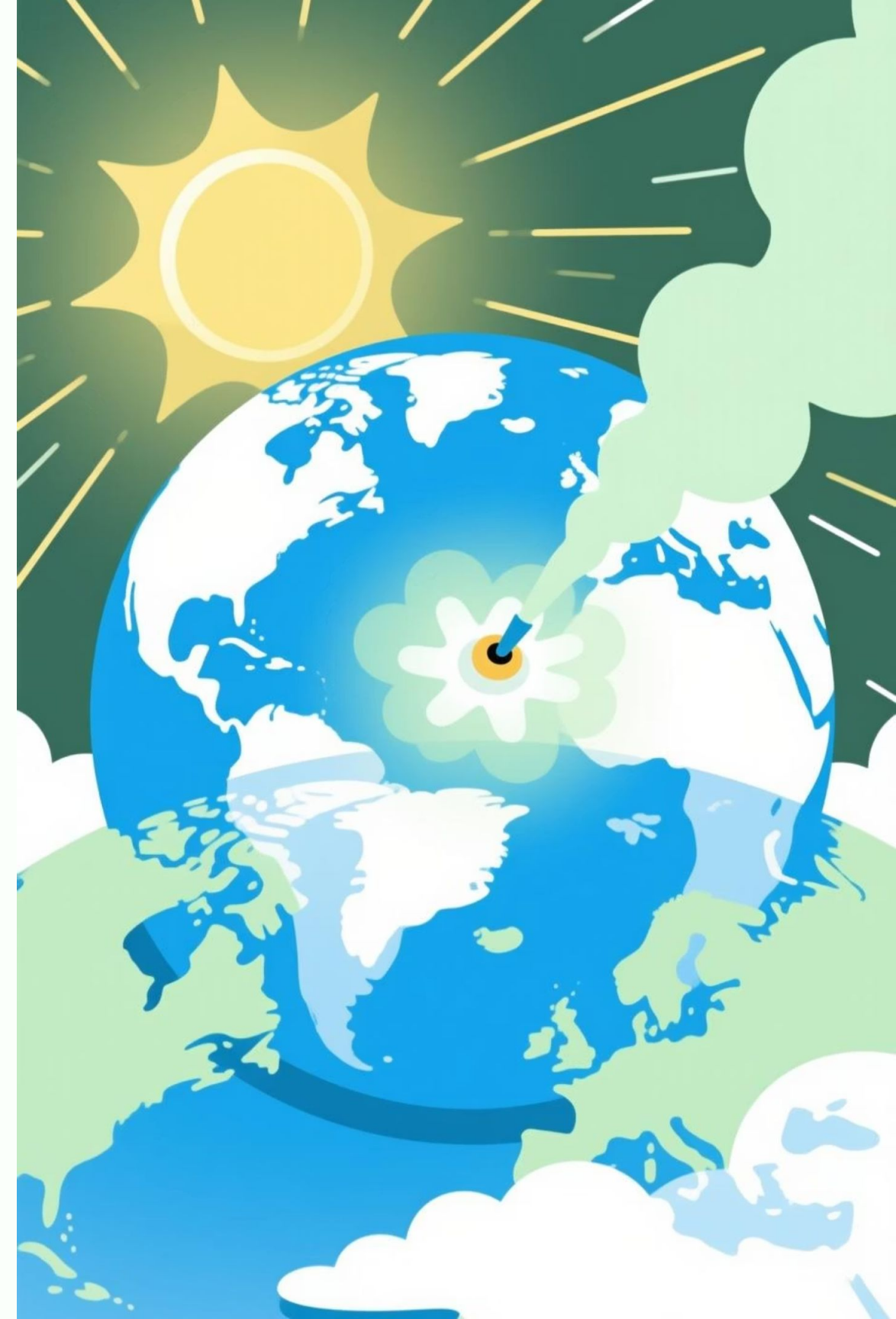


Framing Solar Radiation Modification: Media, Expertise, and Public Perceptions

Maria Ines Carabajal (CONICET, University of Buenos Aires)

Gian Franco Lisanti (University of Buenos Aires)

Julieta Nasi (University of Buenos Aires)



SRM in Global Context

Growing Global Discussion

SRM discussions have advanced considerably in international reports (UNEP, IPCC) and multilateral forums (CoP28, UNEA 6)

LAC Region Underrepresented

Discussions remain at early stages in Latin America and Caribbean region with fragmented initiatives lacking continuity

Make Sunsets Controversy

US startup conducted non-research experiment in Mexico without prior consent. Government announced its intention to ban experimentation

This study examines how SRM -through the case of the start-up Make Sunsets - is framed across media platforms and how these framings construct the social meaning of a controversial technologies and could shape perceptions of SRM governance, legitimacy, and risks in the region and globally.

