

## Research Goal

Identify and describe the range of ways that informal STEM learning (ISL) institutions are addressing societal challenges and how STEM knowledge and scientific reasoning are situated in that engagement.

## Defining a Social Problem

Conditions that come to be viewed as social problems usually share these characteristics:

- 1) They are harmful or limiting to a significant proportion of society,
- 2) They are complex, systemic, and enduring;
- 3) They require a shift in societal structures, expectations, or behaviors, and
- 4) There is a lack of social agreement on the nature of the problem or the nature of the solution.

An individual's engagement with social challenges is often connected to interpersonal relations and group identity.

## Research Protocol

We are conducting a configurative systematic analysis of existing literature using a question-based, iterative process of mapping, organizing, analyzing, and synthesizing the studies.

## What's Next

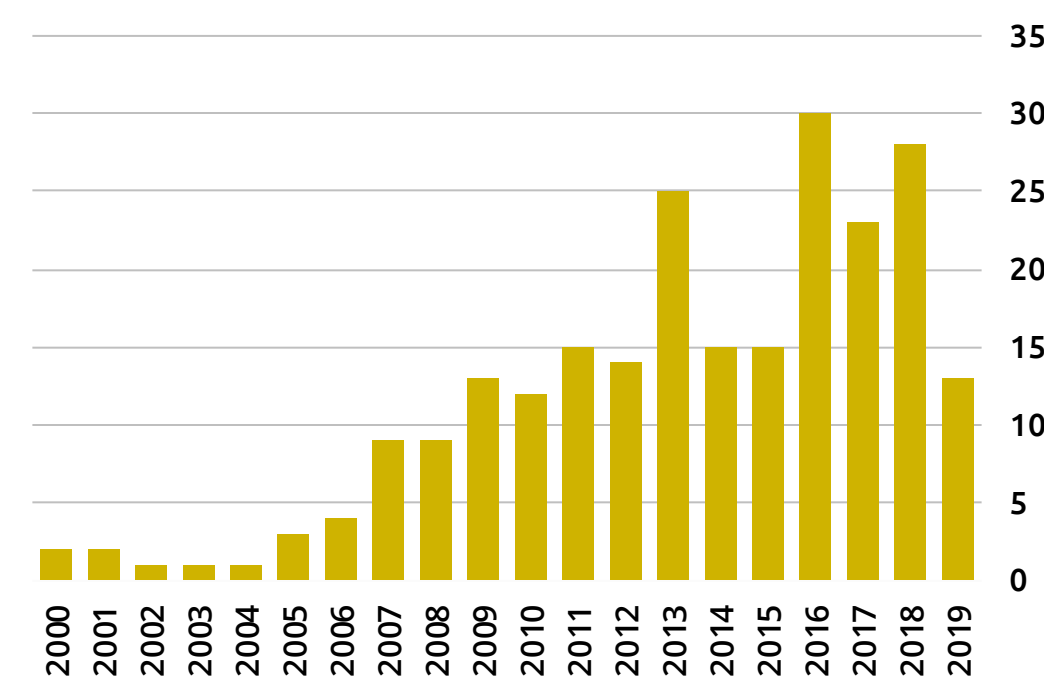
- Types of social issues addressed and not addressed
- Relationships between types of engagement (eg. Exhibits, programs, media), nature of issues, and intended audience.
- Arguments for types of issues that should be addressed by informal STEM learning institutions.
- Identifying heuristics and recommendations for practice and identifying hypotheses and questions for advancing theory and research around the engagement of ISL institutions in advancing the virancy, equity, and sustainability of society and the environment.

## The Literature

We initially selected 230 studies that met criteria:

1. Published after 2000
2. Publicly available through peer-reviewed journal informalscience.org (primarily summative reports), or published on ProQuest thesis database
3. Informal Learning Environment
4. Addressed a social issue

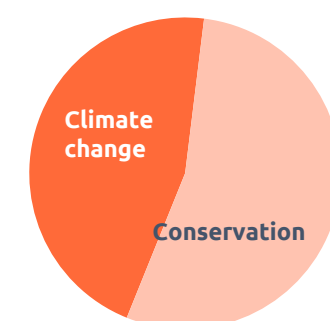
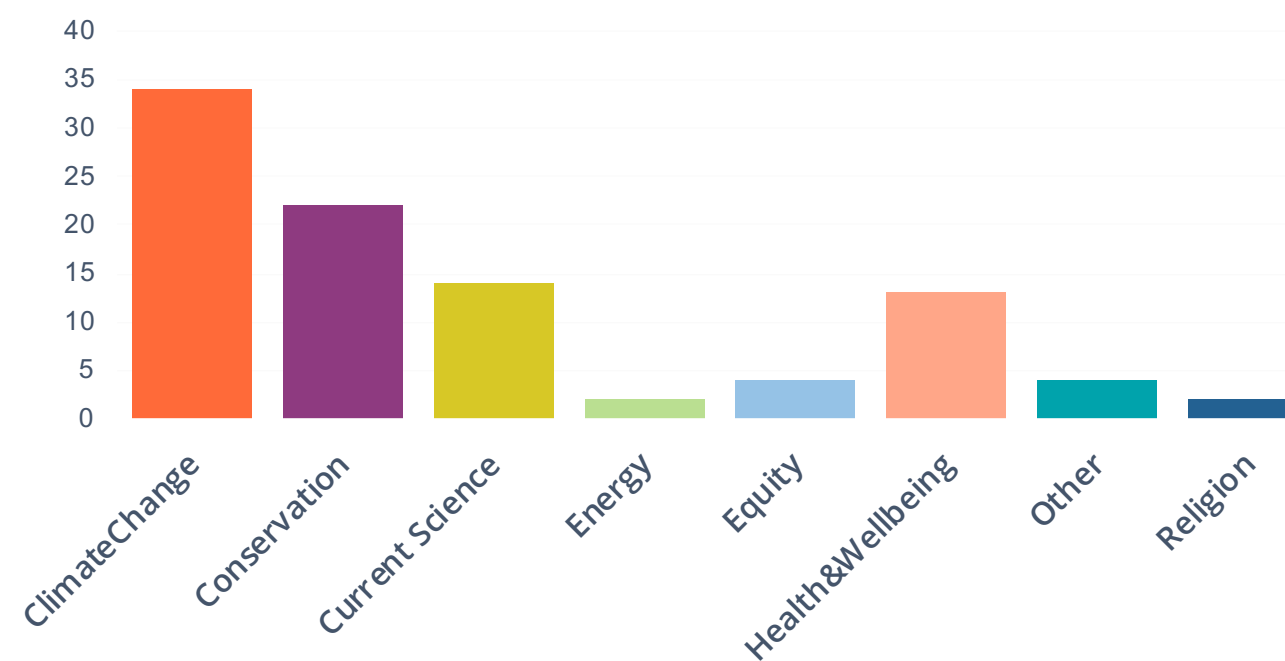
### Number of studies by year



