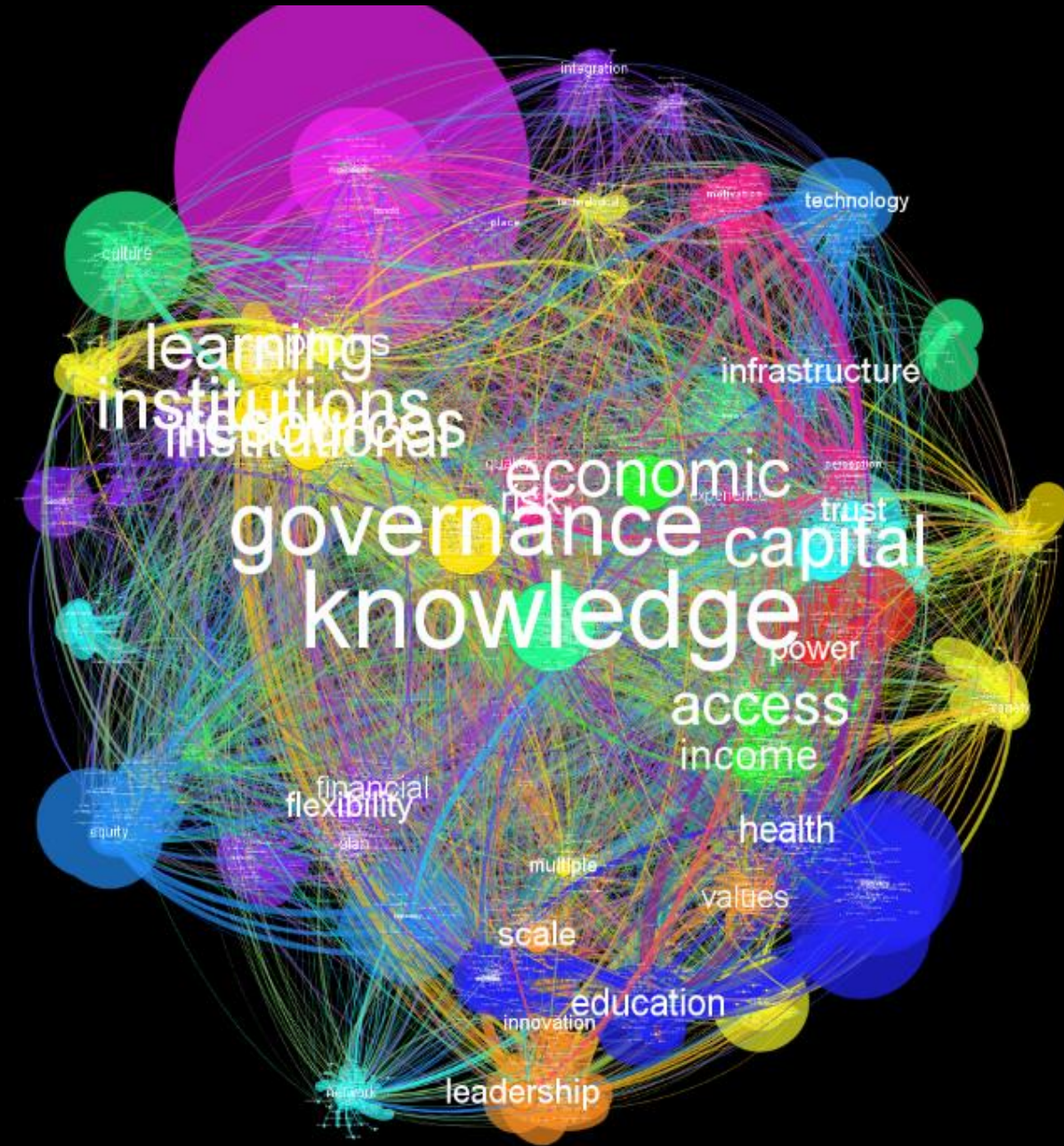
