



3rd International Conference on Public Policy (ICPP3) June 28-30, 2017 – Singapore

Panel T10P06 Session 1 Digital methods for Public Policy, Thursday 29th June 2017

Moving beyond the digitalised and natively digital divide?

Mapping climate policy debates in multiple spaces

Nicolas Baya-Laffite - [nicolas.bayalaffite\(at\)unil.ch](mailto:nicolas.bayalaffite@unil.ch)

Unil

UNIL | Université de Lausanne

Institut des sciences sociales
STSLab & LaDHUL

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

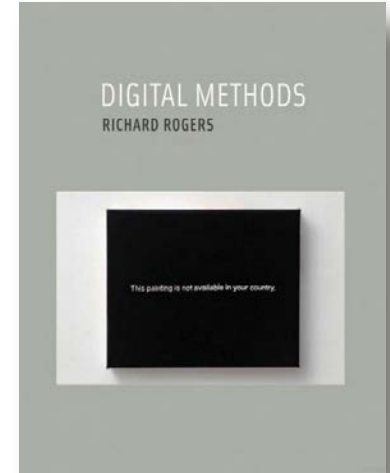
Thereby, thinking the distinction not in terms of a "shift", but rather in terms of choices of specific proxies that are more or less suited to produce distant readings of dynamics taking place in specific places, some online, some offline, in the same world.

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

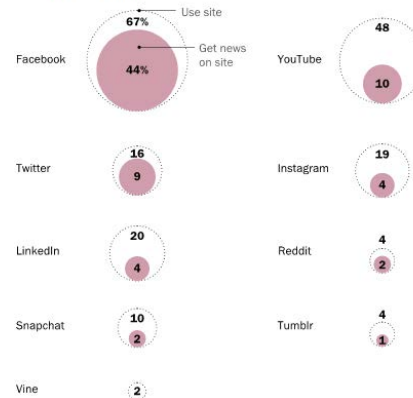
Debates over international climate policy deploy over different spaces forming the mosaic of public space of issues, at the official COP venues and beyond, including more and more “on-line” spaces, such as those provided by social media platforms.

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



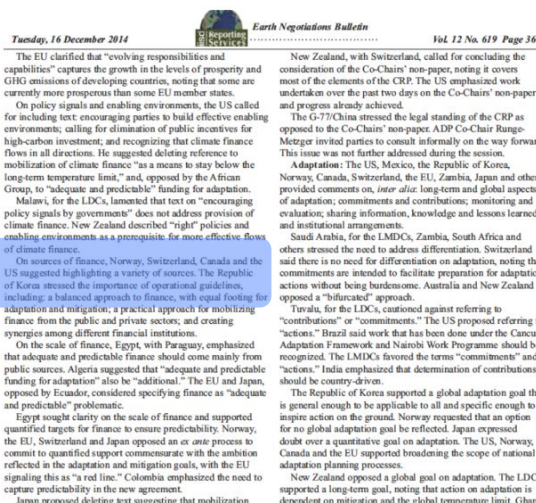
Mapping climate policy debates: finding the right data for the right space

	Project MEDEA + EMAPS at médialab SciencesPo 2011-2014	Projet ClimatCOP, LISIS, IFRIS, & NUMI Datasprints 2014-2016
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 platforms, 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



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

<p>INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT — REPORTING SERVICES (IISD-RS)</p> <p>MANUAL AND STYLE GUIDE</p> <p>JUNE 2013</p> <p>International Institute for Sustainable Development (IISD) Reporting Services United Nations Office, 200 East 70th Street, 12th Floor New York, NY 10021 USA Telephone: (1-646) 584-7500 • Fax: (1-646) 584-4957 Email: rs@iisd.org</p>	
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IISD Reporting Services				
Trusting the real-time story of sustainable development				
Home	ENB	Climate Change (Volume 12)	ENB	ENB
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 2.6	Issue 1	6 February 1995	PDF	HTML
ADP 2.6	Issue 2	7 February 1995	PDF	HTML
ADP 2.6	Issue 3	8 February 1995	PDF	HTML
ADP 2.6	Issue 4	9 February 1995	PDF	HTML
ADP 2.6	Issue 5	10 February 1995	PDF	HTML
ADP 2.6	Issue 6	13 February 1995	PDF	HTML
ADP 2.6	Issue 7	14 February 1995	PDF	HTML
ADP 2.6	Issue 8	15 February 1995	PDF	HTML
ADP 2.6	Issue 9	16 February 1995	PDF	HTML
ADP 2.6	Issue 10	17 February 1995	PDF	HTML
ADP 2.6	Issue 11	Summary	PDF	HTML
First Conference of the Parties to the Framework Convention on Climate Change				
COP 1 28 March - 7 April 1995 Berlin, Germany				
ADP 2.6	Issue 12	28 March 1995	PDF	HTML
ADP 2.6	Issue 13	29 March 1995	PDF	HTML
ADP 2.6	Issue 14	30 March 1995	PDF	HTML
ADP 2.6	Issue 15	31 March 1995	PDF	HTML
ADP 2.6	Issue 16	3 April 1995	PDF	HTML
ADP 2.6	Issue 17	4 April 1995	PDF	HTML
ADP 2.6	Issue 18	5 April 1995	PDF	HTML
ADP 2.6	Issue 19	6 April 1995	PDF	HTML
ADP 2.6	Issue 20	7 April 1995	PDF	HTML
ADP 2.6	Issue 21	Summary	PDF	HTML

