



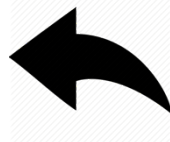
CE2/AM3

Delivery and communication of impact based forecasts and risk based warnings



Codified hashtags for weather warning in Italy.

Who is really using them?



Valentina Grasso, Alfonso Crisci, Paolo Nesi, Gianni Pantaleo, Imad Zaza and Bernardo Gozzini

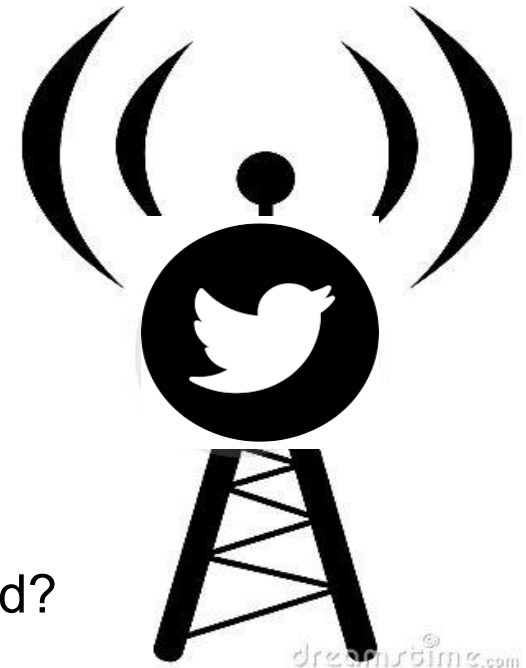
Investigation aim

Twitter very used in emergencies for information sharing

#Codifiedhashtags (UN proposal)

-> In 2013 in Italy some users proposed a set of codified hashtags for Twitter communication during weather warning

- Was this proposal endorsed ?
- Are codified hashtags used in Italy?
- Which regional codified hashtags are most used?
- Who is using them and how?



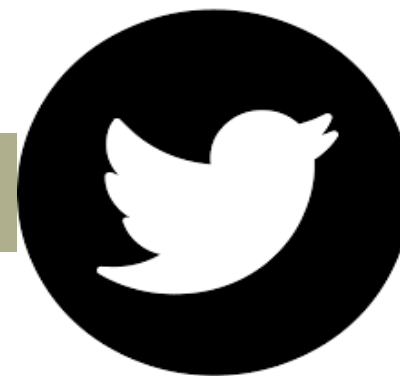
The analysis

Research context

- Parisi L., Comunello F., Amico A. (2014). **#allertameteoSAR: analisi di un hashtag di servizio tra dinamiche di influenza e nuove forme di engagement.** In Francesca Comunello (a cura di), Social media e comunicazione d'emergenza, Guerini, Milano 2014.
- Grasso V., Crisci A. **Codified Hashtags for Weather Warning on Twitter: an Italian Case Study.** PLOS Currents Disasters. 2016 Jul 5 . Edition 1. doi: 10.1371/currents.dis.967e71514ecb92402eca3bdc9b789529.

Proposal of a more comprehensive analysis

1 year monitoring of 21 codified hashtags
Analysis for regional context and confrontation with
other weather related Tweets



