Myth – a widely held but false belief

# Using the Powers of Geographic Information and GIS to Expose the Myth of 'Misinformation'

**Special Report** 

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# **1. Background to Using the Powers of Geographic information and GIS to Expose the Myth of 'Misinformation'**

The IRB Inc. research program began three years ago, and 'misinformation' is a consideration in a number of productions which are designed from the perspective of science as a way of knowing. (**Endnote 1**)

Pilot study themes include:

- Establishing through the ways of knowing test that 'misinformation' has nothing to do with information. (See <u>The Inescapable Truth about Disinformation and</u> <u>Misinformation? They have NOTHING at all to do with Information</u>)
- Arguing that Internet platforms are in large part responsible for the 'misinformation' pandemic because of the visibility they give to a term which is concocted nonsense (Endnote 2);
- Surveying Speakers of Canada's legislative assemblies about the use of the term 'misinformation' in parliamentary discourse (**Endnote 3**);
- Raising concerns about the negative financial, social, political, governance, communications, health, medical, economic, environmental, national security, criminal, and other consequences of the 'misinformation' pandemic; and,
- Identifying the term 'fauxinfo' as an antidote to counter the 'misinformation' pandemic which is a state of mind spawned primarily in the United States through an unfortunate mix of its standing as home base for the most powerful and far-reaching Internet platforms and, over the past four or so years, seemingly the country of origin for more statements subject to being labelled 'misinformation' than the rest of the world combined. (Endnote 4)

IRB projects are continuing within those themes. However, one changed circumstance in particular suggests that the time is propitious for a side trip in research design from the perspective of science, to an examination of the role of myth in spawning and promoting the 'misinformation' pandemic.

The driving circumstance behind the shift from the science to myth on the topic of 'misinformation' is the removal of Donald Trump as U.S. president.

Trump and his acolytes are directly credited with making thousands upon thousands of 'misinformation' statements, which in turn generate multi-multi-thousands of additional 'misinformation' statements, which are published and re-published within days of

utterance. Moreover, for weeks, and months afterwards, they continue to be published by social and broadcast media, list serves, webpages, etc.

Prior research suggests that the near-totality of statements of any kind by Trump and acolytes have little or nothing to do with science, and little or nothing to do with information. (**Endnote 5**). Consequently, and in the absence of found evidence to the contrary, it appears fair to suggest that Trump and acolytes were and are in the business of generating and disseminating myths as opposed to truths.

That is, if their statements are not based on truth as determined by science, then by definition the statements serve and promote beliefs based on false ideas.

As for the ways of knowing that produce those false ideas, they include but are not limited to intuition, revelation, authority, and everyday experience, each of which is a fertile spawning ground for myths. (**Endnote 6**)

Whether Trump being deposed as U.S. president will make significant differences in the generation and dissemination of 'misinformation' statements remains to be seen.

However, with a possible reduction in the media coverage of his utterings and those of his acolytes, this may be a window of opportunity, a relatively quiet moment to be seized so to speak, by addressing how myth is at the core, the medium if you will, of the 'misinformation' pandemic. (**Endnote 7**)

And a conditional tone is used advisedly. Any respite notwithstanding, it is clear from social and broadcast media reports, and feedback from other researchers in regard to previous reports, that exposing the myth of 'misinformation' will be a challenging slog.

Moreover, while exposing the myth will be difficult, it will likely be even more difficult to combat what is increasingly referred to as a 'misinformation' pandemic.

However, we believe that this game is worth the candle, so to speak, and that we have what is proposed to be two formidable tools to use for this mission.

Feedback on a previous publication – <u>The Inescapable Truth about Disinformation</u> and <u>Misinformation</u>? They have NOTHING at all to do with Information – points to using geographic information, and geographic information systems (GIS), as the means to expose the false ideas underlying the myth of 'misinformation'. Further, geographic information, and geographic information systems (GIS), are perceived as a potential catalyst for promoting the use of terminology which counters the 'misinformation' pandemic that is having massive, negative impacts on communications involving individuals as well as institutions, organizations, associations, etc.

### 2. Using Geographic Reality to Counter the Myth of 'Misinformation'

As the reader may be aware, reality is a counter to myth, and feedback on existing productions confirms using geographic reality as the catalyst for the design of this report to expose the myth of 'misinformation'.

Geographic reality, along with the reality of time, is a reality experienced by every sentient human above the age of, let us say, three months. Moreover, space and time are the only realities which are shared by everybody and everything.

Or, to re-phrase at the risk of over-stating the case, only the reality of geography – the where factor – and the reality of time – the when factor – apply to anything and everything on Planet Earth.

In this report we use the reality of geography to demonstrate what information means, and to expose the myth of 'misinformation'.

Briefly stated, we begin with the geography of the real world, represent that geographic reality by geographic data, and use geographic data as a basis for deriving geographic information which, by using techniques of analysis and synthesis, may be turned into geographic knowledge. The transform process is illustrated in Figure 1.



