

Coping with climate change.

Implications of the Yellow-Bellied Marmot's (*Marmota flaviventris*) body mass evolution in the last half-century.

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Introduction

Phenotypic plasticity vs microevolution

Body size as a Life-History Traits (LHT) and expected effect of global warming

LHT coevolution

Species and study site

Chapter 1 - Mechanisms

Marmot's Biology: What mechanisms are behind the body mass increase?

Growth? Baseline? Both?

Double random (Intercept, Slope)

Chapter 2 - Methodology

*Methodology: $I * E$ detection with double random mixed models*

Chapter 3 - Triggers

Marmot's Biology: Which environmental factors have triggered the phenotypic shift?

E1 - E10 (T°, Precipitation, ...), Seasonal Gradient

Predators, Diet?

Chapter 4 - Implications

Marmot's Biology: What could be the implications of that for the population's future?

Manuscript models Body Mass/active season with survival

References