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Climate Change Perception According to Twitter: A Network Analysis

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Introduction

Background

Understanding perception about Climate Change is important from a practical perspective, because it is related to the environment we live in and the health of the planet. Although there is an extensive literature, theoretical and empirical on Climate Change, we attempt to get an insight into twitter users' perception about Climate change and global warming to identify the popularity of the terms and how they are used.

Questions

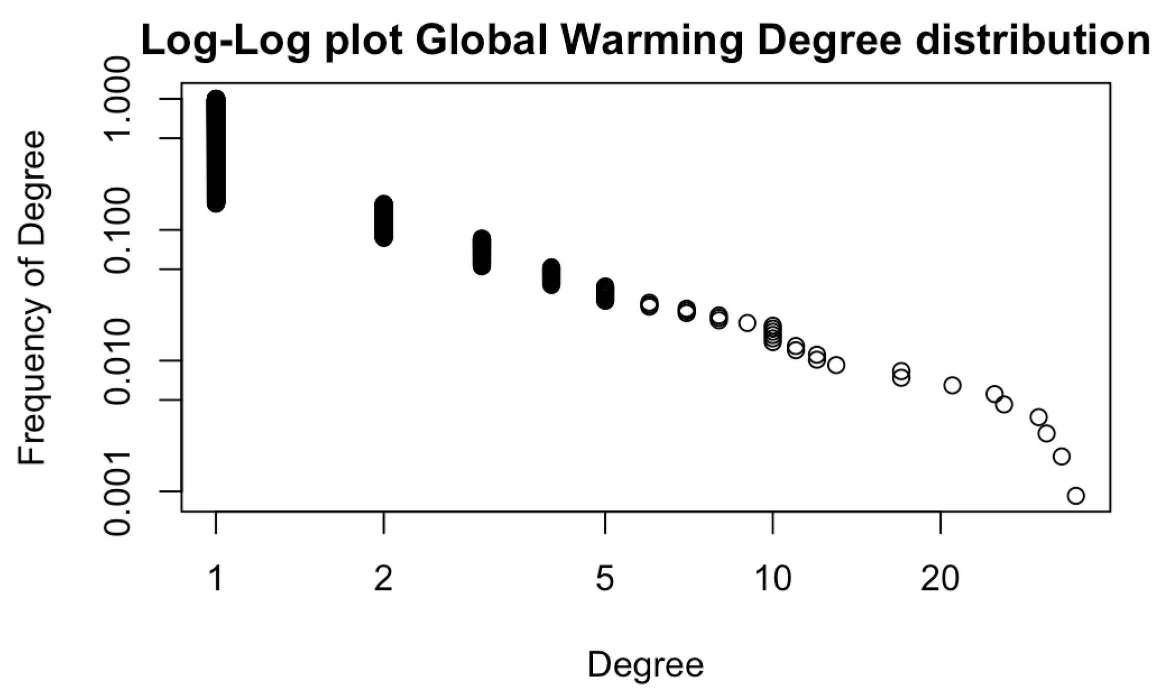
A: Which are the hubs of the news sources in the network of the tweets that these users refer to?

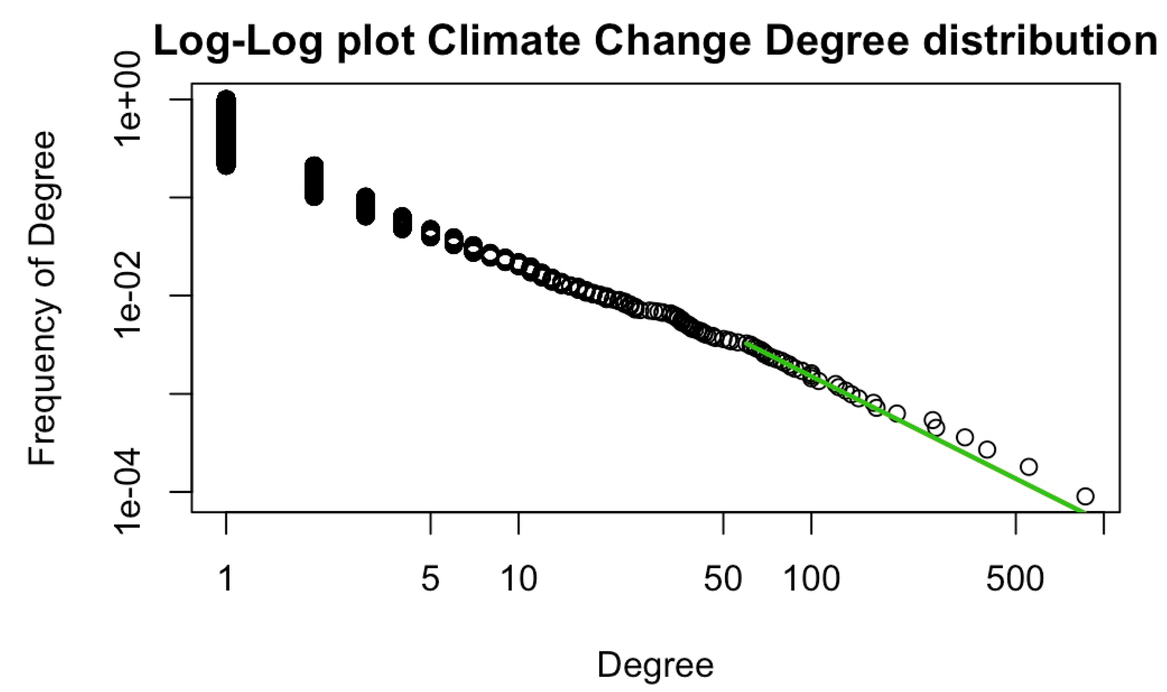
B: Is fake news more contagious amongst twitter users who use the term Global Warming or those who use the term Climate Change?

