

## **SMaPP Lab Data Report: The Islamic State's Battle for the Global Twittersphere**

**Social Media and Political Participation Lab, New York University<sup>1</sup>  
Preliminary Results, July 27, 2015**

While many jihadist groups use social media to broadcast their messages and exploits, the self-proclaimed Islamic State's innovative online strategy is unprecedented in both its reach and efficiency. Posting in several languages on diverse platforms—including Twitter, Facebook, Instagram, Tumblr, and its own [Android app](#)—ISIS has cultivated a global audience to which it disseminates its ideology and touts its military successes.

Partnering with media networks to develop and circulate news of its grisly murders and terror attacks, ISIS incorporates special effects, high definition images and audio, and even [videogame](#) footage to lure potential recruits, threaten rivals, and fundraise. Gruesome videos employ a bizarre combination of Hollywood entertainment, documentary film, and “[atrocities porn](#)” to display executions and battle footage, as well as messages promoting the utopian ideals of the ISIS caliphate. This content is then disseminated by official ISIS social media users, a large dedicated [network](#) of ISIS “[fanboys](#)”, and everyday Twitter users. ISIS also reaches untapped global audiences by [hijacking](#) trending hashtags and otherwise creatively taking advantage of the structure of social media platforms.

While [recent studies](#) have highlighted the enormous volume, sophistication, and wide reach of ISIS' online propaganda, little is known about the network structures of ISIS' global audience, how these social media users respond to events on the ground, or to what extent different types of content are disseminated. Given the integral role ISIS' online activity is thought to play in maintaining and growing its global support base, gaining better insight into the manner in which social media users around the world discuss ISIS' exploits and engage with ISIS' online materials has important implications for policymakers and academics alike.

Over the past six months, the NYU Social Media and Political Participation ([SMaPP](#)) Lab has collected tweets containing ISIS-related keywords that provide new perspective on the impact of ISIS in the global Twittersphere. The collection includes 28,758,083 tweets, or all tweets containing Arabic, transliterated Arabic, or English keywords that reference ISIS positively, negatively, or neutrally (keywords without clear positive or negative connotation) between February 3 and July 21, 2015.<sup>2</sup> The keywords used to reference ISIS in tweets can provide important information regarding a user's attitude toward the organization. For example, according to a [recent report](#) by the Qatari Research Institute, using the derogatory Arabic acronym “Daesh” to describe ISIS predicts anti-IS sentiment with 77.3% accuracy, while using the organization's official name, the Arabic words for “Islamic State”, predicts pro-IS sentiment

---

<sup>1</sup> Data analysis in this report was performed by Alexandra Siegel, Graduate Research Associate of the SMaPP lab, with assistance from Jonathan Ronan, Data Scientist, SMaPP lab, under the direction of Professor Joshua Tucker, Co-Director of the SMaPP lab. We gratefully acknowledge financial support from the INSPIRE program of the National Science Foundation (Award #1248055).

