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# Analyzing the forms of visibility and invisibility in the process of publicizing drought: Methodological proposals

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## ISSUES

- Investigating, on the scale of a territory and through a case study, the process of publicizing the debates around a socio-hydrosystem
- Examining the forms of visibility and invisibility :
  - Individuals and groups
  - Observed data: water management policies, modes of regulation (access and uses), choice of technical devices, conflicts of use, initiatives and alternative solutions

## A COMPARATIVE APPROACH BETWEEN OHM

### Analyzing visibility-invisibility in 5 steps (HYDECO)

- Conducting field surveys: the case study
- Building a network of stakeholders (relationships, strategies)
- Analyzing the media coverage of current events (press)
- Analyzing the communication of stakeholders on digital media
- Interpretive synthesis on the visibility-invisibility of observed data and stakeholders by case study and between case studies

## ENVIRONMENTAL GEOGRAPHY – MEDIA AND COMMUNICATION STUDIES – LINGUISTICS

## A MIXED METHOD



**Qualitative methods**  
**Case studies in social sciences:** observations, interviews, literature research  
**Corpus analysis:** discourse analysis (enunciative, lexical, argumentative), content analysis

**Unsupervised Learning by Probabilistic Latent Dirichlet Allocation (LDA)**  
 ■ **Topic Modeling (LDA):** Building a generative probabilistic model to study the variation of topics over time, compare the distribution of topics between different articles or sources  
**Stakeholder identification:** NLP tools (Named Entity Classifier), snowball sampling  
**Visual representations** as a heuristic method

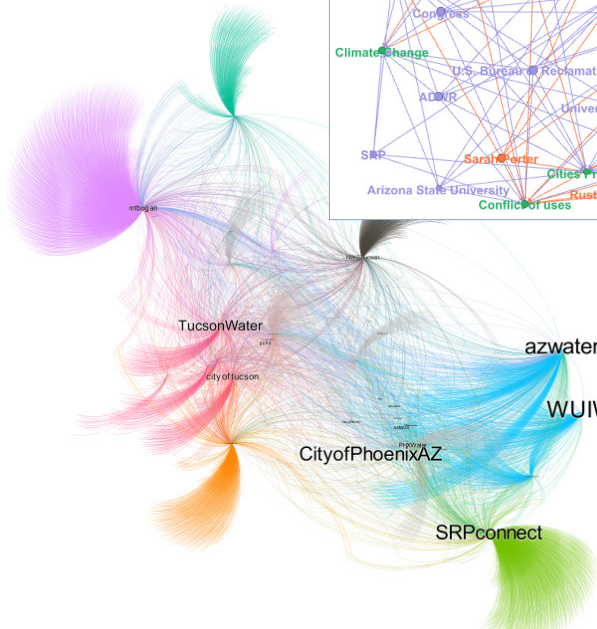
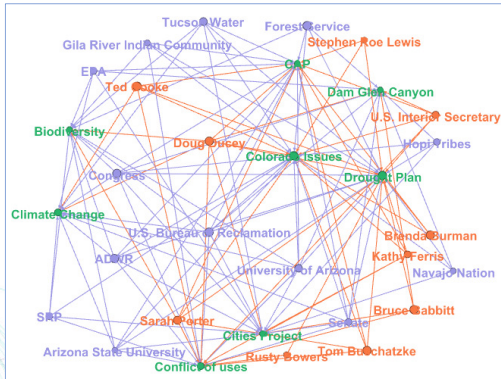
## HARVESTING DATA



- 1 095 Newspaper articles (January 1999-December 2022)
- 58 082 tweets, 41 695 sent by 8 669 Twitter accounts

## ANALYZING THE STAKEHOLDERS NETWORK IN MEDIA

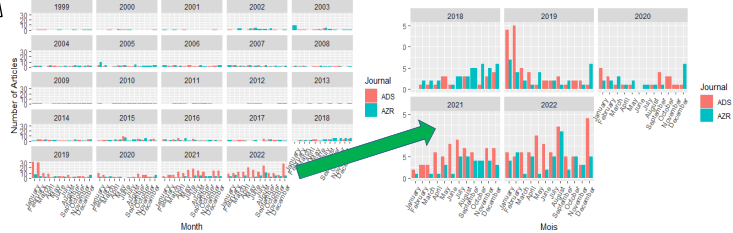
**Stakeholders and topics relayed by the press**



**Interactions of stakeholders and groups on Twitter**

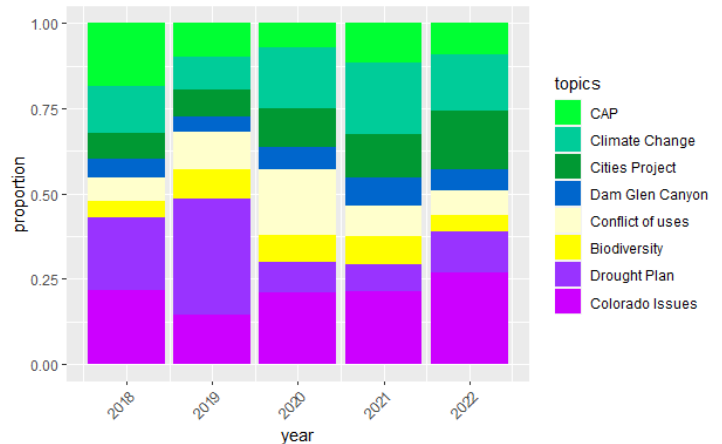
## ANALYZING TEMPORAL FLOWS

### Annual flows 1999 - 2022



Drought visibility in the press since 2018

## IDENTIFYING AND ANALYZING TOPICS EVOLUTION



Annual evolution of the topics visibility