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2019-nCoV Global Cases by Johns Hopkins CSSE (each point is updated as new cases are identified)

Total Confirmed
17,491

Confirmed Cases by Country/Region
17,308 Mainland China
20 Japan
19 Thailand
18 Singapore
15 Hong Kong
15 South Korea
12 Australia
11 US
10 Germany
10 Taiwan
8 Macau
8 Malaysia
6 France
6 Vietnam
5 United Arab Emirates
4 Canada
2 Italy
2 Russia
2 Philippines
2 India
2 UK
1 Nepal
1 Cambodia
1 Spain
1 Finland
1 Sweden

Total Deaths
362

11,177 confirmed; 350 deaths
Hubei Mainland China

725 confirmed; 0 deaths
Guangdong Mainland China

724 confirmed; 0 deaths
Zhejiang Mainland China

566 confirmed; 2 deaths
Henan Mainland China

521 confirmed; 0 deaths
Hunan Mainland China

408 confirmed; 0 deaths
Anhui Mainland China

391 confirmed; 0 deaths
Jiangxi Mainland China

312 confirmed; 2 deaths
Chongqing Mainland China

271 confirmed; 0 deaths
Jiangsu Mainland China

259 confirmed; 0 deaths
Shandong Mainland China

254 confirmed; 1 deaths
Sichuan Mainland China

212 confirmed; 1 deaths
Beijing Mainland China

203 confirmed; 1 deaths
Shanghai Mainland China

179 confirmed; 0 deaths

Total Recovered
536

300 recovered
Hubei Mainland China

43 recovered
Zhejiang Mainland China

22 recovered
Hunan Mainland China

21 recovered
Guangdong Mainland China

18 recovered
Jiangxi Mainland China

16 recovered
Henan Mainland China

14 recovered
Anhui Mainland China

14 recovered
Sichuan Mainland China

12 recovered
Beijing Mainland China

10 recovered
Shanghai Mainland China

8 recovered
Chongqing Mainland China

8 recovered
Jiangsu Mainland China

7 recovered
Guangxi Mainland China

7 recovered
Shandong Mainland China

5 recovered
Yunnan Mainland China

5 recovered

Visualization: JHU CSSE.
Automation Support: Esri Living Atlas team.
Read more in this blog.
Data sources: WHO, CDC, ECDC, NHC and DXY.
Downloadable Google Sheet (new link): Here. Time series table: Here. Feature layers: Here.
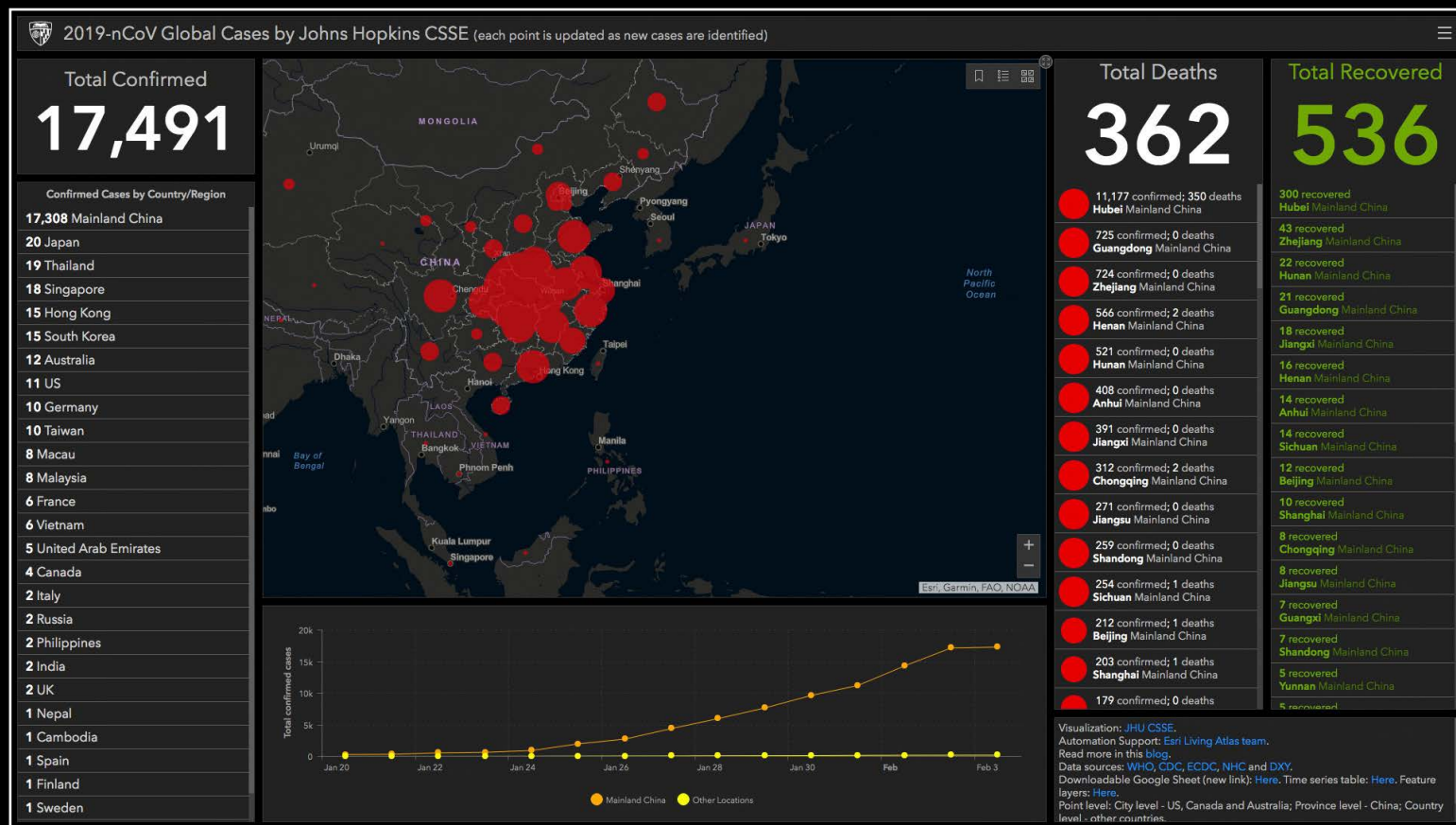Point level: City level - US, Canada and Australia; Province level - China; Country level - other countries.

