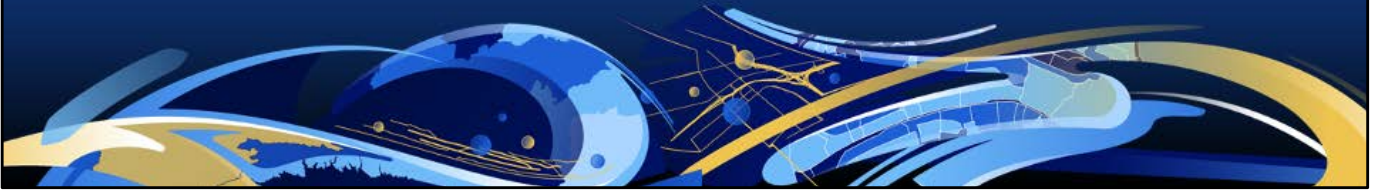


2020 ESRI USER CONFERENCE  
#EsriUC

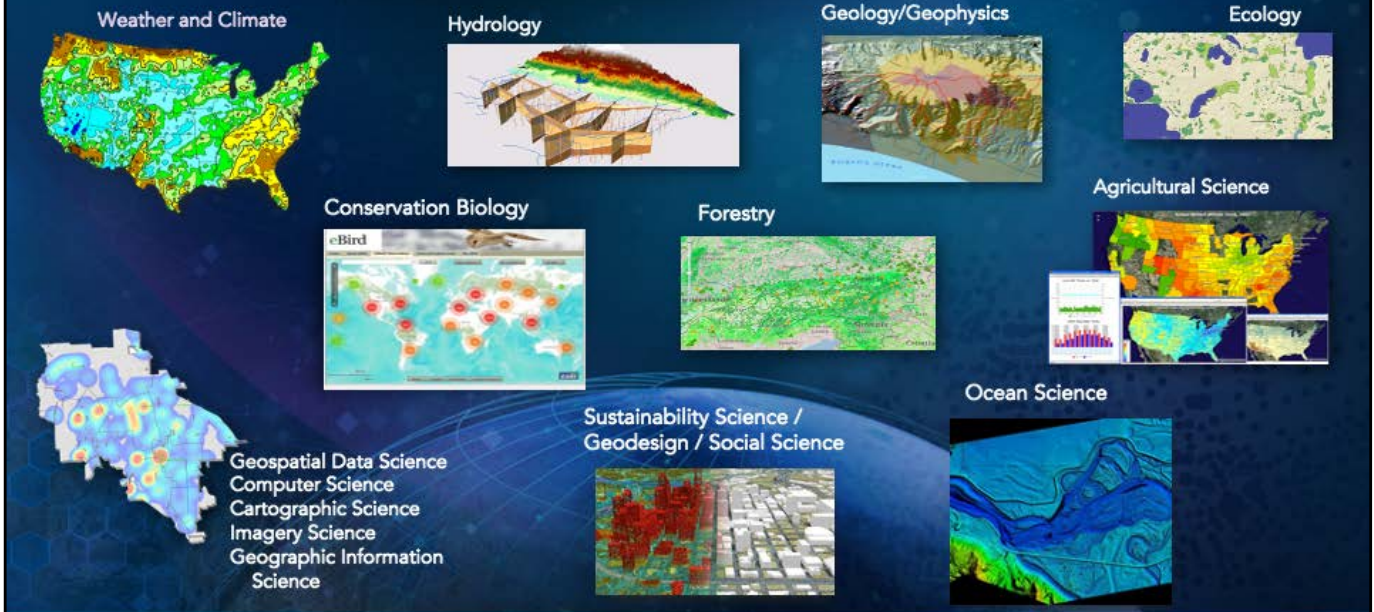
# Welcome Scientists!

5<sup>th</sup> Annual Esri Science Symposium


#ScienceSymposium



Strengthen science base at Esri ...  
Extend Esri as a *member* of the scientific community ...



First, by way of introduction, I am Esri's Chief Scientist, and also a full professor of geography and oceanography at Oregon State University. As Chief Scientist I foster a program to strengthen the scientific foundation for Esri software and services (especially in the disciplines shown where we have strong scientific expertise and productivity ourselves), while representing Esri to the national/international scientific community on various boards, councils, and research projects. We also work collaboratively with some of the world's largest Earth science organizations, as well as amazing individuals such as our keynote speaker.



**Esri UC Q&A 2020**  
Now Available!

A message from Esri President Jack Dangermond

[esriurl.com/2020qa](https://esriurl.com/2020qa)  
[esriurl.com/2020qahighlights](https://esriurl.com/2020qahighlights)

We like to maintain open and ongoing conversation with our users. In the Esri User Conference (Esri UC) Q&A, we provide answers to common questions about our software development, products, education, and support. If you have additional questions, I encourage you to join our online community, GeoNet, where you can share, chat, and collaborate on all things geo with other geospatial enthusiasts around the world.

General

- User Conference
- Esri
- The Role of the GIS Professional
- ArcGIS
- Components of ArcGIS
- Capabilities of ArcGIS
- Geo-Enabled Systems

geographic science

Search Results

What is the meaning of this year's User Conference theme: GIS - Interconnecting Our World?

How is Esri advancing geographic science?

At Esri, we focus primarily on applied science, but value basic science as well. We recognize that scientific research will be driven by major themes of compelling interest to society. Science helps us understand not only how the Earth works, but also how the Earth should look (by way of geodesign), and how we should look at the Earth (by way of Earth observation in varying forms, and the accompanying data science issues of analysis, modeling, developing and documenting useful datasets for science, and interoperating between these datasets and between various approaches). These are, in fact, examples of The Science of Where.

Please also check out the Esri UC 2020 Q&A which is one of the single best sources of information on Esri as a company + our products/ services. It is based on YOUR questions. Still available online and searchable. The Geographic Science entry here focuses more on the specific ArcGIS software capabilities and tools for scientists. There is also a terrific SUMMARY of the entire Esri UC Q&A by Chris Jepps, COO of Exprodat Consulting in London.