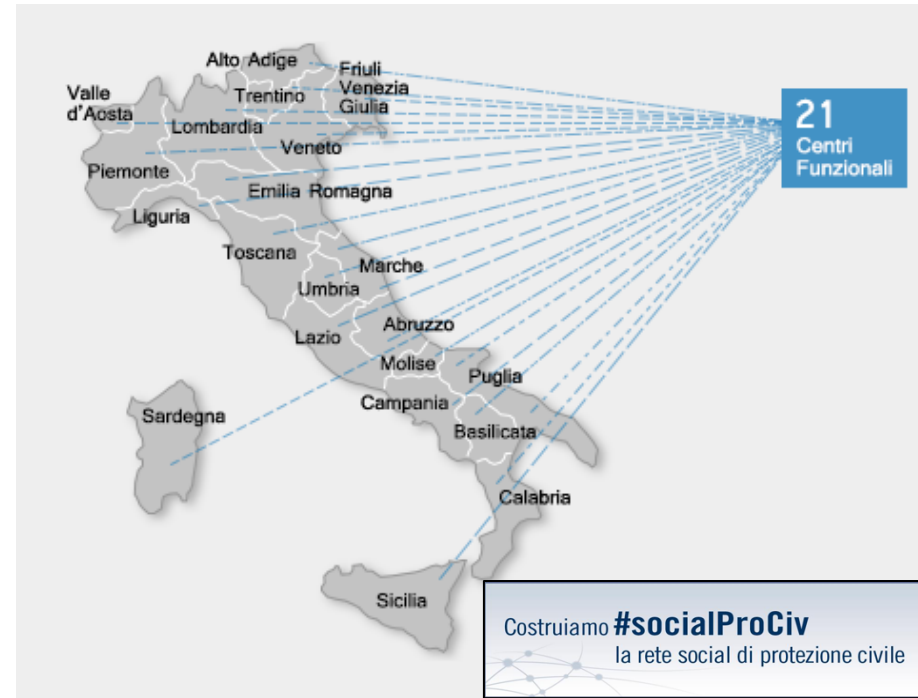
General background

Italy has no Institutional Civil National Weather Service.

Civil protection system in Italy has a regional structure

-> Centri Funzionali Regionali (not everywhere) – coordinated by the National Dep.nt Civil Protection

That's why the proposal of regional hashtags.



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[#allertameteoTos](#) dalle 18 di oggi vista evoluzione meteo termina presidio Sala Operativa integrata provinciale. Per criticità 3204335566

5:03 PM - 11 Nov 2014

← ↻ 2 ❤

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#allertameteo + TOS/LIG/PIE/ER/SAR/CAL/MAR

Methodology

Monitoring of codified hashtags for 12 months

From July 1st 2015 to 30Th June 2016

-> **Twitter Vigilance Platform for Twitter retrieval and storage**



TV is an environment developed by DISIT University of Florence that:

- Manage multiple queries in twitter API
- Store the data of messages collected by user defined queries -> channel
- Fast statistics of main Twitter metrics for single channel or query