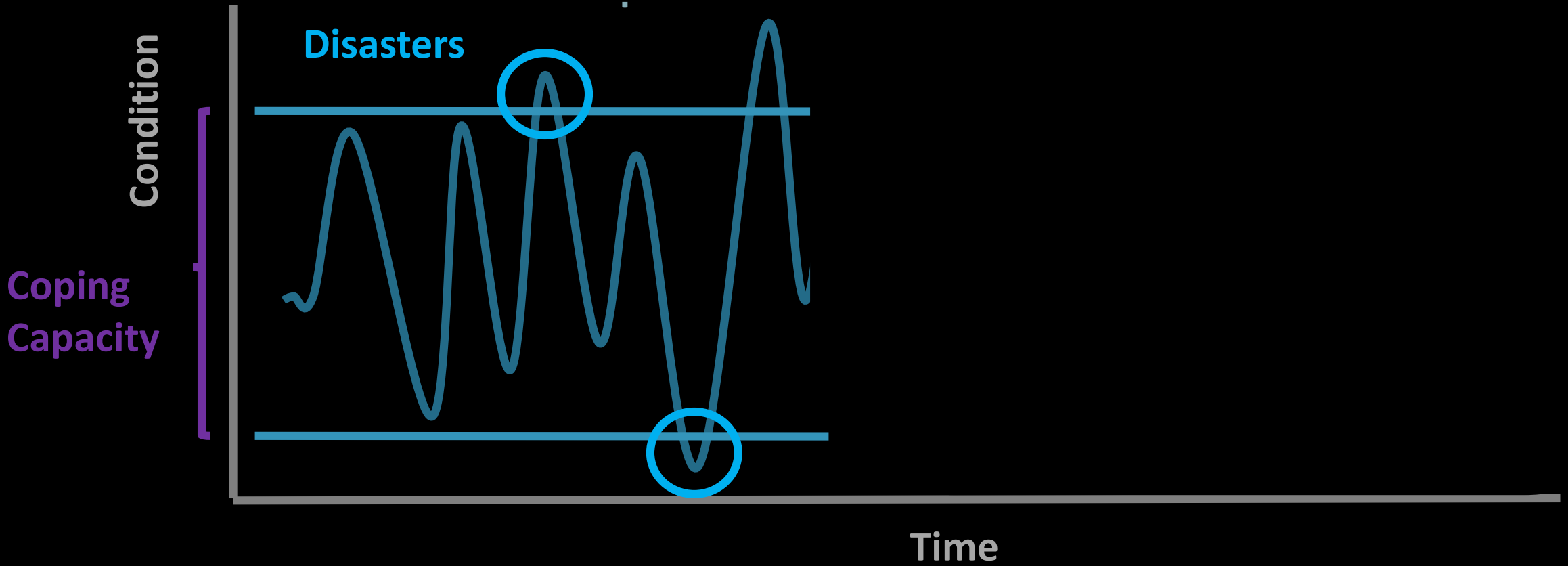


