

Evidence of learning for climate change adaptation:

An assessment of environmental and
natural resource partnerships

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The C-LAND Project

Climate, Learning & Adaptation for Northern Development

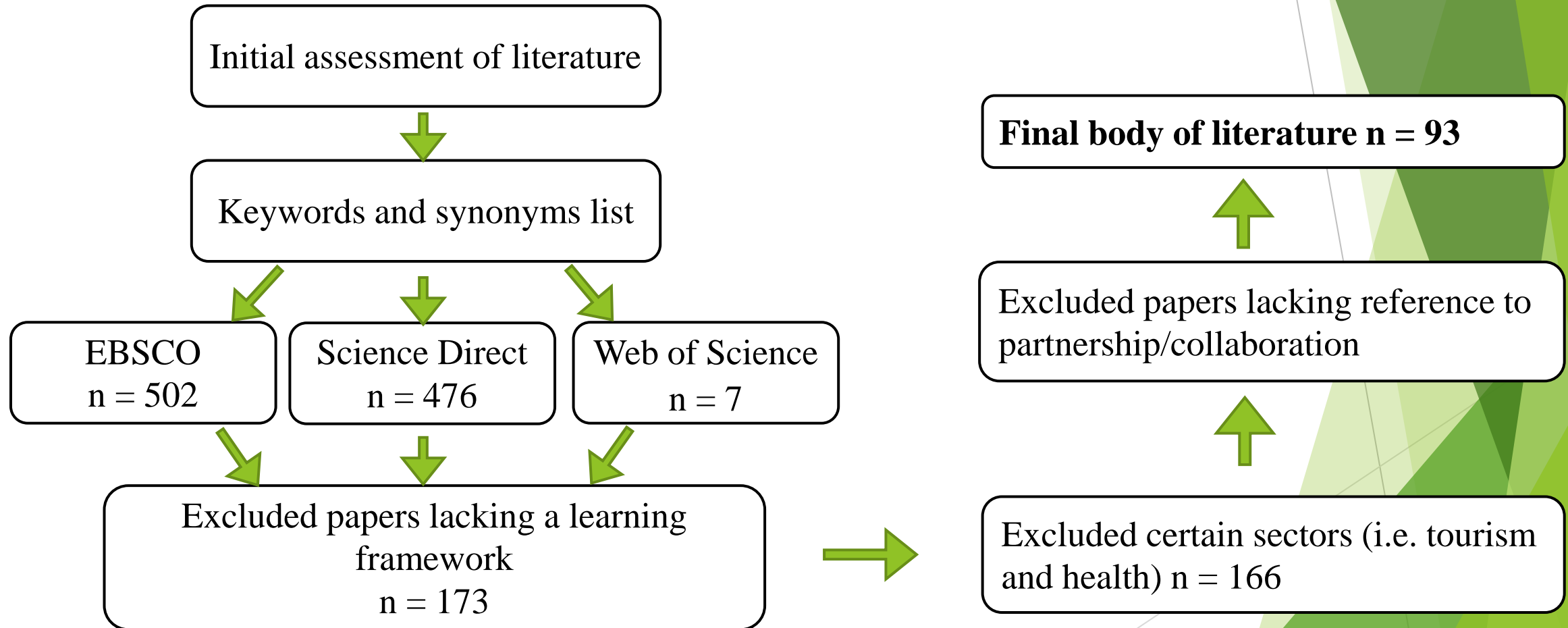
- ▶ Examines **learning** as core process for northern adaptation
 - ▶ multiple actors possibly arrive at shared and unique appraisals of climate change challenges
- ▶ **Adaptive capacity** - capability to adjust to change, moderate potential damages, take advantage of opportunities, or cope with consequences (IPCC)
- ▶ Sector-specific assessments of adaptive capacity as well as information and tools to guide adaptation strategies in renewable sector **partnerships**, mainly **forestry** and **energy**