<sup>2</sup> See Appendix of SMaPP Data Report for full list of keywords

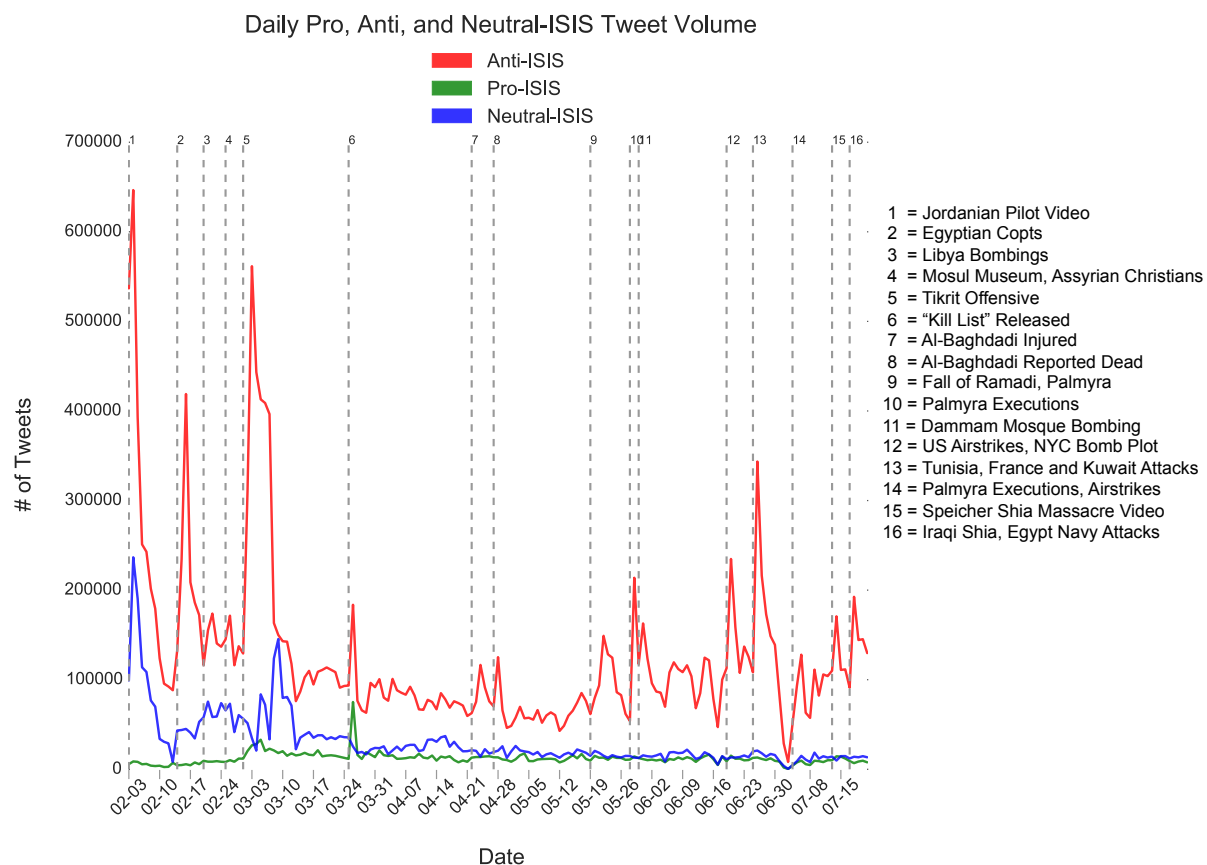
of the tweet with 93.1% accuracy. By observing fluctuations in positive, negative, and neutral ISIS-related tweet volume, language, location, and content over time we can gain a more systematic understanding of the online impact of ISIS' actions and its social media strategy.

As the figure below demonstrates, there is a great deal of variation in the volume of tweets containing ISIS-related keywords throughout the period under study. Notably, the volume of tweets appears to respond to certain ISIS activity on the ground and online, but these fluctuations are irregular and inconsistent across tweet type. The most dramatic spikes in anti-ISIS sentiment appear to occur in the aftermath of the following events:

- The release of a video showing the immolation of the Jordanian pilot [Muath al-Kasasbeh](#) on February 3.
- The execution of Egyptian [Coptic Christians](#) on February 15
- The suicide attack in [Sirte](#), Libya on February 18.
- The destruction of the [Mosul Museum](#) and capture of [Assyrian Christians](#) on February 26.
- The escalation of the anti-ISIS offensive in [Tikrit](#), Iraq, in early March.
- The release of a "[kill list](#)" targeting US military personnel in late March.
- Reports of ISIS leader Abu Bakar al-Baghdadi's [injuries](#) and [death](#) in late April.
- ISIS military gains in [Ramadi](#), Iraq and [Palmyra](#), Syria in the third week of May.
- The [executions](#) of Syrian captives in Palmyra on May 27.
- The [bombing](#) of the Saudi Shia mosque in Dammam on May 29.
- The New York City [bomb plot](#) and renewed [US airstrikes](#) in mid-June.
- The concurrent terrorist attacks in [France, Kuwait, and Tunisia](#) on June 26.
- The [executions](#) of Syrian soldiers in Palmyra and [US airstrikes](#) on July 4.
- The release of gruesome footage of the [Speicher Shia massacre video](#) on July 14.
- The car bombing in the largely Shia Iraqi town of [Khan Bani Saad](#) and attack on the [Egyptian Navy](#) on July 17.