## Types of social issues addressed

Most of the social issues addressed by this literature, fell into the broad categories of climate change, conservation or environmental protection, equity issues, health & wellness.

### Topics Addressed by ISL Institution

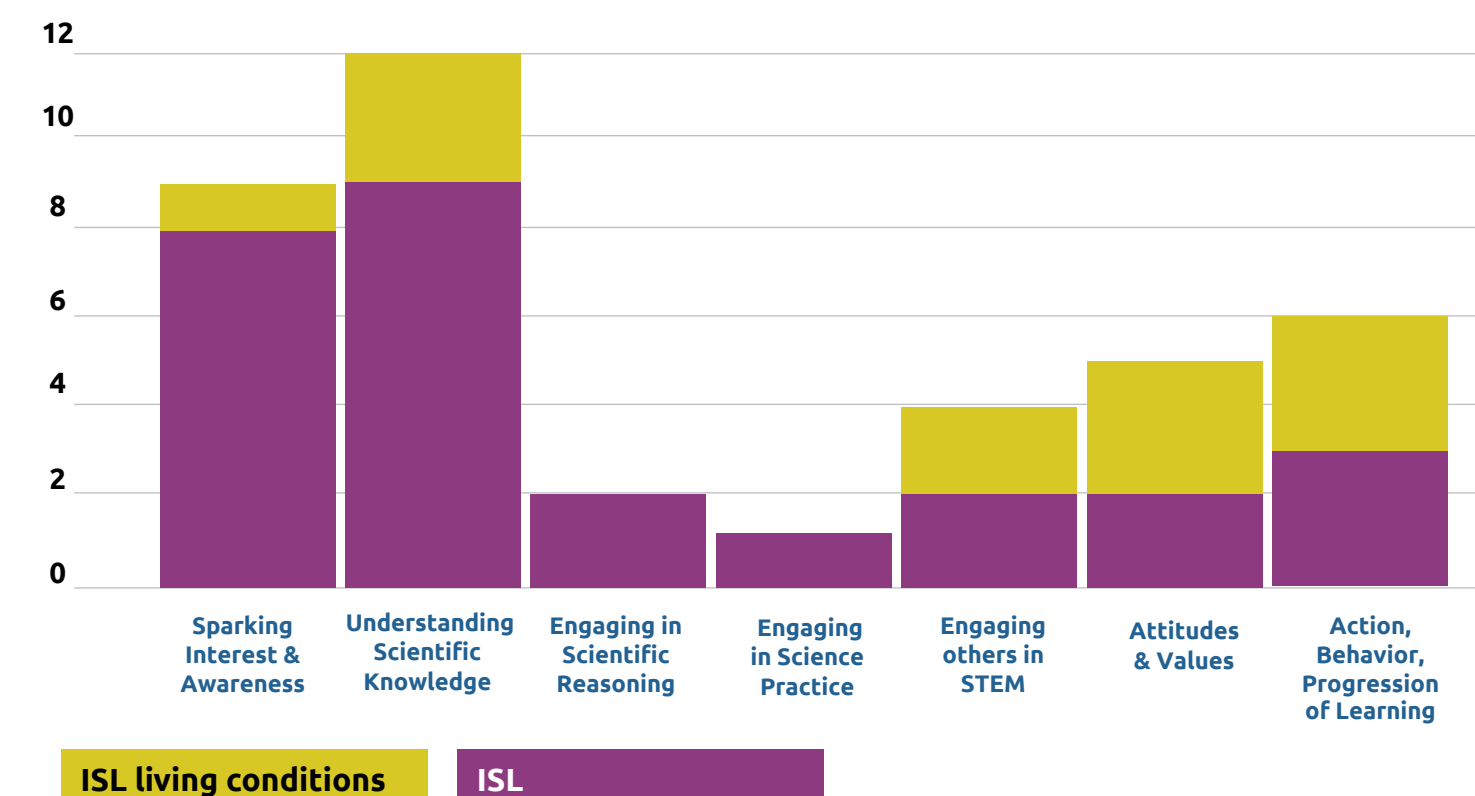


The zoo and aquarium subset of studies seemed to focus on climate or environment-related topics with few addressing topics related to lived experiences.

## Impact of Projects

We analyzed the impacts that were intended, measured, and achieved and then categorized them by engagement with science and generic learning outcomes. Projects tended to be more likely to report achieving impacts around sparking interest and advancing knowledge. Many studies reported intended outcomes around societal impacts but those were not measured.

### Nature of Achieved Outcomes reported



Learn more about this project at:  
<https://knology.org/person/kris-morrissey>

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