2020 Challenge: Learn to use data in a new way

This GIS dashboard with an embedded map app is documenting the global spread of the Coronavirus (in near real time). We don't usually feature content on our cover that wasn't created at Dal, but we wanted to highlight this innovative collaboration between several health data providers (WHO, CDC, ECDC, NHC and DXY), Google, ArcGIS, and the Johns Hopkins Center for Systems Science and Engineering (CSSE).

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February 2020

A Dalhousie newsletter about GIS & Data

DALHOUSIE UNIVERSITY
Dalhousie Libraries

IN THIS ISSUE

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February 2020

Keeping Up with GIS Technology

GIS is continuously evolving, so refreshing your skills is important to stay relevant. While this is true for any field involving computers, it is essential in GIS where both the technology and its scientific context are rapidly changing. Here are some suggestions.

Maps are now apps

To recognize patterns, trends, relationships and anomalies — most people need to see data expressed in a graphic form. Graphs and charts are effective for data visualization, and dashboards provide updating in real time. Web mapping applications, linking databases and GIS platforms, are fast becoming the standard way of expressing geospatial data relationships; and the ease of creating map apps has been greatly enhanced — as more widgets and templates accompany platforms such as ArcGIS Online and ArcGIS StoryMaps.

The cover photo captures a GIS dashboard and map app — being updated in near real time and shared globally. It was created using ArcGIS Online and features basic metrics of the Coronavirus outbreak (geographic locations, confirmed cases, deaths and recoveries). The size of the circles represents the number of cases. You can interact with the Johns Hopkins CSSE map in your browser or on a mobile device. Use your pointer to pan and double-click to zoom in.

Follow a blog

Blogs provide useful, interesting and insightful information. John Nelson, a lead cartographer at Esri, blogs about ArcGIS. His posts feature cartography tips and tricks to help ArcGIS users make more informative maps. Other suggestions include: One Minute Map Hacks, Watercolor Painting in ArcGIS Pro and Vintage Shaded Relief Basemaps.