Upon establishing that geographic information is the real deal, we consider what 'geographic misinformation' might mean.

Specifically, if 'geographic misinformation' is not the stuff of myth, and is in fact the real deal, then logic dictates that it should be subject to going through the same geographic reality  $\Rightarrow$  geographic data  $\Rightarrow$  geographic information  $\Rightarrow$  geographic knowledge transformation process shown in Figure 1.

And, conversely, if 'misinformation', whether it is geographic 'misinformation' or any other kind of 'misinformation' cannot successfully go through the same process, then it has nothing to do with information depicting a real phenomenon. Rather, by definition 'misinformation' would be a myth, that is, a belief based on a false idea.

The research task, therefore, is to ascertain if geographic 'misinformation' can be exposed as a myth because it has no substantive structural, functional, logical or any other kind of connection to geographic reality, and, consequently, it cannot be used to produce geographic data, geographic information, and, ultimately, geographic knowledge. (**Endnote 8**)

That being the case, since one of the two common realities known to the human race cannot be described by 'geographic misinformation', then it follows that the idea of 'misinformation' is false, and is a myth if the belief is widely held.

Further, by definition, any belief based on 'misinformation' is based on myth that is, it is based on a false idea, and so it is also a myth if widely held. (**Endnote 9**).

As noted above, in a previous report I used a science-based approach to distinguish between information on the one hand, and 'misinformation' and 'disinformation' on the other hand. (See <u>The Inescapable Truth about Disinformation and Misinformation? They</u> have NOTHING at all to do with Information)

Sections from that report are repeated here because the attributes of geographic reality, geographic data, geographic information, and geographic knowledge in science are the same attributes which are used in this report to expose the term 'misinformation' as myth.

#### A. Representing and Illustrating Geographic Reality

There are various ways to virtually demonstrate geographic reality. For those who might enjoy a travelogue style video, imagine what Australian Geoff Mack was thinking when he went through an atlas of North America and crafted "I've been everywhere" (which is 'brought to life' by talents such as Johnny Cash and Hank Snow, https://www.youtube.com/watch?v=ov4epAJRPMw; and, <u>https://www.youtube.com/watch?v=\_oqzy8HU6dQ)</u>,or what motivated Stompin' Tom Connors' in writing his songs about people, things, and their places, such as his Canadian classic "Sudbury Saturday Night" <u>https://www.youtube.com/watch?v=Dw7rzpvDvS0</u>).

For those not into music, a selection of photographs, images, and maps in Figure 1 illustrate some of the many aspects of geography which are likely known to every reader of this report.

And, I expect, they are likely known to anyone who has watched weather reports or the news, or personally experienced the reality of geography by engaging in such activities as walking, riding a bicycle, riding in a car, bus, train or plane, digging a garden, cutting the grass, paddling a kayak, shopping, shovelling snow, going for a COVID-19 test or vaccine, or playing hockey, soccer, or skiing.

#### Figure 2. Virtual Representation of Geographic Reality through Images



# B. Representing Geographic Reality by Geographic Concepts and Geographic Data

The graphics presented in Figure 2 can serve as data but, in the spirit of dealing with statements that are typically based on text and numbers, we begin that process with Table 1 and a short list of geographic concepts that apply to the materials in Figure 2.

•			-
Accessibility	Distribution	Location	Scale
Adjacency	District	Lot	Section
Area	Edge	Margin	Segregation
Block	Elevation	Migration	Shape
Border	Encroachment	Morphology	Site
Boundary	Environs	Movement	Situation
Buffer	Far	Near	Slope
Center	Flow	Neighbourhood	Space
Centrality	Fringe	Network	Spatial
Circle	Function	NIMBY	Sphere
Closeness	Geometry	Node	Sprawl
Cluster	Grid	Orientation	Spread
Commutershed	Gridlock	Origin	Strip
Compactness	Habitat	Parcel	Structure
Concentration	Hinterland	Partition	Surface
Concentric	Integration	Path	System
Congestion	Intensification	Pattern	Territory
Connectivity	Interaction	Pedshed	Topography
Contiguity	Intersection	Perimeter	Topology
Core	Island	Periphery	Walkway
Crossing	Isolation	Place	Walkshed
Density	Land	Proximity	Ward
Destination	Landscape	Quadrant	W
Diffusion	Lane	Region	Where
Dispersion	Line	Right-of-way	YIMBY
Distance	Link	Route	Zone

# Table 1. A Selection of Concepts Used in Geographic Research toDerive Geographic Information and Geographic Knowledge aboutSpatial Relationships among People, Places, and Things

I hasten to emphasize that Table 1 is only tip-of-the-iceberg when it comes to illustrating the reality of geography.

In brief, geographic reality consists of many hundreds of concepts and many thousands of variables.

As an illustrative example of its omnipresence and diversity, consider the geographic reality of municipal governments. Seemingly unknown to many citizens, at least 80 per cent of the files of any municipal government include geographic components, elements, and attributes. Or, to paraphrase Geoff Mack, "Geography is everywhere, man, everywhere".