Methodology

Our analysis draws on **88 newspaper articles** in English and Spanish collected through Lexis Nexis between January 2022 and December 2024.

We examined:

- Media frames and narratives
- Institutional voices and geographic representations
- Social actors cited as experts
- Gender representation in SRM discussions



Drawing on Holly Buck's (2013) framework on climate engineering narratives, **we analyze how media outlets construct competing framings of SRM.**

Media Framing Analysis

- **Risk-Risk as meta-frame**
- **Three Interpretative lenses or “Sub-frames” and six narrative elements**

Risks

- Environmental and physical risks: unintended consequences, termination shock, geopolitical tensions
- Social/ethical risks: moral hazard, health risks, lack of transparency

Innovation & Techno-Optimism

- Technological fix ideology: climate heroism, techno-fix solutions, entrepreneurial neutrality
- Metaphors: medical analogies, performative acts, performative acts (e.g., media stunts, cooling credits)

Climate Justice

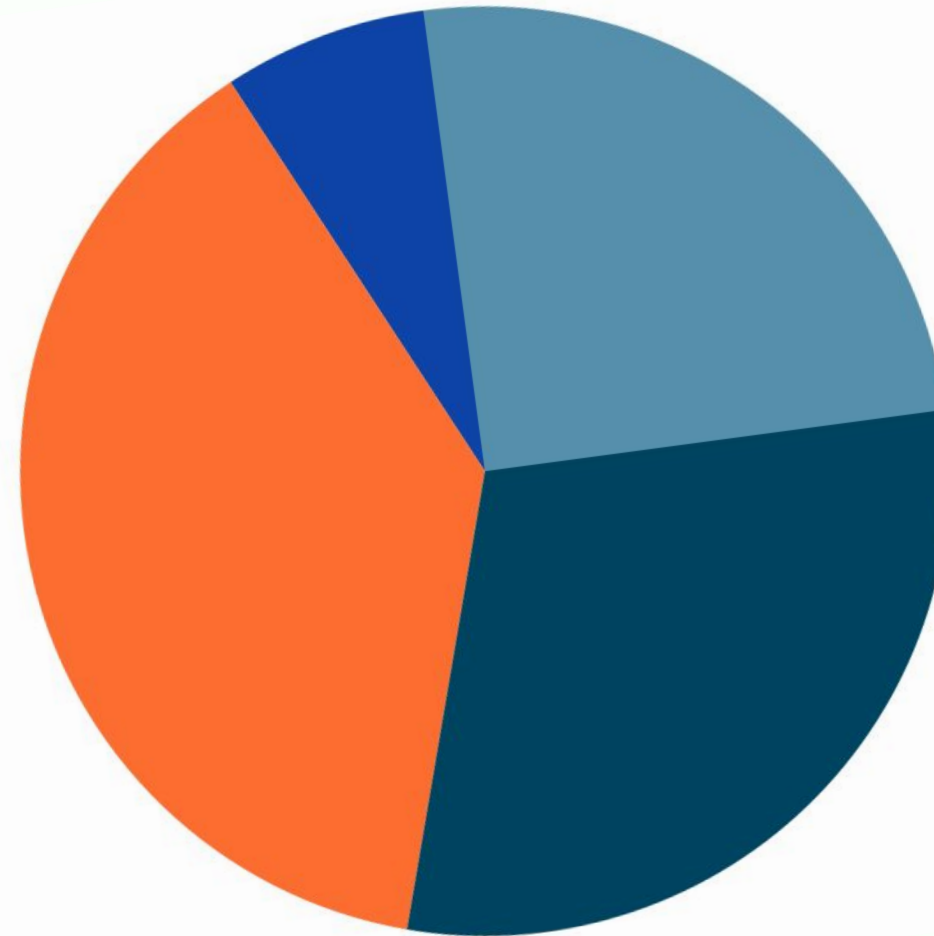
- Governance & legitimacy concerns: Lack of governance, lack of validation, absence of oversight, Unilateralism
- Equity and representation issues: Lack of local/community engagement, epistemic inequality, marginalization of LAC perspectives

