, geostatistics, matern

## 1. Introduction

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Statement:

$$p(y > r|\theta) = (1 - \theta)^r, \tag{1}$$

where r = 1, 2, ...

**Proof**:

$$p(y > r|\theta) = 1 - p(y \le r|\theta)$$

$$p(y > r|\theta) = 1 - \sum_{k=1}^{r} (1 - \theta)^{k-1} \theta$$

$$p(y > r|\theta) = 1 - \theta \sum_{k=1}^{r} (1 - \theta)^{k-1}$$

$$p(y > r|\theta) = 1 - \theta \left[ \frac{1 - (1 - \theta)^r}{1 - (1 - \theta)} \right]$$

$$p(y > r|\theta) = 1 - \theta \left[ \frac{1 - (1 - \theta)^r}{\theta} \right]$$

$$p(y > r|\theta) = 1 - [1 - (1 - \theta)^r] = (1 - \theta)^r$$

Table 1: Your Caption

Tables	Are	Cool
col 3 is	right-aligned	\$1600
col 2 is	centered	\$12
zebra stripes	are neat	\$1

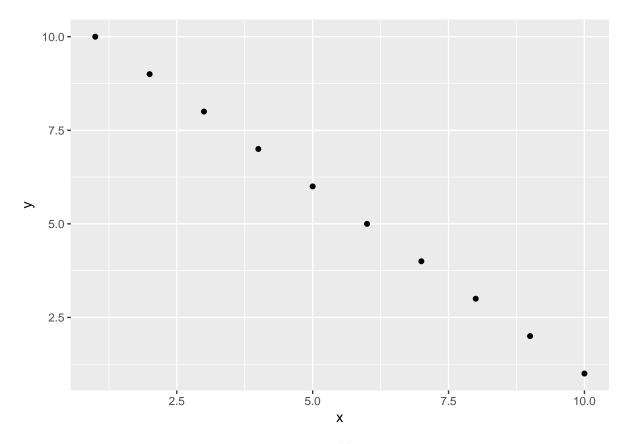


Figure 1: hla