# Digital Humanities in Environmental Governance

Anne Siders  
Florida Earth Conference  
8 December 2015





**adaptive capacity**

**resilience**

**vulnerability**

**transformation**

**coping capacity**

**hazard exposure**

**adaptation**

ability to respond  
flexibly to changing  
conditions

– to take advantage of  
opportunities or  
mitigate risks –

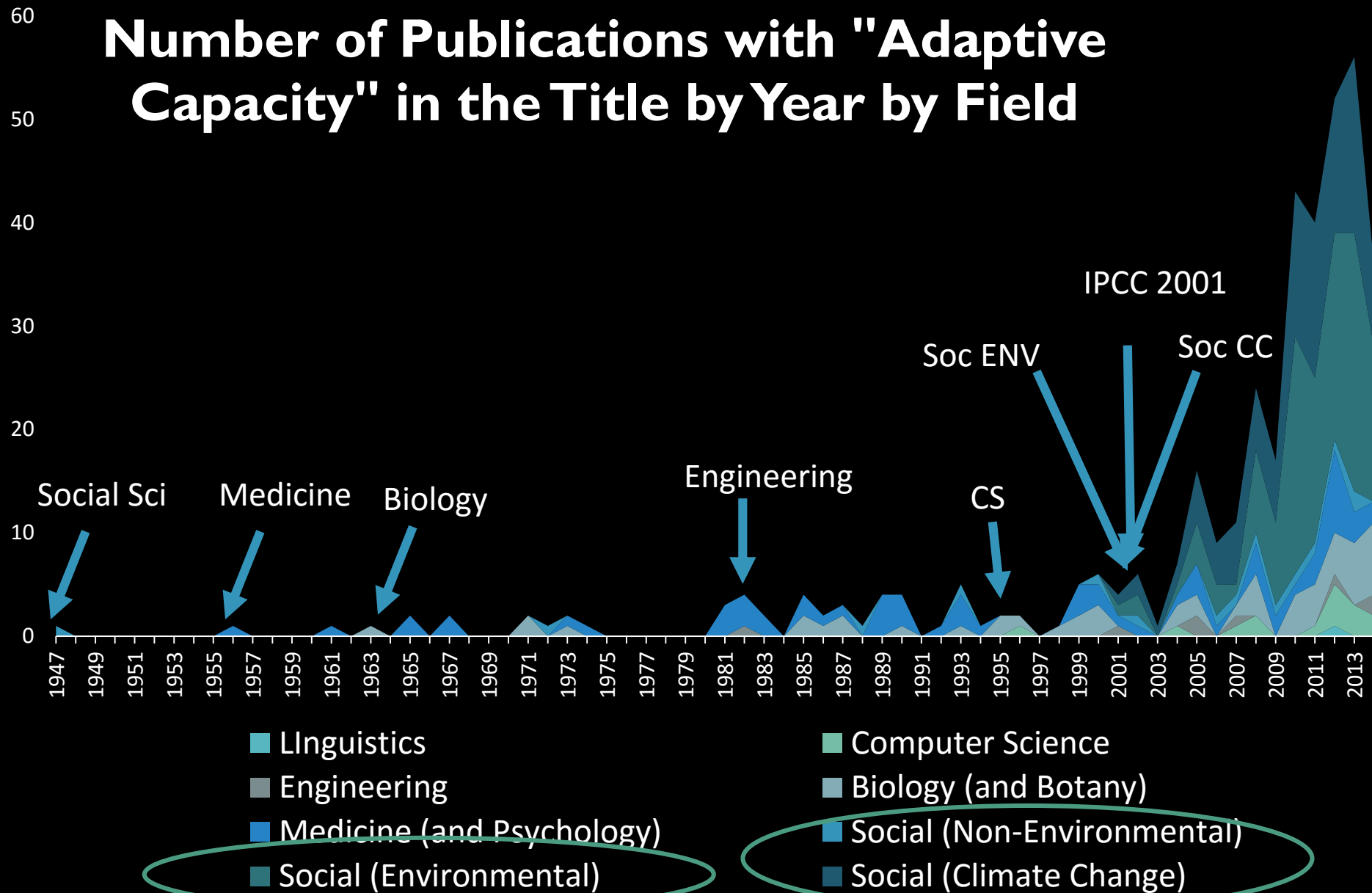
without losing the  
ability to respond to  
further change in the  
future

# adaptive capacity

How do we build the adaptive capacity of governance systems to respond to ongoing and uncertain risks like climate change?