Data set

#maltempo
bad weather

1.843.100 tweets

#meteo
#weather

743.760

@meteousers

124.150

Codified Hashtag
#allertameteoXXX

25.180

#allertameteoTOS

7.800

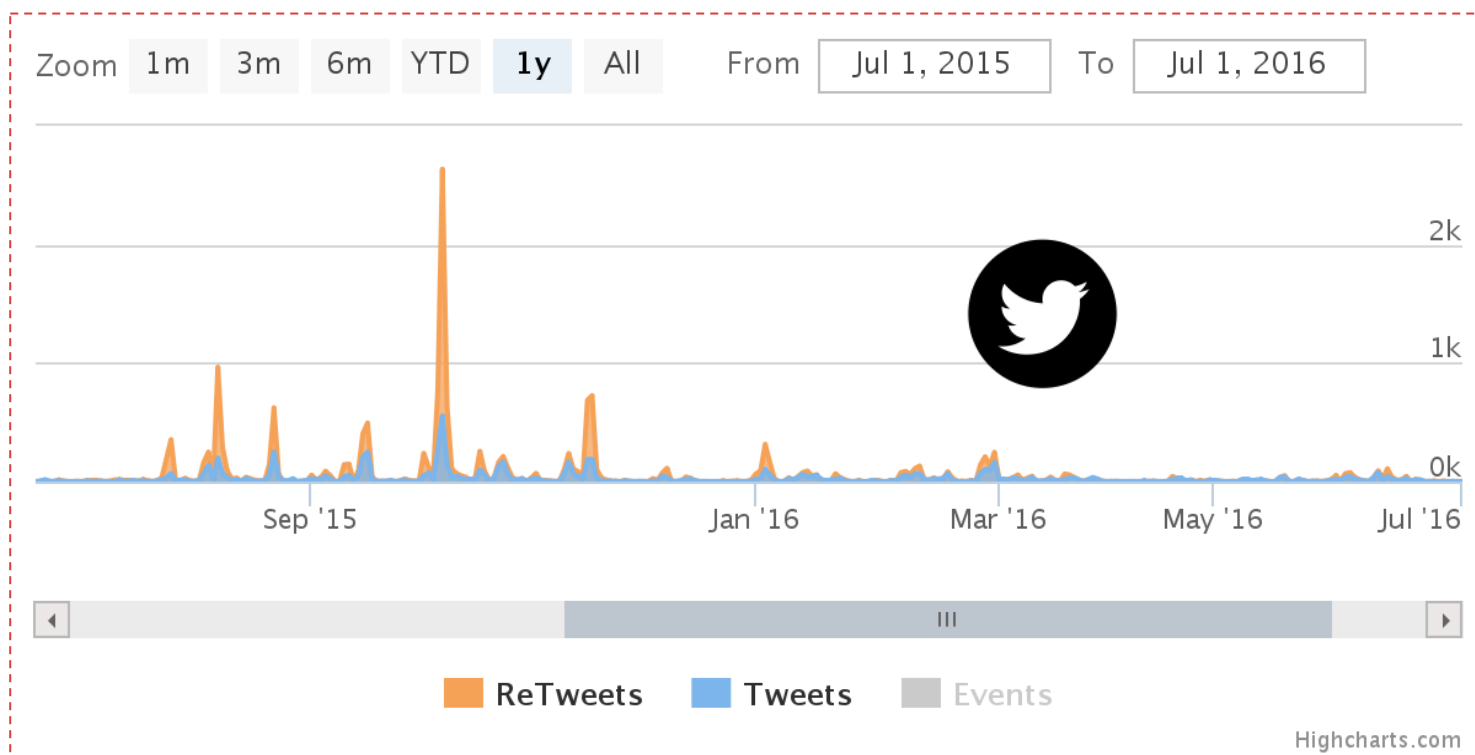
More than 25.000
tweets retrieved



<http://www.disit.org/tv/>

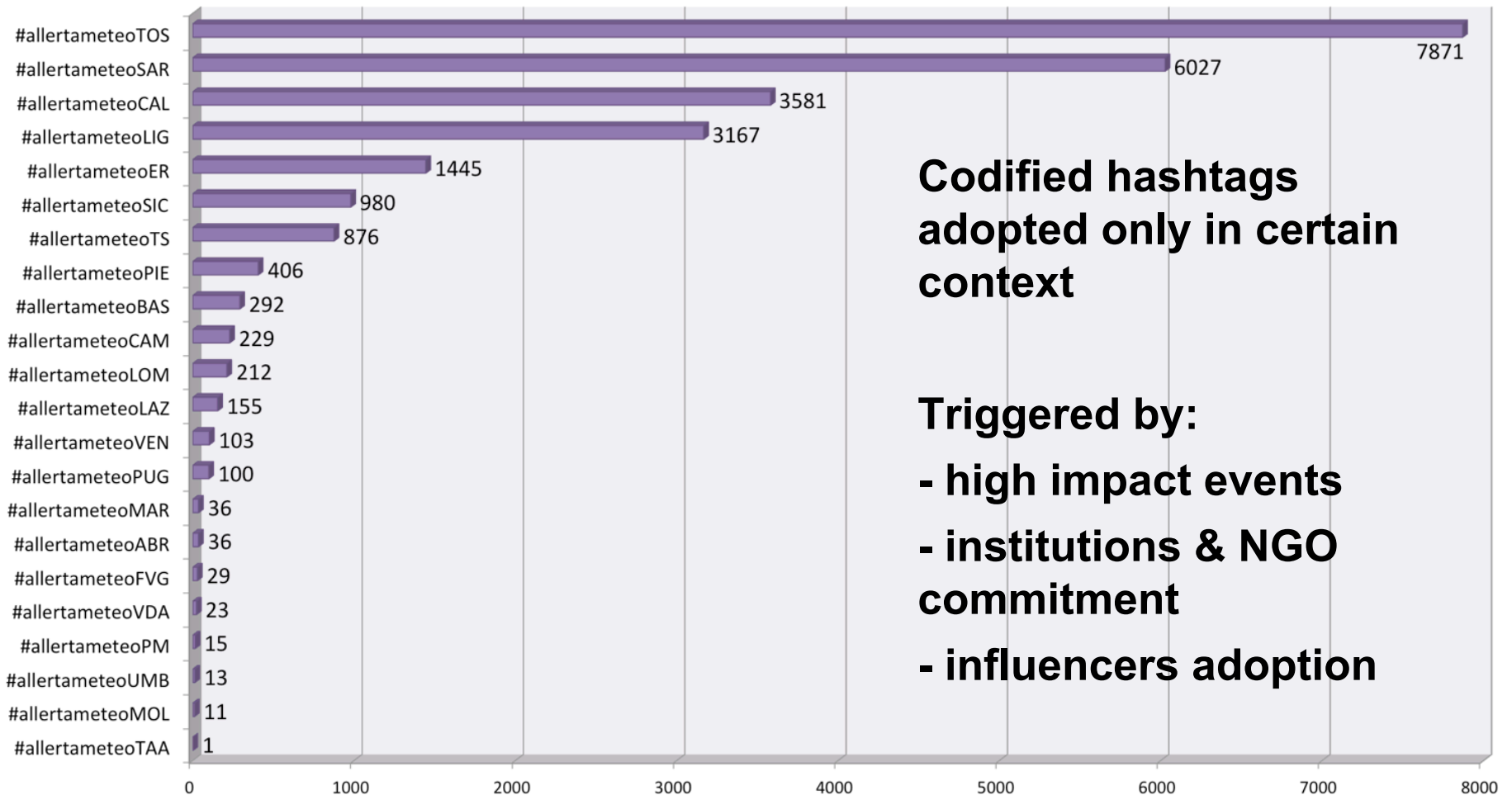
Codified hashtags: channel features