Data

Data from Social Feed Manager George Washington University Library
Streamed all tweets with Keyword Climate Change or Global Warming
Dates: 2/15/2019 – 3/7/2019

Total Tweets	Climate Change 110984	Global warming 5284
Retweets(min, 25%, 50%, 75%, max)	0,1,11,99,18730	0,0,2,22,867
favorites (min, 25%, 50%, 75%, max)	0,0,0,0,4493	0,0,0,0,170
original, quote, reply, retweet (proportions)	26%, 1%, 2%,71%	36%, 2%, 4%, 58%
Reliable link (reliable, unreliable)	98%, 2%	92%, 8%

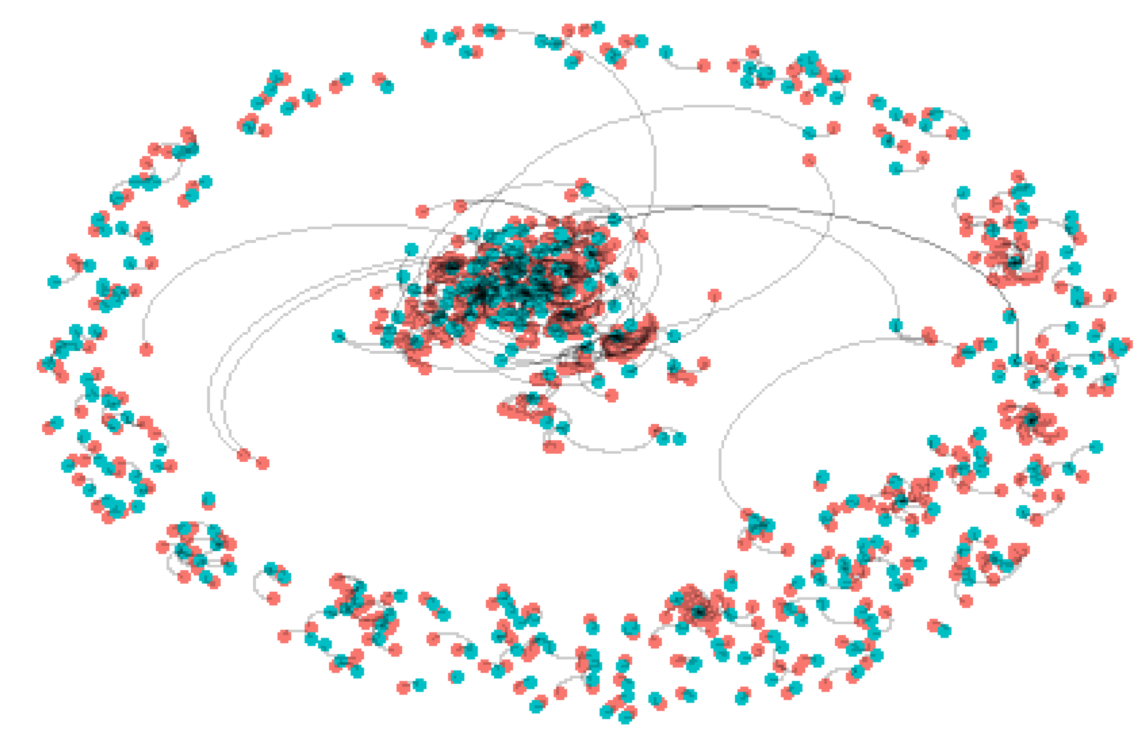




George Washington University Libraries (2016). Social Feed Manager. Zendo. https://doi.org/10.5281/zendo.597278