*changing the way we think*

# Number of Publications with "Adaptive Capacity" in the Title by Year by Field



# Determinants — 106



# Collocate Analysis

1 2 3 4 5 6 7 8 9 10 education 1 2 3 4 5 6 7 8 9 10  
↓ ↓  
wealth people

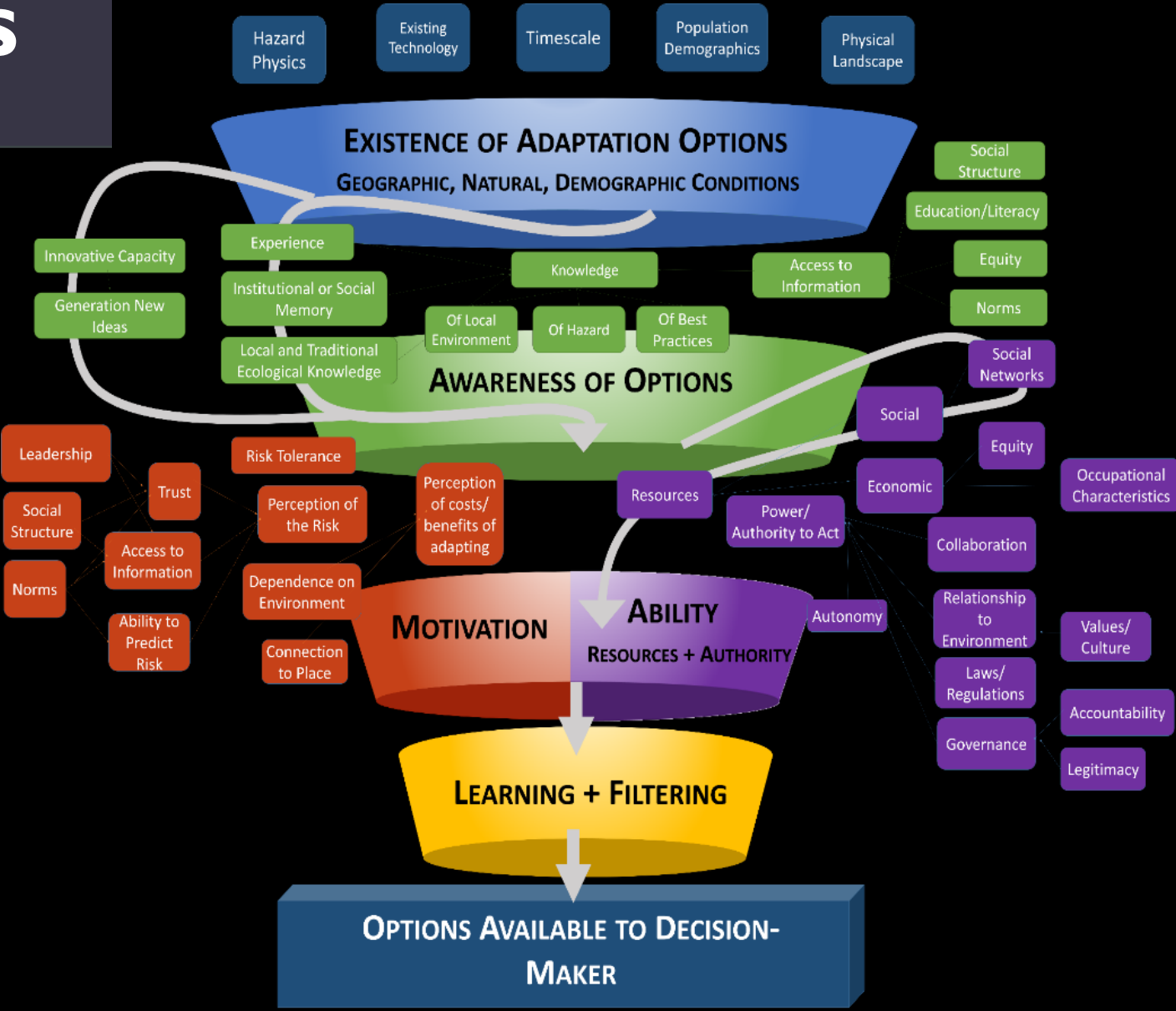
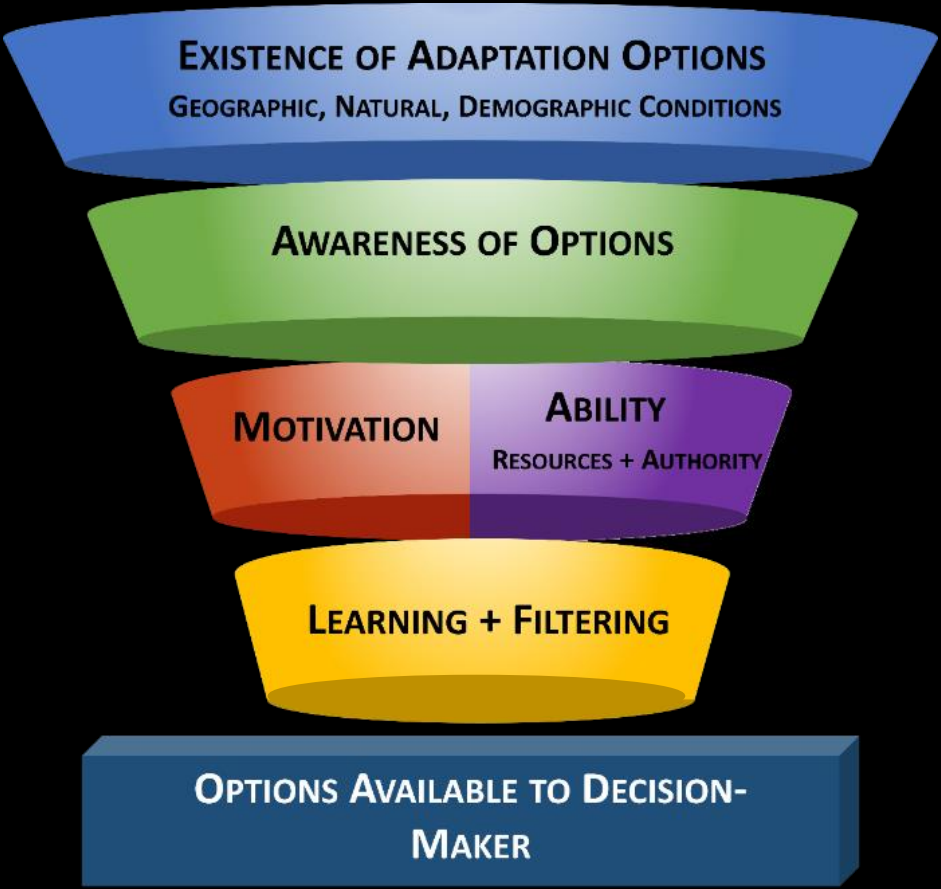
| Word       | Target    | P value  | N Obs/Exp |
|------------|-----------|----------|-----------|
| occupation | education | 0.00012  | 43.5      |
| wealth     | education | 0.00097  | 12.65     |
| income     | education | 1.79E-11 | 10.67     |
| awareness  | education | 0.0037   | 4.3       |
| knowledge  | education | 0.00092  | 2.68      |