<http://www.iisd.ca/vol12/>

Data analysis : identifying topics over the ENB reporting on annual COPs

Corpus Manager

roup 3 (identifier: 0 corpus) (0 reports finished)

add corpus

start script

get documentation

job name (optional)

select a corpus

select a script

enb-reports-complete-cleaned-1-28744-A-enb-reports-complete-cleaned-1-enb

enb-reports-complete-cleaned-1-28744-A-enb-reports-complete-cleaned-1-enb

script parameters

Source

Type of Data ☒ dataset ☐ terms list

Corpus Format:

start script

Test set or project on PRISM

Source: Paris Lodron

SD: Change Data Model

by: 10/10/2014 10:00:00

id	dataset - project enb-reports-complete-cleaned-1-28744, version 1-enb-reports-complete-cleaned-1-fds	enb-reports-complete-cleaned-1-fds
enb	2,250 Mds	enb-reports-complete-cleaned-1
enb	2,250 Mds	enb-reports-complete-cleaned-1
enb	2,250 Mds	enb-reports-complete-cleaned-1

Design: [Navigation](#)

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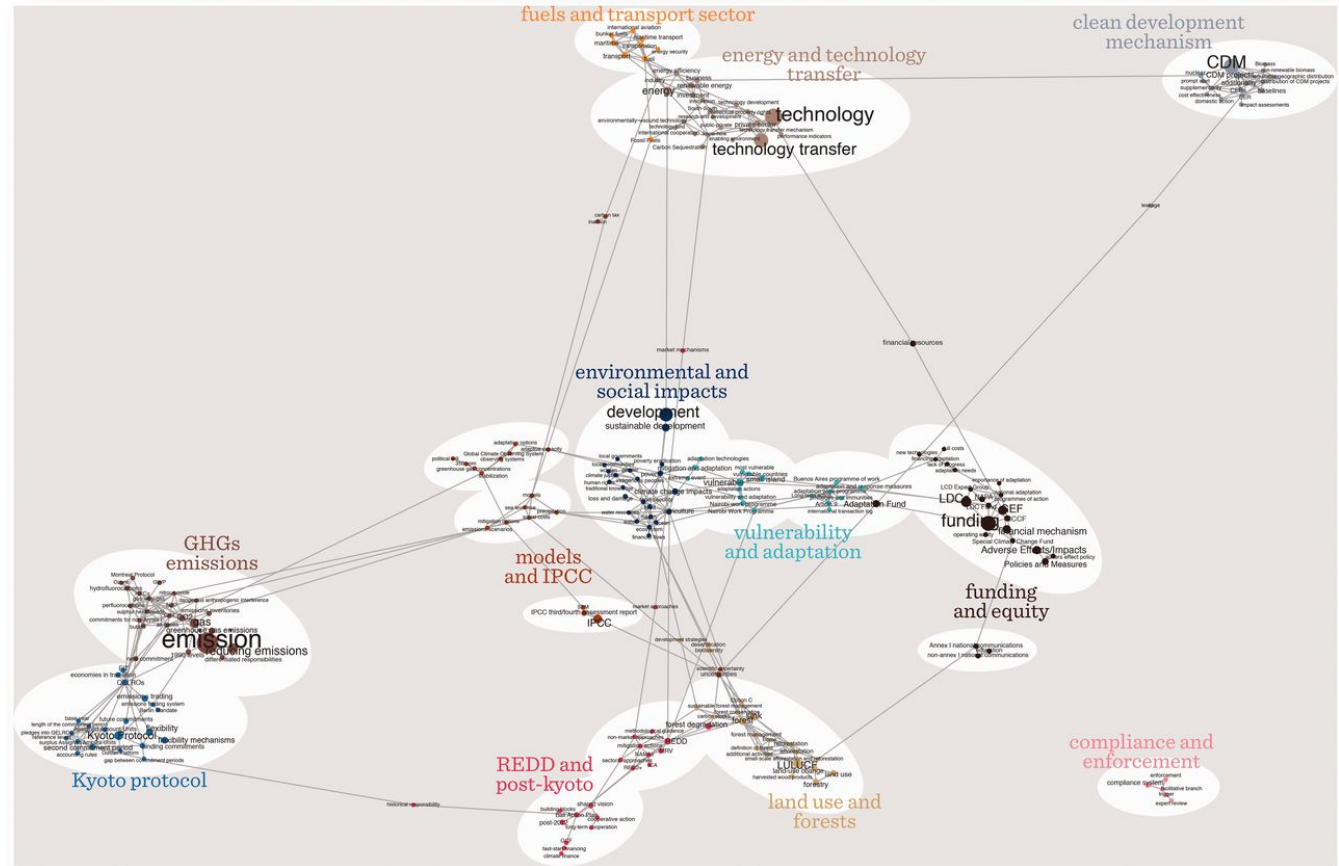
INNOV	innovation, innovations	931
TECHNOLOGY	technology	810
NOISE	noise, loud, sounding, soundings	742
IN	into, inside, displacement, inclusion	581
TECHNOLOGY TRANSFER	technology transfer, transfer of technology, sharing technologies, transfer of technical, transfer of technologies, transfers technology, transfer technologies, transfer technology information, information and technology, information technology, information on technology	264
HELP/IMPACT	benefits	830
+	plus, good, environment, facility	428
IN	into, in, based, developed, countries	380
JOINT IMPLEMENTATION	joint implementation, jointly, jointly implemented, implemented jointly	375
270 PROTOCOL	Vienna protocol, Kyoto protocols	335
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC)	Intergovernmental panel on climate change, ipcc	318
REDUC	reduce, upon	927
CLIMATE DIMENSIONS	climate dimensions, reducing greenhouse gas emissions, reduction commitments, reduction commitment, emission reductions, emission reduction, emissions, emissions-reduction, reduction of emissions, reductions of emissions, reductions in emissions, reduction in emissions	489
FINANCIAL MECHANISM	financial mechanism, financial mechanisms	287
+	plus, given	741
ADVERSE EFFECTS/IMPACTS	adverse effects, adverse impacts, adverse effect, adverse impact	711
ENERGY	energy	839
LICENCES AND MEASURES	politics and measures, plans	100
SECOND COMMITMENT PERIOD	second commitment period, second commitment periods, second protocol commitment period, second kyoto protocol commitment period	189
COMMITMENT PERIOD	commitment period, commitment periods, non-compliance, non-compliance, compliance fact, compliance group, compliance review, compliance under	...