Total tweets	Native tweets	RT	Favourites	Mentions	Links	Unique users (native)	Full users	Active users %
25.185	7.569	17.616	9.768	22.748	18.052	1.402	6.674	21%



Overview

**CODIFIED HASHTAGS - total tweets
(2015/07/01 - 2016/06/30)**



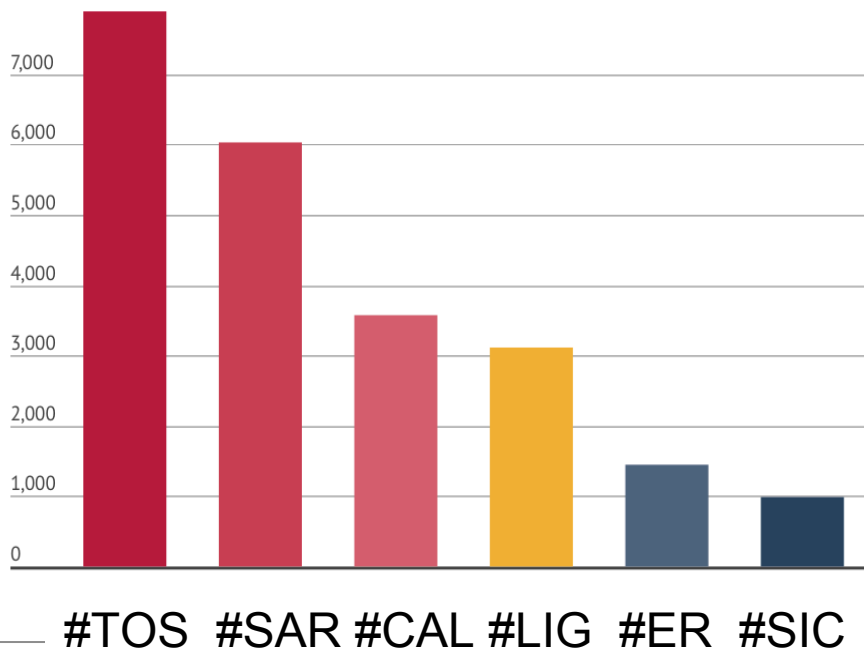
**Codified hashtags
adopted only in certain
context**

Triggered by:

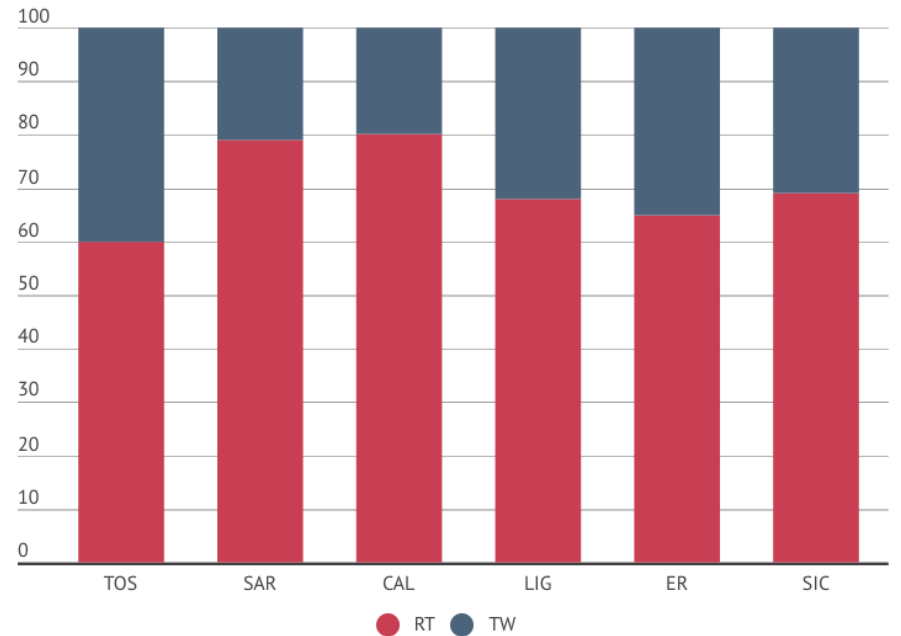
- high impact events**
- institutions & NGO
commitment**
- influencers adoption**