Neutral-ISIS tweet volume, on the other hand, only spiked significantly following the release of the Muath al-Kasasbeh video and during the later part of the Tikrit offensive, while pro-ISIS

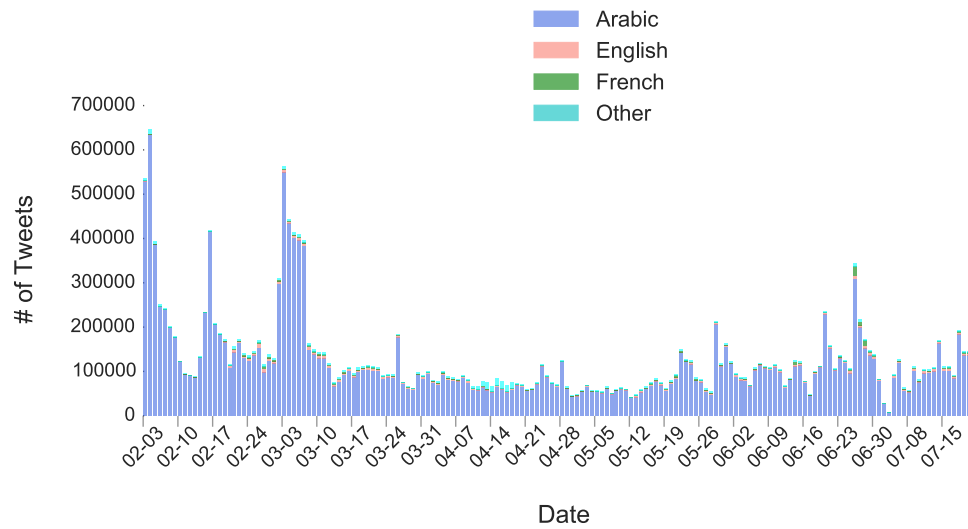
tweet volume spikes are only evident during the Tikrit offensive and following the release of the kill list in late March.



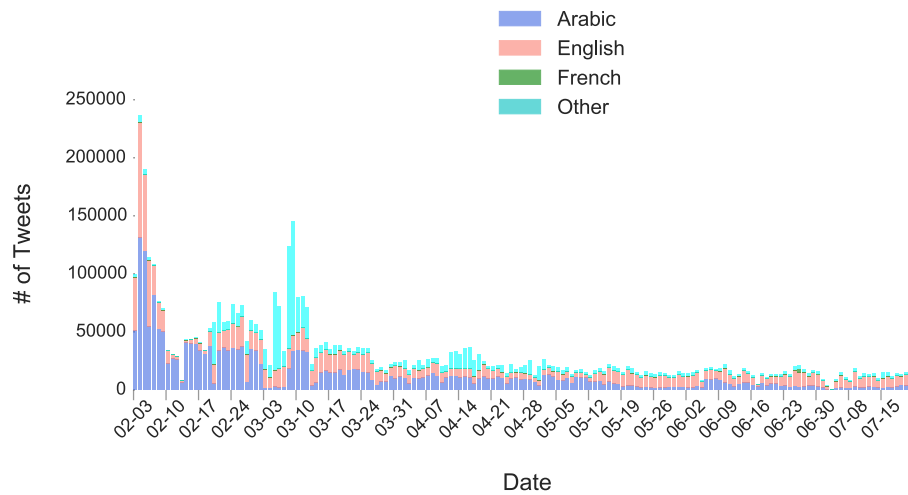
While this data suggests that the release of violent videos, taking of hostages, terror attacks, and military gains and losses may occasionally produce large spikes in the online discussion of ISIS, the vast majority of this content appears to be anti-ISIS or neutral. While [recent studies](#) suggest that videos and images involving the brutal killings of hostages and terror attacks or military actions on the ground are designed to produce a particularly large social media response and play an integral role of ISIS' online recruitment strategy of "[shock and gore](#)," much of this response may be quite negative. Moreover, in this period ISIS military victories seem no more likely to produce an online response than its defeats. ISIS' propaganda strategy depends on the perception that the group is winning (or at least remaining powerful) on the ground. Although this narrative is a common theme in ISIS' social media content, in aggregate it does not appear to be driving the conversation on Twitter.