[illegible]

6,347 paragraphs,
ca. 465.000
words

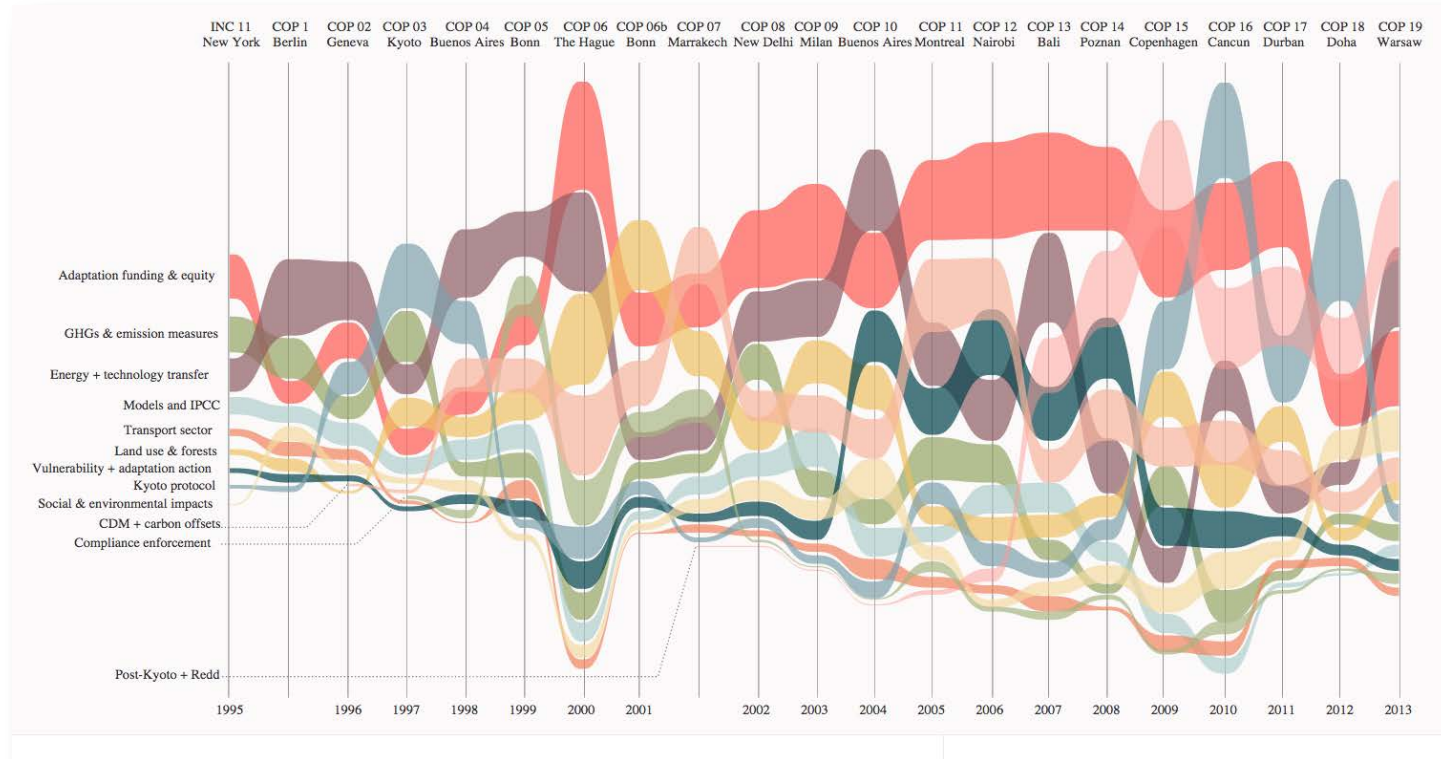
Data visualisation

The semantic network structure of debates 1995-2013



Data visualisation

The trajectories of
debate topics at
COPs, 1995-2013

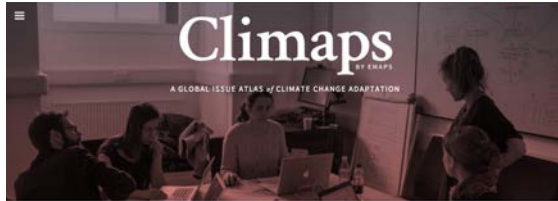
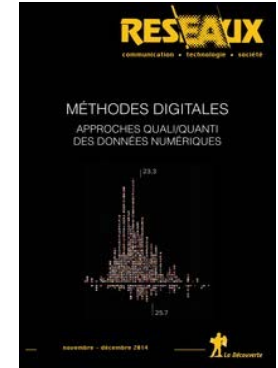