Take a MOOC

Massive Online Open Courses are typically offered for free, so they are accessible to a large audience. Esri has a series of these online courses offered throughout the year. They provide online videos and exercises which walk you through various topics over several weeks. Depending on the course, the length of the time needed to watch the videos and do the exercises takes 1–3 hours per week. Starting in February, Esri is offering a new course called *Spatial Data Science: The New Frontier in Analytics*. Some topics will be predictive analysis, pattern detection and clustering, object detection with deep learning, and communicating results. If you are interested in taking this or any other MOOC offered by Esri, check out www.esri.com/training/mooc/
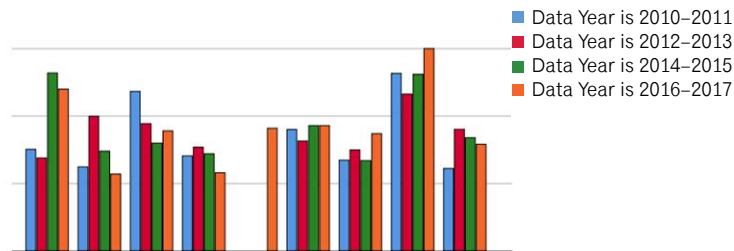
Practice coding

Python scripting and GIS go hand-in-hand. Here at Dalhousie, we have opportunities to learn in-house for free! SURGE and the Ocean Tracking Network (OTN) are currently offering Discover Coding Using Python. It meets on Tuesdays from 11:30 a.m.–1 p.m. Registration is required. Please note: This class is about Python but it is not about how to use it with ArcGIS or ArcGIS Pro.

Using Stories to Enrich Data Exploration

The Canadian Institute for Health Information (CIHI) is a non-profit organization that aggregates important health data, information and statistics. Our provinces and territories submit health data to CIHI providing the ability for benchmarking and peer learning at a national level. To provide a broader context, health data from other OECD countries is also included. You can access these datasets using the OECD Interactive Tool: International Comparisons. At the bottom of the page, you can download current data and historical data.

The CIHI Current data file was used for this article, from *The Globe and Mail* in November 2019. Not only is the topic interesting, it presents an opportunity to explore data within a meaningful context. For any student or faculty member interested in developing data skills, this is an entry-level activity. Whether you want to verify the article's data statements or be critical about the conclusions, you have access to the corresponding dataset. This enables you to identify outliers, Ireland on the low end (among OECD countries) and Quebec on the high end (among Canadian provinces). An intermediate activity would combine current data with historical data, highlighting patient safety within Canada, from 2010 to 2017 for each province, summarized in a bar graph. Can you replicate this chart and label the axes?

■ Data Year is 2010–2011
■ Data Year is 2012–2013
■ Data Year is 2014–2015
■ Data Year is 2016–2017

Canada worse than other wealthy countries in patient safety – including objects left in body after surgery, data show
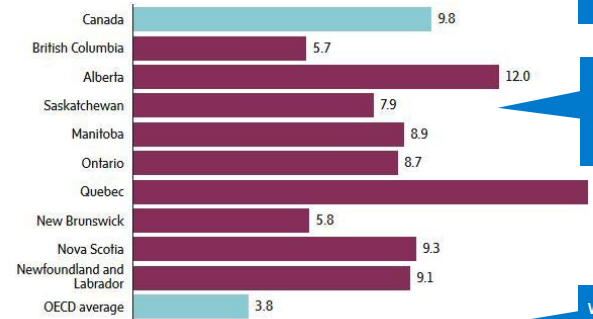
WENCY LEUNG   HEALTH REPORTER
PUBLISHED NOVEMBER 7, 2019

Canada is lagging other wealthy countries when it comes to patient safety, according to new data that show our country's hospitals record significantly higher rates of obstetrical trauma, as well as foreign objects, such as sponges and instruments, left in patients after surgery.

The data, released Thursday by the Canadian Institute for Health Information (CIHI), compared multiple health indicators measuring the state of Canada's health-care system against those of a total 35 other member countries of the Organization for Co-operation and Development (OECD). While Canada performed better in some areas, with higher than average rates of survival of breast cancer, colon cancer and rectal cancer, it fared significantly worse on four out of five patient-safety indicators.

In Canada, 553 foreign objects were left inside a patient's body after surgery over the past two years. This occurred at a rate of 9.8 for every 100,000 hospital discharges – up from 8.6 per 100,000 five years ago, CIHI reported. By comparison, the average OECD rate is 3.8 for every 100,000 discharges.

