



**3<sup>rd</sup> International Conference on Public Policy (ICPP3) June 28-30, 2017 – Singapore**

Panel T10P06 Session 1 Digital methods for Public Policy, Thursday 29<sup>th</sup> June 2017

## **Moving beyond the digitalised and natively digital divide?**

Mapping climate policy debates in multiple spaces

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# Introduction

*"The past few decades have seen an explosion in "born digital" data – including from social media services and online platforms, smart phones, digital devices and the web. These sources of data open up new avenues for the study for social and political phenomena (Savage & Burrows, 2007; Lazer et al., 2009). This panel will **examine the potential implications of a shift from "digitized" to "born digital" data and methods** (Rogers, 2014). This methodological shift from a focus on polls, surveys and interviews to repurposing digital traces and big data is accompanied by a corresponding shift in ways of studying and thinking about of social life. Drawing on research in digital sociology, media studies, communication studies and Science and Technology Studies, this panel will look at how "born digital" data is and can be used in the context of public policy".*

Addressing the panel topic by reflecting on the "digitalised" and "natively digital" distinction in digital studies through two examples of engagements between digital research, including "Digital Methods" approaches, and policy research

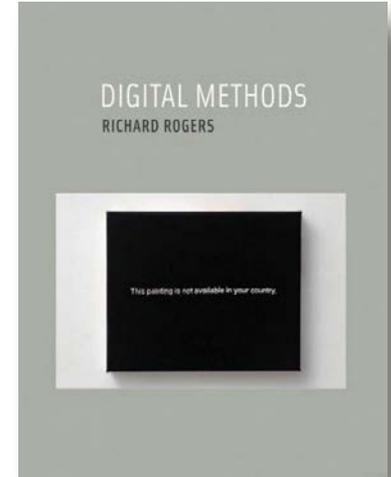
Thereby, thinking the distinction not in terms of a "shift", but rather in terms of choices of specific proxies that are more or less suited to produce distant readings of dynamics taking place in specific places, some online, some offline, in the same world.

# Situating “Digital Methods” within digital studies in SHS

What are we saying when we say “digital methods” for public policy (research and analysis)?

DM are an approach within “digital studies” within the computational turn in SHS proposing a « web epistemology » to address challenges of web-based research. By contrast to the import of existing SHS methods into the web or to the use of digitalized data, DM are “fully digitally native” by engaging in a repurposing of online devices and their methods for social research: they are “interface methods” (Marres & Weltevrede 2013) which are experimental, situational and precarious.

**This highlights the need to reflect on the the ways different kinds of digital data are collected and analysed in studying complex policy debate dynamics, such as those around international climate policy**



# Mapping climate policy debates relying on digital data

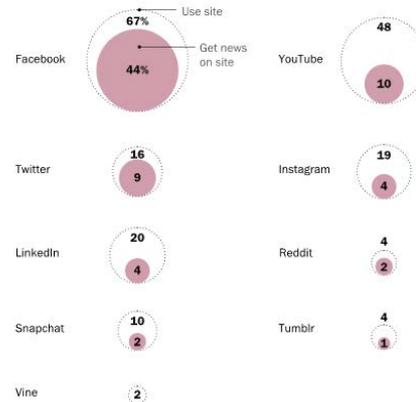
Debates over international climate policy deploy over different spaces forming the mosaic of public space of issues, at the official COP venues and beyond, including more and more “on-line” spaces, such as those provided by social media platforms.

How can we map the different spaces of climate debate by relying on digital data? And who does the nature of that data comes at play when considering tools and methods for producing distant readings?



## Social media news use: Facebook leads the pack

% of U.S. adults who ...



Source: Survey conducted Jan. 12-Feb. 8, 2016.  
"News Use Across Social Media Platforms 2016"

PEW RESEARCH CENTER



# Mapping climate policy debates: finding the right data for the right space

	<b>Project MEDEA + EMAPS at médialab SciencesPo 2011-2014</b>	<b>Projet ClimatCOP, LISIS, IFRIS, &amp; NUMI Datasprints 2014-2016</b>
Overarching objective	Mapping emerging debates on adaptation to climate change on different institutional spaces, including UNFCCC; develop methodology.	Mapping the spaces of “issue climatisation” at the occasion of COP21, actors involved and their strategies and orientations.
Research questions within the larger project framework	What topics have structured the negotiation at COPs and what have been their trajectories; how are these trajectories are telling about climatisation	How is COP21 thematised and different issues climatised in key social media platforms, and how those spaces affect the modes of issue climatisation
Space and timeframe of inquiry	Inside COPs, off-line, over 20 years	Outside COP’s, online, namely on digital plateformes, including Twitter and Youtube, over 2 weeks
Corpora or data sets providing “proxy” access to those spaces	Digitalized daily issues of the Earth Negotiations Bulletin of the IISD scraped from the web with ad hoc scripts in Python	Social media data bought to data providers (Linkfluence) and, Twitter data extracted via its APIs with ad hoc software developed by the Digital Methods Initiative, T-CAT
Tools	CorText for text and network analysis, Gephi, Raw for data visualisation	Radarly and TCAT for data analysis, CorText for text and network analysis; Tableau, Gephi, Raw for data visualisation

# Inside the COPs

What digital data for mapping climate debates within the annual COP space ?