Two articles and three websites

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



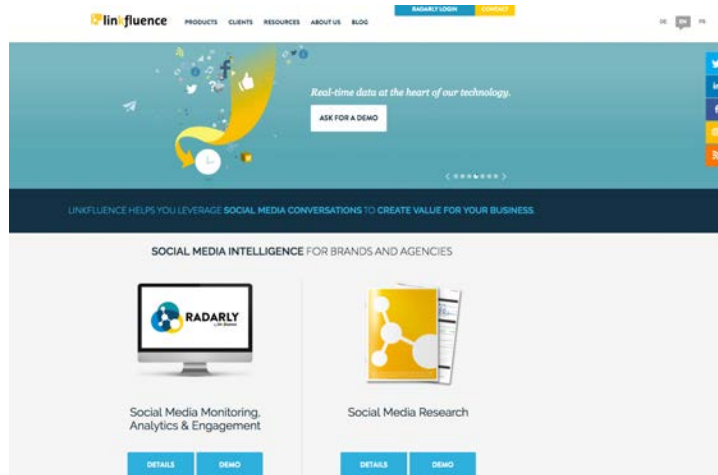
Climatenegotiations.org

Around COP21, online

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

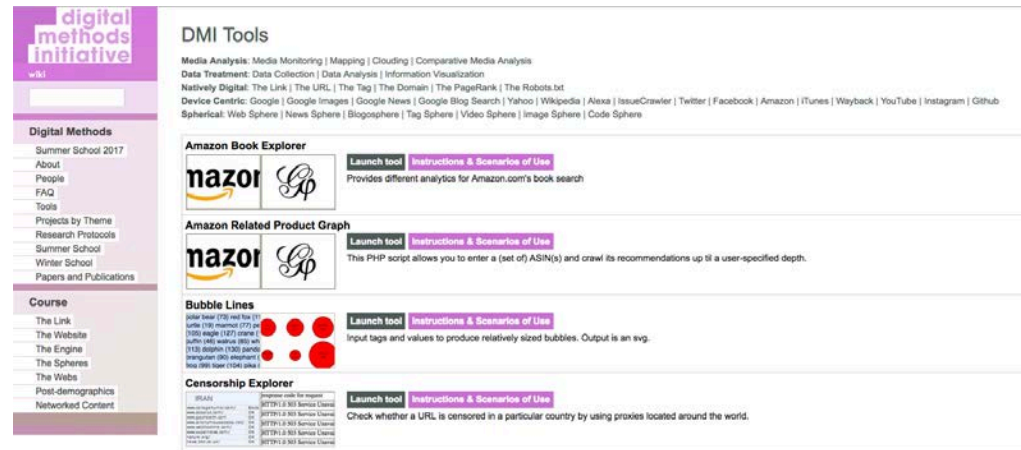
Data collection: the challenge of access

Data providers



The screenshot shows the linfluence website. The header includes the linfluence logo and navigation links: PRODUCTS, CLIENTS, RESOURCES, ABOUT US, BLOG, REQUEST A DEMO, and CONTACT. The main banner features the tagline "Real-time data at the heart of our technology." and a button labeled "ASK FOR A DEMO". Below the banner, it states "LINEINFLUENCE HELPS YOU LEVERAGE SOCIAL MEDIA CONVERSATIONS TO CREATE VALUE FOR YOUR BUSINESS." The content is divided into two sections: "SOCIAL MEDIA INTELLIGENCE FOR BRANDS AND AGENCIES". The first section, "Social Media Monitoring, Analytics & Engagement", shows a monitor displaying the RADARLY logo. The second section, "Social Media Research", shows a document icon. Both sections have "DETAILS" and "DEMO" buttons.