## Twitter

@GISandScience



**GIS and Science**  
@GISandScience Follows you

Sharing applications of geospatial technology for scientific research and understanding. Tweets by @deepseadawn and Esri Science Team. Brought to you by @Esri.

📍 Redlands, CA USA 🌐 [esri.com/sciences](https://esri.com/sciences) 📅 Joined September 2008

11.6K Following 22.9K Followers

Followed by AWIGIS, International Coastal Atlas Network, and 166 others you follow

@deepseadawn



**Dr. Dawn Wright**  
@deepseadawn

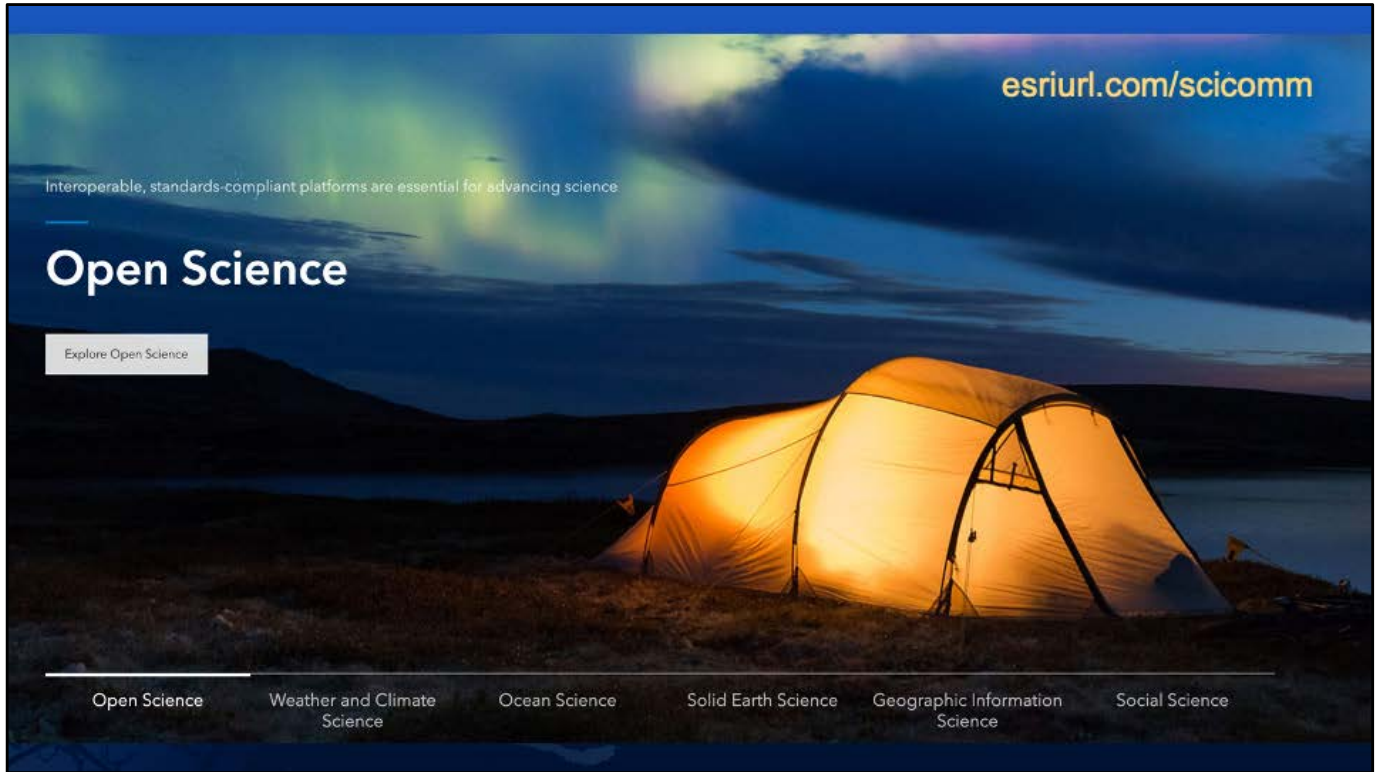
Chief Scientist of smart mapping company @Esri + GIS/oceans prof at @OregonState, cyclist, ocean/climate mapper, Lego fan, raised in Hawaii. Tweets mine alone.

📍 SHE is somewhere under the sea 🌐 [dusk.geo.orst.edu](https://dusk.geo.orst.edu)  
📅 Born April 15, 1961 📅 Joined December 2008

691 Following 12.2K Followers

Realizing that for many of you Twitter is your preferred “discussion forum” (as well as the place to get news and content), we have a popular presence at @GISandScience, as well as my personal account, though be warned that you also find other fun content, including Legos, professional cycling, and the adventures of my puppy dog Riley! 😊





Our online science portfolio continues to evolve at [esriurl.com/scicomm](https://esriurl.com/scicomm). It is the subject of my new column in this month's ArcNews - <https://www.esri.com/about/newsroom/arcnews/how-esri-contributes-to-and-advances-science/> - and continues to focus on our 6 major initiatives: open science



Weather and climate science

[esriurl.com/scicomm](https://esriurl.com/scicomm)