Distribution of Media Frames

**Difficult to determine
predominance** (7.1%)

**Innovation &
Techno-Optimism**

dominates at 38.1%
portraying SRM as a bold
technological fix



Risk frames (25%) emphasize
environmental consequences and
ethical concerns

Climate Justice frames (29.8%)
situate SRM within debates on
sovereignty and epistemic inequality

These frames not only reflect existing controversies but also actively construct the political and social meanings of SRM, with potential implications for governance responses.

Institutional Landscape: Who Shapes the Debate?

55.26%

Global North Institutions

Dominate the institutional landscape with over half of all institutions cited in media coverage

24.56%

International Organizations

Play significant role in framing discussions, including UNEP and CIEL

20.18%

Global South Institutions

Remain underrepresented despite being most affected by climate change

This institutional imbalance reveals persistent asymmetries in who shapes global climate governance discussions, even when events occur in the Global South.

Most influential institutions in this debate

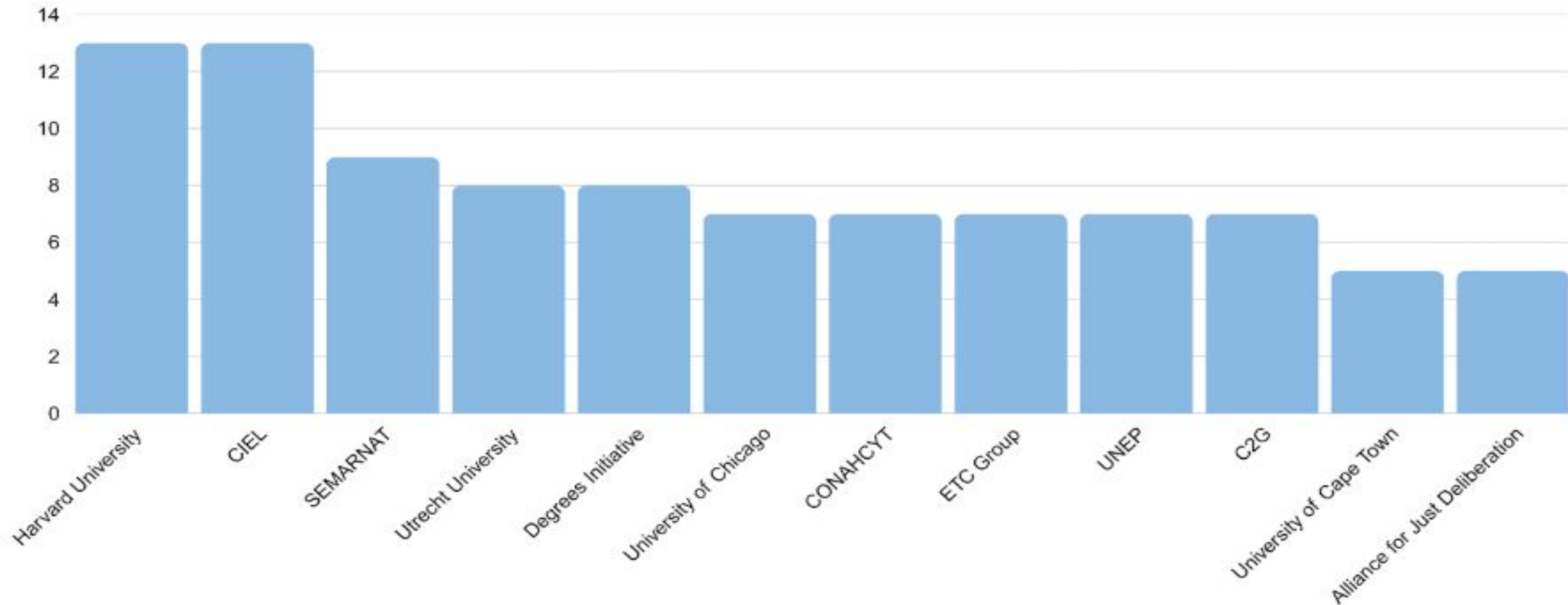
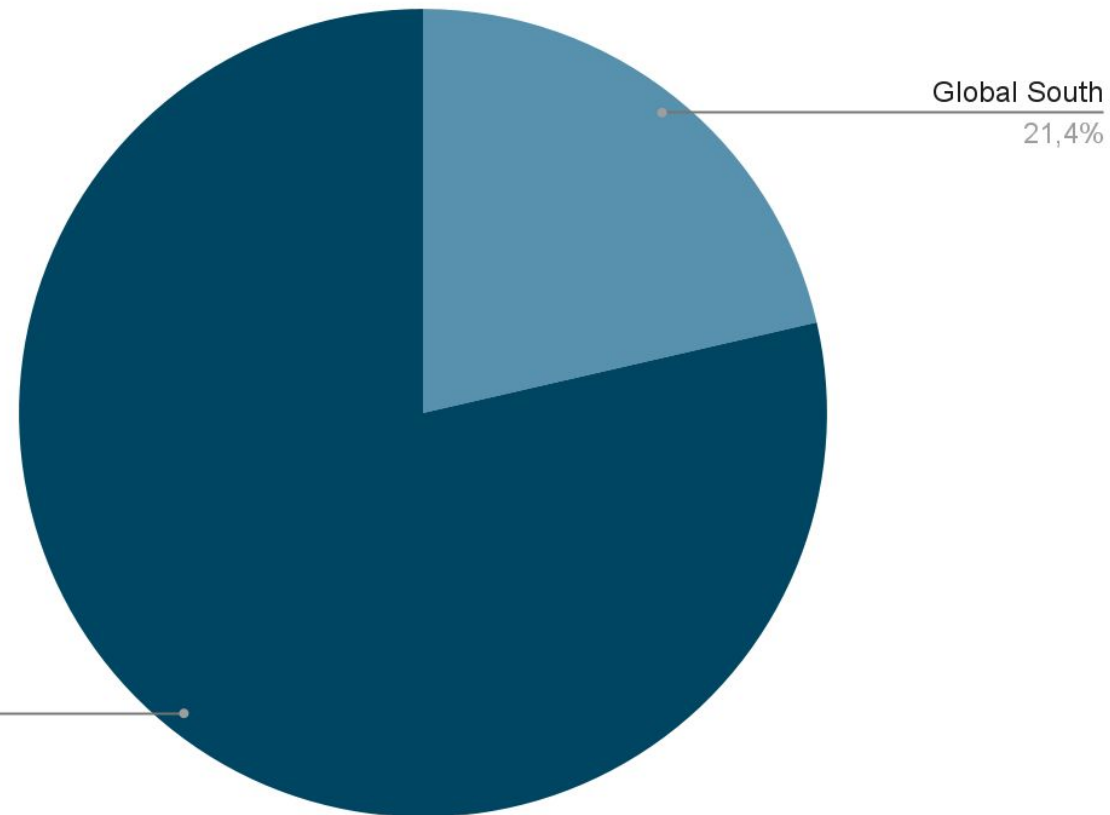