In addition to enabling us to track fluctuations in the volume of ISIS-related tweets, this data also provides insight regarding the demographics of the global online discussion of ISIS. The vast majority of ISIS-related tweets are in Arabic, with smaller proportions of tweets written in English, French, and other languages. As the figures below indicate, only neutral-ISIS tweets—those that contain the English keywords "ISIS" and "ISIL" and "#IS"—have a significant portion of non-Arabic tweets.

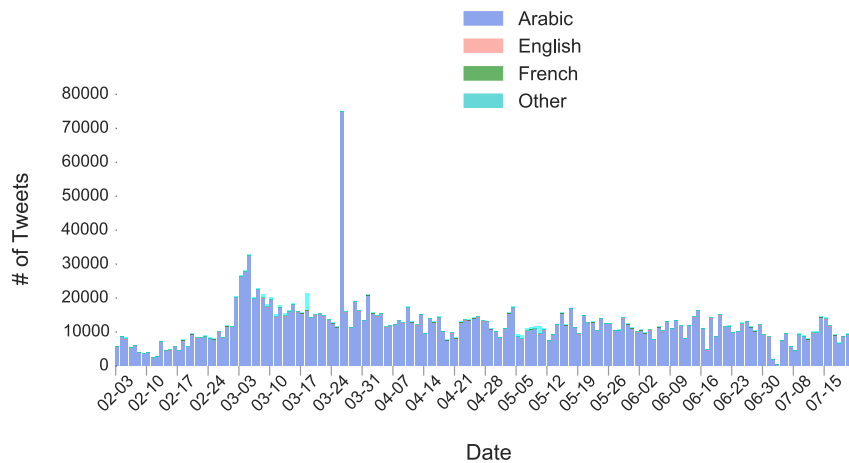
Daily Language Proportions of Anti-ISIS Tweets