Exploring, mapping, visualizing, analyzing, and protecting Earth's last frontier

# Ocean Science

Explore Ocean Science

Open Science

Weather and Climate  
Science

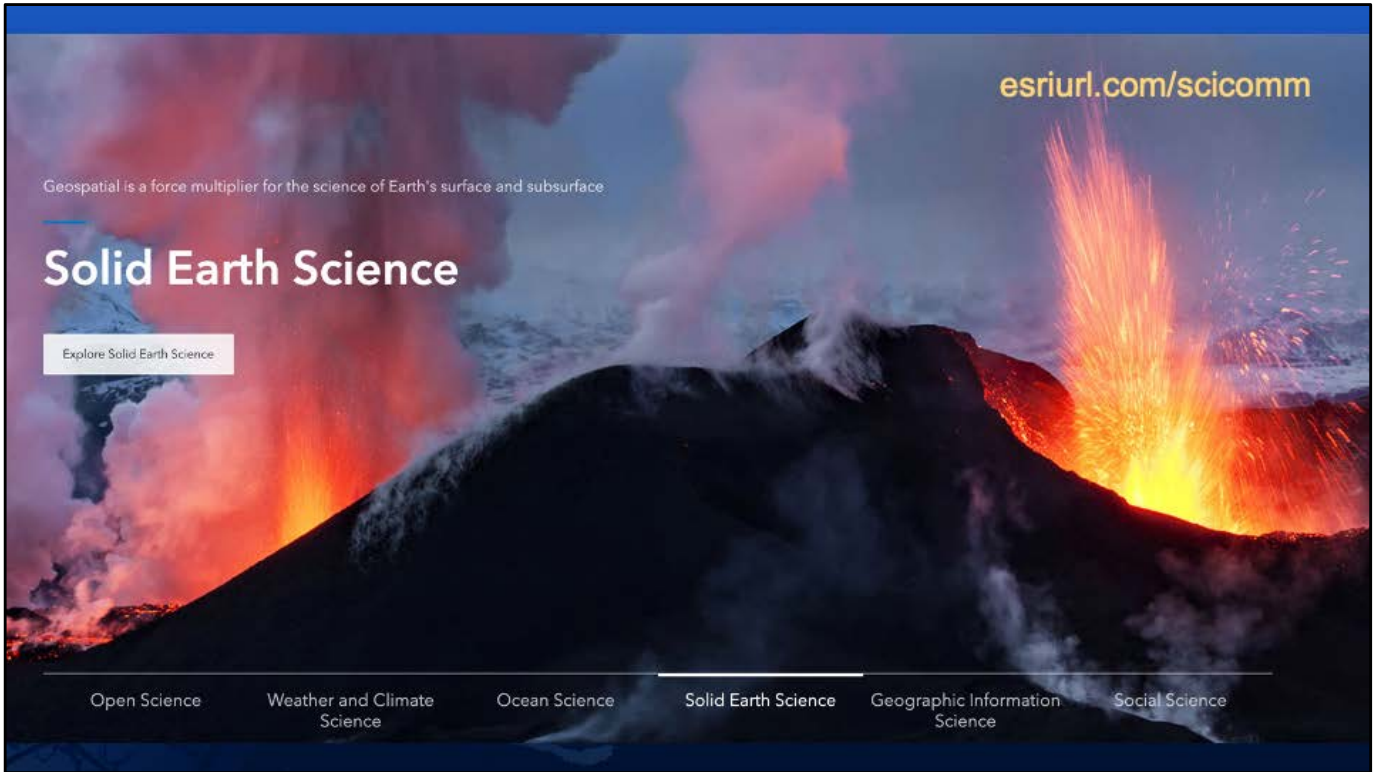
Ocean Science

Solid Earth Science

Geographic Information  
Science

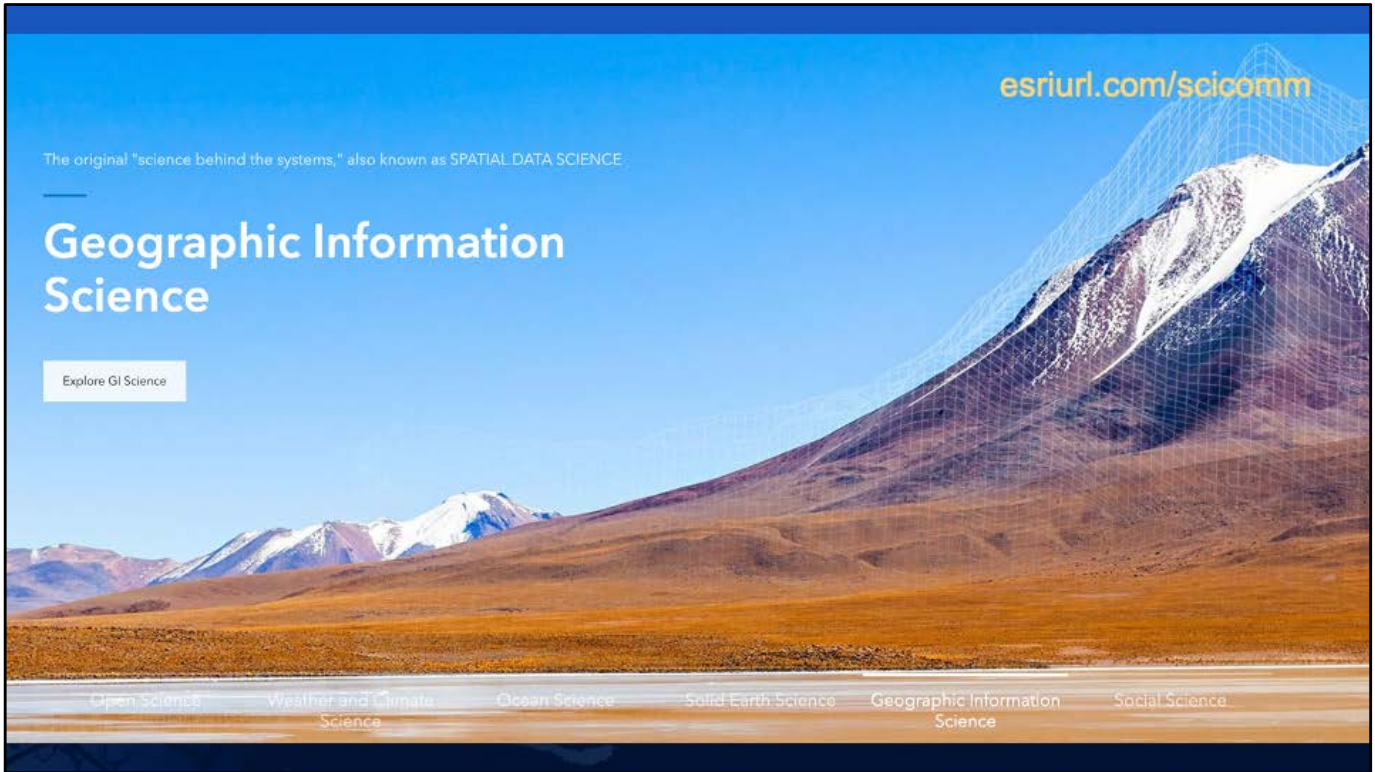
Social Science

Ocean science

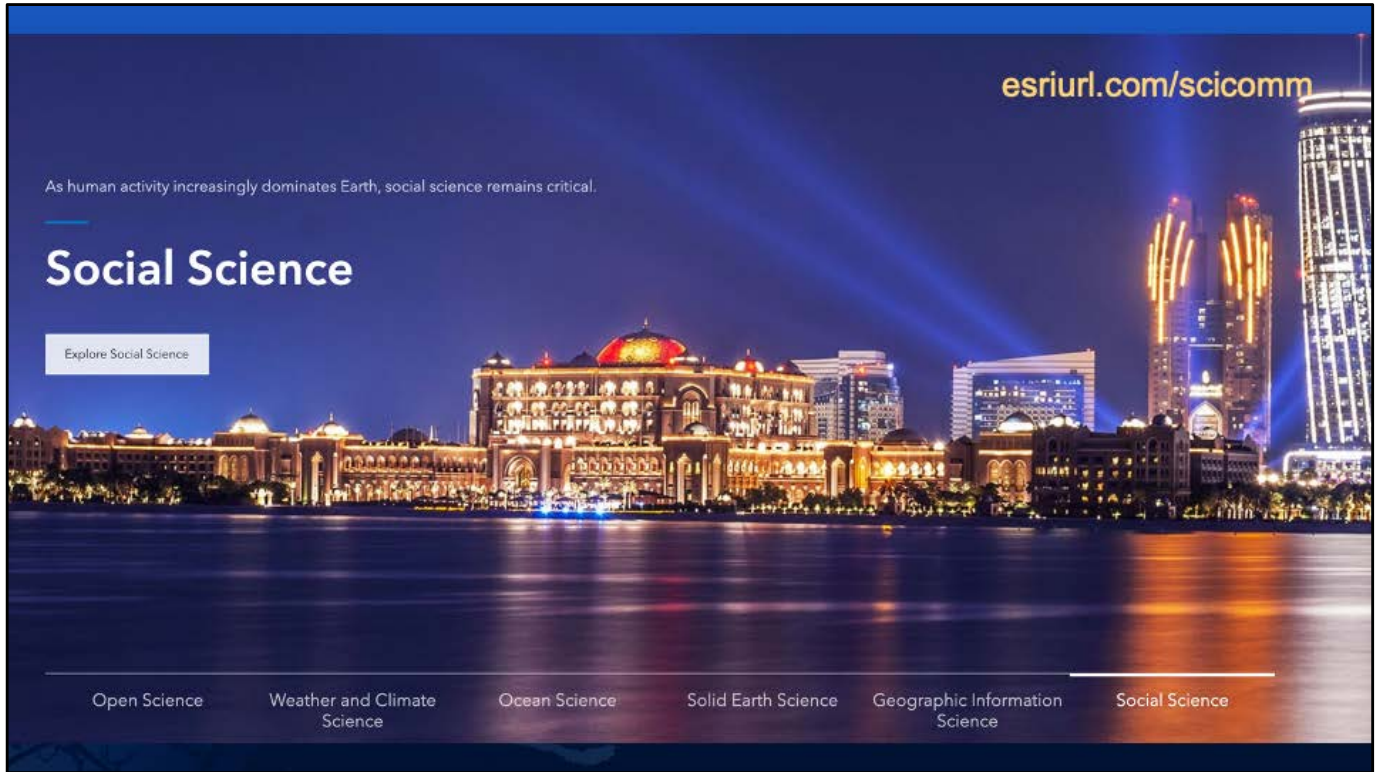


Solid earth science = hydrology, agricultural science, terrestrial ecology, geology & geophysics, soil science, and more





GIScience = spatial data science - remote sensing, cartography, information about our new relationship with the Group on Earth Observations/MBON



Social Science – with new sections on the coronavirus and racial equity and justice