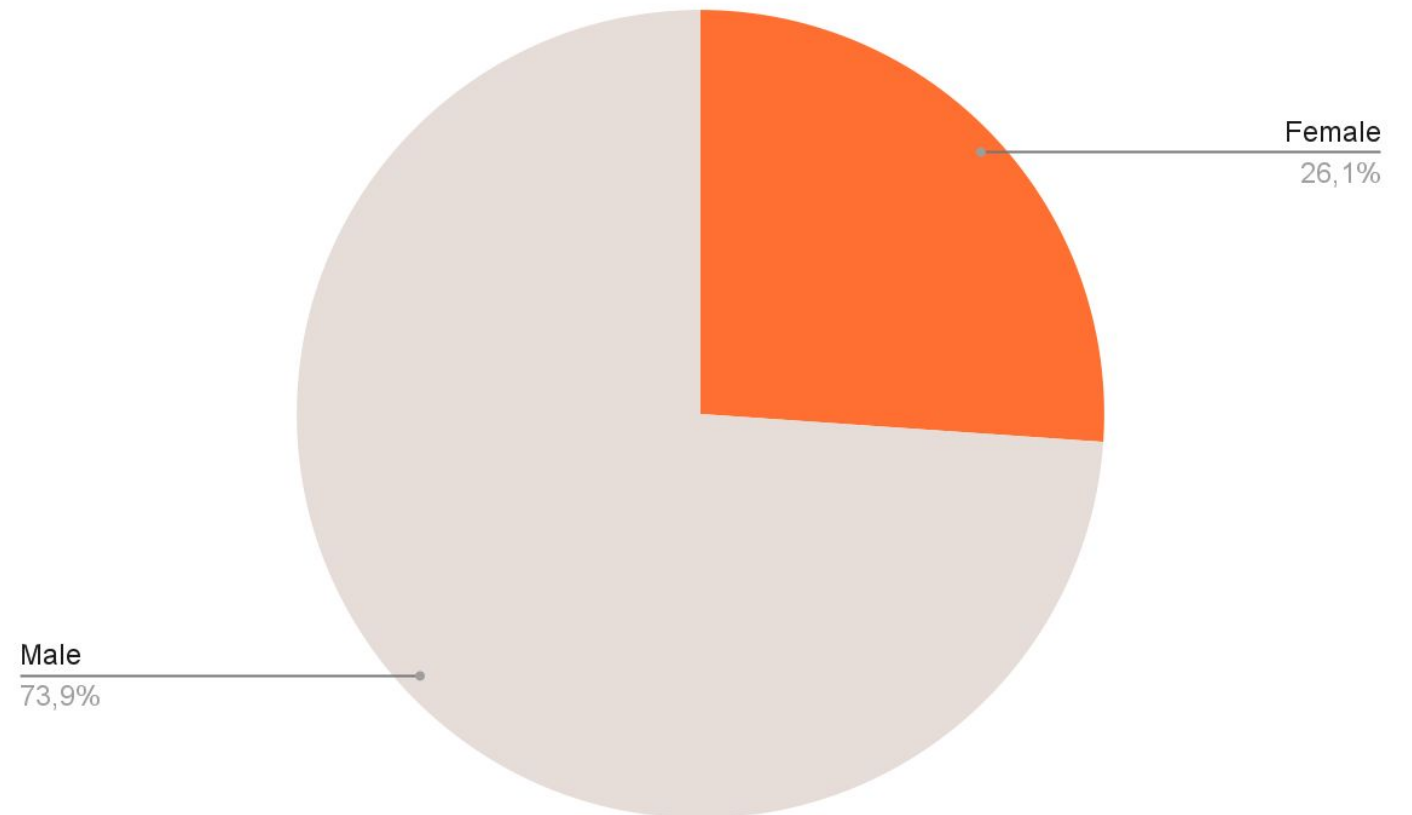
Figure 3: The 12 relevant institutions and their number of mentions