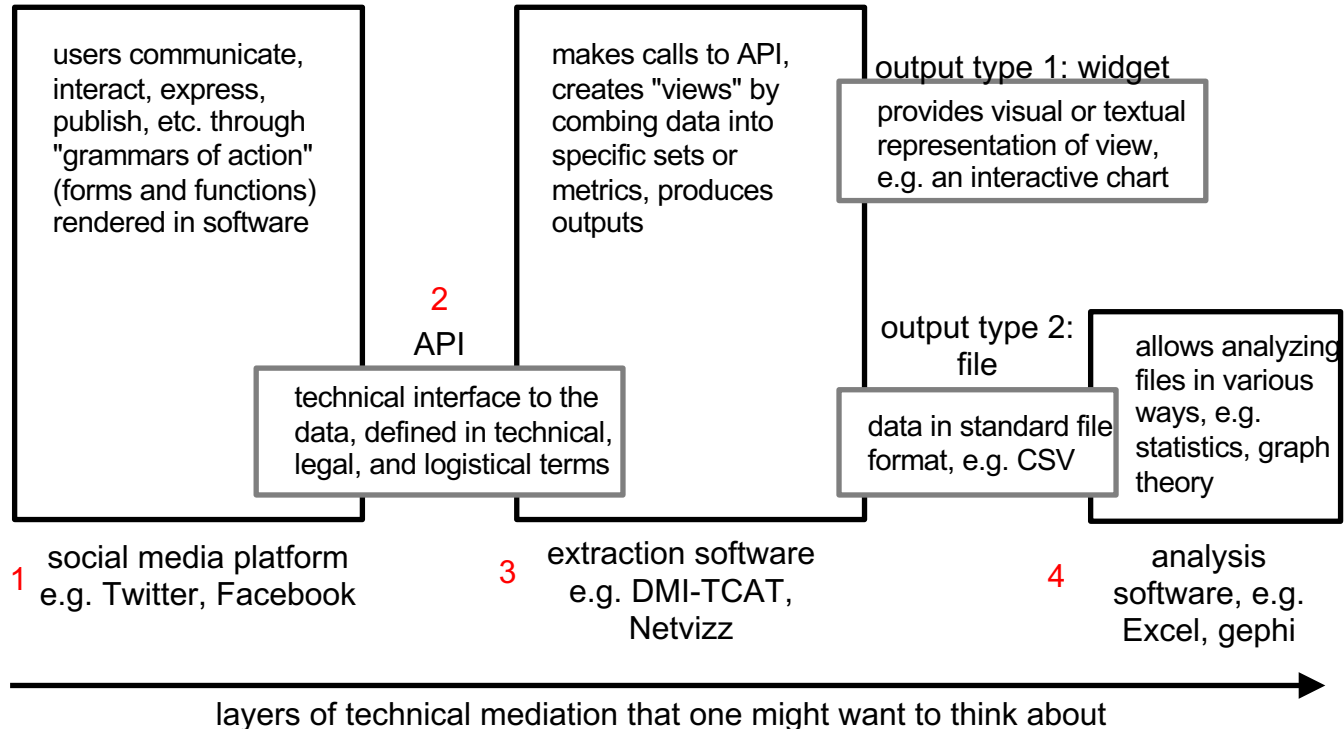
Free, open software



The screenshot shows the Digital Methods Initiative website. The header includes the "digital methods initiative" logo and a search bar. The main content is titled "DMI Tools" and lists various tools: Media Analysis, Data Treatment, Natively Digital, Device Centric, and Spherical. Each tool has a "Launch tool" button and a link to "Instructions & Scenarios of Use". The tools listed are: Amazon Book Explorer, Amazon Related Product Graph, Bubble Lines, and Censorship Explorer. Each tool has a brief description of its functionality.

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

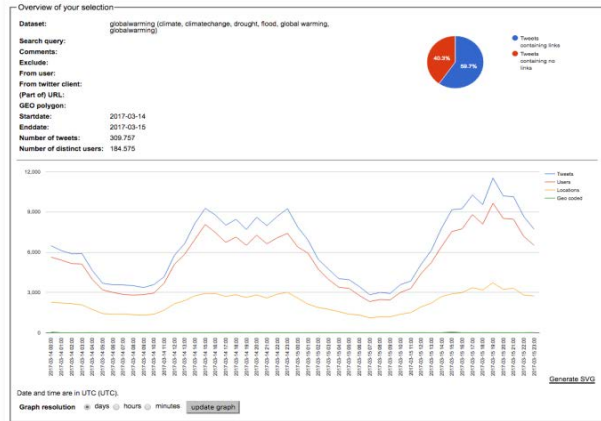
Data selection

Select the dataset:
globalwarming --- 118,096,399 tweets from 2012-11-23 15:53:44 to 2017-03-16 14:23:52 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 URL*)
GEO bounding polygon: (POLYGON is geo format)
Startdate (UTC): 2017-03-14 (YYYY-MM-DD or YYYY-MM-DD HH:MM:SS)
Enddate (UTC): 2017-03-16 (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.



Export selected data

All exports have the following filename convention: {dataset}-{startdate}-{enddate}-{query}-{exclude}-from_user_name-from_user_lang-turl_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.
[Launch](#)

User stats (overall)

Contains the min, max, average, Q1, median, Q3, and trimmed mean for: number of tweets per user, url 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.
[Launch](#)

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.
[Launch](#)

Hashtag frequency

Contains hashtag frequencies.
 Use: find out which hashtags are most often associated with your subject.
[Launch](#)

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.
[Launch](#)

User visibility (mention frequency)

Lists usernames and the number of times they were mentioned by others.
 Use: find out which users are "influencers".
[Launch](#)

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 twitterati.
[Launch](#)

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.
[Launch](#)

Twitter client frequency

List the frequency of tweet software sources per interval.
[Launch](#)