# Data collection: finding a proxy for 20 years of COP climate negotiations



**Tuesday, 16 December 2014** *Earth Negotiations Bulletin* Vol. 12 No. 619 Page 16

The EU clarified that "evolving responsibilities and capabilities" captures the growth in the levels of prosperity and GHG emissions of developing countries, noting that some are currently more prosperous than some EU member states.

On policy signals and enabling environments, the US called for including text encouraging parties to build effective enabling environments, calling for elimination of public incentives for high-carbon investment; and recognizing that climate finance flows in all directions. He suggested deleting reference to mobilization of climate finance "as a means to stay below the long-term temperature limit," and, opposed by the African Group, to "adequate and predictable" funding for adaptation.

Malawi, for the LDCs, lamented that text on "encouraging policy signals by governments" does not address provision of climate finance. New Zealand described "right" policies and enabling environments as a prerequisite for more effective flows of climate finance.

On sources of finance, Norway, Switzerland, Canada and the US suggested highlighting a variety of sources. The Republic of Korea stressed the importance of operational guidelines, including: a balanced approach to finance, with equal footing for adaptation and mitigation; a practical approach for mobilizing finance from the public and private sectors; and creating synergies among different financial institutions.

On the scale of finance, Egypt, with Paraguay, emphasized that adequate and predictable finance should come mainly from public sources. Algeria suggested that "adequate and predictable funding for adaptation" also be "additional." The EU and Japan, opposed by Ecuador, considered specifying finance as "adequate and predictable" assistance.

Egypt sought clarity on the scale of finance and supported qualified targets for finance to ensure progress. Norway, the EU, Switzerland and Japan opposed an *ex ante* process to commit to quantified support commensurate with the ambition reflected in the adaptation and mitigation goals, with the EU signaling this as a "red line." Colombia emphasized the need to capture predictability in the new agreement.

Japan proposed deleting text suggesting that mobilization

New Zealand, with Switzerland, called for concluding the consideration of the Co-Chairs' non-paper, noting it covers most of the elements of the CRP. The US emphasized work undertaken over the past two days on the Co-Chairs' non-paper and progress already achieved.

The G-77/China stressed the legal standing of the CRP as opposed to the Co-Chairs' non-paper. ADP Co-Chair Rungo-Metzger invited parties to consult informally on the way forward. This issue was not further addressed during the session.

**Adaptation:** The US, Mexico, the Republic of Korea, Norway, Canada, Switzerland, the EU, Zambia, Japan and others provided comments on, *inter alia*, long-term and global aspects of adaptation; commitments and contributions; monitoring and evaluation; sharing information, knowledge and lessons learned; and institutional arrangements.

Saudi Arabia, for the LMDCs, Zambia, South Africa and others stressed the need to address differentiation. Switzerland said there is no need for differentiation on adaptation, noting that commitments are intended to facilitate preparation for adaptation actions without being burdensome. Australia and New Zealand opposed a "bifurcated" approach.

Turvalu, for the LDCs, cautioned against referring to "contributions" or "commitments." The US proposed referring to "actions." Brazil said work that has been done under the Cancun Adaptation Framework and Nairobi Work Programme should be recognized. The LMDCs favored the terms "commitments" and "actions." India emphasized that determination of contributions should be country-driven.

The Republic of Korea supported a global adaptation goal that is general enough to be applicable to all and specific enough to inspire action on the ground. Norway requested that an option for no global adaptation goal be reflected. Japan expressed doubt over a quantitative goal on adaptation. The US, Norway, Canada and the EU supported broadening the scope of national adaptation planning processes.