Size = Betweenness Centrality  
Color = Module

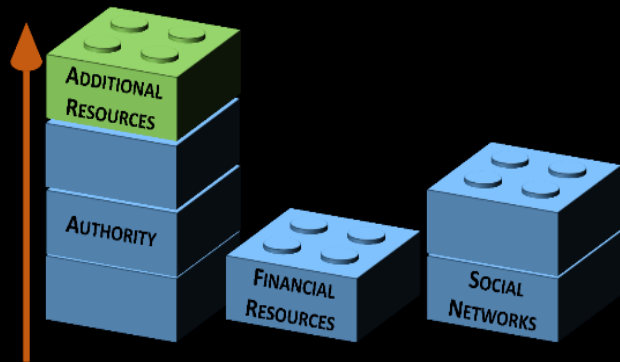
Color = Modularity Group

# Gephi 0.8.2 beta

# Mechanism Insights



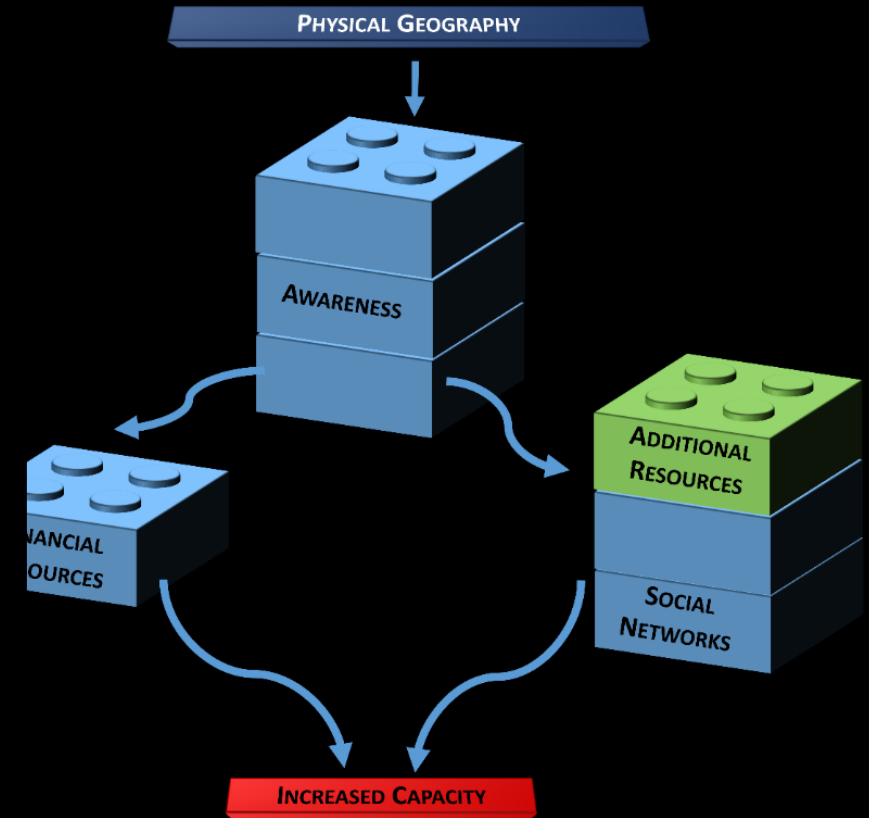
# Mechanism Insights



**Aggregate Theory**

**Score: 6**

**Score with Additional Resources: 7**



**Pathway Theory**

**Strength and Number of Pathways to AC Matters**

# New Research Directions

- Analysis shows *field to date* – not necessarily reality
  - E.g. Is formal education really more important as a socioeconomic marker than as a means of disseminating information? What role does informal education play?
- Need to Evaluate Trade-offs
  - E.g. How much can a strong social network offset weak financial resources? Are prior experience and education equally good at raising risk awareness and motivation?
- Suggests Better Assessment Mechanisms
  - E.g. “Does education correlate with increased risk awareness” is easier to test than “does education correlate with increased adaptive capacity”