The concepts in Table 1 are comprised of location-related variables, and the variables in turn are characterized by data elements and data items, that is, observations, measurements, etc., which describe the variables.

The data record presented in Figure 3 is one among the many millions that represent the geographic realities depicted in Figure 2 and the geographic concepts presented in Table 1.

What we have in Figure 3 for illustrative purposes, is a report of weather data recorded for a station, one of thousands of such stations across Canada and the world.

If retained for a lawsuit (collision, slip-and-fall, flood, etc.,) that arises due to a weather event, an expert witness could assemble every hourly and daily record for a particular week or month for one or more stations going back one, two or 10 years if needed, and apply analytical techniques to those data in order to derive a body of information to use in an expert opinion.

The purpose of the body of information could be to establish, for example, what a municipal government or other agency could have known and should have known prior to a weather event, and taken appropriate preventative measures to prevent or minimize injuries or deaths to people, and/or damage to property.

Having established that there is rigor behind building a database to derive geographic information, it may be instructive to note that the same comments made thus far with reference to data representing geographic reality are equally applicable to establishing whether reality is the basis of any statement that uses the term 'misinformation'.

#### Figure 3. An Example of a Data File Representing One of Millions of Aspects of Geographic Reality

Daily Data Report for November 1929											
WHITE ROCK CAMPBELL SCIENTIFIC BRITISH COLUMBIA											
Latitud	<u>de</u> :	49°01	05.000" N	Longitu	<u>ıde</u> :	122°47	'02.000" W	Elevat	tion:	13.00 m	
Climat	e ID:	11089	10	WMO II	2:	71785		<u>TC ID</u> :		WWK	
← Pre	Related Data Additional Search Options Download Data   Monthly Data (1929) Nearby Stations with Data Daily Data (1929)   Historical Data Search © CSV © XML © Metadata(txt)   Download Data Get More Data   Go Next Month -							data(txt)			
DAY	<u>Max</u> Temp ℃	<u>Min</u> Temp ℃	Mean Temp °C	<u>Heat</u> Deg Days	Cool Deg Days	<u>Total</u> <u>Rain</u> mm	<u>Total</u> <u>Snow</u> cm जिन्न	<u>Total</u> <u>Precip</u> mm	Snow on <u>Grnd</u> cm	<u>Dir of</u> <u>Max</u> <u>Gust</u> 10's deg	<u>Spd of</u> <u>Max Gust</u> km/h ्राम्र
01	10.0	6.7	8.4	9.6	0.0	0.5	0.0	0.5			
02	13.9	5.6	9.8	8.2	0.0	0.0	0.0	0.0			
03	14.4	2.8	8.6	9.4	0.0	0.0	0.0	0.0			
04	11.1	3.9	7.5	10.5	0.0	0.0	0.0	0.0			
05	8.3	3.3	5.8	12.2	0.0	0.0	0.0	0.0			
06	12.8	2.8	7.8	10.2	0.0	0.0	0.0	0.0			
07	11.7	0.6	6.2	11.8	0.0	0.0	0.0	0.0			
08	9.4	0.6	5.0	13.0	0.0	0.0	0.0	0.0			
09	13.9	6.1	10.0	8.0	0.0	6.6	0.0	6.6			

Or, to re-phrase, is the statement containing the term 'misinformation' made up, a work of fiction, a pile of nonsense, something pulled from thin air, a figment of someone's imagination, etc., and, hence, not grounded in reality?

The critical point is that if a statement cannot meet the data test whereby reality is represented by data, then the statement is not based on facts. And, as noted above, belief in a false idea has the potential to mean belief in a myth.

Moreover, in all these data recording cases, the process of transforming geographic reality to geographic data can be reversed, that is, geographic data can be tracked back to geographic reality.

However, and further in that vein, no evidence could be found of any attempt to reverse the process and validate a 'misinformation' claim by deconstructing a statement and tracking the 'misinformation' claim back through data to reality.

Similar to the argument made above, if 'misinformation' – whatever it is purported to be – cannot duplicate the forward process from reality to data and information, and the reverse process from information to data and back to reality, then whatever is claimed to be 'misinformation' is myth.

Many hundreds of literature searches failed to locate even one study that mentioned trying to validate a 'misinformation' claim, much less providing evidence of having achieved validation.

Or, to re-phrase, numerous literature searches failed to locate even one study in which statements about 'misinformation' are based on data grounded in reality.

What we can have then, is a major disconnect right from the start between reality and 'misinformation', and that disconnect fits the descriptor of a myth to a "T".

In brief, people who believe statements that are not grounded in reality by representative data are candidates to believe in myths. That is, if they believe in false ideas rather than in the data that actually represent reality, and can be validated to represent reality, then logic is not their strong suit and there may be a compelling inclination to buy into whatever false ideas and myths catch their attention.