New Zealand opposed a global goal on adaptation. The LDCs supported a long-term goal, noting that action on adaptation is dependent on mitigation and the global temperature limit. Ghana,

Malawi, for the LDCs, lamented that text on « encouraging policy signals by governments » does not address provision of climate finance. New Zealand described « right » policies and enabling environments as a prerequisite for more effective flows of climate finance

**Climate Change**

Volume 12 / Earth Negotiations Bulletin (ENB)

1995

Eleventh Session of The INC for the Framework Convention on Climate Change (UNFCCC)

INC 11 | 6-17 February 1995 | New York, USA

ADP 2-8			
INCC-41			
SB 42			
ADP 2-10			
INCC-42			
ADP 2-11			
COP 21 - CMP11			
ADP 2-4		INC 11   6-17 February 1995	PDF HTML
INCC-38	Issue# 1	6 February 1995	PDF HTML
INCC-39	Issue# 2	7 February 1995	PDF HTML
SB 40	Issue# 3	8 February 1995	PDF HTML
ADP 2-6	Issue# 4	9 February 1995	PDF HTML
INCC-40	Issue# 5	10 February 1995	PDF HTML
COP 20 - CMP10	Issue# 6	13 February 1995	PDF HTML
ADP 2-7	Issue# 7	14 February 1995	PDF HTML
SB 38	Issue# 8	15 February 1995	PDF HTML
INCC-39	Issue# 9	16 February 1995	PDF HTML
INCC-27	Issue# 10	17 February 1995	PDF HTML
COP 18 - CMP9	Issue# 11	Summary	PDF HTML
ADP 2-1		First Conference of the Parties to the Framework Convention on Climate Change	
INCC-35		COP 1   28 March - 7 April 1995   Berlin, Germany	
AMGA CCW(7)	Issue# 12	28 March 1995	PDF HTML
COP 18 - CMP9	Issue# 13	29 March 1995	PDF HTML
ADP 2-1	Issue# 14	30 March 1995	PDF HTML
ADP 2-1	Issue# 15	31 March 1995	PDF HTML
ADP 2-1	Issue# 16	3 April 1995	PDF HTML
AMGA CCW(4)	Issue# 17	4 April 1995	PDF HTML
INCC-33	Issue# 18	5 April 1995	PDF HTML
UNCCC WS-TNA	Issue# 19	6 April 1995	PDF HTML
SB 34	Issue# 20	7 April 1995	PDF HTML
AMGA CCW(6)	Issue# 21	Summary	PDF HTML
INCC-34			