## Environmental and Sustainability Statement



At Esri, we are committed to being an excellent global citizen. We provide the tools needed to solve the world's greatest problems of today and prepare for tomorrow.



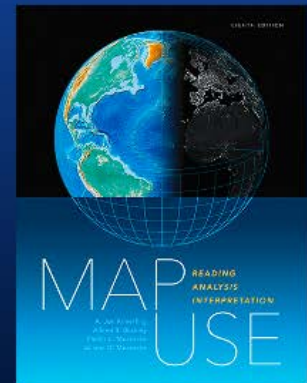
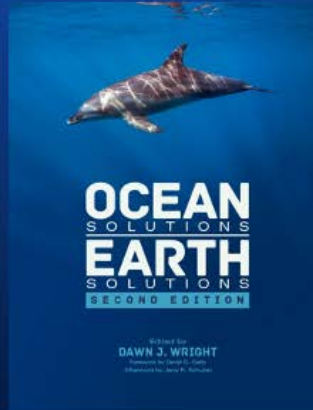
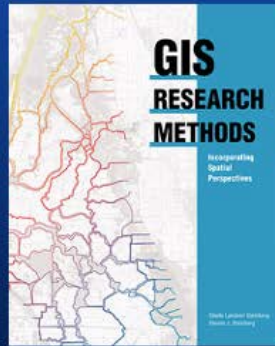
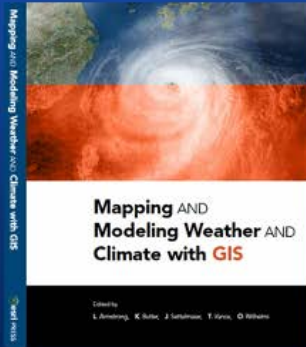
### Sustainability vision

Be an outstanding global citizen; protect our world's resources, and influence customers to reduce our collective environmental impact through geographic science and, ultimately, use geographic information system (GIS) technology and location intelligence to build a sustainable future.