Daily Language Proportions of Neutral-ISIS Tweets



Daily Language Proportions of Pro-ISIS Tweets

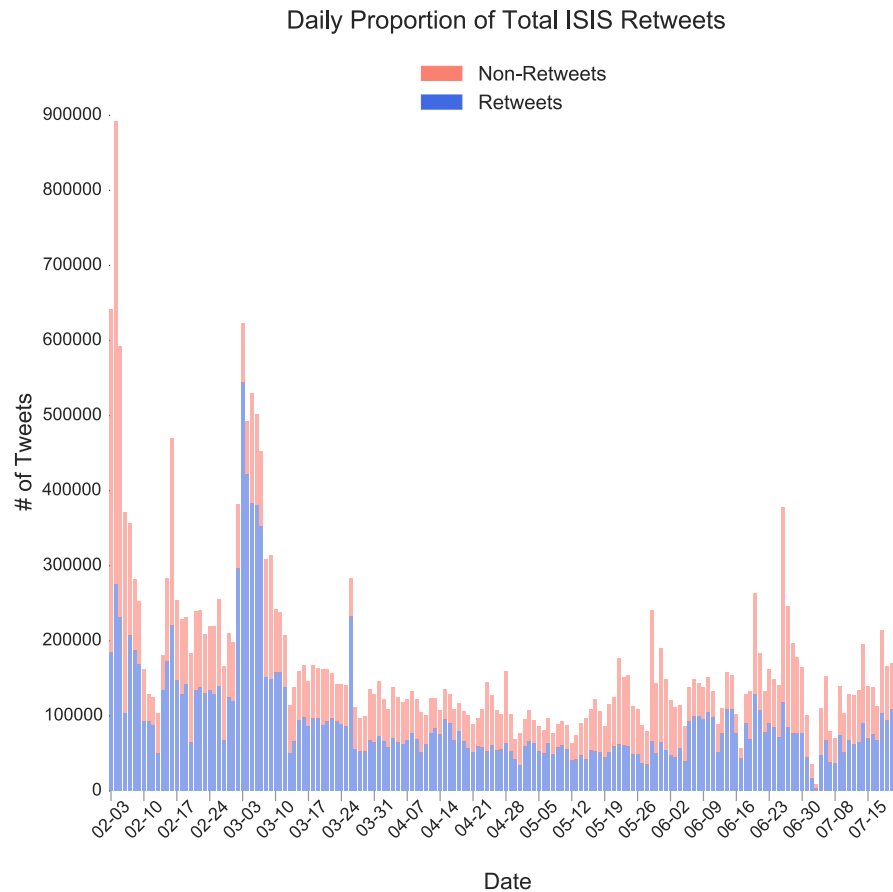


With regard to the locations from which these tweets are sent, while very few tweets are geolocated, many Twitter users fill out a location field that indicates the location from which they are tweeting. The most common locations by tweet type are as follows:

<b>Anti-ISIS</b>	<b>Pro-ISIS</b>	<b>Neutral-ISIS</b>
Saudi Arabia	Saudi Arabia	USA
Saudi Arabia, Riyadh	Saudi Arabia, Riyadh	London
Riyadh (Arabic)	Riyadh (Arabic)	Iraq
Saudi Arabia (Arabic)	Iraq	Washington, DC
Kuwait	Iraq (Arabic)	UK
The Saudi Arabian Kingdom (Arabic)	Islamic State (Arabic)	Global
Egypt	Sultanate of Oman (Arabic)	New York
Saudi	Kuwait	India
Kuwait (Arabic)	Egypt	Canada
KSA	Saudi Arabia (Arabic)	Australia

As the table above indicates, the vast majority of ISIS-related content is sent from Saudi Arabia, Kuwait, and Egypt—countries that have the highest Twitter penetration and largest Twitter-using populations in the Arab World, according to the most recent [Arab Social Media Report](#). Many of the users sending pro-ISIS tweets list Iraq and the Islamic State as their location of origin—a finding consistent with other [recent studies](#) of pro-ISIS Twitter users. As is reflected in the language distribution, many of the neutral tweets that contain keywords “ISIS”, “ISIL”, and “#IS”, are sent from Western countries.

In addition to examining the volume and demographic metadata of tweets in the collection, retweets can also provide us with information regarding the most disseminated content, the structure of ISIS-related online communication, and the degree to which Twitter users create their own content or simply broadcast that of other users. As the figure below demonstrates, 45% of ISIS-related tweets in this period occurred in the form of retweets rather than original content. When broken down by tweet type, on average, 45% of anti-ISIS tweets were retweets, compared with 60% of the pro-ISIS tweets, and 39% of the neutral-ISIS tweets.



Some examples of the most retweeted ISIS-related tweets in this collection broken down by sentiment category are as follows:

#### Anti-ISIS Retweets:

- *“The description applies to the devils #Da'ish. As the prophet says, ‘the corpses of those whose hearts are the hearts of the devil will be forgotten.’ God kills them and enough with these evil Muslims. #Da'ish burned the Jordanian pilot”* (Translated from Arabic)
- *“The intelligence of the ‘western countries’ depends on ‘Da'ish’ calling itself ‘Islamic State’ to attract thousands of extremists and complete the plan of ‘creative chaos.’”* (Translated from Arabic)
- *“The Muslim Brotherhood sheep Wagdi Ghoneim justifies Da'ish's brutal burning of Muath al-Kasasbeh, God be with him and the rest, Da'ash and the Brotherhood are two sides of the same coin.”* (Translated from Arabic)

- *“I wish I could call the elders of the Sunni and Shiite initiatives to pray in each other's mosques. Da'ish fights every society and not one sect #pray together initiative”*  
(Translated from Arabic)

