What can microblogging tell us (scientists) about how we tell them (the world) about science? A hashtag crawl analysis of #marinescience, #climatechange, and #ecosystemservices

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The "us versus them" dichotomy has long existed, to the detriment of fully functioning, well-informed society's the world over. It is therefore easy to understand why, and how, scientists often find themselves apart, and not a part, of current events and exchange. This is certainly beginning to change, as the last decade has seen an exponential rise in the use of information as currency and an explosion of social media networks. These interactions of science and the public become increasingly blurred on social media sites and it is in these spaces that scientists CAN thrive, bridging gaps of understanding through engagement, and improving access to scientific information and findings. Effective use of these networks requires time and effort, and this sometimes puts unnecessary pressure on scientists to make science provocative, but it should really be viewed as a way for researchers to explain the importance of their work. All of us suffer from intense demands on our time, but one can still communicate with a large audience using micro-blogging, which is fast, easy, and cheap.

I propose that an analysis of commonly used hashtags can teach us more about the networks of people that are communicating about these issues, and thus enable scientists to engage more effectively. I used a search to extract data about who is using the hashtags #marinescience, #climatechange, and #ecosystemservices, what information they are tagging with it, and who is reading the tagged information. Initial results indicate that amongst those search terms, #marinescience was the least mentioned by Twitter users. In fact, out of 310 million active monthly accounts on Twitter only 222 were tweeting about marine science during the week of data collection. There were also more accounts talking about #marinescience than there were connections between those accounts. This creates a space for scientists to analyse, engage, and direct their communication, whilst still maximising the reach of that communication through the use of social media. The top 35 accounts in the #marinescience crawl alone have over 4.3 million followers, or 1.4% of Twitter users engaged in discussions about marine science.

Networking platforms are dynamic, and a search of the same hashtags from one week to another may not yield the same results, so repeated measure analysis could be one way that we assess the cycles of information moving through social media. Taking the time to look at social media reach and connectivity can tell one a lot about who is talking to whom, where the large hubs of information can be found, what else besides the original search term these users are talking about, and lastly, where the gaps in communication are. One can then use this to target and direct information sharing, fill in those gaps, creating connections where they could not be found before, expanding the reach of marine science across a potential network of 310 million users. All for a simple 140 character micro-blog on a free, accessible, worldwide network.