Expert Voices: Geographic and Gender Representation



Geographic Imbalance

39.5% of quoted experts were from the United States, with minimal representation from LAC countries



Gender Gap

26% of quoted experts were women

Voices: Who Are the Most Cited Experts?

How many times they are mentioned			
Luke Iseman	31	Andrew Song	5
David Keith	16	Sikina Jinnah	4
Shuchi Talati	9	Bill Gates	4
Frank Biermann	8	Chukwumerije Okereke	4
Lili Fuhr	8	Andy Parker	4
Janos Pasztor	7	Chris Field	4
Agustín Ávila Romero	6	James Hansen	4

Table 6. Number of mentions attributed to each of the experts cited (most relevant quartile, 16 people with 4 or more mentions, out of a total of 142 people cited).

Key Findings and Implications



Media Shapes Meaning

Media not only report on SRM but actively constructs its political meaning through competing frames



Epistemic Inequality

Global North institutions and experts dominate discourse even when events occur in the Global South



Governance Challenges

Small-scale experiments can trigger disproportionate political responses and shape governance approaches

Recommendations for LAC Region

Build Regional Networks

Develop inter- and transdisciplinary networks to monitor SRM developments and share knowledge

Improve Information Access

Enhance access to technical and policy-relevant information in local languages

Strengthen Science-Policy Interface

Create inclusive forums for debate that reflect regional priorities and values

Foster Media Literacy

Develop public engagement initiatives grounded in local contexts to improve understanding of SRM



Thank you very much for your attention!

Email contact: micarabajal@gmail.com



Advanced
Research
+ Invention
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