#### C. Transforming Geographic Data to Geographic information

In the next phase of the testing process, information is derived from data using techniques of analysis or synthesis appropriate to the task. For example, in the traffic field tasks involving counts, surveys, etc., which produce geographic data that can be the basis of geographic information include:

- Citation counts
- Classification counts
- Gap studies
- License plate surveys
- Pedestrian surveys
- Speed surveys
- Traffic Act violations
- Traffic incident trends
- Turning movement surveys
- Volume surveys (traffic counts)
- Need for warrants counts

In all cases, geographic reality is represented by details about the locations where observations are made and data are collected. The locations could be coded according to street names, intersection legs, crosswalk directions, traffic signal numbers, bus stop numbers, screen line numbers, GPS coordinates, etc.

A commonality of those tasks is that data are collected, which means that the entirety of the task process from start to finish is subject to scrutiny and validation, which is very important in the event that errors are made at any stage in the task process. **(Endnote 10)**:

Information derived from analysis of these data includes:

- Index ratings of intersections for pedestrians' safety
- Locations of intersections in need of speed cameras
- Streets in need of traffic calming measures
- Changes in trip generation rates
- Changes in trip types
- Changes in induced travel volumes
- Changes in travel patterns
- Need for congestion pricing
- Locations needing ped-controlled crossing signals
- Locations in need of changes to ped crossing times
- Locations in need of increased enforcement presence
- Intersection rankings according to number of collisions
- Vision Zero program status and progress.

In all these cases the process of transforming geographic reality to geographic data to geographic information can be reversed, that is, geographic information can be tracked back to geographic data, and geographic data can be tracked back to geographic reality.

No evidence could be found of any attempt to reverse the process and validate a 'misinformation' claim by deconstructing a statement and tracking the 'misinformation' claim back through data to reality.

Similar to the argument made above, if 'misinformation' – whatever it is purported to be – cannot duplicate that process, then whatever is claimed to be 'misinformation' is myth.

Many hundreds of literature searches failed to locate even one study that mentioned trying to validate a 'misinformation' claim, much less providing evidence of having achieved validation.

Or, to re-phrase, numerous literature searches failed to locate even one study whereby statements about 'misinformation' are based on information derived from data representing reality of any kind.

What we have then, is a major disconnect between reality and 'misinformation', and once again that disconnect fits the term myth to a "T".

That is, on the one hand people can believe statements which are based on reality, and the data and information representing reality. Or, on the other hand they can believe false claims, false assertions, tall tales, made up stuff, etc., which are the stuff of myth.

#### D. Transforming Geographic Information to Geographic Knowledge

As the reader may appreciate, proceeding to the geographic knowledge phase means recalling all the preceding arguments, and then adding materials about exploratory and confirmatory research undertaken to modify existing bodies of geographic knowledge, and/or to add new geographic knowledge to new or existing bodies of geographic knowledge.

Table 3 lists a selection of geographic research methods and techniques used to transform geographic reality to geographic data, geographic data to geographic information, and geographic data or geographic information to geographic knowledge.

# Table 3. A Selection of Geographic Research Methods,Techniques and Tools Used to Transform Spatial Reality toSpatial Data, Spatial Information, and Spatial Knowledge

Aerial photo interpretation	Image analysis
Change detection mapping	Impact assessment
Climate change monitoring	Interactive mapping systems
systems	Internet GIS
Cluster analysis	Location analysis
Data conversion processes	Models of spatial point pattern
Data models	processes
Decision support information	Network analysis
systems	Optimization techniques
Digital elevation models	Parametrization of spatial density
Digital mapping	functions
Distance decay mapping	Pattern analysis
Enterprise geographic information	Proximity analysis
system	Regional information systems
Factor analysis	Relational database mapping
Geo-coding	systems
Geographic information systems	Satellite remote sensing
Geo-mapping	Spatial autocorrelation
Geospatial data extraction tools	Spatial allocation models
Geostatistics	Spatial decision support systems
Global positioning systems	Urban data models
Graph theory	Urban density functions
Hazard mapping	Urban information systems

Based on numerous literature searches over five decades of research, I have encountered thousands of substantive studies using these and other research methods and techniques to make connections between geographic information and geographic knowledge.

However, I do not recall encountering studies which make any connection of any kind between 'misinformation' and geographic knowledge, or any kind of knowledge for that matter, much less any studies that use research processes that can be validated.

The general finding, therefore, is that 'geographic misinformation' must be a myth, because it has no substantive structural, functional, logical, or any other kind of

connection to geographic reality which, along with time, is one of only two realities shared by every person and thing on Planet Earth.

That being the case, we are led to ask the question,

If geographic 'misinformation' is myth, is there any kind of 'misinformation' which is not myth?

Numerous searches did not locate any 'misinformation' which is not the stuff of myth, so we conclude this section with the observation that all kinds of 'misinformation' must be myth. We await being informed to the contrary by reality-based evidence.