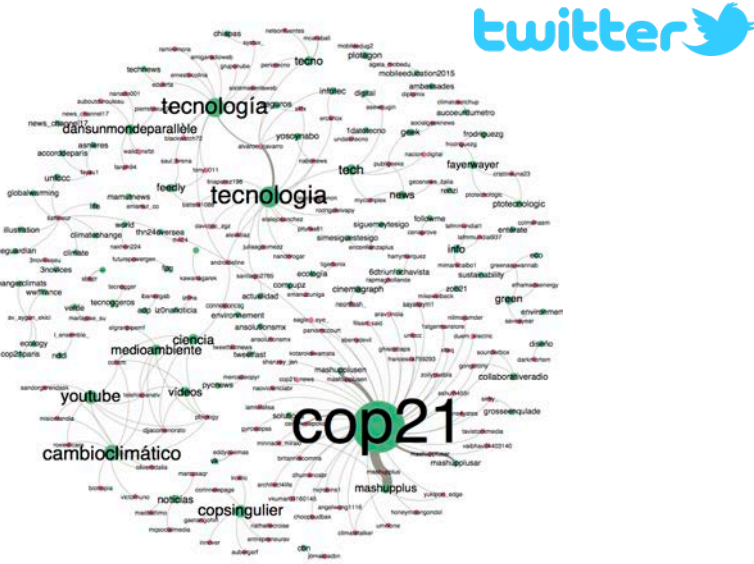
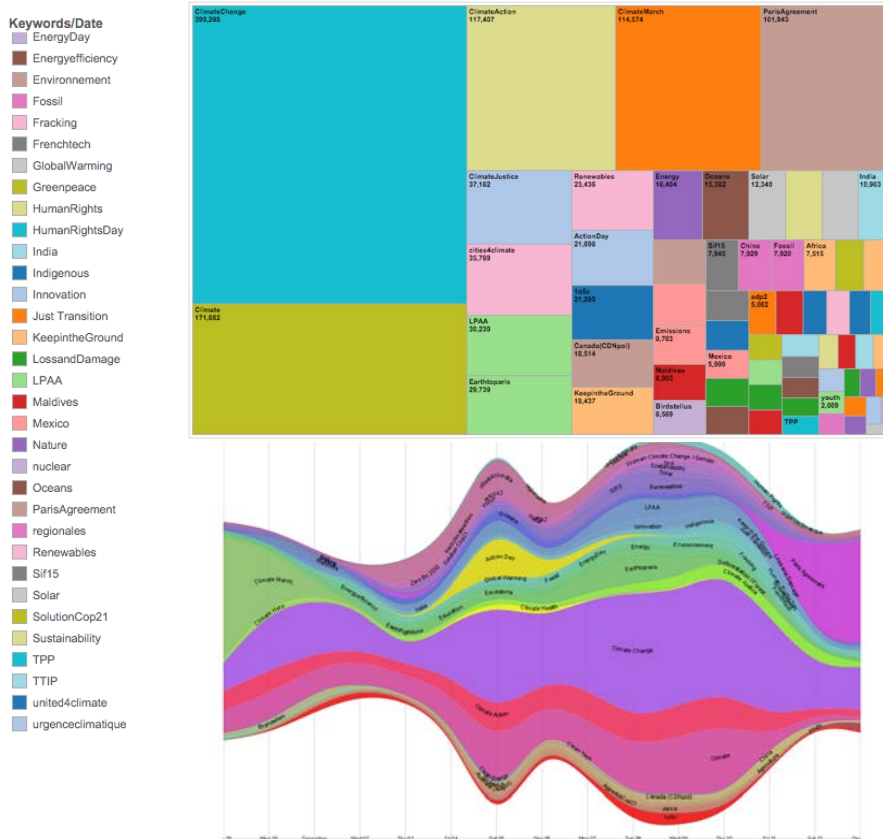
Identical tweet frequency

Contains tweets and the number of times they have been (re)tweeted identically.
 Use: get a grasp of the most "popular" content.
[Launch](#)

Word frequency

Contains words and the number of times they have been used.
 Use: get a grasp of the most used language.
[Launch](#)

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



User-curated issue climatisation and the rise and fall of top daily hashtags during COP21

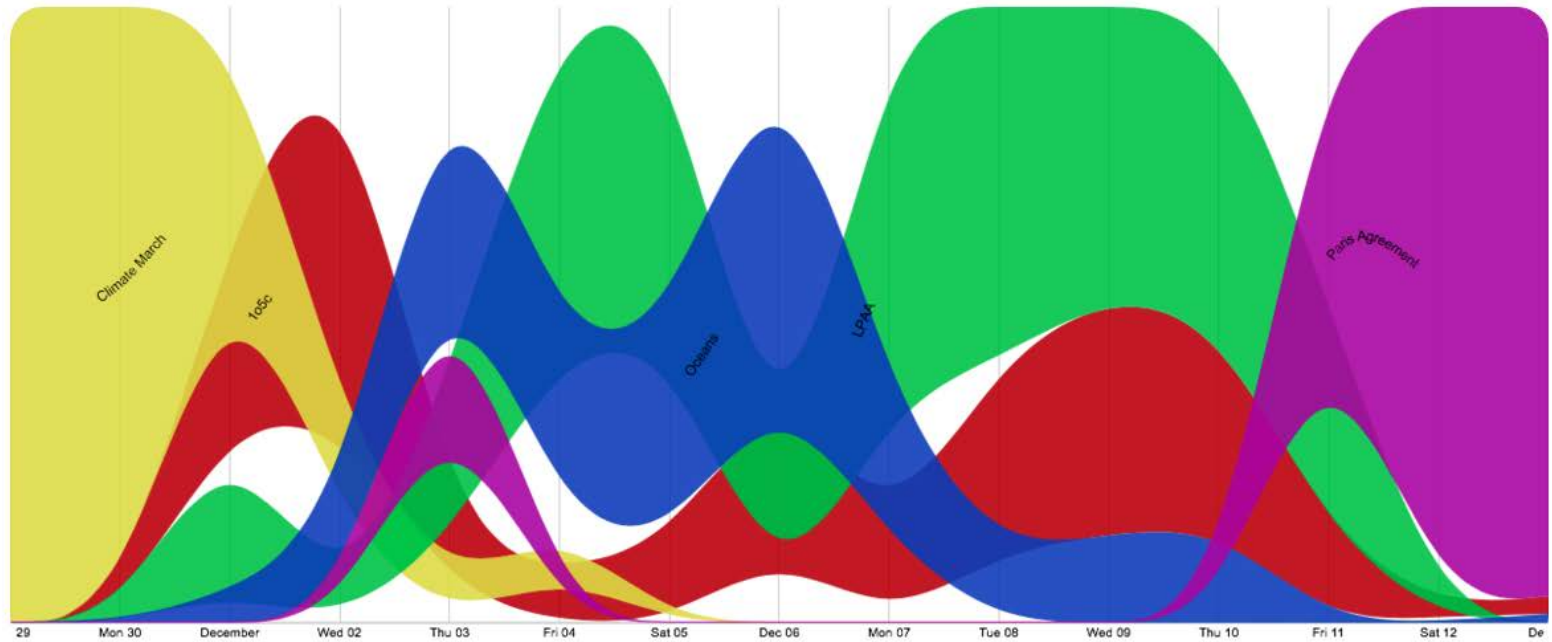
COP21 on Twitter: the #hashtags race in the climatisation of issues