Systematic review

- ▶ Structured process of searching & reviewing literature (Ford et al 2015)
 - ▶ Research synthesis method
 - ▶ Targeted search string, multiple databases
 - ▶ Explicit inclusion/exclusion criteria, iterative reduction approach
- ▶ Synthesize evidence of learning and adaptation in environmental governance
 1. Better conceptualize links among learning & capacity in collaborative, multi-party & multi-level forums
 2. Sharpen questions & better inform research design

SEARCH STRING

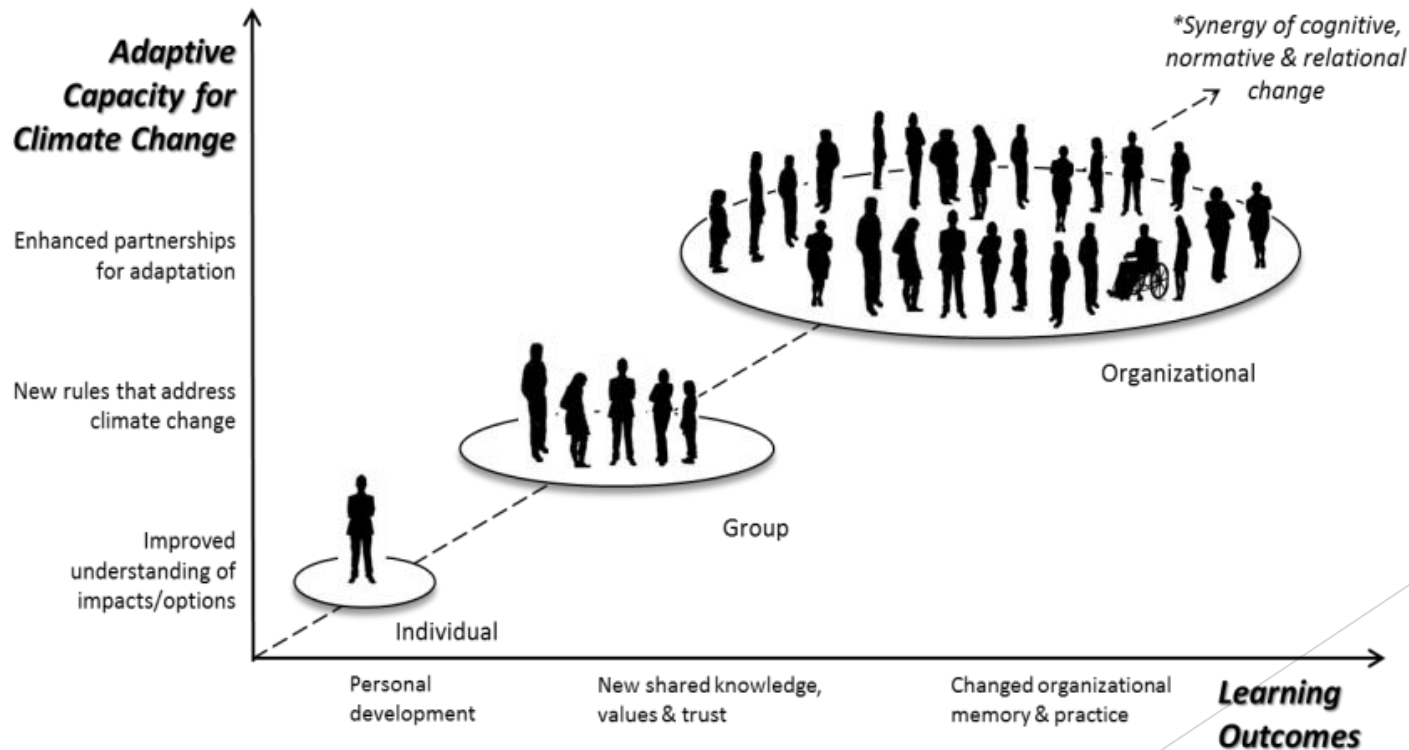
Climate **AND** Governance **AND** (adapt **OR** adaptation **OR** adaptive) **AND** Learning **AND** Partnership **AND** ("environmental resource" **OR** "natural resource")



What we are examining:

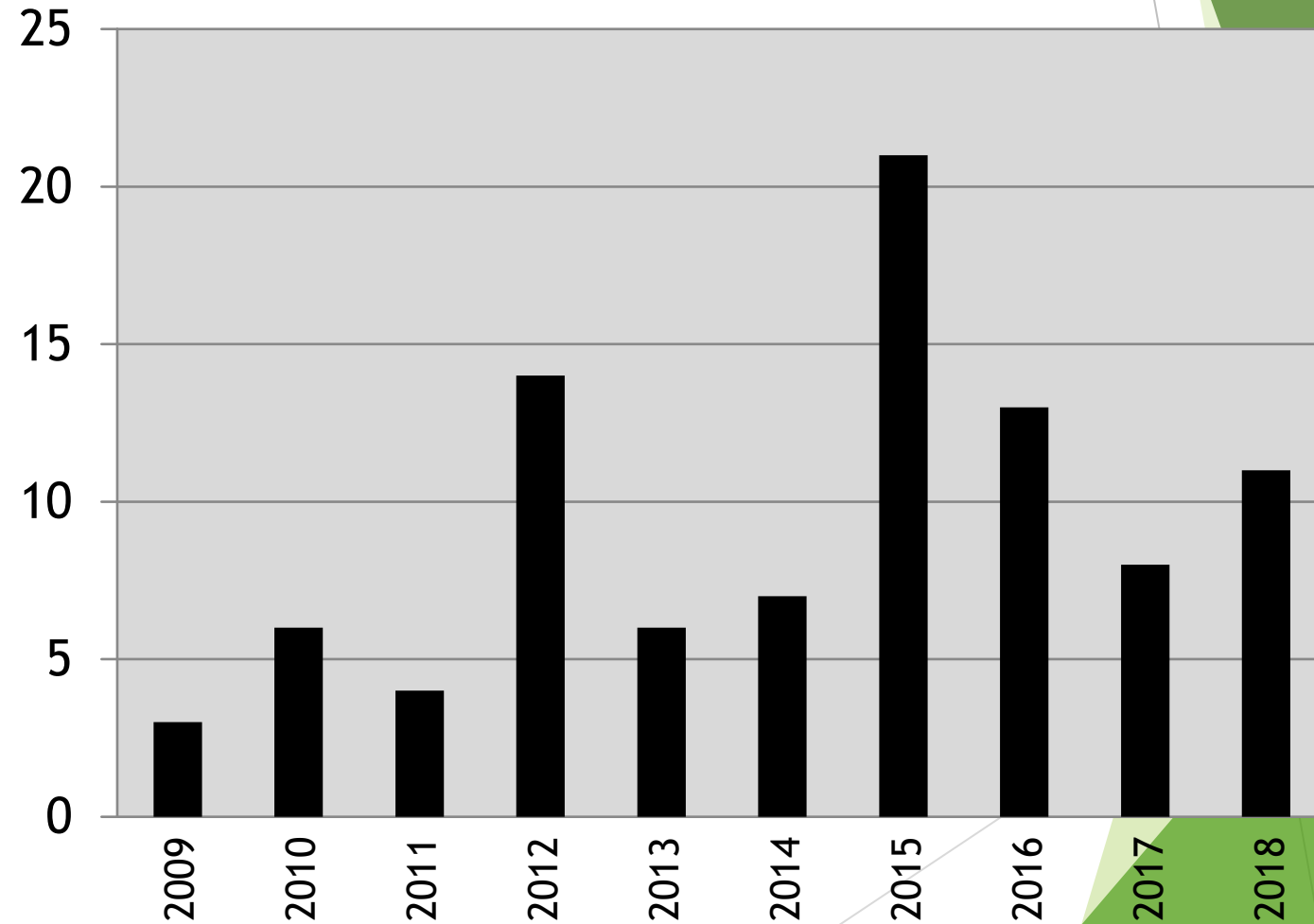
- ▶ Theoretical orientation
- ▶ Study methods
- ▶ Learning processes & outcomes

- ▶ **Research output, sites & sectors**
- ▶ **Who is learning**
- ▶ **Scale of learning** (Diduck 2010)