## 3. The GIS "Litmus Test" for 'Misinformation'

The term "litmus test" is widely recognized as a short form reference to a decisively indicative test. In this research task there is a litmus test which decisively distinguishes between geographic information and geographic 'misinformation, and further confirms the proposition of relegating 'misinformation' to the realm of myth.

Much of the real-world power of geographic information is due to how geographic information systems (GIS) produce geographic information and make geographic information available to governments, businesses, enterprises of all kinds, institutions of all kinds, associations of all kinds, and researchers, individuals, and so on with interests related to the contents of Figure 1, Figure 2, Figure 3, or Table 1, Table 2, or Table 3.

As documented by the Urban and Regional Information Systems Association (URISA), the contents of the preceding tables and figures are due in large measure to developments and advancements over the past 50+ years the field of GIS science and technology. (Endnote 11)

Figure 4 is one of thousands of graphics developed over the decades to illustrate how GIS science and technology serve the transform process outlined in Figure 1, as well as all the functions, activities, applications, etc., identified in the other tables and figures which, it cannot be over-emphasized, are integral to transforming geographic reality to geographic data, then to geographic information, and then to geographic knowledge.

For the purposes of this paper the graphic chosen for Figure 4 is the cover of a 2008 PowerPoint slide presentation to the Ottawa Chapter of Sigma Xi, the Scientific Research Honor Society ( $\Sigma \Xi$ ) for scientists and engineers which was founded in 1886 at Cornell University. This graphic serves several important purposes. First, it appears fair to say that the invitation to make a presentation to scientists, engineers, and other notables at Canada's National Research Council confirmed that geography, geographic data, geographic information, and geographic knowledge, along with GIS science and technology, are known to be the real deal.

Second, examination of my notes did not reveal even one reference to 'misinformation' as a matter to be considered much less mentioned in my presentation. As those familiar with Sigma Xi may appreciate, that audience would likely have given very short shrift to going off on a tangent into the false idea-based, mythical world of 'misinformation'.

The 2008 presentation therefor serves as a very useful context for comparative purposes. That is, we were in serious geographic and GIS science and technology territory, but to my recollection just a dozen years ago 'misinformation' was hardly a blip on the horizon, and certainly not a phenomenon of pandemic proportions.

#### Figure 4. From NASA Satellite Images (1966) to Google Earth (2008): Geography, Geomatics and GIS Have Come a Long Way



https://www.slideshare.net/wellarb/from-nasa-satellite-images-1966-to

In the absence of current national and international inventories of GIS installations, I asked Gordon Plunkett, an expert in the field, if he could assist with several approximations. (Endnote 12). They are as follows:

- Our estimates of GIS installations are 14,000-19,000 in Canada, 165,000-215,000 in the U.S., and in excess of 1,000,000 worldwide. (Endnote 13)
- Our estimates about the number of geographic 'misinformation' systems in Canada, the U.S., and internationally are zero, zero, and zero, respectively.

The bottom line point is that while geography along with time is the only reality common to everyone and everything on Planet Earth, nothing is found in the literature about a geographic 'misinformation' system installation anywhere, no one in my circle of GIS expertise has any knowledge of a geographic 'misinformation' system installation, and Mr. Plunkett, who has work experience at the local, national, and international levels in the GIS field, is not aware of even one geographic 'misinformation' system installation.

The finding of consequence, then, is that by bringing GIS into the exposé we apply a litmus test which establishes that geographic information is the real deal, that geographic 'misinformation' is myth and, by extension, 'misinformation' is myth because it has no connection to geographic reality which, along with time, is one of Planet Earth's two abiding realities.

All that said and done, however, it remains that the term 'misinformation' is still in circulation, and will likely remain in use by some persons and entities, even when alternative terms are brought into play. This issue is discussed in Section 4.

## 4. Proposing the Term 'Fauxinfo' and Other Alternative Terms to Combat the 'Misinformation' Pandemic

In this section we propose options to the term 'misinformation' for two reasons in particular. First, its public presence perpetuates a false idea, a myth, that it has anything to do with information. And, second, continued use of the term contributes to the 'misinformation' pandemic and its numerous negative impacts as a result of miscommunications.

By way of background to introducing the term 'fauxinfo' and alternative terms to be used instead of 'misinformation', several context comments may be useful.

Human nature is such that for various reasons people may believe false ideas to be true. And, if enough people hold those false ideas to be true, then myths are born.

By way of brief comment about the false idea-myth relationship, belief in false ideas is a phenomenon that has a history which likely began for humans very early in their existence some 6,000-10,000 years ago. At the present time, the popularity of false ideas is indicated by the 522,000,000 (522 million) web page results that arise from using the phrase "examples of false ideas" in a Google search.

The term 'myth' comes into play when a false idea is widely held among, for example, the folks in a small community, members of a professional association, a partisan political group, or the population of a province or country. As for the popularity of myths, it is illustrated by the 559,000,000 (559 million) web page results that arise from using the phrase "examples of myths" in a Google search, and then examining some of those results for the numerous myths in which people believe.