Our portfolio is the only place in all of Esri.com that points to our new Environmental and Sustainability statement, which provides a glimpse of what we now have going on behind the scenes in terms a new Strategic Plan, Projects, Performance Reporting – including continued, targeted, and relentless reduction of our greenhouse gas footprint - and Employee Community Networking. We've been delayed in releasing this by COVID-19 but look for more in 2021

# Esri Press Scientific Monographs and Textbooks

Esri Merch Store

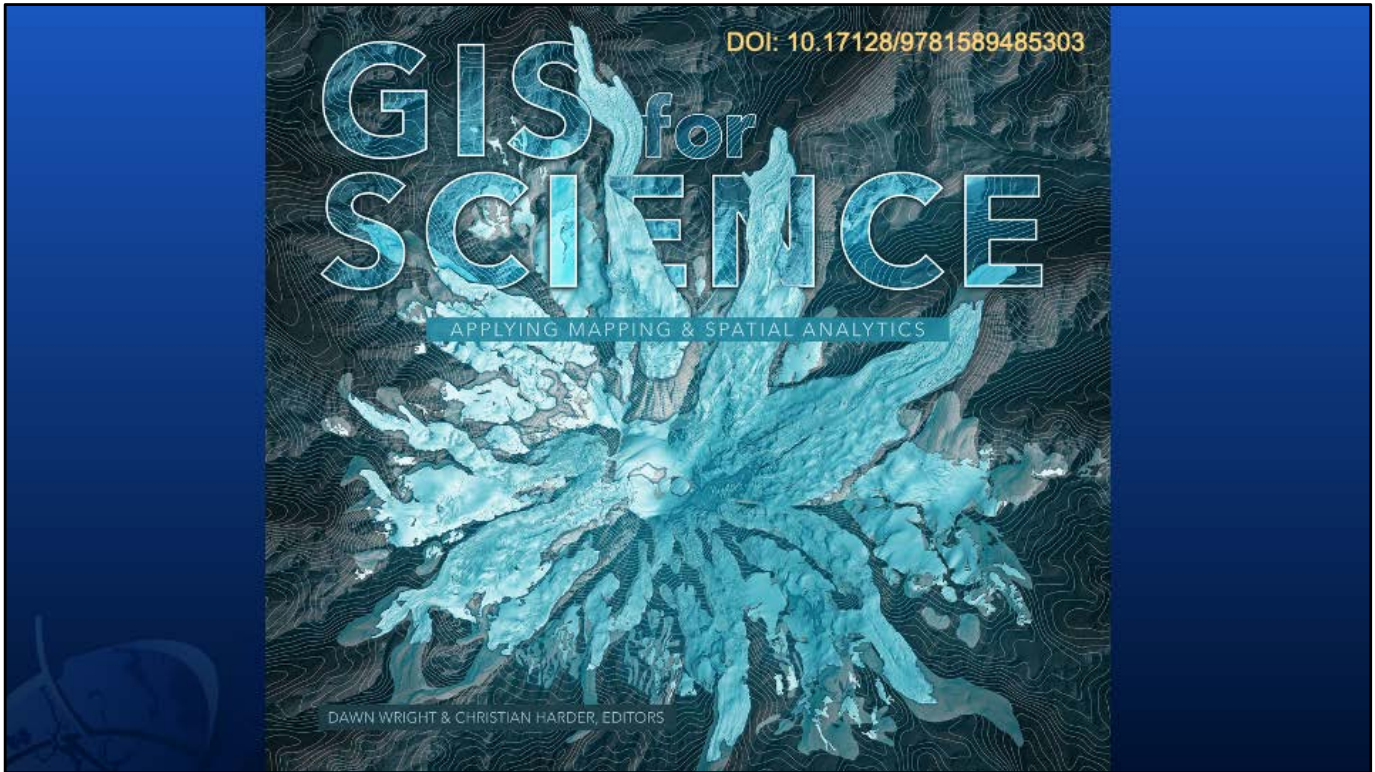




# Esri Press Scientific Monographs and Textbooks

Esri Merch Store





Last year at the Symposium we were pleased to announce the publication of the new book, *GIS for Science: Applying Mapping & Spatial Analytics* and it has been a great pleasure to work on this with my co-editor and lead layout designer CHRISTIAN HARDER, as well as the staff of Esri Press

“This book is beautiful as well as illuminating, and it dramatizes the ways in which the new science of geospatial information is enriching and empowering all other scientific disciplines.”

—**James Fallows**, *The Atlantic*; former chief speechwriter for President Jimmy Carter

Lots of praise thus far for this book (including this one example from James Fallows), and its somewhat unique format that is NOT just a dry research monograph, NOT an atlas either, but **a cross between *Wired Magazine*, *National Geographic*, and *Scientific American*** with 12 stories written by top-rated scientists about how many things GIS, including geospatial data science, are a **force multiplier** for great science writ large.

