

**Notes from Geospatial/GIS Meetup
October 17, 2024**

Rivera Library, Room 140, and Zoom

Attendees: Janet Reyes, facilitator

In person: John Jiang, Ray Uzwhyshyn

Via Zoom: Danelle Baronia, David Biggs, Mahdi Ebadi, Ryan Bruellman, Sharon Huang, Wallace Tapia Gara

Announcements

This meeting was recorded; video is available [here](#). The passcode to view is 4DI8?UA^

The [ACM SIGSPATIAL](#) International Conference on Advances in Geographic Information Systems is being held in Atlanta GA October 29 through November 1.

Janet will be offering an [Introduction to StoryMaps workshop](#) on Thursday, November 7 at 2:00 pm in Orbach Library, Room 122 and on Zoom.

Our [remaining meetups in Fall 2024](#) will be held on Tuesday November 12 and Tuesday December 10.

The fifth annual [UC GIS Week](#) is coming November 19-21! Your free registration provides access to any of the virtual presentations, lightning talks, or workshops offered over the 3-day period by UC affiliates and alumni. Riverside County and City of Riverside will both be hosting local GIS Day events in November.

The theme for this year's [ArcGIS StoryMaps Competition](#) is "Storytelling for a Better World." The deadline for submissions is December 6.

The president of the informal **GIS@UCR student club** has shared that club members will start carrying out projects in support of Joshua Tree National Park.

Shared links

Know of a place with a "scary" name? Add it to the map:

<https://storymaps.arcgis.com/stories/e9035a73ceaa47318ce681341def5f4a>

Presentation

UCR History Professor David Biggs presented on **Historic Maps and Waterfront Histories in Southeast Asia**. His presentation focused on Penang, a Malaysian island city on an island with a rich history: established by the British as a free port, it was a center for tin smelting, and is currently a global center for microchip production. Penang is in the Straits of Malacca, which has been an important shipping corridor for the last 400 years.

David's research also involves comparing the coastal change in Penang with that of other large coastal cities in Southeast Asia, many of which are at risk of being submerged by an up to one-meter rise in sea level in the next 100 years. The cities were established in the colonial-industrial period of the 1800s.

Many government, trade, and business constituencies have a stake in the development and resilience of the waterfront areas. These areas have a history of being built out through land reclamation, e.g. in adjacent mudflats. Many of the microchip production facilities are situated on flood-prone areas.

David's research is through a lens of the history of the carbon cycle and carbon politics. Carbon is implicated in climate change and is also an important building block for structures as well as for fuel and in our food supply. Up until recently, Penang was basically running on living carbon: wood fuels, charcoal, livestock fodder, and foods. The shift to fossil fuels has impacted how cities function, but cities like Penang and Saigon are still heavily dependent on charcoal and other biofuels. Much of this is due to the proximity of extensive mangrove forests. The fact that mangroves grow near water facilitates floating the wood to kilns for charcoal production.

The way societies have related to carbon in the past can inform how we approach building greener cities now. For instance, there's renewed attention to the use of pyrolysis (burning charcoal) and how the waste products can be used for other purposes. Charcoal is still valued for use in smelting due to its low sulfur content. It's also used in creating porcelain, stoneware, and glass. In the past, it was also an important fuel source for steam-powered engines.

The carbon "heart" of a city lies in the industrial waterfront; the immigrant workforce typically resides nearby. David is looking at what fuel sources were used in these areas, how they were brought in, and what impacts they had on surrounding environments. City waterfronts overall are all part of a global network.

One Muslim Chinese family-owned business (Koay) was the charcoal supplier for Penang. To this day, immigrant laborers perform the back-breaking work of harvesting, transporting, and pyrolyzing mangrove wood to produce charcoal.

Biofuels such as charcoal continue to be an important energy source; especially in parts of the world such as Southeast Asia, they haven't been entirely supplanted by fossil fuel. A large share of palm oil production in Southeast Asia today is going into green diesel.

Discussion

Ray asked about the global challenge of the location of microchip manufacturers and the related threats to the supply. He also asked about the intersection of the carbon cycle in Penang with its microchip industry. David replied that the global microchip supply is a big concern for decision-makers in Penang, whose economy depends so heavily now on the semiconductor industry. Malaysia and other Southeast Asian countries are trying to carve a middle path between China and Taiwan, Hong Kong, the US, Europe and the Middle East. Malaysia is on the upswing as a center of microchip production - just another part of its long history of reinvention.

Janet asked if others are using the approach of studying carbon histories elsewhere in the world. Yes; there are other historians working in conjunction with urbanists to study carbon politics.

Contact

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