Myths associated with recent decades include "climate change is a hoax", "the election was stolen", "zombie apocalypse", "the world is ruled by lizards", "covid-19 was caused by the 5G phone network", "the Deep State", "masks and distancing do not affect the spread of COVID-19", "the world is a dangerous place and we need guns, police and military to protect us", and are accompanied by such gems as "Tarzan", "Superman", and "alligators roaming New York City sewers".

Myths that have seemingly been around forever include "werewolves", "vampires", "the earth is flat", "bananas grow on trees", "bats are blind", "zodiac signs are based on science", "lightning never strikes the same place twice", "elephants are afraid of mice", "toilet flushes spin a different direction in the Southern Hemisphere", "UFOs", "Santa Claus", "Easter Bunny", "Tooth Fairy", "Pandora's Box", "Noah's Ark", and "the moon is made of green cheese".

In a similar vein, a Google search using the term "misinformation" yields 56,400,000 results but, as stated in a previous report, no evidence was located after examining numerous reports that 'misinformation' is substantively connected to information. (See <u>The Inescapable Truth about Disinformation and Misinformation? They have NOTHING</u> at all to do with Information)

To summarize the process, when false statements are frequently made, implied, or inferred about the purported connection in a "truth without proof" manner, over time the false ideas about a substantive connection between information and 'misinformation' are disseminated and adopted, and the seeds of myth are sown.

What then, does 'misinformation' stand for if it has nothing to do with information? For an answer we turn to a prior report, <u>Initial Thoughts about 'Fauxinfo' as an Antidote to</u> the 'Misinformation' Pandemic.

**Table 3** presents the results from deconstructing thousands of productions containing the term 'misinformation'.

As shown, Table 3 contains 60 terms identified in statements commenting on the use of the term 'misinformation', and it provides a number of alternative terms to refer to false ideas, false notions, false 'facts', false factoids, false contentions, false claims, false representations, false tales, false testimony, false images, false units, false witness, and other falsities which have been rolled up in a bundle and referred to as 'misinformation'. (Endnote 14)

The term 'fauxinfo' was coined to represent the terms which more accurately and precisely describe the content of untrue statements than the misnomer 'misinformation'.

To summarize the detailed explanation, "faux" is French for false, fake, not real, etc., and "info" is a fabricated non-word that is "Clear as mud but covers the ground" for anything even remotely related to creating some false belief or sense that 'information' is involved. In combination they appear to do an effective job of serving as a made-up term to represent 'misinformation', and in combination have enough *cachet* to comprise the essence of a credible myth.

The terms in Table 3 are instructive for two reasons in particular. First, they remove the term 'misinformation' from the company of information. And, second they also establish that because of its loose, indeterminate, spurious nature, the term 'misinformation' is a fertile ground for spawning false impressions, false perceptions, false inclinations, and false ideas – myths – of many varieties as shown by the array of terms in Table 3.

Further, these terms are also instructive when they are compared with the language of Table1 and Table 2.

That is, all the geographic data, geographic information, and geographic knowledge entries in Table 1 and Table 2 can be used by people, governments, businesses, associations, etc., in making informed decisions about the built and natural environments, daily activities and operations of people and enterprises, etc.

However, I am unaware of any occasion when a term in Table 3 has been used for a productive financial, social, environmental, welfare, educational, medical, etc., <u>public</u>

<u>interest purpose</u>, and that absence of constructive usefulness is consistent with 'misinformation' being a myth based on false ideas. (**Endnote 15**)

#### Table 3. Preliminary Inventory of Nouns Referred to as, Construed as, Invoked as, or Presented Under the Cover of 'Misinformation'

Babble	Exaggeration	Hoax	Perjury
Bafflegab	Fabrication	Hogwash	Perversion
Baloney	Fake	Invention	Phony
Blather	Fakery	Jargon	Prevarication
Bullshit	Falsehood	Lie	Propaganda
Claptrap	Falsification	Malarkey	Rot
Crapola	Falsity	Misconception	Rubbish
Deceit	Fib	Misnomer	Scam
Deception	Fiction	Misreport	Sham
Delusion	Fraud	Misrepresentation	Smoke and mirrors
Distortion	Fraudulent	Misstatement	Snow job
Doubletalk	Garbage	Mistake	Swindle
Drivel	Gaslighting	Noise	Trick
Duplicity	Gibberish	Nonsense	Untruth
Error	Gobbledygook	Perfidy	Whopper

It is observed as a closing note to this section that with 60 terms available to refer to a statement containing a false idea, there are numerous accurate and precise alternatives to using the term 'misinformation' which at best is a misnomer with destructive communications consequences.

That said, and in the face of accurate and precise language options, it appears abundantly clear from the findings of this report that anyone using the term 'misinformation' does so with the intention of promoting belief in a false idea, that is, fostering a myth.

### 5. Conclusion

Previous IRB research projects pointed to using geographic information as the means to expose the false ideas underlying the myth of 'misinformation', and as a catalyst for promoting the use of terminology which counters the 'misinformation' pandemic that is having massive, negative impacts on individual and institutional communications.

