

# Climate Change

## Selective Environment

### Abiotic Factors

- Temperature
- Precipitation
- Seasonality

### Biotic Factors

- Parasites
- Predators
- Intraspecific competition

## Individual- and Group-Level Traits

- Voltinism
- Development time
- Queen-worker size dimorphism
- Offspring sex ratios
- Colony size

## Fitness Effects

### Costs and benefits of...

- Guarding
- Nest sharing
- Social thermoregulation

## Social Outcomes

- Population shifts in frequencies of social nesting
- Geographic shifts in distributions of social nesting
- Evolutionary transitions in social organization

## Questions

- How does social behavior vary within and between populations?
- What are the mechanisms underlying plasticity in social behavior?
- How do environmental factors shape social and colony phenotypes?
- How do environmental factors impact the spatial distribution of social nesting?
- How might future climate scenarios promote social evolutionary transitions?