

**Notes from Geospatial/GIS Meetup  
October 10, 2023**

**Rivera Library, Room 140 and Zoom**

**Attendees:** Janet Reyes, facilitator;

**Via Zoom:** Boluwatife Daodu, Eddie Helderop, Kavin Phabiani, Kiran Manchikanti, Lynda Vernia, Mike Cohen, Rajesh Neupane, Rajiv Nandivada, Siddharth Kishore

**Announcements**

This meeting was recorded; video is available [here](#). The passcode to view is d43h2G.M

The [Geospatial/GIS Quarterly](#) has been updated for Fall quarter and includes a new subsection on where to find computers with GIS software at UCR.

The call for participants in [UC GIS Week](#), November 14-16, has been extended to October 20. There's still time to sign up to give a presentation, be a panelist, or submit your work for the Poster / Story Map gallery. Registration for attending the event is now open.

As mentioned at the September meetup, UC's Agriculture and Natural Resources Informatics and GIS program (**ANR IGIS**) is holding several [trainings](#) during Fall 2023. Topics include Introduction to ArcGIS Pro, Jupyter Notebooks, and Story Maps.

Also mentioned last time, this year's **Free and Open Source Software for Geospatial (FOSS4G)** North America [conference](#) is being held October 23-25 in Baltimore.

**Los Angeles County** is holding its own [GIS Day](#) on November 15 and welcomes presenters from beyond the County. Potential presenters can register through October 27.

Janet is offering a workshop on [GIS Basics](#) on Thursday, November 2 from 2:00-3:00 pm.

Head to Hamburg, Germany for [ACM SIGSPATIAL](#) on November 13-16.

**Shared links**

Microsoft launched **Planetary Computer** last year: <https://planetarycomputer.microsoft.com/>

It is similar to Google Earth Engine. This article compares them:  
<https://mapscaping.com/microsofts-planetary-computer-vs-google-earth-engine-a-compare-and-contrast/>

Article from Bloomberg's MapLab on **restrictive zoning**:  
<https://www.bloomberg.com/news/newsletters/2023-08-30/citylab-maplab-reforming-zoning-codes-wit>

[h-data?cmpid=BBD083023\\_MAPLAB&utm\\_medium=email&utm\\_source=newsletter&utm\\_term=230830&utm\\_campaign=maplab](https://www.mapsol.com/h-data?cmpid=BBD083023_MAPLAB&utm_medium=email&utm_source=newsletter&utm_term=230830&utm_campaign=maplab)

## **Presentation**

Dr. Kiran Manchikanti, founder of [Mapsol](#), presented on the new GIS platform [Fuse.Earth](#)<sup>™</sup>. Kiran is passionate about GIS and mapping, but his approach is from an information science and engineering perspective. His current focus is making GIS more user friendly for any end user needing solutions to spatial problems.

Kiran shared a few real-world problems in which using traditional GIS results in clunky, time-consuming workflows: calculating the volume of mine tailings, work done in geospatial econometrics to create and update fine-grained GDP maps in short timeframes, irrigation optimization (varying water delivery from central pivot systems on a daily basis), rural workforce innovation, and regenerative agriculture (designing water channels on moderately sloping land).

From interviews, Kiran has found that barriers to using GIS include not knowing what it is; struggles with using GIS tools; difficulty in access; and, during higher education, the perceived need to choose between focusing on one's specialty or on becoming a GIS expert.

[Fuse.Earth](#)<sup>™</sup> was created in response to challenges with unorganized data, suboptimal tools, underserved and confused end-users, and the wasted time, effort, and money entailed when using GIS in a project. The back end of Fuse.Earth is built on what Kiran calls interconnected intelligence, with a Microsoft-architecture-based system.

The design allows for bypassing the creation of many intermediate data products. Field crews can edit their observations on the fly, and a series of workflow tasks that could take close to a month can be accomplished in close to 30 minutes.

Currently, 30-day free trials are offered for three subscription plans: Play, Explore, and Engage. The company is seeking venture capitalists to enable enhanced product growth.

The layout of Fuse.Earth is intuitive, modeled with consideration of the geospatial information engineering lifecycle, and utilizes the repeating element of 5: five basic sections of the interface, five basic categories of tools, etc.

Kiran gave a brief demonstration of Fuse.Earth, which can be accessed from a web browser. Users will need to log in to begin using the tool. The Geobar allows the user to type in addresses or coordinates, and also allows for importing cloud-based or locally-stored geospatial data files (shapefile, KML, TIFF, etc). Each layer can be manipulated by using one of the "coins" that appear at left. Each coin has sections for managing Connection (coordinate system), Specification (file type), Function, Depiction, and Interaction (data history). Each coin also has five buttons for interacting with the layer (zooming, selection, etc.)

Users can choose from an assortment of basemaps. Data from [UCR STAR](#) could also be brought in. A tool tray at bottom right includes Geopad, a notepad for mapped features created in the field. Photos, videos,

audio, or other documentation can be attached to any mapped feature. Another tool provides measurements on the fly. Also, raster files can be georeferenced very quickly.

## **Discussion**

**Mike** asked if Fuse.Earth can support drone imagery collection and processing. Kiran said that it can. The size limitation on data files currently is 100 MB.

Fuse.Earth can also work with any REST API, such as from state or federal agencies providing geospatial data. The USGS topographic maps will be added as a basemap option in the next month. Right-clicking on the map copies the coordinates to the user's clipboard.

**Janet** asked about analytic capabilities. Kiran mentioned topographic analysis and buffering, and that more capabilities are being developed for release in the next year.

Regarding who the early adopters are, Kiran said that many are engineering firms employing up to 500 people. Often their GIS support team is small, and the cost of an adequate supply of ArcGIS licenses can be prohibitive.

**Kiran** will be talking with Computer Science Prof. Ahmed Eldawy's group on November 3; perhaps anyone interested could attend.

## **Contact**

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