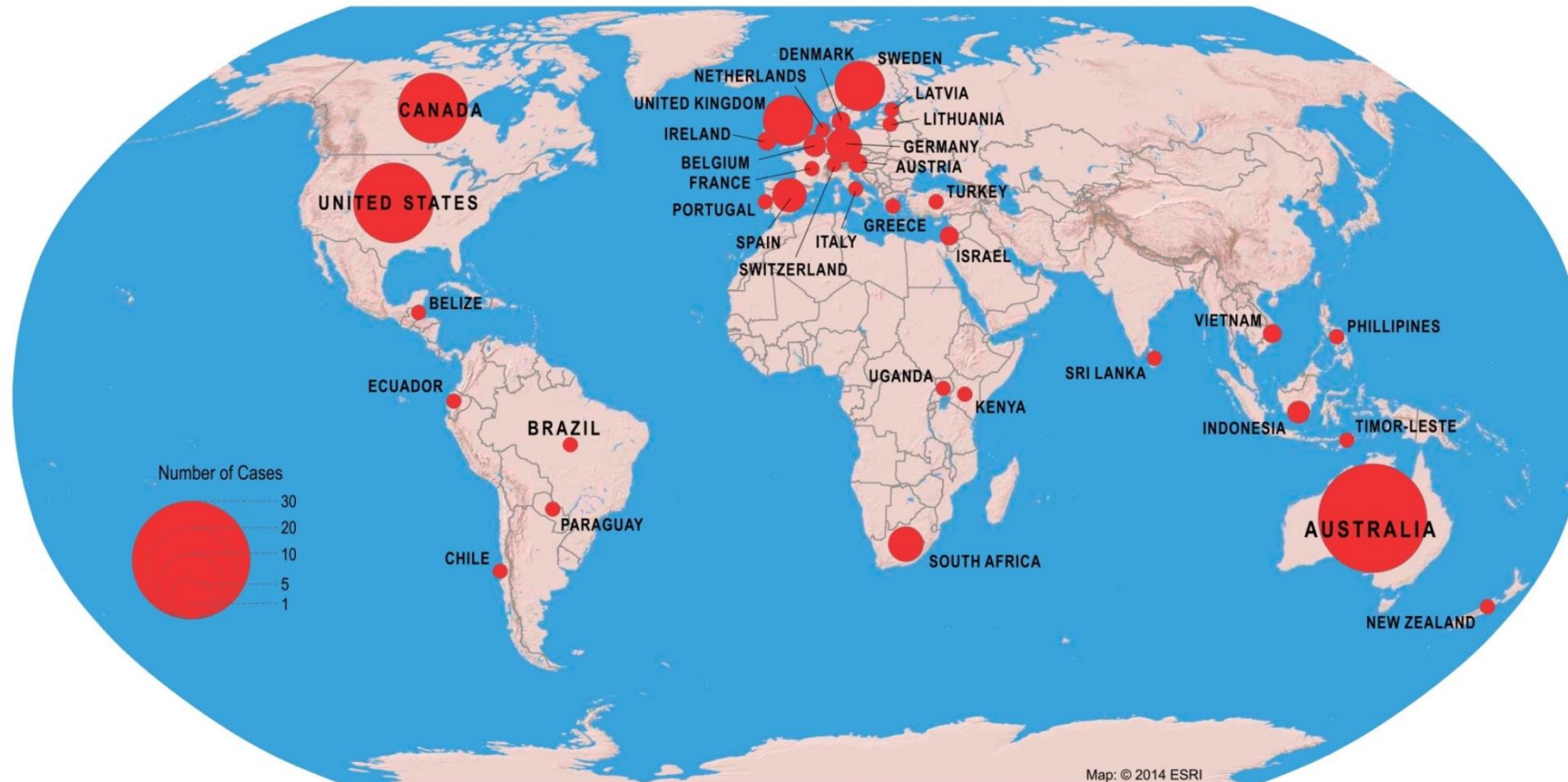
Research output: #papers/year

- ▶ Steady increase 2009-2018
- ▶ Limitations:
 - ▶ Search conducted mid-2018
 - ▶ English search