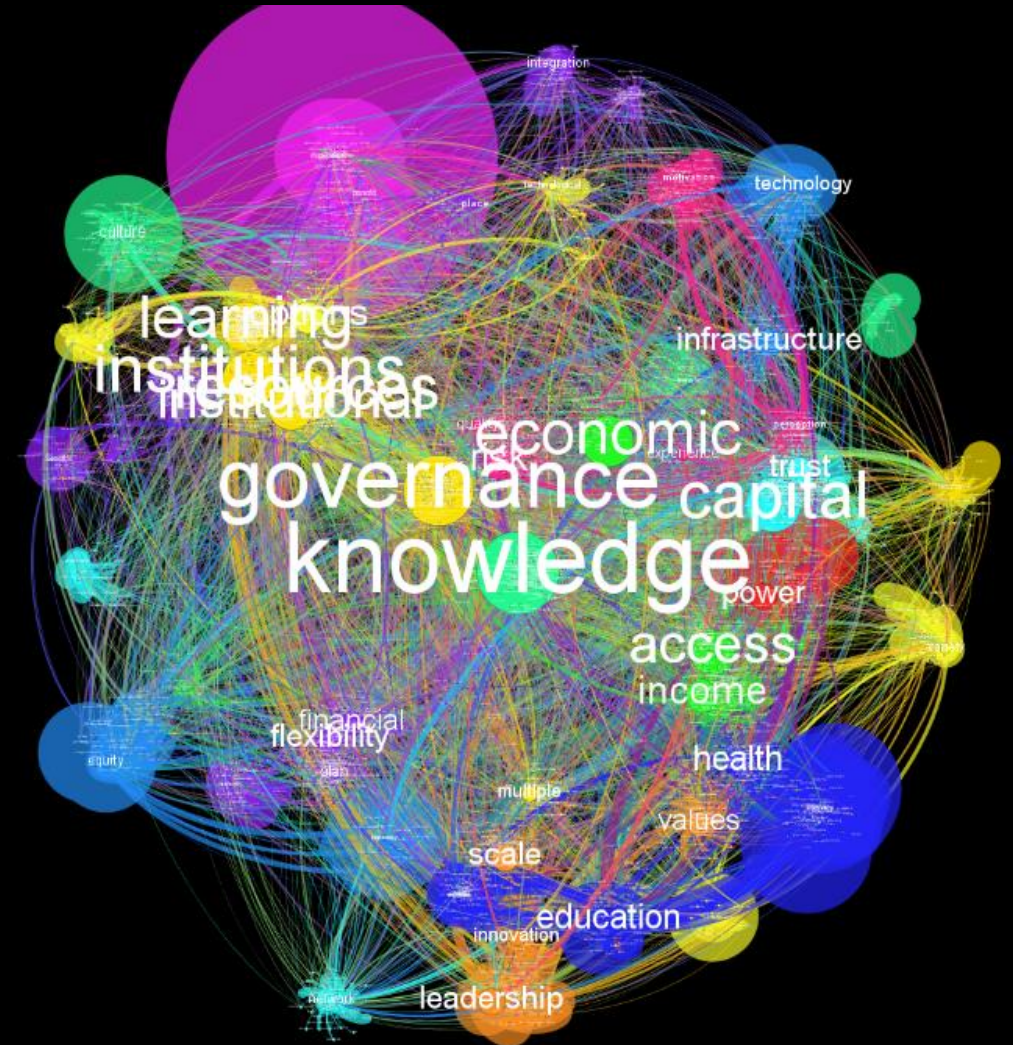


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Lucille Packard Foundation Fellowship; Emmett  
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& Megacities Initiative

# QUESTIONS?

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# Meta Analysis: Gathering the Corpus

## *Assembling a Corpus:*

Web of Science search yields 439 papers with “Adaptive Capacity” in title  
384 in English, not duplicates, with citation information  
239 related to AC of social or social-ecological systems  
202 full texts located + assembled for analysis

## Curating the Corpus:

Texts coded using NVivo 10 software for emerging and pre-identified themes

IN:

“Adaptive capacity and  
community-based natural  
resource management”

OUT:

“Adaptive capacity of faecal microbiota  
from piglets receiving diets with different  
types of inulin-type fructans”

# Preparing the Texts

Bibliographic  
Information: Author,  
Title, Year, Journal

Study Area + Design:  
Geographic location, Focus Area,  
Case/Comp Case, Measure of AC, Unit  
of Study

