April 2022

April 2022 Newsletter

Dear NYS GIS Association Member,

Here are a few items of news:

- Education Committee Launches Teacher Resources Page
- Member Profile: Eddie Bevilacqua
- Webinar Speakers Sought
- Upcoming Opportunities & Events

Sincerely,
The NYS GIS Association Communications Committee

Photo Credit: "Satellite View of the Americas on Earth Day" by NASA Goddard Photo and Video is marked with CC BY 2.0.

Education Committee Launches Teacher Resources Page

The **NYS GIS Association Education Committee** has launched a web page of resources for teachers at: https://www.nysgis.net/featured/teacher-resources/

The web page includes:

- useful websites or data sets for teaching.
- teaching tips for online or remote learning classes,
- podcasts with GIS users, and

The podcasts are interviews with GIS users from a variety of backgrounds. Education Committee Chair, **Dr. Paula Lazrus**, interviews people who use GIS in their work, including **Susan Hoskins** of the School of Integrative Plant Science Soil and Crop Sciences Section at Cornell College of Agriculture and Life Sciences and **Jiin Wen** of the New York City Economic Development Corporation. These interviews include the user's background, how they got where they are, and the role GIS has played in their career.
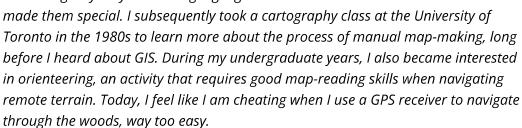
If you have ideas for additional resources or would like to be interviewed for the podcast series, please contact the **Education Committee** at: https://www.nysgis.net/about/contact/

Teacher Resources

Meet Association Member Eddie Bevilacqua

- **What made you interested in taking up GIS/geospatial technology as a career, and how did you end up in the field of GIS?**

Like many others in the GIS field, I grew up fascinated with maps. It was my high school physical geography teacher who first demonstrated to me how one can use maps to tell a story. From that point forward, whenever I had the opportunity, I would pick up a map or atlas, and search through the pages looking for interesting features, wondering why they were being highlighted and what made them special. I subsequently took a cartography class at the University of Toronto in the 1980s to learn more about the process of manual map-making, long before I heard about GIS. During my undergraduate years, I also became interested in orienteering, an activity that requires good map-reading skills when navigating remote terrain. Today, I feel like I am cheating when I use a GPS receiver to navigate through the woods, way too easy.

- **What is your educational background?**

I obtained all my formal education north of the border in Canada studying forestry. I obtained my PhD in forest mensuration. This is the discipline of applying basic mathematical and statistical principles to measure trees and estimate the quantity of woody material in forested landscapes. Since maps are a standard form of reporting the results of any inventory work, learning about how we can use GIS to manage, store, analysis, and visualize forest inventory data was a natural progression. In the 1990s, while working as a university instructor, I was asked to develop a new course in GIS for forestry students, which really got me to take a deeper dive into the technology.

- **Where do you work and what do you do there?**

I am a professor in the Department of Sustainable Resources Management at SUNY ESF. As a researcher, I am interested in the development of methods that will improve how we estimate the quantity and health of our forests – whether in terms of woody biomass, wood or lumber volume, or biodiversity. As an instructor, I have taught courses in applied statistics and dendrochronology, but the main courses I teach today are field classes in natural resources measurements and sampling, and a few classes in geospatial technologies that incorporate GPS, remote sensing, and GIS.

- **How has your job changed since the onset of the COVID pandemic?**

Once COVID hit, field research activities ground to a halt. With respect to teaching, we were forced to change our mode of instruction from in-person to online, I had a steep learning curve developing the skills needed to interact with large groups of students through online platforms. Courses that had field labs were the most difficult to transition to an online format. For my geospatial technology classes, the transition was easier; although it took a lot of time to make sure the necessary software resources were working properly during synchronous meetings in addition to recording and posting lectures.

- **How have you shared your expertise in GIS with others in NYS either formally or informally?**

In addition to teaching three GIS classes to a total of about 160+ students per year, I have given GIS workshops at professional meetings and research presentations at conferences. I was also on the organizing committee for the NYS GIS Conference for many years.