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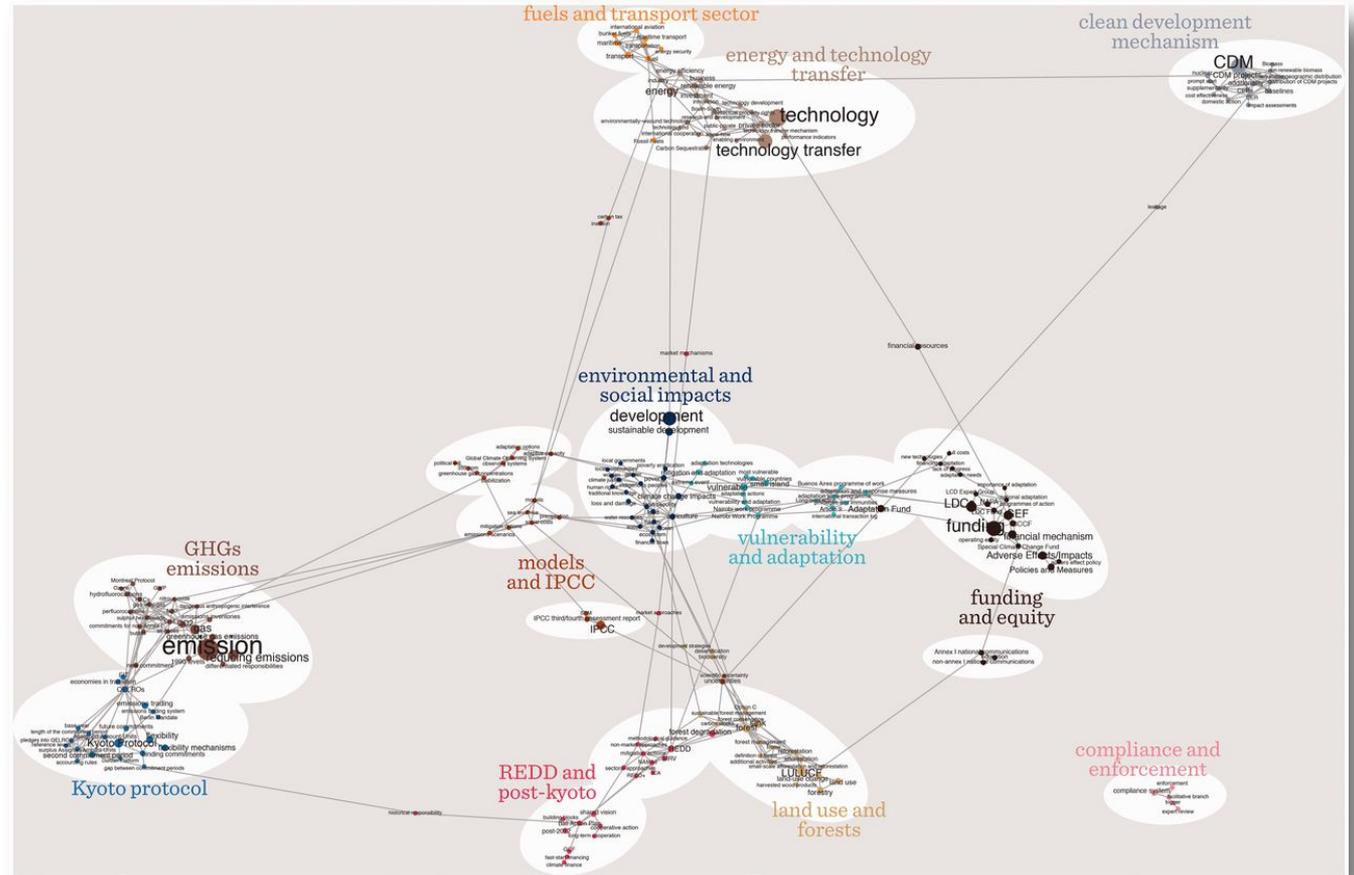
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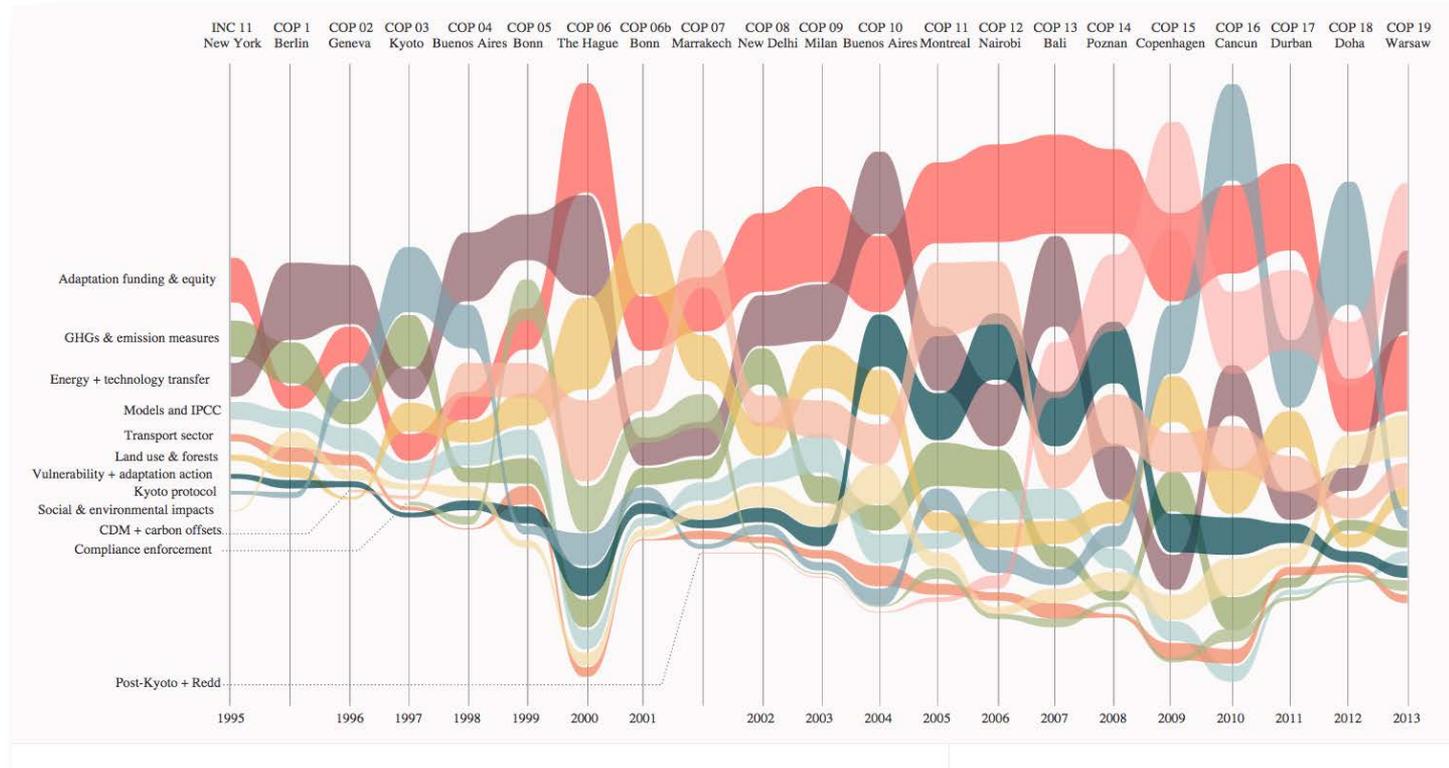
# Data visualisation