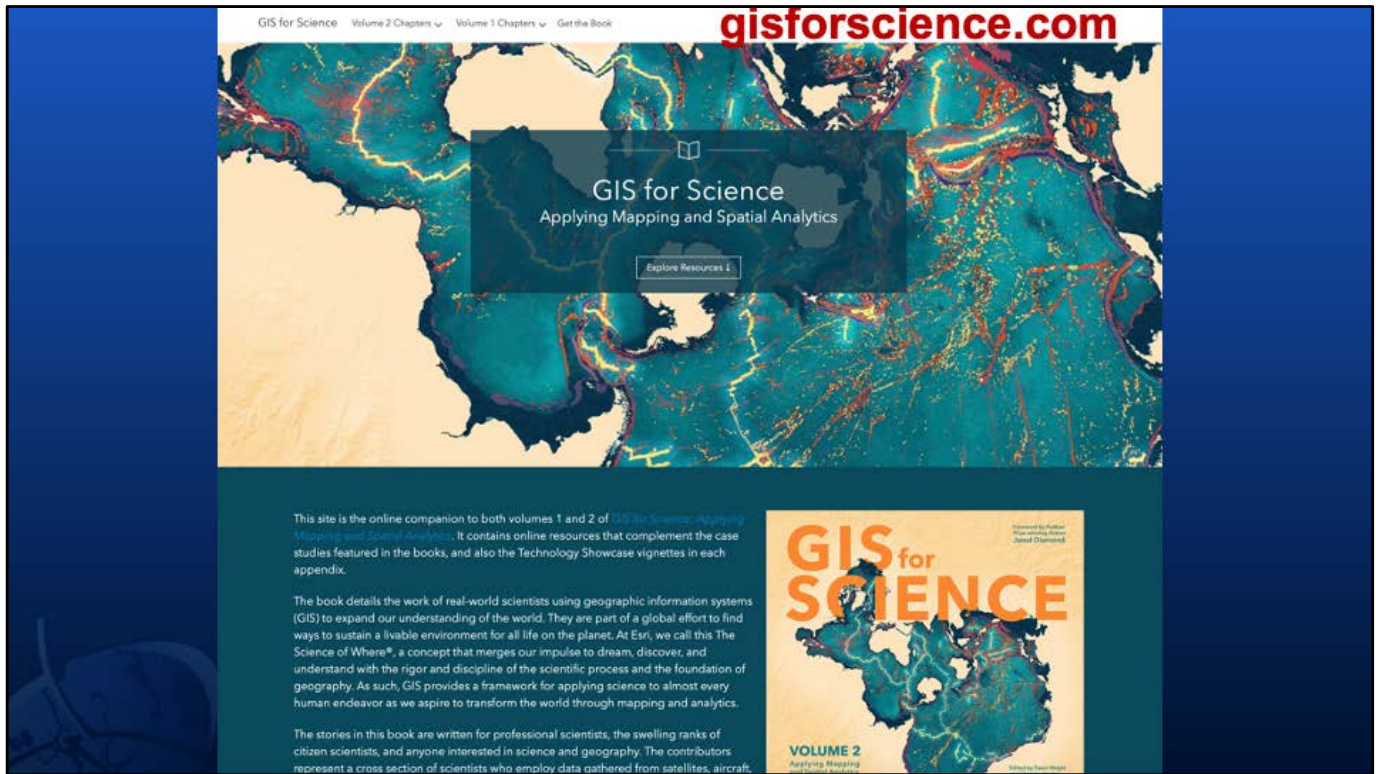


We are pleased to introduce you to Volume 2 with 12 more stories spread across 3 sections: stories about how the Earth works, how the Earth LOOKS, and how we look AT the Earth, as well 12 more vignettes on Esri's own contributions to science, AND a special section on the GIScientific response to COVID-19