- **What is the most interesting project that you have worked on and why?**

The most interesting project that I am a part of involves conducting a New York State Forest Carbon Assessment through the Climate and Applied Forest Research Institute (CAFRI) at SUNY ESF. This project is led by Dr. Colin Beier and includes working with four other ESF colleagues, numerous graduate students, and both state and federal agencies. The goal of the project is to develop a forest carbon inventory tool that integrates field measurements and remote sensing data, including lidar layers, with

the ultimate product being map-based data layers of forest biomass across NY State. What makes this project so interesting, and challenging is the sheer volume of spatial data and cloud-based computing power needed to generate the desired, high spatial resolution map products. What I am most interested in is comparing the success of different machine learning algorithms to predict above-ground forest biomass using a variety of forest structure metrics extracted from lidar point clouds.

- **What is your favorite memory from NYGeoCon or the GeoSpatial Summit?**

My favorite memory was at the 2019 NYGeoCon meeting held in Syracuse, when Lee Herrington, my colleague, and mentor at SUNY ESF, received his Lifetime Achievement Award. I felt tremendously proud that the NYS GIS Association chose to honor his contribution to the development of GIS in New York State.

- **What do you like most about mapping?**

I find that the most interesting aspect of mapping, which I like to call cartographic design, is having the ability to use scienced-based rules when applying map symbology, but then following that up with artistic embellishments that make a map stand out to tell a coherent story in a single graphic image.

- **What place have you visited that has made the most lasting impression on you and why?**

I recently took a vacation trip to Madeira, Portugal. This relatively small (286 sq mi) volcanic island in the Atlantic Ocean, closer to Africa than Portugal, has beautiful scenery and remarkable topographic changes with many different bioclimates. In less than an hour, one can travel from rocky shoreline beaches to deep green laurel forests on steep mountainsides to rugged mountain tops above the tree line (6,109 feet elevation change).

- **If you could visit one other place in the world, where would it be and why?**

Another scenic destination I would love to visit is New Zealand. Again, the appeal of this island is its remoteness, varied topography, rugged landscapes, and, of course, its friendly people.

- **Do you have any specific advice or philosophies from working in the GIS world?**

The advice I give all my students at the start of all my GIS classes is to anticipate some level of frustration when working with spatial data. There is often a lack of consistency in how spatial data layers are created, structured, and distributed. Whether different coordinate systems (geographic vs projected), data models (raster vs vector), or file structures (shapefile vs feature class in GDB, or TIF vs IMG), it takes time to learn all the subtleties of spatial data. Attention to detail is paramount from start to finish.

Webinar Speakers Sought

Share your knowledge and earn GIS points!

The Professional Development Committee is seeking webinar presenters. If you have an idea for a webinar, the Committee will take care of the logistics.

The Committee encourages **students** who want to share their GIS research and/or projects to present. This is a great opportunity for students to gain presentation experience and enhance their resumes.

Click here to share your idea with the Professional Development Committee: *https://www.nysgis.net/about/contact/*

Professional Development Committee

Upcoming Opportunities & Events

- **NEARC Spring Conference** | 16 May 2022 | Westfield, MA | More Information: https://www.northeastarc.org/spring-nearc.html
- **STRATUS 2022 Conference** | 23 - 24 May 2022 | Gateway Center, SUNY ESF, Syracuse, NY | More Information: http://stratus-conference.com/home/
- **GeoED'22** | 6 - 10 June 2022 | More Information: https://arcg.is/0ijL4r
- **Columbia University GIS Workshop: Visualizing & Analyzing Health Data** | 27 - 28 June 2022 | More Information: https://tinyurl.com/2p95c8ru
- **2022 Education Summit at Esri UC** | 9 - 11 July 2022 in San Diego | Details & Registration: https://www.esri.com/en-

us/about/events/education-summit/overview
- **Esri User Conference** | 11 - 15 July 2022 in San Diego | Details &
Registration: https://www.esri.com/en-us/about/events/uc/overview
- **Auto-Carto 2022** | 2 - 4 November 2022 with Workshops on 1 November 2022 | Redlands, CA on the Esri Campus | More
Information: https://cartogis.org/autocarto/autocarto-2022/