FAB six: most used

Most used codified hashtags

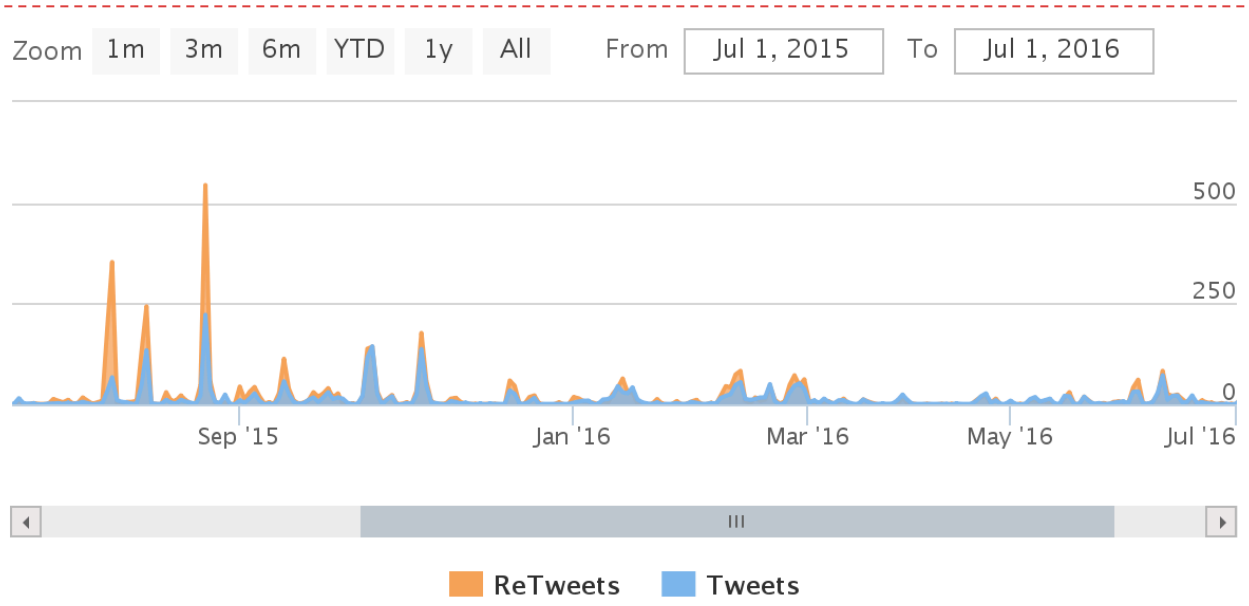


Codified Hashtags channels



Great use of RT -> used to spread information

Different use amongst regions



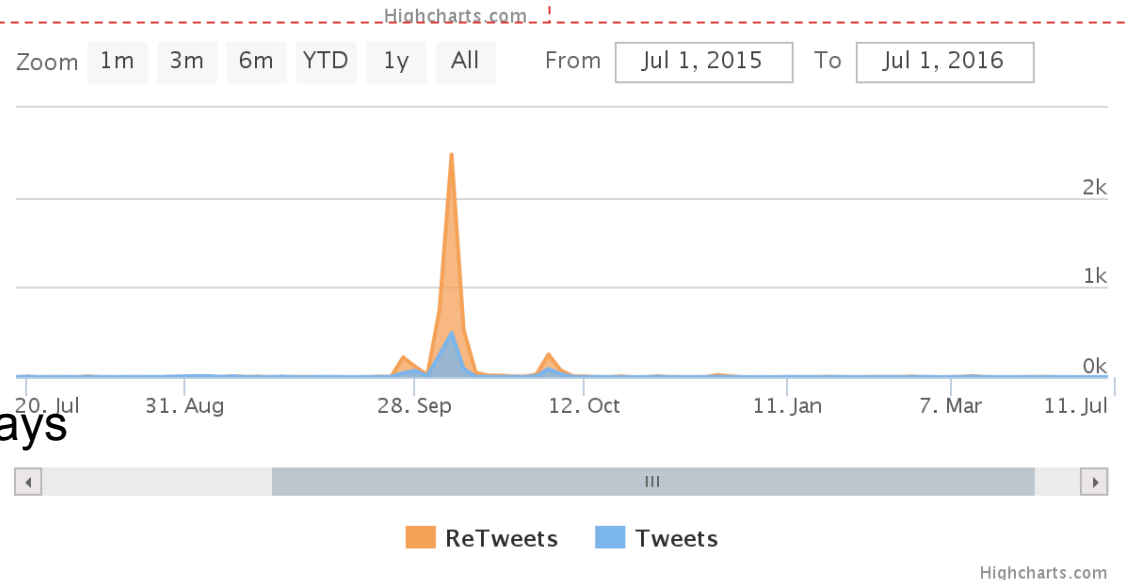
#allertameteoTOS
regular use

Social Media Policy

#allertameteoSAR - CAL
spot use

Events related

80% of tweets published in few days



Spot vs regular use

Regions	Unique Users (native tweets)	Unique users (TW +RT)	Full Tweets	Native TW	RT	Native TW/users	Activity rate
#SAR	443	2016	5207	1247	3960	2,8	27%
#CAL	233	1397	2922	706	2216	3,0	24%
#TOS	257	1354	7030	2829	4201	11,0	66%
#LIG	210	733	2977	989	1988	4,7	30%
#ER	90	439	1332	485	847	5,4	34%
#SIC	67	387	930	296	634	4,4	13%

Top users: who is tweeting?