The semantic network structure of debates  
1995-2013



# Data visualisation

The trajectories of  
debate topics at  
COPs, 1995-2013

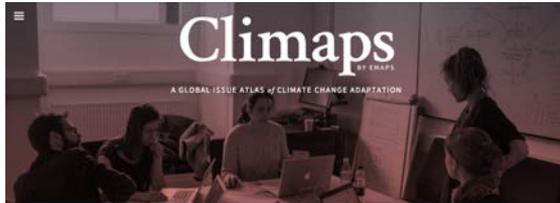
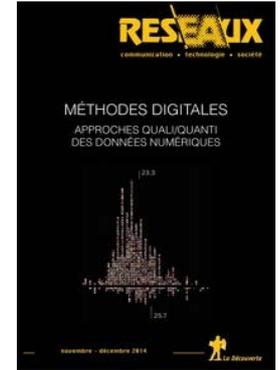


# Two articles and three websites

Venturini, Tommaso, Nicolas Baya-Laffite, Jean-Philippe Cointet, Ian Gray, Vinciane Zabban, and Kari De Pryck.  
“Three Maps and Three Misunderstandings: A Digital Mapping of Climate Diplomacy.”  
*Big Data & Society* 1, no. 2 (2014).



Baya-Laffite, Nicolas, and Jean-Philippe Cointet.  
“Cartographier la trajectoire de l’adaptation dans l’espace des négociations sur le climat: changer d’échelle, red(u)ire la complexité.”  
*Réseaux* 188, no. 6 (2015): 159–98.



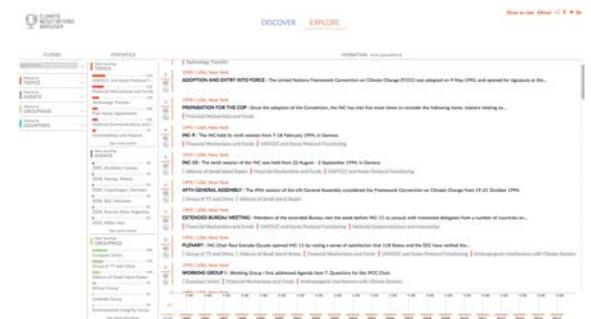
This website presents the results of the EU research project EMAPS, as well as its process: an experiment to use computation and visualization to harness the increasing availability of digital data and mobilize it for public debate. To do so, EMAPS gathered a team of social and data scientists, climate experts and information designers. It also reached out beyond the walls of Academia and engaged with the actors of the climate debate.

Climaps.eu



Earth's climate is changing. Slowly but inexorably. As determined by the latest IPCC Assessment Report (2014), the actions so far to reduce greenhouse emissions are insufficient and the first impacts of global warming are beginning to show. Like it or not, our collective life will have to adapt to its changing environment and the trade-offs will not be easy or painless. This awareness is prompting the emergence of debates around the world about how best to adapt to a changing climate.