### **Pro-ISIS Retweets:**

- *“#News of the Caliphate Media Office of the Province of Salah al-Din. The burning of the Savafids [derogatory word for Shia] in Salah al-Din Province <http://t.co/SSpIredoMR> <http://t.co/pyiK6gvxyv>”* (Translated from Arabic)
- *“Political leaders, military leaders...media representatives and analysts are in a state of shock and amazement. Despite the global war on the Islamic State it expands. Victory to he who is with God.”* (Translated from Arabic)
- *“Everyone who supports the announcement of the caliphate #retweet...public opinion poll....#Islamic State #Islamic Caliphate <http://t.co/BZi9vzTd0t>”* (Translated from Arabic)
- *“#Messenger of the caliphate. Pray for victory for all arms of the caliphate. Oh Allah, grant victory to the #Islamic State O, Allah, grant victory to the #Islamic State”*  
(Translated from Arabic)

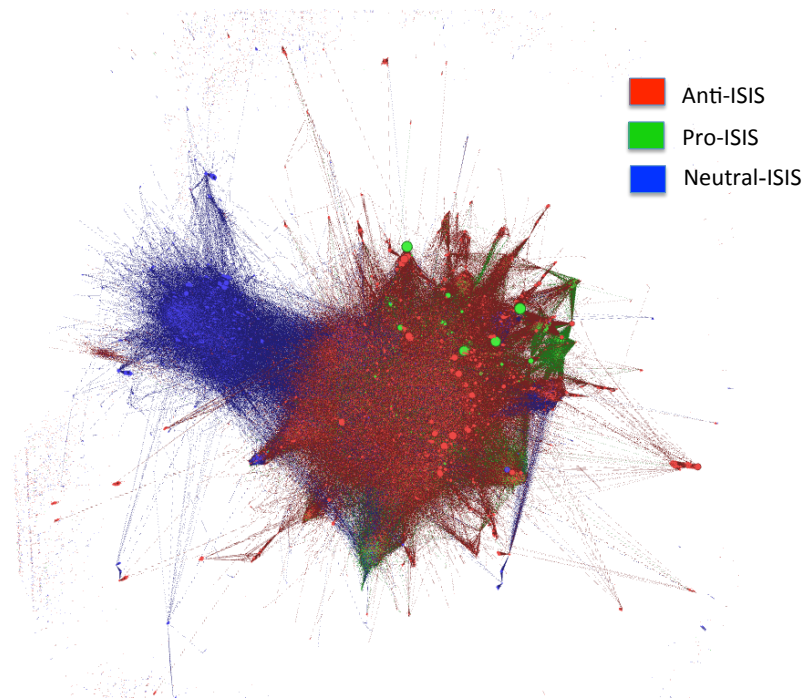
### **Neutral-ISIS:**

- *“The King of Jordan quoted Clint Eastwood in his response to ISIS burin' a man alive... Merica. <http://t.co/MGAVVoeaLs>”*
- *“Obama is busy appearin' at the Grammys. Meanwhile, the King of Jordan is bombin' the bacon out of ISIS. Priorities. Merica.”*
- *“Queen Rania says fight against Islamic State "not just Jordan's war but that of every Muslim" <http://t.co/OVbBmcCIdM> <http://t.co/ZBgsci6xke>”*
- *“Jordan: ISIS captive al-Kassasbeh was killed Jan. 3, month before today's video release. <http://t.co/4li3Vnf6eJ> <http://t.co/L9aPYemlfi>”*

As these popular retweets indicate, anti-ISIS tweets are not necessarily pro-Western nor are they guaranteed to reflect liberal ideologies. For example, anti-Muslim Brotherhood forces in Egypt frequently capitalize on ISIS activities to characterize all Islamists as terrorists. Others view the rise of the Islamic state as a western conspiracy to divide the Arab World. Pro-ISIS tweets often promote ISIS ideology and victories on the ground, while neutral-ISIS tweets seem to primarily capture reactions in the West and news coverage in Arabic and English. Because the release of the video of the Jordanian pilot Muath al-Kasasbeh was the most tweeted about event in this period, it appears quite frequently in the top anti-ISIS and neutral-ISIS retweets