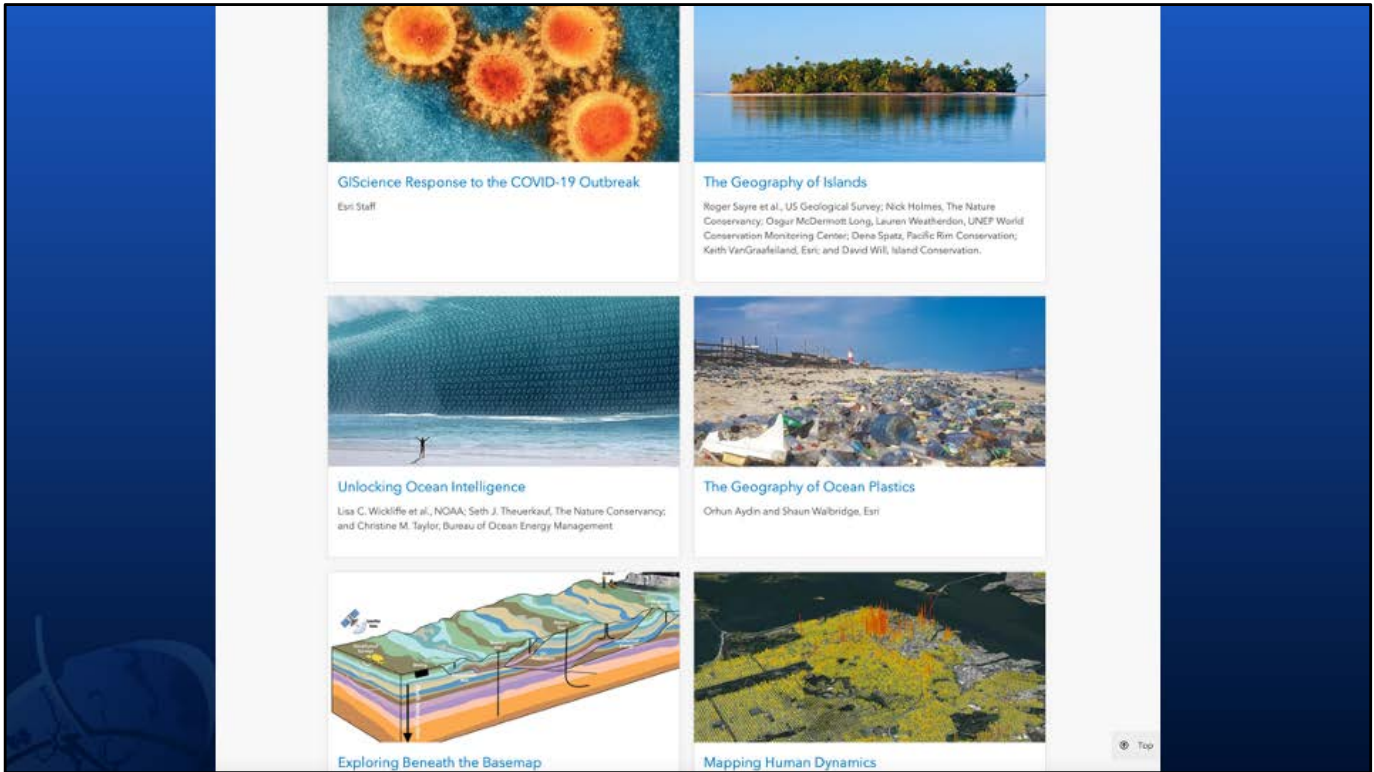




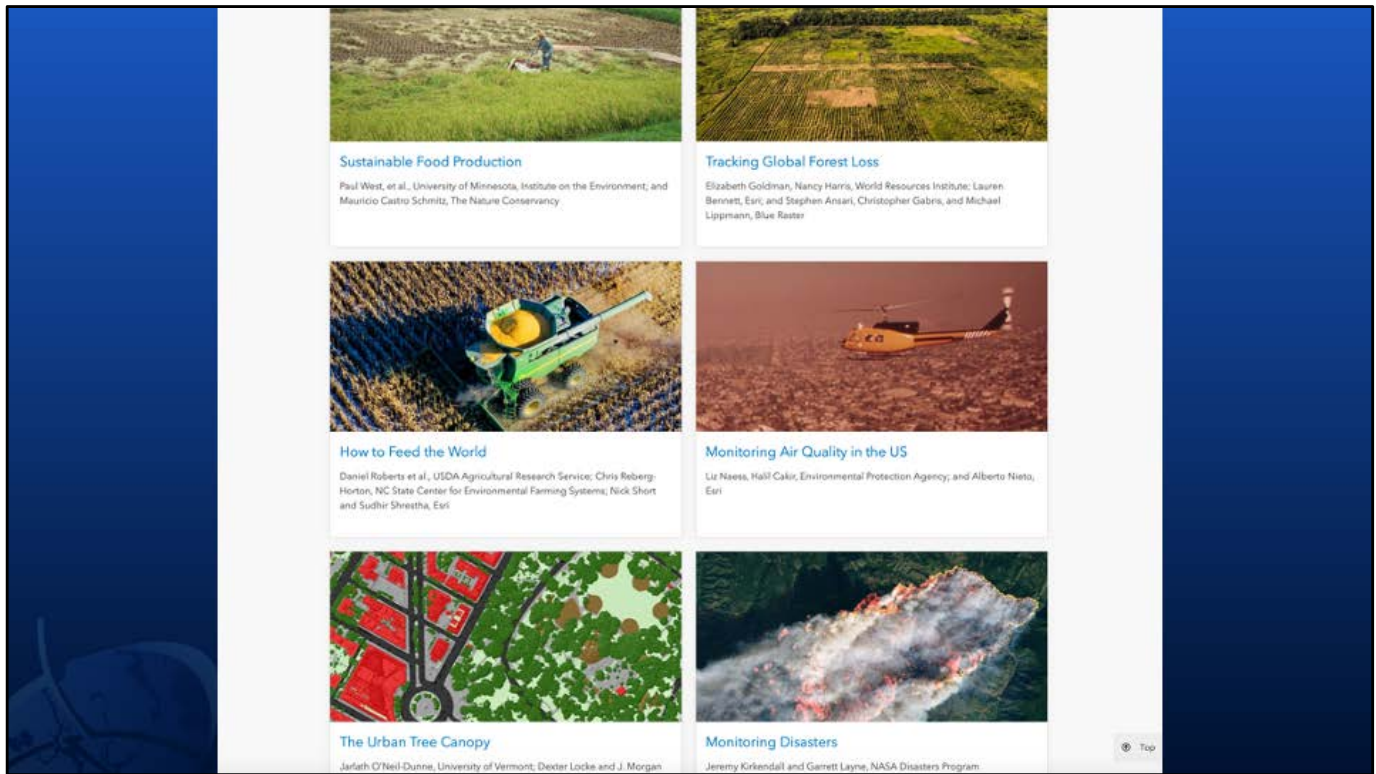
We are still hearing quite a bit also about the “flip book” that Jack mentioned in the plenary. You can always access it at this url. It is NOT a download, but a web experience only. This features only Part 4 of the book, which focuses on innovations made by Esri staff



But public and live and completely open RIGHT NOW is the book's COMPLETE **companion** web site at gisforscience.com with literally HUNDREDS of datasets, web maps and apps, story maps, videos, workflows, Python notebooks, journal articles, Learn lesson tutorials and more. Should be extremely valuable as a supplemental teaching and research resource.



Live RIGHT NOW at [gisforscience.com](https://gisforscience.com) is the **companion** web site with literally HUNDREDS of items of data, web maps, web apps, story maps, videos, workflows, Python notebooks, journal articles, and more.



Live RIGHT NOW at [gisforscience.com](http://gisforscience.com) is the **companion** web site with literally HUNDREDS of items of data, web maps, web apps, story maps, videos, workflows, Python notebooks, journal articles, and more.



The image shows a screenshot of a web page titled "Chapter Resources Volume 1". The page is framed by a dark blue border. It features four resource cards arranged in a 2x2 grid. The top-left card, "Drones and GeoAI for Environmental Monitoring", includes an image of a large fish and lists authors William Stuart, Rohit Singh, Lain Graham, and Gerald Kinn. The top-right card, "Technology Showcase", features a world map with a color gradient and lists the author Earl Staff. The bottom-left card, "Global Ecosystem Mapping", shows two world maps and lists the author Roger Sayre. The bottom-right card, "What Lies Beneath", displays a 3D visualization of a network and lists the author Daniel Coe. A "Top" button is visible in the bottom right corner of the page content.