Medea.medialab.sciencespo.fr



Climatnegotiations.org

# Around COP21, online

What digital data for mapping online climate debates  
at the occasion of COP21

# Data collection: the challenge of access

Data providers

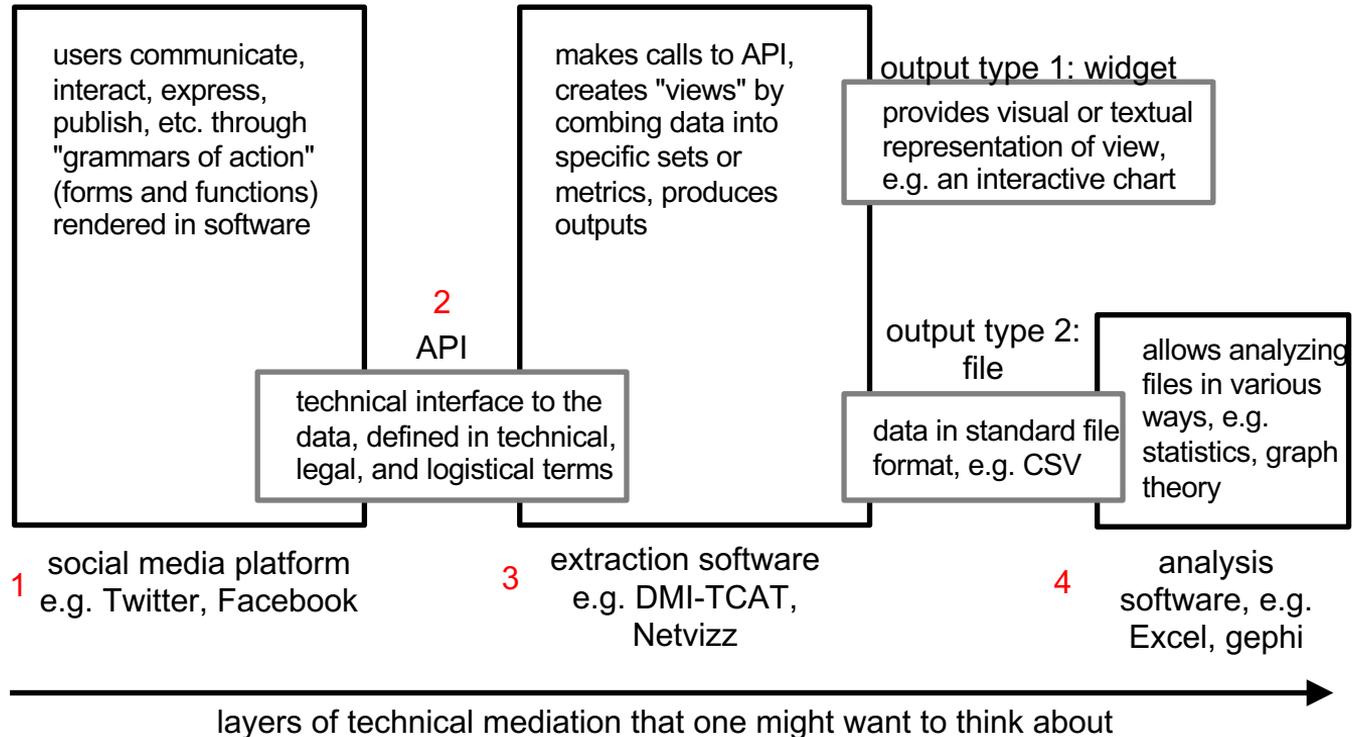
The screenshot shows the homepage of linfluence. At the top, there is a navigation bar with links for PRODUCTS, CLIENTS, RESOURCES, ABOUT US, and BLOG. A 'SIGN UP' button is also visible. The main banner features a blue background with a yellow ribbon graphic and the text 'Real-time data at the heart of our technology.' Below this, there is a 'ASK FOR A DEMO' button. The bottom section is titled 'SOCIAL MEDIA INTELLIGENCE FOR BRANDS AND AGENCIES' and contains two product cards: 'RADARLY' for 'Social Media Monitoring, Analytics & Engagement' and 'Social Media Research'.

Free, open software

The screenshot shows the Digital Methods Initiative website. It features a purple header with the text 'digital methods initiative' and a search bar. A sidebar on the left lists various categories: Digital Methods (Summer School 2017, About, People, FAQ, Tools, Projects by Theme, Research Protocols, Summer School, Winter School, Papers and Publications), Course (The Link, The Website, The Engine, The Spheres, The Webs, Post-demographics, Networked Content), and DMI Tools. The main content area lists several tools: Amazon Book Explorer, Amazon Related Product Graph, Bubble Lines, and Censorship Explorer. Each tool entry includes a 'Launch tool' button and a link to 'Instructions & Scenarios of Use'.

Each presenting its own pros and cons...

# Data collection: Bernhard Rieder's diagram on how social media analysis with digital methods work



# Data collection and analysis: mapping #COP21 “climatisation dynamics” on Twitter with DMI T-CAT



**DMI Twitter Capturing and Analysis Toolset (DMI-TCAT)** github issues FAQ

**Data selection**

Select the dataset:  1,880,447,327 tweets archived so far (and counting)

Select parameters:

Query:  (empty; containing any text\*)

Exclude:  (empty; exclude nothing\*)

From user:  (empty; from any user\*)

User bio:  (empty; from any client\*)

From twitter client:  (empty; from any client\*)

Part of URL:  (empty; any or all URLs\*)

GEO bounding polygon:  (POLYGON in [SQL](#) format)

Startdate (UTC):  (YYYY-MM-DD or YYYY-MM-DD HH:MM:SS)

Enddate (UTC):  (YYYY-MM-DD or YYYY-MM-DD HH:MM:SS)

[Update overview](#)

\*You can also do AND or OR queries, although you cannot mix AND and OR in the same query.