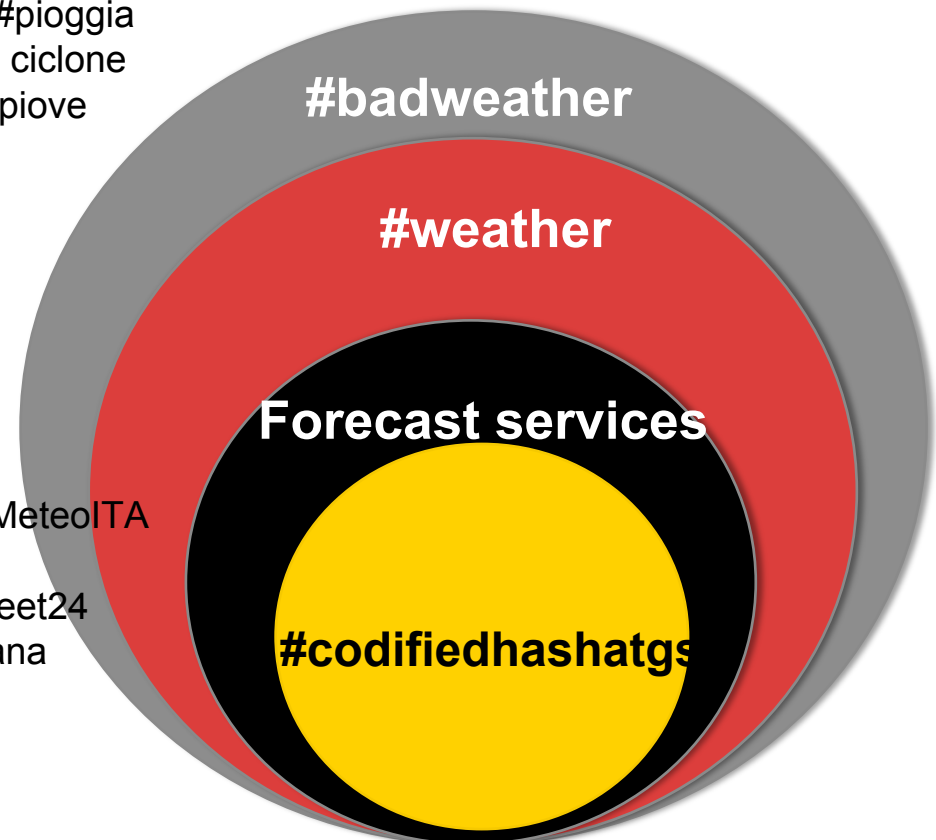
Regions	Most mentioned	Most Retweeted	Most Favorited
#CAL	Emergenza24	Cfm_Arpacal	Oliverio_MarioG
#ER	ProvinciadiRE	coscienzavigile	LucaLombroso
#LIG	Liguriaonline	RadioPerusia	Liguriaonline
#SAR	PaoloMastino	insopportabile	egyzia
#SIC	DrpcSicilia	Emergenza24	DrpcSicilia
#TOS	flash_meteo	amtoscana	flash_meteo

NGO - **Public Weather Services** - Institutions - Media

More general channels

To understand who is using codified hashtags amongst the twitter sphere we confronted codified hashtags respect to tweets about weather / bad weather.

- **“Maltempo”/badweahter :**
querying parameters: #maltempo #nubifragio #pioggia #temporale allagato OR allagati bomba acqua ciclone grandine maltempo nubifragio piogge pioggia piove piovendo precipitazioni temporale temporali
- **#Weather:**
querying parameters #meteo or “meteo”
- **Meteo users:**
querying for users: @3Bmeteo @arpaER @arpal_meteoromare @centrometeo @CentroMeteoITA @flash_meteo @ilmeteoit @meteoforumme @Meteolanterna @Meteotrentino @MeteoTweet24 @MeteoWeb_eu @meteo_fvg @meteo_toscana @previsionimeteo @wwwmeteoit



Metrics of generic channels and codified channel

Channel	Totale Tweets	Native Tweets	Retweets	TW % on total	Unique users (TW)	Unique users (TW-RT)	Active users %
#badweather	1.843.095	1.228.332	614.763	67%	222.813	335.831	66%
#weather	740.758	519.830	220.928	70%	56.507	116.370	49%
MeteoUsers	124.148	45.308	7.8840	36%	5.524	18.328	30%
Codified Hashtags	25.185	7.569	17.616	30%	1.402	6.674	21%

Expressive channels vs Informative channels

How much codified # are mentioned in generic channels?

Codified hashtags	Maltempo	#meteo	Meteo users	Codified channel
#allertameteoTOS	2298	4989	1431	7871
#allertameteoSAR	1175	4614	239	6027
#allertameteoCAL	396	1188	38	3581
#allertameteoLIG	541	1731	73	3167
#allertameteoER	404	879	144	1445
#allertameteoSIC	102	348	44	980
#allertameteoTS	22	200	0	876
#allertameteoPIE	153	315	11	406
#allertameteoBAS	26	75	0	292
TOTAL TWEETS	1.843.095	740.758	124.148	25.185

conclusions

- The codified hashtags proposal is **not broadly adopted**
- Codified hashtags for weather warnings are used only in **few regional contexts**
- The most active region is **Tuscany** where the use is regular - because adoption by the weather service (social media policy) and Institutions. In other contexts more irregular use.
- **Institutions endorsement** plays a key role.

Codified hashtags as a tool, not as the Bible.

- codified hashtag are helpful as **focused information channels**
- If they've not been adopted -> are useless?
Part of the truth is that SM management is a new job; skills and efforts are needed. Public weather services have qualified people to manage them?
- It's a tough job, but if we are not there, others will be.