Live RIGHT NOW at [gisforscience.com](http://gisforscience.com) is the **companion** web site with literally HUNDREDS of items of data, web maps, web apps, story maps, videos, workflows, Python notebooks, journal articles, and more.



**#ScienceSymposium**  
#esriUC

[esriurl.com/symposium20](http://esriurl.com/symposium20)

**2016**  
**Margaret Leinen**  
Director  
Scripps Institution of Oceanography

**2017**  
**Jon Foley**  
Executive Director  
Cal Academy  
Now with Project Drawdown

**2018**  
**Camilo Mora**  
Department of Geography and Environment  
University of Hawai'i

**2019**  
**Olga Wilhelm and Jennifer Boehnert**  
National Center for Atmospheric Research

That concludes all the announcements. And now FINALLY on to the HEART of the symposium!

If live tweeting please use the hashtags in the upper right

And if wanting these introductory slides, you can download them now at [esriurl.com/symposium20](http://esriurl.com/symposium20)

The first 3 years we followed a format where the chosen keynote speaker was *not* a GIS specialist by design, but a noted scientist with a strong, compelling vision for improving/protecting the planet, along with a healthy *respect* for geospatial technology. Then we followed the keynote with a conversational reaction panel deliberately made up of GIS specialists so they could *respond* to the vision of the keynoter from the *perspective* of geospatial and discuss further how best to use GIS to *implement* the vision laid out by the keynoter.

Then last year we went to a different format where we featured a TAG TEAM of two top scientists with deep GIS expertise and speaking on the topic “Science in Service to Society: Understanding and Reducing Climate Risks” which led straight into Q&A so we’d have enough time for beer or bubbly! 😊



## 2020 Keynote Address

Prof. Katharine Hayhoe  
Texas Tech University

This year of course we are virtual but I couldn't be happier to introduce you to one of the most exciting and compelling speakers in the world whether in person OR virtually, and that's Katharine Hayhoe of Texas Tech U. I was first introduced to Katharine, VIRTUALLY, © by way of her appearance on PBS NOVA about a decade ago, in a great episode entitled "The Secret Life of Scientists and Engineers." Tons of fan girling and follows on social media later (by me), we FINALLY had a chance to meet in person in 2018 at the largest Earth Day event in the world, EarthX, in Dallas TEXAS. It was as if we had known each other for years (perhaps in part because we were both born on April 15<sup>th</sup>? ☺ but likely due to our common bonds as scientists with a Christian faith). We also appeared together last year in a short film series entitled "Let Science Speak" which seems enormously appropriate given the state of the US at the moment. [you'll also want to check out our Esri and The Science of Where Podcast of last month <https://www.esri.com/about/newsroom/podcast/climate-change-science-solutions-hope/>]

To fully introduce Katharine and all of her many accomplishments would LITERALLY take up the rest of our time and there is more info in the slide deck, so let me just say that she holds an undergraduate degree in astrophysics from the U of Toronto, an MS and PhD in atmospheric science from the U of Illinois at Urbana-Champaign, is the current director of Texas Tech's Climate Science Center, BUT she also holds an endowed professorship in the Department of **Political Science** at Texas Tech. Why political science? Well as she explained recently on Neil de Grasse Tyson's new YouTube program StarTalk, **climate change is the most political science there is!** She's been on stage with President Barack Obama, has been quoted in the Rolling Stone, has been a lead author on the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> US National Climate Assessments, she's everywhere! The New York Times has dubbed her THE "Climate Explainer" as she is indeed one of the most trusted and quoted voices in the world on climate change. As such we are so very proud to have her with us this morning.  
Katharine! Thank you and welcome!

-----  
StarTalk Podcast: Coronavirus and Climate Change, with Neil deGrasse Tyson - <https://youtu.be/kSJtSlnyveE>

<http://katharinehayhoe.com/>

Esri and the Science of Where podcast - <https://www.esri.com/about/newsroom/podcast/climate-change-science-solutions-hope/>

Katharine Hayhoe is an Endowed Professor in Public Policy and Public Law in the Public Administration program of the Department of Political Science at Texas Tech University and co-directs the Climate Center at Texas Tech. She has a B.Sc. in physics and astronomy from the University of Toronto and an M.S. and Ph.D. in atmospheric science from the University of Illinois at Urbana-Champaign, and has been awarded honorary doctorates from Colgate University and from Victoria College at the University of Toronto.

Professor Hayhoe's research focuses on developing and applying high-resolution climate projections to evaluate the future impacts of climate change on human society and the natural environment. She has published over 125 peer-reviewed abstracts and publications and served as lead author on key reports for the U.S. Global Change Research Program and the National Academy of Sciences, including the Second, Third and Fourth U.S. National Climate Assessments. Her TED talk has received nearly 3 million views and she is currently writing a book on talking about climate change that will be released in early 2021. In addition, she hosts the PBS Digital Series [Global Weirding](#) and has been named one of *TIME*'s "100 Most Influential People," *Fortune*'s "50 Greatest Leaders" and *Foreign Policy*'s "100 Leading Global Thinkers."

In 2019, Dr. Hayhoe was named to Foreign Policy's list of 100 Global Thinkers for the SECOND time while also receiving the United Nations Environment Programme's flagship award: Champion of the Earth in the category of Science and Innovation.



**Continue the discussion on Geonet**

[community.esri.com/groups/sciences](https://community.esri.com/groups/sciences)

We're very sorry that we weren't able to get to everyone's questions but we invite you to continue the discussion on Geonet, where we will post the questions that we didn't get to, along with the answers, and invite even more discussion, if you'd like.





Copyright © 2020 Esri. All rights reserved.