

HEP Agent Simulation Framework

Model Documentation

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Introduction

This document describes the mathematical and logical model underlying the Human Ecology Project (HEP) Agent Simulation.

Chapter 2

Environment Model

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Description of the spatial grid, resolution, and coordinate system.

2.2 Habitat Suitability (HEP)

Description of the HEP index and how it influences agent survival and movement.

Chapter 3

Agent Dynamics

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Definition of agent attributes (age, gender, energy, etc.).

3.2 Movement Rules

Logic governing agent migration and dispersal.

3.3 Demographics

3.3.1 Birth

Rules for reproduction and fertility.

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Chapter 4

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4.1 Resource Competition

How agents compete for limited resources in a grid cell.