---

**Overview of your selection**

Dataset:

Search query:

Comments:

Exclude:

From user:

From twitter client:

Part of URL:

GEO polygon:

Startdate:

Enddate:

Number of tweets: 359,757

Number of distinct users: 184,375

● Tweets mentioning me  
● Tweets mentioning me

Date and time are in UTC (UTC).

Graph resolution:  days  hours  minutes [Update graph](#)

[Generate SVG](#)

**Export selected data**

All exports have the following filename convention: `{dataset}-{startdate}-{enddate}-{query}-{exclude}-{from_user_name}-{from_user_lang}-{url_query}-{module_name}-{module_settings}-{dm-tcat_version}-{filetype}`

Output format for tables:

- CSV (comma-separated)
- TSV (tab-separated)

---

**Tweet statistics and activity metrics**

All statistics and activity metrics come as a csv file which you can open in Excel or similar.

Here you can select how the statistics should be grouped:

Overall:  per minute  per hour  per day  per week  per month  per year  custom: YYYY-MM-DD,YYYY-MM-DD,YYYY-MM-DD

---

**Tweet stats**

Contains the number of tweets, number of tweets with links, number of tweets with hashtags, number of tweets with mentions, number of retweets, and number of replies

Use: get a feel for the overall characteristics of your data set.

[Show](#)

---

**User stats (overall)**

Contains the min, max, average, Q1, median, Q3, and trimmed mean for: number of tweets per user, urls per user, number of followers, number of friends, nr of tweets, unique users per time interval

Use: get a better feel for the users in your data set.

[Show](#)

---

**User stats (individual)**

Lists users and their number of tweets, number of followers, number of friends, how many times they are listed, their UTC time offset, whether the user has a verified account and how many times they appear in the data set.

Use: get a better feel for the users in your data set.

[Show](#)

---

**Hashtag frequency**

Contains hashtag frequencies.

Use: find out which hashtags are most often associated with your subject.

[Show](#)

---

**Hashtag-user activity**

Lists hashtags, the number of tweets with that hashtag, the number of distinct users tweeting with that hashtag, the number of distinct mentions tweeted together with the hashtag, and the total number of mentions tweeted together with the hashtag.

Use: explore user-hashtag activity.

[Show](#)

---

**User visibility (mention frequency)**

Lists usernames and the number of times they were mentioned by others.

Use: find out which users are "influencers".

[Show](#)

---

**User activity (tweet frequency)**

Lists usernames and the amount of tweets posted.

Use: find the most active tweeters, see if the dataset is dominated by certain twitterers.

[Show](#)

---

**User activity + visibility (tweet+mention frequency)**

Lists usernames with both tweet and mention counts.

Use: see whether the users mentioned are also those who tweet a lot.

[Show](#)

---

**Twitter client frequency**

List the frequency of tweet software sources per interval.

[Show](#)

---

**Identical tweet frequency**

Contains tweets and the number of times they have been (re)tweeted identically.

Use: get a grasp of the most "popular" content.

[Show](#)

---

**Word frequency**

Contains words and the number of times they have been used.

Use: get a grasp of the most used language.

[Show](#)