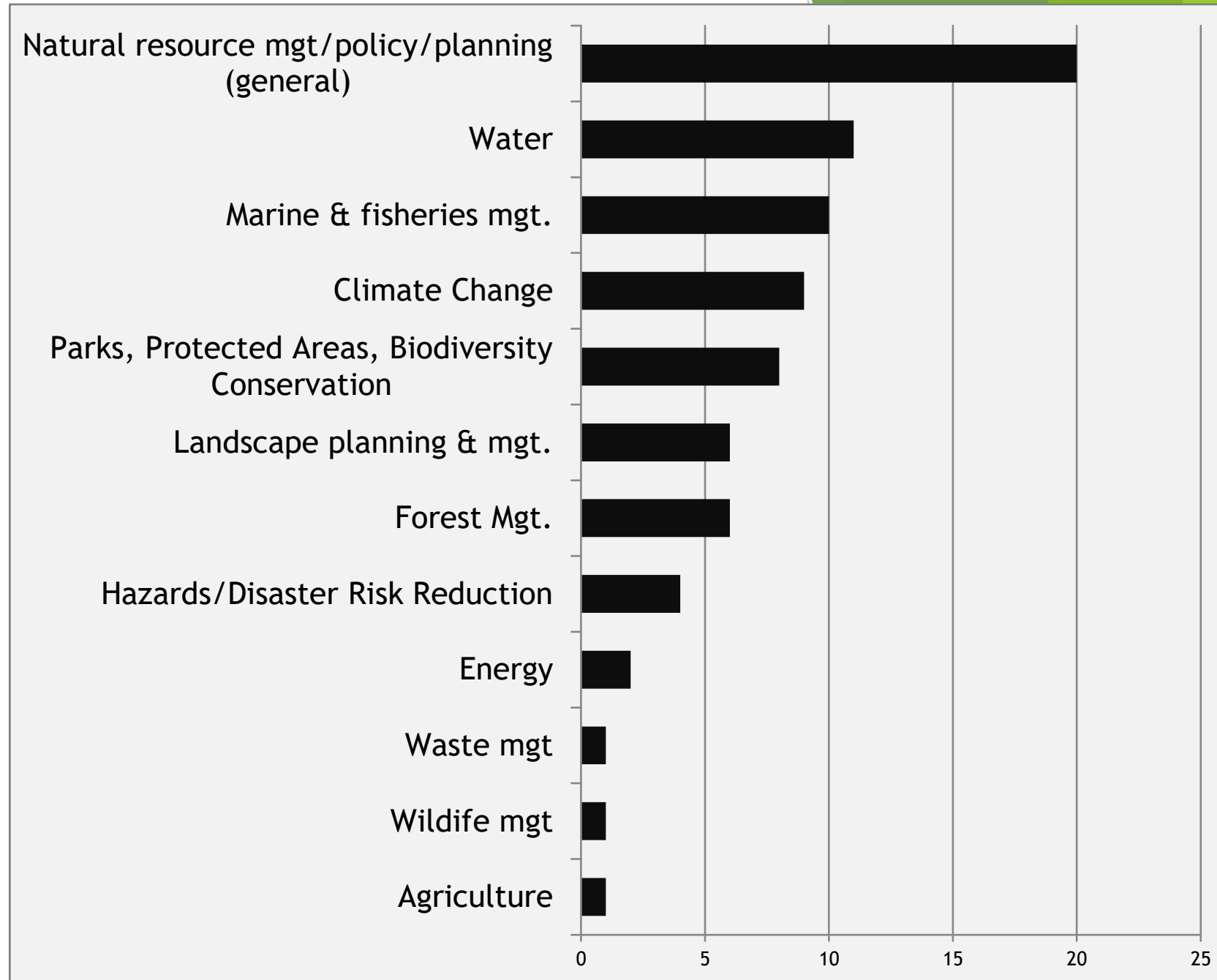
Cases/research sites by country/region

- ▶ Western/Euro-centric; Taken together, most research in Europe (39)
- ▶ 1. Australia (28), 2. US (13), 3. Canada (12), 4. Sweden (7), 5. UK (7)
- ▶ Three 'northern' Canada cases