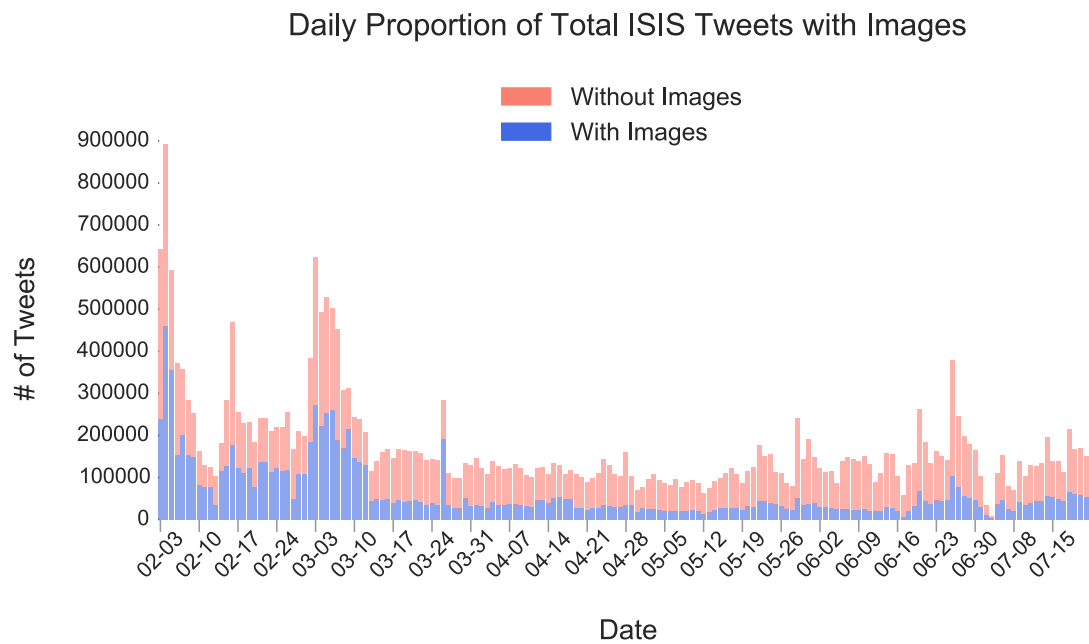
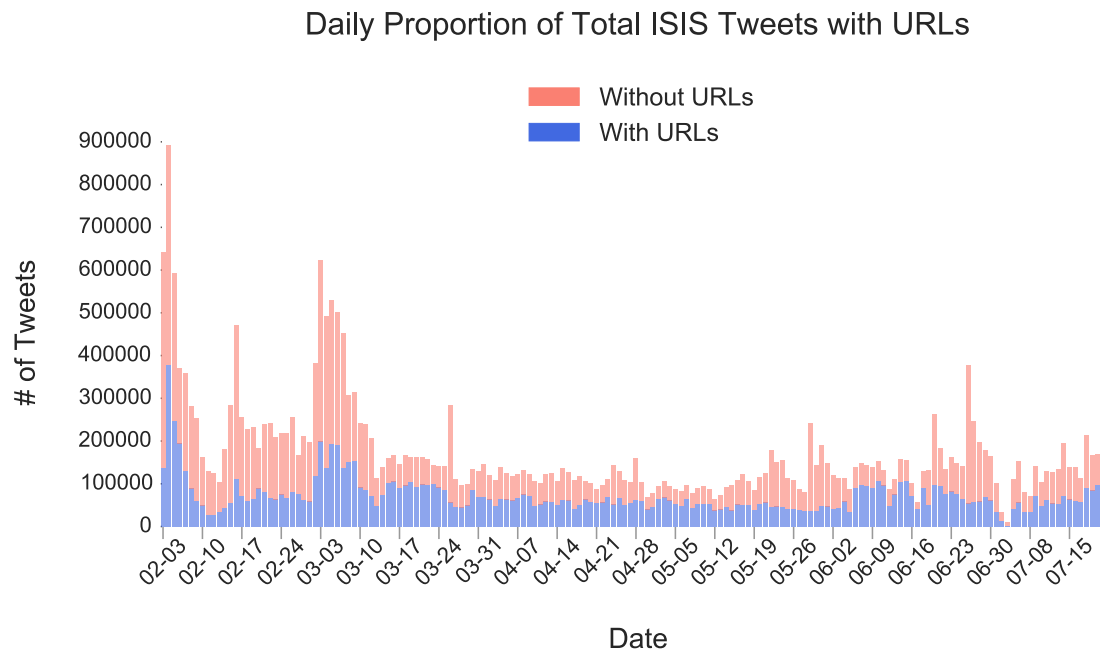
As the retweet network below indicates, while anti, pro, and neutral-ISIS tweets tend to be clustered together in the red, green, and blue sections of the network diagram respectively, there is significant overlap or intercommunication between Twitter users disseminating this diverse content. In this way, Twitter may act as an echo chamber to amplify extremist voices in the tightly clustered pro-ISIS and anti-ISIS communities, but it may also serve as a means of bridging the divide and exposing online users with different sentiments to one another's information sources and viewpoints. In the figure below, node sizes are determined by the indegree centrality of a retweet, or the number of users that retweet a particular tweet. The large green dots in the red anti-ISIS cluster suggest that pro and anti-ISIS users are engaging with one another's content.