Using the framework of a transform process whereby geographic reality  $\Rightarrow$  geographic data  $\Rightarrow$  geographic information  $\Rightarrow$  geographic knowledge, the report establishes that geographic 'misinformation' has no connection of any kind to geographic information and, consequently, has no connection of any kind to geographic knowledge, geographic data, or geographic reality.

Rather, 'misinformation', whatever it is purported to be, is myth, that is, statements using or invoking the term 'misinformation' are in the realm of myth, which consists of any widely held belief that is based on false ideas, false claims, false assertions, and similar falsities.

As for the reference to the power of geographic information which is in the title of this paper, that reference to power is duly deserved because of the pre-eminence of geographic information when it comes to measures such as robustness, reliability, reproducibility, and verifiability, and the tools of GIS science and technology which are available to produce that body of information.

In this report the research tools used to establish that geographic information is the real deal include:

- The geographic reality → geographic data → geographic information → geographic knowledge transform process (Figure 1),
- Virtual representation of geographic reality through photos, images, and maps (Figure 2),
- Numerous concepts used in geographic research to derive geographic information and geographic knowledge about spatial relationships among people, places, and things (Table 1 and Figure 3),
- An array of geographic research methods, techniques and tools used to transform spatial reality → spatial data → spatial information → spatial knowledge (Table 2).

Further, it is frequently noted that there are many thousands of similar figures and tables in the extant literature establishing that geographic information is the real deal.

On the contrary, however, it appears that the number of comparable tables and figures which establish a similar level of confirmable credibility for 'misinformation' is exactly zero.

That in fact being the case, a possible explanation is that because 'misinformation' is based on false ideas and is the stuff of myth, no one has bothered to try to turn this "pig's ear into a silk purse" by constructing the kinds of artifacts that represent geographic reality.

As for the term 'fauxinfo' and the 60 terms in Table 3; they remove 'misinformation' from having any connection to information, and put it totally into the realm of myth.

Further, the 60 terms in Table 3 provide a solid starting point to query anyone or to critique anyone who uses the term 'misinformation' about the intended or perceived meaning attached to the term. (**Endnote 16**)

Finally, as the *coup de grâce*, one might say, the installations of GIS-related capabilities and associated capabilities that are represented in Figure 4 number in the millions. It appears fair to say that this omnipresence of GIS is testimony to the real deal aspects of geography and geographic information.

However, the number of comparable geographic 'misinformation' systems science and technology installations appears to be exactly zero.

And surely that is to be expected given that 'misinformation' is myth, geographic 'misinformation' is also myth, and only a mythical geographic 'misinformation' system' could be designed to handle mythical 'misinformation'.

In summary, through the powers of geographic information and GIS, this project successfully exposes the myth of 'misinformation'.

### 6. Endnotes

**Endnote 1.** Science is a way of knowing that meets integrity tests such as validity, reliability, verifiability, reproducibility, etc., and does not produce myths, which are defined as false beliefs based on false ideas. Other ways of knowing such as intuition, revelation, authority, and everyday experience (common sense) do not meet any robustness or integrity tests involving validity, reliability, verifiability, reproducibility, etc., and are solely responsible for the creation and promotion of myths, one of which is the myth of 'misinformation'.

**Endnote 2.** This issue is currently a matter of congressional discussion in the U.S., which stands to reason since U.S. corporations are responsible for much of the world's

Internet platform traffic, including social and broadcast media productions that serve and promote the 'misinformation' pandemic.

**Endnote 3.** This project appears to break new ground by asking Speakers of Canada's legislative assemblies about rulings on the use of the term 'misinformation'. Two reports are complete and posted: <u>REPORT 1: Terms of Reference for a Survey of Speakers</u> <u>about 'Misinformation' Rulings in Canada's Legislative Assemblies</u>, and <u>REPORT 2:</u> <u>Survey of Speakers about 'Misinformation' Rulings in Canada's Legislative Assemblies</u>.

**Endnote 4.** For details about this project see <u>Initial Thoughts about 'Fauxinfo' as an</u> <u>Antidote to the 'Misinformation' Pandemic</u>.

**Endnote 5.** The extent of Donald Trump's practical competence in matters of science is examined in the report, <u>DOES DONALD TRUMP HAVE THE KNOW-HOW TO SAVE</u> <u>THE U.S.A.?</u> A pertinent finding is that at most one in 1,000 of Trump's statements is based on science as a way of knowing.

**Endnote 6.** It is recognized that science has "gray areas" in that as a general rule not every piece of information or bit of knowledge is claimed to perfectly complete in every way, but science as a way of knowing can ascertain the relative truth in those respects. Other ways of knowing do no such thing, and using other ways of knowing means that truth, which is also known as underlying multidimensional reality (UMR), is not the primary concern of a statement. Or, to re-phrase, if one does not wish to tell the truth about a non-trivial matter, then one avoids the scientific method the way a rational person tries to avoid the plague, including COVID-19 and any of its variants.