Keywords/Date

- EnergyDay
- Energyefficiency
- Environnement
- 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



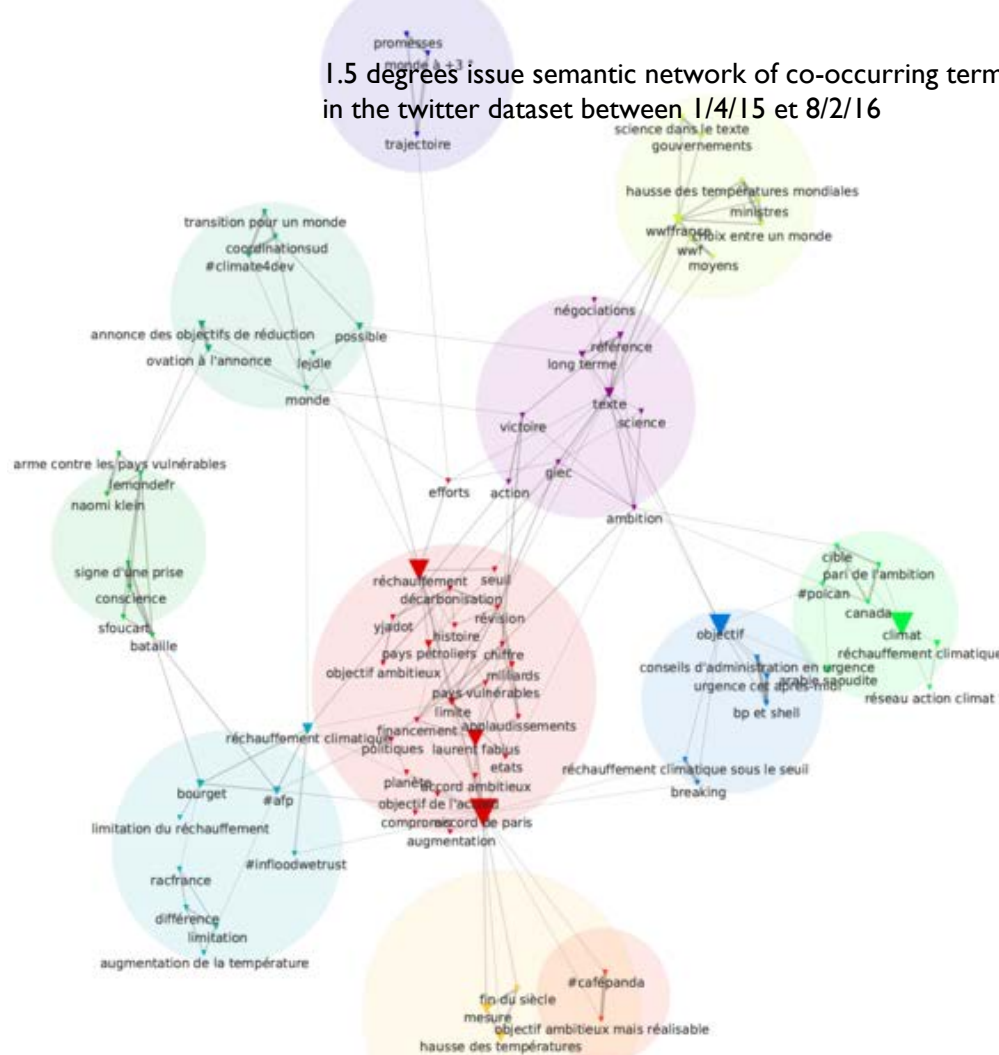
COP21 on Twitter: the #hashtags race in the climatisation of issues



NUMI data sprint on COP21: project Tweet on COP

	Stem	Main form	Forms
73	just transition transparency	transparency & a just transition	transparency & a just transition
74	more talk	more talk	more talk
75	replaced-url target temperature	temperature target replaced-url	temperature target replaced-url
76	Indian researcher	Indian researchers	Indian researchers
77	acciones aumentar necesitamos	necesitamos aumentar acciones	necesitamos aumentar acciones
78	goal temperature	temperature goal	temperature goal
79	COP21 replaced-url	COP21 replaced-url	COP21 replaced-url
80	climate replaced-url target	climate targets replaced-url	climate targets replaced-url
81	cut massive support	massive cuts and support	massive cuts and support
82	COP21 protest	COP21 protest	COP21 protest
83	lograrlo par	par lograrlo	par lograrlo
84	check clamor reality	reality check on the clamor	reality check on the clamor
85	Meta pedimos una	pedimos una meta	pedimos una meta
86	change climate	climate change	climate change
87	goal replaced-url temperature	temperature goal replaced-url	temperature goal replaced-url
88	change climate fight	fight against climate change	fight against climate change
89	global rise temperature	global temperature rise	global temperature rise
90	COP21 deal	COP21 deal	COP21 deal
91	final version	final version	final version
92	target warming	warming target	warming target
93	goal success warming	warming goal a success	warming goal a success
94	climate goal replaced-url	climate goal replaced-url	climate goal replaced-url
95	emails protest	protest emails	protest emails
96	climate scientist	climate scientist	climate scientist[&]climate scientists