Number of foreign objects left in
Per 100,000 hospital discharges

Canada	9.8
British Columbia	5.7
Alberta	12.0
Saskatchewan	7.9
Manitoba	8.9
Ontario	8.7
Quebec	
New Brunswick	5.8
Nova Scotia	9.3
Newfoundland and Labrador	9.1
OECD average	3.8

THE GLOBE AND MAIL, SOURCE: CIHI. DATA IS MOST RECENT AVAILABLE

CIHI collects and disseminates federal, provincial and territorial health data.

Numbers in dataset are listed as "foreign body"

Do nine provinces represent all of Canada?

Which year(s) corresponds to "most recent"?

We encourage you to include interesting and relevant data activities within your courses whenever possible!

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Updates for the GIS Community

GIS Services on Sexton Campus

Returning for the winter term, the Dal Libraries is offering GIS and geospatial data services on the Sexton campus. Every Thursday afternoon from 1–4 p.m. from January 9 until April 2, Jen Strang will be available at the Sexton Design & Technology Library Service Point. No appointment is needed, just drop in!

GIS software news

ArcGIS Pro 2.3.3 is currently available across campus! This software is installed on all Windows-based Dal Libraries computers as well as most other labs on campus. If you want to use ArcGIS Pro at home for school use, you can download it from the Libraries Software Download page. ArcMap is still available and has the capability of running on the same machine where ArcGIS Pro is installed. If any students, staff or faculty are interested in learning more about using ArcGIS Pro or would like access to the Online Learning classes offered through Esri, the company that makes both ArcMap and ArcGIS Pro, simply contact the GIS Centre.

GIS is growing at Dal

GIS is used in a broad range of disciplines and interest in taking GIS classes has increased. To deal with this increased interest, existing courses will be offered more frequently and new courses are being planned.

• *Geoscience Information Management* (ERTH 3500/ENVS 3500/GEOG 3500/ERTH 5600) continues to be available in the Fall term but a new option now runs in the Spring session. This has the same course content but is offered in a compressed time frame. In Fall 2020, there will be a daytime and evening option of 3500, for undergraduates only. Then ERTH 5600, as a separate course for graduate students only, will be offered in Winter 2021.

• *Environmental Remote Sensing* (ERTH 4530/GEOG 4530/ERTH 5530) is moving to the Fall term, starting in 2020, instead of the Winter term, where it has been for the last few years.

• *GIS Applications in Planning (PLAN 6007)* will be offered by the Planning Department. This course is for graduate students in Planning with little or no experience in GIS.

Datasets to explore

We continue to feature a few datasets in every issue of *Layers*. If you know of any interesting datasets, tell us and we'll share them.

Antarctic Data – Quantarctica
This collection of geographical datasets is for research, education and management. It contains peer-reviewed data and is free to download and redistribute. This makes it easy to import, explore, visualize and share Antarctic data.

United Nations Environmental Programme – Data Explorer
This database holds more than 500 different variables covering themes for freshwater, population, forests, emissions, climate, disasters, health and GDP. The data can be viewed and downloaded in different formats.

Canadian Hydrographic Service Non-Navigational (NONNA-100) Bathymetric Data
Access to a series of approximately 100m geotiff raster images showing depth.

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Updates for the Data Community

Introducing Louise Gillis

We are pleased to introduce Louise Gillis, our new limited term data librarian. Louise will be at the Dal Libraries until October 31.

Louise has worked as a research librarian in Australia. She has experience with data management, developing collections, building resources and preparing and delivering instructional material. In addition to holding her Master of Library and Information Science, Louise holds a Bachelor of Science in Psychology.

Fun fact: Louise has lived and worked in five different countries.

Until Julie's return, you can contact interim data librarian Louise Gillis at Louise.Gillis@dal.ca with your data questions.

Where's Julie?