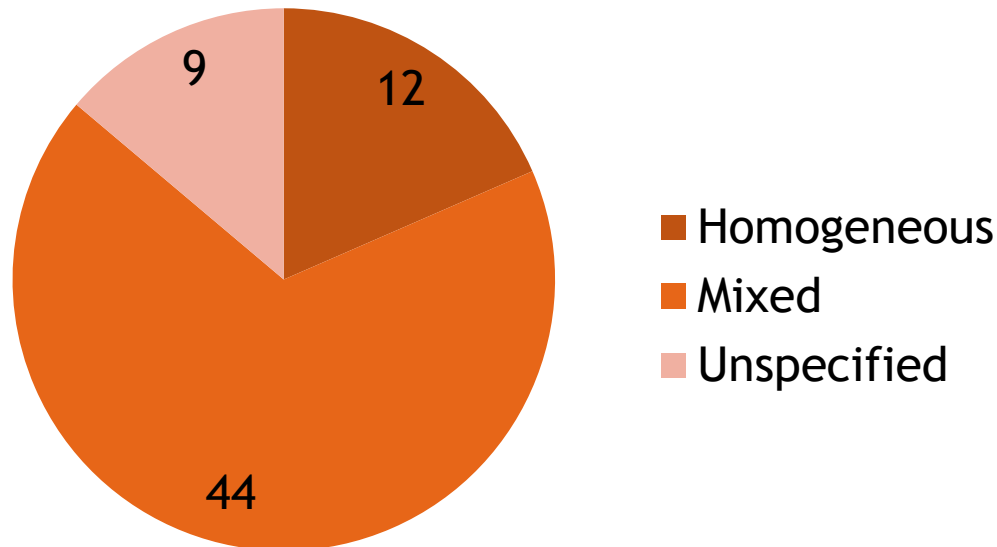
Cases by 'sector'

- ▶ Large number of 'general' papers
 - ▶ e.g., adaptive co-management, community-based management
 - ▶ Focus on learning process outside specific sectors e.g., training workshop or event
- ▶ Sector/Region



Who is learning?