1.5 degrees issue semantic network of co-occurring terms in the twitter dataset between 1/4/15 et 8/2/16

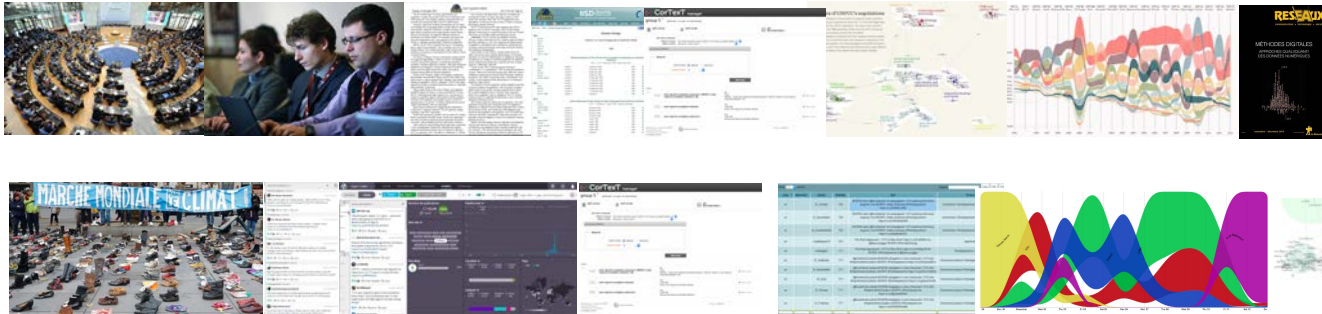
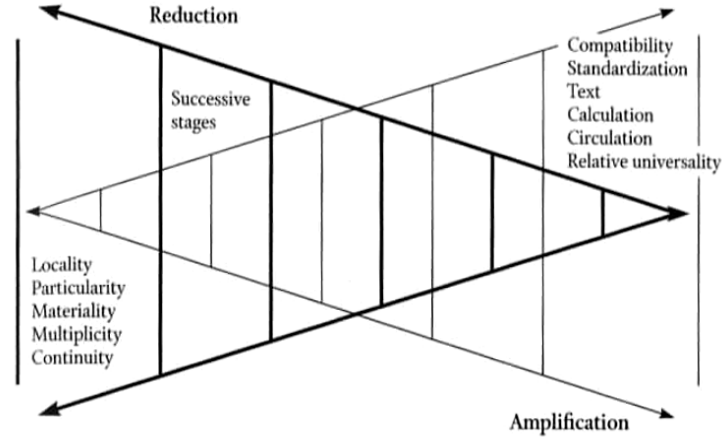


Show	10	entries	Search	Copy	CSV	Exit
lang	declared_r	author	Pubdate	test	Ititono	
en		Ei_Climate	723	ICOP20 when @EcoIntemet 1st campaigned 1.5°C warming limit many laughed, now ICOP21 widely embraces #ParisAgreement https://t.co/08BALGDR4	EcoIntemet, ParisAgreement, warming limit many	
en		Ei_SustainDev	723	ICOP20 when @EcoIntemet 1st campaigned 1.5°C warming limit many laughed, now ICOP21 widely embraces #ParisAgreement https://t.co/08BALGDR4	EcoIntemet, ParisAgreement, warming limit many	
en		Ei_Econewsfeed	723	ICOP20 when @EcoIntemet 1st campaigned 1.5°C warming limit many laughed, now ICOP21 widely embraces #ParisAgreement https://t.co/08BALGDR4	EcoIntemet, ParisAgreement, warming limit many	
en		LellaBazaar10	721	"The Paris Agreement: 1.5°C to Stay Alive" https://t.co/F5395uL7p - @BiancaJagger ICOP21 #ClimateChange	agreement	
en		amealigha	717	The Paris Agreement: 1.5°C to Stay Alive https://t.co/wh8blyPC/V ICOP21 #ParisAgreement @BiancaJagger	ParisAgreement, agreement	
en		Ei_TarSands	717	.@EcoIntemet protest ICOP20 delegates in Lima introduced 1.5°C limit #HighAmbitionCoalition ICOP21 #ParisAgreement https://t.co/EG2ex3R1u	EcoIntemet protest, ParisAgreement, delegates, limit	
en		Ei_SustainDev	717	.@EcoIntemet protest ICOP20 delegates in Lima introduced 1.5°C limit #HighAmbitionCoalition ICOP21 #ParisAgreement https://t.co/CCX1Q2P0q	EcoIntemet protest, ParisAgreement, delegates, limit	
en		Ei_Coal	717	.@EcoIntemet protest ICOP20 delegates in Lima introduced 1.5°C limit #HighAmbitionCoalition ICOP21 #ParisAgreement https://t.co/08BALGDR4	EcoIntemet protest, ParisAgreement, delegates, limit	
en		Ei_Climate	717	.@EcoIntemet protest ICOP20 delegates in Lima introduced 1.5°C limit #HighAmbitionCoalition ICOP21 #ParisAgreement https://t.co/08BALGDR4	EcoIntemet protest, ParisAgreement, delegates, limit	
en		Ei_Fracking	717	.@EcoIntemet protest ICOP20 delegates in Lima introduced 1.5°C limit #HighAmbitionCoalition ICOP21 #ParisAgreement https://t.co/08BALGDR4	EcoIntemet protest, ParisAgreement, delegates, limit	

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.