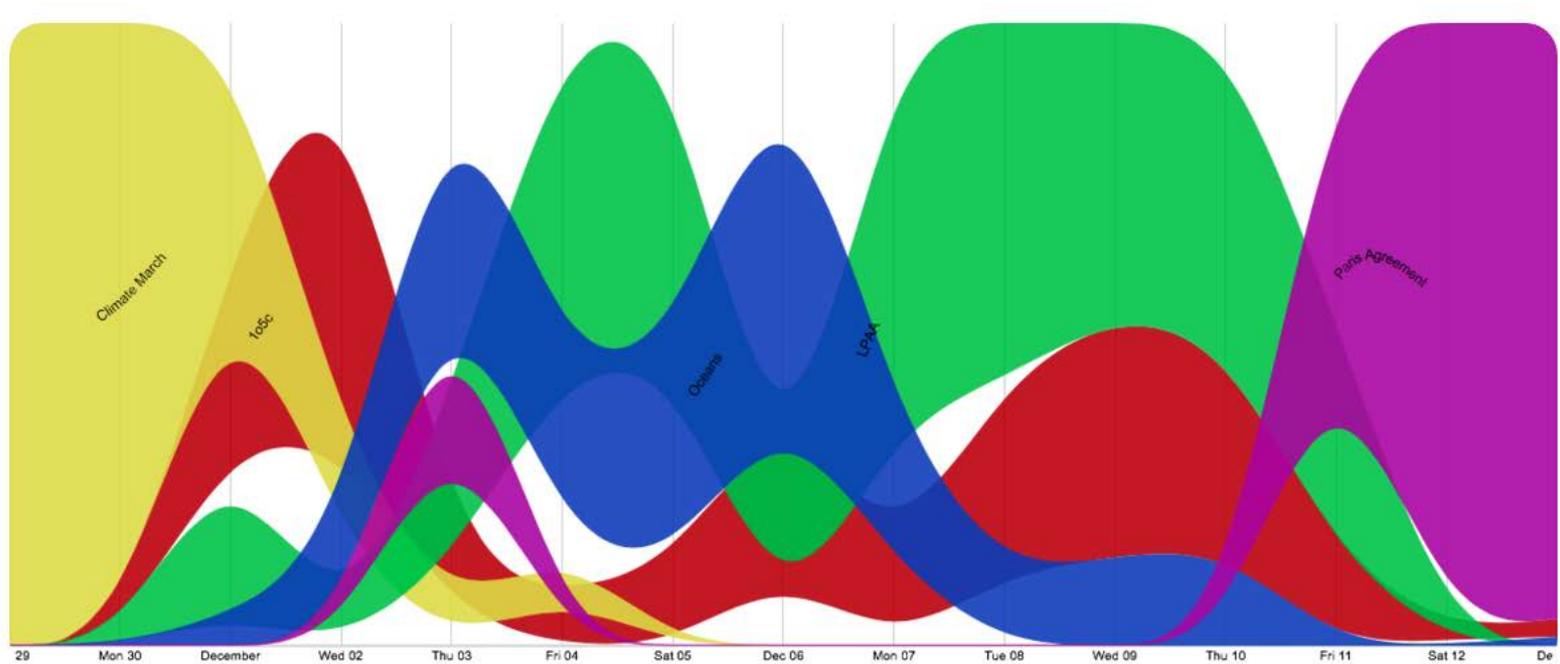
# COP21 on Twitter: the #hashtags race in the climatization of issues



- Keywords/Date
- EnergyDay
  - Energyefficiency
  - Environment
  - Fossil
  - Fracking
  - Frenchtech
  - GlobalWarming
  - Greenpeace
  - HumanRights
  - HumanRightsDay
  - India
  - Indigenous
  - Innovation
  - Just Transition
  - KeepintheGround
  - LossandDamage
  - LPAA
  - Maldives
  - Mexico
  - Nature
  - nuclear
  - Oceans
  - ParisAgreement
  - regionales
  - Renewables
  - Sif15
  - Solar
  - SolutionCOP21
  - Sustainability
  - TPP
  - TTIP
  - united4climate
  - urgenceclimatique



# COP21 on Twitter: the #hashtags race in the climatisation of issues

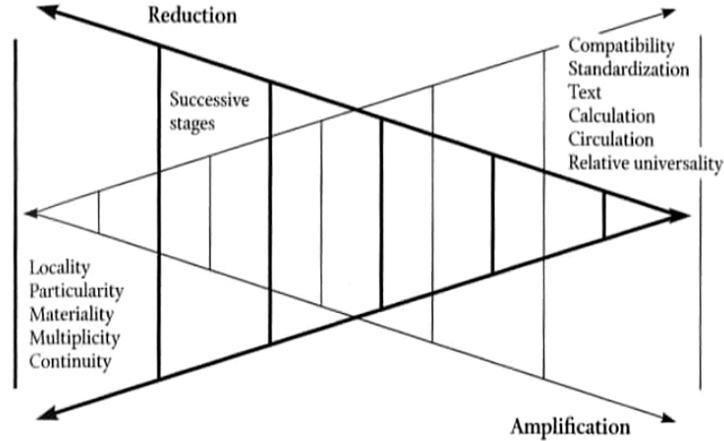




# To conclude

Not a matter of shift but a matter of data proxies for  
specific spaces

# Accounting for the process of translation: Latour's chain of reference



# Conclusion

When mapping complex debate dynamics there are multiple sources of digital data which can be used, each presenting its own specificities which need to be accounted for. It is not a matter of shift, as one source cannot replace the other.

The first example focused on the “inside” of the negotiation and we used a collection of digitalised summaries of the ENB to map the evolution of topics over twenty-two annual conferences. The second one focused on Twitter and used Twitter data to map online interactions around the 21st COP in Paris using the #COP21 hashtag to delimit a space where public debate on climate change policy takes place

Both sources of data, digitalised ENB summaries and natively digital Tweets have their specific grammars that have to be accounted for when using them as proxies to produce distant readings in the form of visualisations of topical dynamics about climate policy taking place in specific spaces

Both online and offline spaces participate to the overall conversation taking on climate policy in the same world, but in different spaces, and to study them we need different data proxies.