**Endnote 7.** There is nothing new about myths, as they have been around for centuries, but there are differences between (a) myths that are the lore of children's' stories about Snow White, Jack and the Beanstalk, and Little Red Riding Hood, (b) those are sponsored by terrorist groups, extremist local and national groups, extremist geopolitical groups, racists, and other malcontents with destructive agendas, and (c) one such as 'misinformation' which has roots in both (a) and (b).

**Endnote 8.** At the risk of entering the theater of the absurd, logic dictates that if 'misinformation' does not magically materialize from the ether, then it has to come from something. However, finding an explanation of the derivation of that term by a user has proven impossible. Moreover, we have already gone down that road and found it to be a total dead-end in the report, <u>The Inescapable Truth about Disinformation and</u> <u>Misinformation? They have NOTHING at all to do with Information</u>. Consequently, since

I have no grounds whatsoever to believe that 'misinformation' is anything other than myth, I leave the matter there until evidence proves otherwise.

**Endnote 9.** The reader may recall that the phrase 'alternative reality' and 'alternative facts' made frequent social media and broadcast media appearances through use by Donald Trump acolytes. The term 'misinformation' was regularly associated with both alternatives, and statements involving the alternatives contributed a number of the 'fauxinfo' terms in the report, <u>Initial Thoughts about 'Fauxinfo' as an Antidote to the</u> '<u>Misinformation' Pandemic</u>. The list of 60 'fauxinfo' terms is provided in Figure 3.

**Endnote 10.** As a case in point, the City of Ottawa recently conducted an annual 24hour traffic study on a residential street. City officials were informed by this researcher that the cables were put down in the wrong location, because they were not properly placed to capture operating speeds. The survey was re-done but, to be clear, there is nothing inherently wrong with the initial set of data *per se*, that is, data are data. However, there would have been a problem with the information derived using data from the misplaced cable, because the data for the date in question are not representative of the previously recorded traffic reality some 125 metres away. What we have then is a misrepresentation of reality due to human error, which in turn would have degraded the accuracy of any derived information, but that is life in the information field when humans make errors which mess up the reality-data-information-knowledge process. Had this error not been caught, it might have been very difficult for city staff to reconcile the latest survey data and information with that already on file. However, the survey mistakes have nothing to do with 'misinformation', and everything to do with human error.

Endnote 11. A number of academic, public, private, and professional entities are engaged in the field of geographic information systems. The Urban and Regional Information Systems Association (URISA) has been a leader in all aspects of the reality → data → information → knowledge transform process involving many different kinds of electronic information systems since the 1960s, including the full range of education, training, research, applications, and management aspects of GIS science and technology. This link provides access to more details about URISA: <u>https://www.urisa.org/</u>.

**Endnote 12.** Gordon Plunkett is the Spatial Data Infrastructure (SDI) Director at Esri Canada. He has more than 30 years of experience in GIS and Remote Sensing in both the public and private sectors. He currently sits as a member of the Community Map of Canada Steering Committee, GeoAlliance Canada Interim Board of Directors, the Open Geospatial Consortium (OGC) Technical Committee, and the Canadian General

Standards Board (CGSB) Committee on Geomatics. During his career, Gordon has worked on projects in more than 20 countries.

**Endnote 13.** For the purposes of this report, the estimates are for GIS installations which could be termed traditional or conventional, that is, they are consistent with the remainder of this report, and with the model that has been around for the past 60 years with regard to the full array of GIS education, training, research, applications, management, etc., aspects that have been part-and-parcel of the science, technology, and use features of GIS beginning in the 1960s. Regardless of minor movement in those kinds of details, however, the critical point is that GIS is a sharp-edged instrument when it comes to separating information that is the real deal from 'misinformation' which is a myth based on false ideas, and has nothing whatsoever to do with information of any kind.

**Endnote 14.** Since that table was posted (See <u>Initial Thoughts about 'Fauxinfo' as an</u> <u>Antidote to the 'Misinformation' Pandemic</u>), more than a dozen terms have been added to the list, so there should be little language challenge to those who choose to participate in countering the 'misinformation' pandemic by using more accurate and more precise terms.

**Endnote 15.** The phrase <u>public interest purpose</u> is underlined to distinguish between statements that serve the public interest of citizens and those designed to serve the self-interests of politicians, political parties, political action groups, vested groups, demagogues, rabble-rousers, agitators, soapbox orators, sycophant's, acolytes, toadies, fawners, flatterers, and other sources of the vast majority of terms in Table 3.

**Endnote 16.** To date none of the Speakers, Chief Clerks, or other officials of Canada's legislative assemblies have taken exception to being queried about use of the term 'misinformation' in their assemblies. However, there are individuals (see Endnote 15 for candidates) who take exception to being queried about matters of public interest, and they are characterized by a number of the terms in Table 3. The phrase "fauxinfo artist" seems applicable to these individuals.