ISIS Retweet Network



Finally, the proportion of tweets containing images and links in this period also demonstrates the manner in which particular IS-related content may spread online. As the figures below indicate, images and links are very common. On average 42% of tweets contain URLs and 37% contain images. When broken down by tweet type, 38% of anti-ISIS, 33% of pro-ISIS, and 61% of neutral-ISIS tweets contain images while 33% of anti-ISIS, 43% of pro-ISIS, and 52% of neutral-ISIS tweets contain web links. Given the violent and real-time nature of this content, it is unsurprising that images, links to news articles, and videos are present in a substantial portion of tweets in the dataset.





By providing simple descriptive statistics on changes in the volume, origins, and content of ISIS-related tweets over time, this preliminary analysis provides new insight into the structure and substance of ISIS-related communication online. While ISIS continues to successfully recruit supporters and spread its message through social media, this SMaPP dataset suggests that pro-ISIS online communication in response to violent videos, terrorist attacks, or events on the ground may be met by a much larger groundswell of anti-ISIS content. Despite this, in light of recent [crackdowns](#), a great deal of pro-ISIS online communications also occur through direct

messaging and other [private forums](#). In addition to circulating viral material, ISIS online strategy targets individuals [vulnerable to recruitment](#) through long-term, highly personal communication. As a result, while the volume of public pro-ISIS content Twitter content may be relatively low, it nonetheless remains very [influential](#).

Although current [international efforts](#) to counter ISIS online have been fairly ineffective, and countering ISIS’ powerful narrative also involves changing realities on the ground, perhaps tapping into the extensive global network of anti-ISIS “tweeps” may be of some value. While anti-ISIS content is quite diverse and does not necessarily reflect the counternarrative that western policymakers hope will gain traction, observing the structure and content of organically generated anti-ISIS Twitter networks may provide key insights for dampening ISIS’ success in its ongoing battle for the global Twittersphere.

## APPENDIX:

Anti-ISIS Keywords		Pro-ISIS Keywords		Neutral ISIS Keywords	
Original	Translation	Original	Translation	Original	Translation
daesh	Neg. ISIS Acronym	tatamaddad	ISIS Slogan	islamicstate	NA
daish	Neg. ISIS Acronym	baqiya	ISIS Slogan	#is	NA
da'ish	Neg. ISIS Acronym	baaqiya	ISIS Slogan	isil	NA
دواعش	Neg. ISIS Acronym	khilafa	Caliphate	islamic state	NA
داعش	Neg. ISIS Acronym	خلافة	Caliphate	isis	NA
		تتمدد	ISIS Slogan		
		باقية	ISIS Slogan		
		الدولة الإسلامية	Islamic State		
		الدولة الإسلامية	Islamic State		

Report written by [Alexandra Siegel](#).

Contact: Alexandra Siegel ([aasiegel@gmail.com](mailto:aasiegel@gmail.com)) or Professor Joshua A. Tucker ([joshua.tucker@nyu.edu](mailto:joshua.tucker@nyu.edu))