Analysis

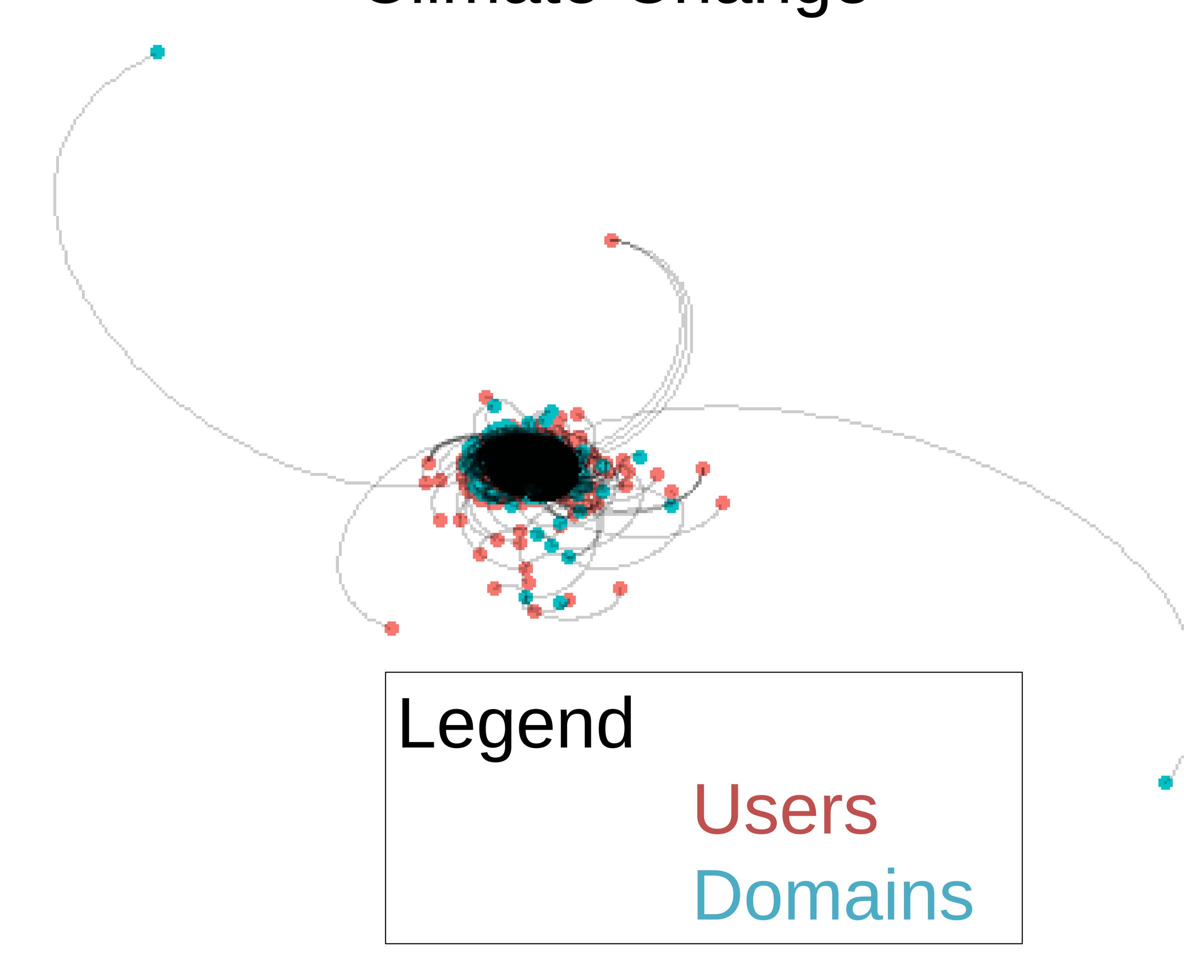
Global Warming



Global Warming	weighted indegree	weighted outdegree	Weighted Degree
min	0	0	1
25%	0	0	1
50%	0	1	2
75%	1	2	2
max	61	106	106
mean	1	1	3
mode	0	1	1

Density: 0.000734

Climate Change



Climate Change	weighted indegree	weighted outdegree	Weighted Degree
min	0	0	1
25%	0	0	1
50%	0	1	2
75%	1	2	2
max	2119	2217	2217
mean	2	2	5
mode	0	2	2

Density:0.010527

Findings

A. Top domains based on in-degree
- Climate Change: Guardian, NY Times, Reuters, Morgan Stanley, Independent
- Global Warming: Brietbart, Guardian, Reuters, USA Today, Quanta Magazine

B. Climate Change is used more than Global Warming
- For both most links are to reliable sources
- T-test of proportion: statistically significant more unreliable links in Global Warming than in Climate Change