Determinants of AC and  
Indicators

Connections Between  
Determinants of AC

|    | A          | E  | F       | G    | H      | I     | J       | K       | L      | M      | N        | O    | P       | Q          | R         | S          | T          | U        | V         | W         | X         | Y        | Z      | AA        | AB        | AC       | AD       | AE        | AF      | AG       | AH       | AI      | AJ      | AK      | AL      | AM       | AN      |        |            |     |     |
|----|------------|----|---------|------|--------|-------|---------|---------|--------|--------|----------|------|---------|------------|-----------|------------|------------|----------|-----------|-----------|-----------|----------|--------|-----------|-----------|----------|----------|-----------|---------|----------|----------|---------|---------|---------|---------|----------|---------|--------|------------|-----|-----|
| 1  | DOC.NO     | BC | JOURN   | YEAR | VOLUME | ISSUE | START.F | END.PAG | SOURCE | SYSTEM | RES.FIEL | DEFN | IPCC.DE | GEO.ARI    | SECTOR    | UNIT       | AN         | FOCUS    | DESIGN    | MEAS.M    | MEAS2     | AGG.WE   | CHAR.W | NO.AUT    | AUTHOF    | DEPT.FIF | DEPT.SE  | DEPT.TH   | DEPT.FC | 1.ACCESS | 1.A.WARI | 1.CLIMA | 1.CLIMA | 1.EXPER | 1.INNOV | TECH.INI | 1.KNOWL | KNOWLE | 1.         |     |     |
| 2  | Aase,Innc  |    | MOUNT.  | 2013 | 33     | 1     | 4       | 10      | Env    | Human  | Geograp  | YES  | NO      | Himalaya   | Agricultu | Individual | Survival   | Compara  | Research  | Statistic | Correlati | Characte | 3      | Norway    | Geograp   | Geograp  | Geograp  | N/A       | N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A      | N/A     | N/A    | N/A        |     |     |
| 3  | Acosta,S   |    | GLOBAL  | 2013 | 23     | 5     | 1211    | 1224    | CC     | Human  | Geograp  | YES  | YES     | Europe     | Agricultu | Nation     | Governar   | Method   | Statistic | Index     | Aggrega   | Measure  | 7      | Germany   | Climate C | Environm | Environm | Climate C | N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | 1       | R&D exp  |         | 1      | Literacy r | N/A |     |
| 4  | Adebo,N    |    | Academi | 2013 | 4      | 2     | 1211    | 1224    | Env    | Human  | Geograp  | None | N/A     | Ekiti Stat | Water Sc  | Individual | Managen    | Case Stu | Statistic | N/A       | Correlati | Characte | 2      | Nigeria   | Governm   | Governm  | N/A      | N/A       | N/A     | N/A      | 1        | 1       | 1       | N/A     | N/A     | N/A      | N/A     | 1      | N/A        | N/A |     |
| 5  | Adger,U    |    | COMPT   | 2005 | 337    | 4     | 399     | 410     | CC     | Human  | Geograp  | YES  | NO      | Theoretic  | Theoretic | Theoretic  | Theoretic  | Theory   | Theoretic | Index     | Aggrega   | Characte | 2      | UK        | Climate C | Environm | N/A      | N/A       | N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | 1       | N/A      | N/A     | N/A    | 1          | N/A | N/A |
| 6  | Alberini,E |    | GLOBAL  | 2006 | 16     | 2     | 123     | 144     | CC     | Human  | Economi  | YES  | YES     | Theoretic  | Human Hc  | Nation     | Governar   | Method   | Expert O  | Index     | Correlati | Characte | 3      | USA (Mc   | Economi   | Economi  | Economi  | N/A       | N/A     | 1        | N/A      | N/A     | N/A     | N/A     | N/A     | N/A      | N/A     | N/A    | N/A        |     |     |
| 7  | Allen,AC   |    | ECOLOG  | 2010 | 15     | 3     | 24      | 39      | Env    | Eco    | Ecology  | None | N/A     | Theoretic  | Health    | Ecosyste   | Ecosyste   | Theory   | N/A       | N/A       | N/A       | Characte | 2      | USA (Fic  | Governm   | Zoology  | N/A      | N/A       | N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A      | N/A     | N/A    | N/A        | N/A | N/A |
| 8  | Allison,L  |    | ECOLOG  | 2004 | 3      | 1     | 3       | 28      | Env    | SES    | Geograp  | None | N/A     | Western    | Agricultu | Region     | Managen    | Historic | N/A       | N/A       | N/A       | Characte | 2      | Australia | Environm  | Environm | N/A      | N/A       | N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | 1       | N/A      | N/A     | N/A    | N/A        | N/A | N/A |
| 9  | Andrews    |    | SUSTAIN | 2013 | 5      | 2     | 560     | 569     | None   | Human  | Biology  | YES  | NO      | Theoretic  | Theoretic | Theoretic  | Theoretic  | Theory   | Theoretic | N/A       | N/A       | Characte | 2      | Canada    | Economi   | Economi  | N/A      | N/A       | N/A     | N/A      | N/A      | N/A     | N/A     | N/A     | N/A     | N/A      | N/A     | N/A    | N/A        | N/A | N/A |
| 10 | Angell,A   |    | OCEAN   | 2014 | 94     |       | 56      | 65      | Env    | Human  | Geograp  | YES  | NO      | Norway (   | All       | City       | Governance |          |           |           |           | Characte | 2      | Norway    | Arctic    | Geograp  | N/A      | N/A       | N/A     | N/A      | 1        | 1       | 1       | N/A     | N/A     | N/A      | N/A     | 1      |            |     |     |

Rows:  
202 Papers

Columns:  
193 Data Points