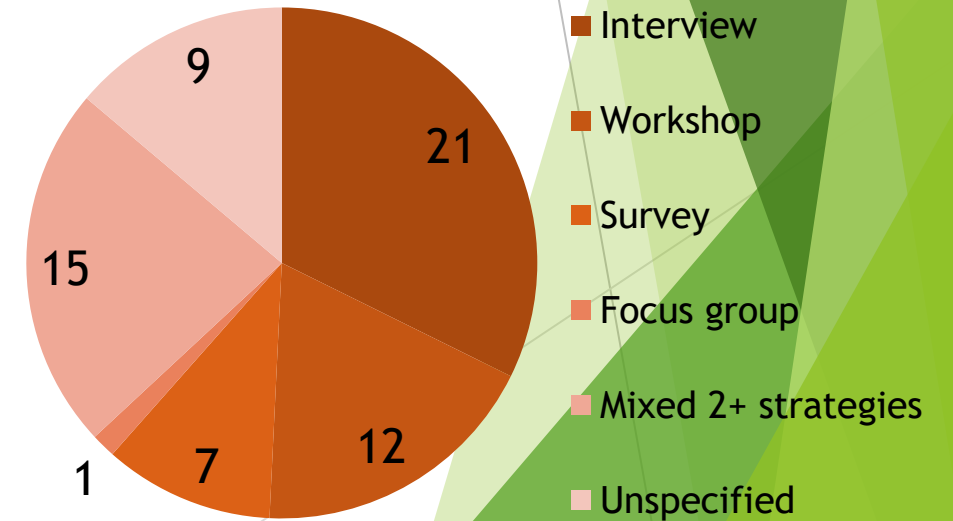
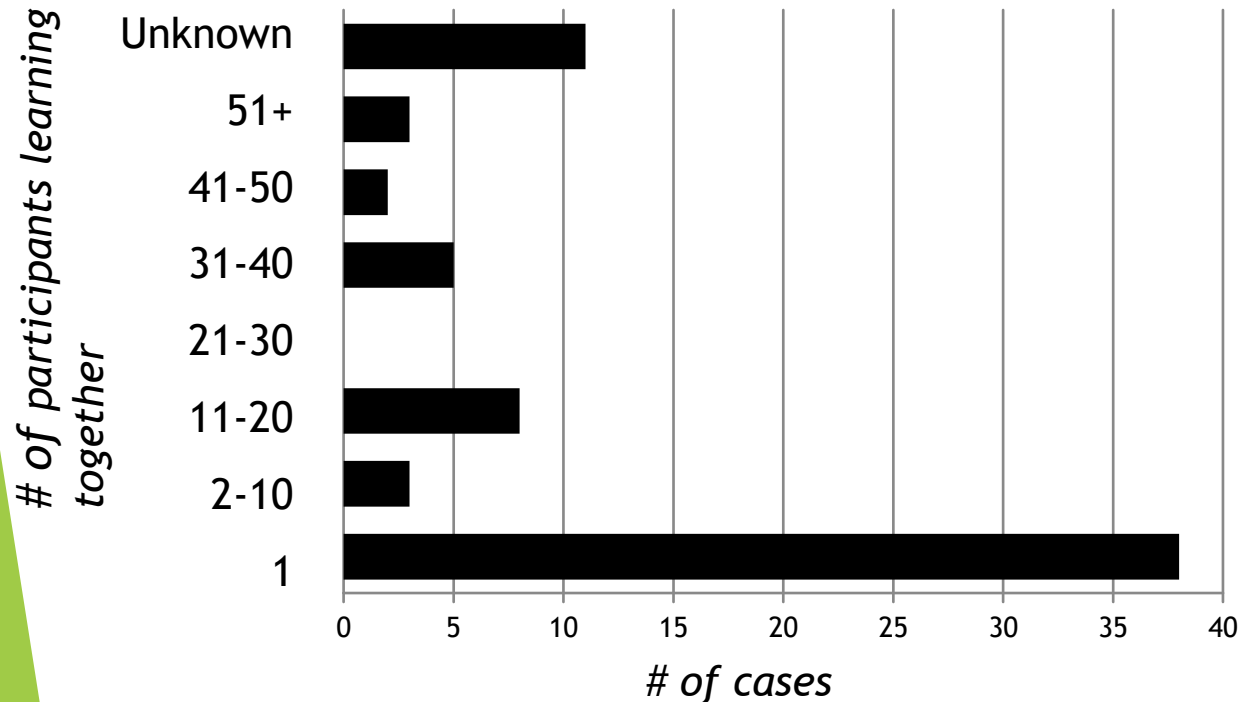
- ▶ Diverse range of participant groups (19 min) →→
- ▶ Mostly, but not always, mixed learning process or assessment
 - ▶ E.g., targeted learning events for specific groups, purposive samples
 - ▶ E.g., Unspecified → “Ecological restoration community”



- Student interns
- Local residents
- Municipal officials
- Farmers
- Planners
- Land managers
- CEOs
- Inspectors
- Industry/business
- Private land owners
- NGOs
- Recreationalists
- Scientists/researchers
- Hunters
- Fishers
- Media
- Provincial government
- Federal government
- Professional asc.

Scale or level of learning process

- ▶ Classified learning processes based on focus of inquiry
 - ▶ E.g., individual experiences (38) vs. group exercises/process (21)
- ▶ Most studies analyze individual learning experiences
 - ▶ Interviews, mixed strategies, workshops, surveys



Preliminary observations to inform research design:

- ▶ Large variations in research design & reporting make method & case comparisons difficult
- ▶ Few studies from northern Canada indicates potential opportunity
- ▶ Eurocentric / Western learning & adaptive capacity research will have to be strongly informed by northern & Indigenous learning approaches & knowledge not accounted for here
- ▶ Next steps: Synthesize individual/collective learning processes & outcomes & links to adaptive capacity building in collaborative settings