Julie Marcoux, your data librarian, is on maternity and parental leave until October 13. During a recent survey, the following information about baby Alex Beaulieu Marcoux was collected:

Date of birth: January 3, 2020

Sex: Girl
Weight at birth: 8 pounds 11 ounces
Amount of hair at birth: SO MUCH HAIR
Favourite food: milk
Favourite drink: milk
Favourite activity: drinking milk
Favourite color: white
Cuteness level: data suppressed (greatly exceeds the normal thresholds)
Opinion on the current geopolitical situation: the respondent refused to answer

Reminder for PCCF/PCCF+

If your research project requires the use of postal codes, please contact Choi directly. She provides support for the Postal Code Conversion Files. Sai Chua (sai.chua@dal.ca), Statistical Computing & Data Support

Our Dataverse is expanding

Dalhousie University is now a partner in the Scholars Portal Dataverse. This started as an initiative for Ontario university libraries, but is now welcoming all Quebec universities and several Atlantic universities. If you would like to share your research datasets, consider using Dataverse.

Coming soon... NVivo

This popular qualitative software package is here for Dalhousie faculty members and coming soon for graduate students. Click here for early release information.

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Ebooks for GIS & Data

Here are some current book suggestions because we believe that *leaders are readers.*
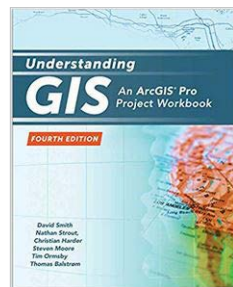
Novanet is the library catalogue. It lists thousands of titles. Online access requires you to enter the barcode on your DalCard.

Percipio is a learning platform from Skillsoft. It has hundreds of titles. Online access requires you to enter your NetID.
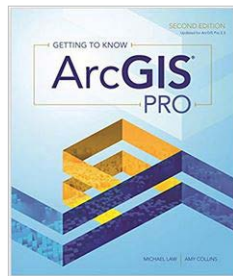
Getting to know ArcGIS Pro (2nd edition)

Understanding GIS: an ArcGIS Pro project workbook (4th edition)

Programming ArcGIS with Python cookbook (2nd edition)

ArcGIS for Environmental and Water Issues

GIScience teaching and learning perspectives

Quantitative methods for the social sciences: a practical introduction with examples in SPSS and Stata

Big data analytics: a practical guide for managers

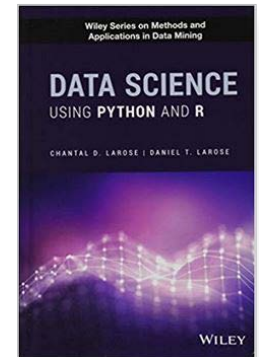*Data Science Using Python and R*

Practical SQL: a beginner's guide to storytelling with data

Introducing ArcGIS API 4 for JavaScript: turning awesome maps into awesome apps

Spatial planning in the big data revolution

SPSS Statistics for Data Analysis and Visualization
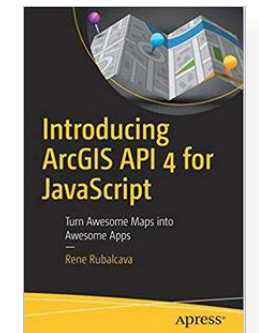
Events

GIS Poster Competition
Esri Young Scholars Award
This is an international competition.
www.dal.ca/gis/ecce
Friday, February 28, 5 p.m. (deadline)

GIS Poster Competition
Esri Canada GIS Scholarship
All Dalhousie graduate and undergraduate students are eligible.
www.dal.ca/gis/ecce
Sunday, March 15, 11:59 p.m. (deadline)

ECCE App Challenge 2020
Teams of three students use open data to create GIS apps, models, visualizations or dashboards. The theme is announced as the event begins. This 1-week competition is for Dal students.
www.dal.ca/gis/ecce
Friday, March 6, 5 p.m.–Friday, March 13, 5 p.m. (seven days)

Nova Scotia Open Data Contest 2020
Registrants work in teams and use NS open data to create apps, models, visualizations and dashboards to address issues affecting residents of Nova Scotia. This weekend competition is for students in Nova Scotia.
www.dal.ca/gis/ecce
Saturday, March 7, 8:30 a.m.–Sunday, March 8, 4:30 p.m.

Webinar: Introduction to GIS (Scholarship @ Dal Libraries Series)
Geographic Information Systems are software programs used to store and manage spatial data. This session will discuss the "science of where" by presenting the basics of mapping and spatial analysis. Expect an overview of software tools and data resources available at Dalhousie University. Register at:
https://dal.libcal.com/calendar/events/GIS
Friday, March 27, 12–1 p.m.

Find past issues of *Layers* here