**Everything You Need to Know About Mt. SAC’s Geographic Information Systems Program! Episode 167**

00:00:00 **Jessica**

What really drives our health outcomes? Is it ethnicity, our parents, our genes? And the answer for every class has been, you guessed it; geography, seriously. Your environment and geography determine your health.

00:00:12 **Jessica**

So, this is one of the biggest reasons GIS is so important today because you visually represent that data and use it to improve people's health, life expectancy, and overall happiness in my opinion.

00:00:26 **Christina**

Hi, I'm Christina Barsi.

00:00:27 **Sun**

And I'm Sun Ezzell, and you're listening to the Magic Mountie Podcast.

00:00:31 **Christina**

Our mission is to find ways to keep your ear to the ground, so to speak - by bringing to you the activities and events you may not have time to attend, the resources on campus you might want to know more about, the interesting things your colleagues are creating, and the many ways we can continue to better help and guide our students.

00:00:48 **Sun**

We bring to you the voices of Mt. SAC, from the classroom to completion-

00:00:52 **Speaker 1**

And I know I'm going to achieve my goals, and I know people here are going to help me to do it.

00:00:58 **Speaker 2**

She is a sociology major and she's transferring to Cal Poly, Pomona! Psychology major, English major ...

00:01:03 **Sun**

From transforming part-time into full-time.

00:01:06 **Speaker 1**

I really liked the time that we spent with Julie about how to write a CV and a cover letter.

00:01:12 **Christina**

Or just finding time to soak in the campus.

00:01:15 **Speaker 1**

To think of the natural environment around us as a library.

00:01:18 **Christina**

We want to keep you informed and connected to all things Mt. SAC, but most importantly, we want to keep you connected with each other. I'm Christina Barsi, Mt. SAC alumni, and producer of this podcast.

00:01:29 **Sun**

And I'm Sun Ezzell, Learning Assistance Faculty and Professional Learning Academy coordinator.

00:01:34 **Christina**

And this is the Magic Mountie Podcast.

00:01:43 **Sun**

Welcome back, this is your host, Sun Ezzell. In this week's episode, podcast host, Tania Anders, talks with geography professor Dafna Golden and Mt. SAC alum, Jessica Moritz about Geographic Information Systems (GIS), equity, and Mt. SAC's GIS Program. Enjoy!

00:02:05 **Tania**

Welcome to the Mt. San Antonio College Podcast. My name is Tania Anders, your host for today's episode. My guests are Dafna Golden, Professor of Geography who's particularly interested in Geographic Information Systems or GIS, and former Mt. SAC student Jessica Moritz.

00:02:20 **Tania**

As we celebrate Geography Awareness Week, I'm excited to talk to the two to learn more about how GIS can be used to visualize data and help us understand social and environmental challenges of our time better. Dafna and Jessica, thank you so much for being here and sharing your time with us.

00:02:37 **Dafna**

Thank you for having me.

00:02:40 **Jessica**

Yes, thank you.

00:02:41 **Tania**

We're excited to have you here. Could you for starters, please be so kind and introduce yourself to our listeners.

00:02:47 **Dafna**

I'm Professor Dafna Golden. I've been teaching geography at Mt. SAC for 22 years, and the thing I'm really excited about is the newly created GIS certificate program. This is a one one-year program that leads to high-demand skills. This is an exciting development that is really going to help train students for the workforce.

00:03:07 **Dafna**

One of the amazing aspects of GIS is that it's a tool that is used by many different disciplines and industries, not just geography. Geography is a tool to visualize data, and it's used to find solutions to many of our social and environmental problems.

00:03:25 **Dafna**

GIS is used by sociologists, businesses, biologists, geologists, and city planners. It really is multidisciplinary and it's a skill that is in high demand by employers. And one of the other great things about this program is that all of the classes are online. So, it's really accessible for students who are at different points in their life and careers.

00:03:51 **Tania**

Amazing. And so-so true. I'm a geologist as you know, and I've always loved how GIS helps us, like you said, to visualize things like earthquakes, and the impact it has in different areas. So, thank you so much Dafna for introducing yourselves. What about you, Jessica?

00:04:08 **Jessica**

Hi, my name is Jessica Moritz. I am a Mt. SAC alumni. I graduated from Mt. SAC and transferred with an AA to transfer in geography, and I went to UCLA, and I majored in geography, and I minored in global health.

00:04:22 **Jessica**

I can definitely second that GIS is extremely important and multidisciplinary. When I took GIS classes, 70% of the other students were being paid by their employer to take the certificate in order to gain those skills because that's how in demand it was.

00:04:39 **Tania**

And still is, right?

00:04:42 **Jessica**

Yes.

00:04:42 **Tania**

Well, thank you for your introductions. Dafna, you just recently completed a sabbatical. Can you please tell our listeners a little bit about how you used your time away from teaching to engage with your work on GIS?

00:04:56 **Dafna**

Yeah, my sabbatical was an amazing experience, and I took the opportunity to create a GIS module that explores one particular issue related to equity. There are many ways to look at the world through the lens of equity and one way is to evaluate the equitable access to resources among disadvantaged groups.

00:05:18 **Dafna**

So, the module that I worked on investigates food accessibility and participants learn how to use GIS while also, investigating this specific equity issue. A lot of research about food accessibility has been focused on proximity to grocery stores, but in this module, we look at accessibility to farmer's market, which I thought was an interesting take.

00:05:42 **Dafna**

And accessibility is determined by looking at driving times and walking times to farmers' markets. Users also classify the markets by their acceptance of food assistance programs because many of the communities who are in need of fresh food need vendors who accept these programs and not all farmers' markets do.

00:06:03 **Dafna**

So, that's another aspect of equity that I think is really interesting and important. The module then has users create maps that visualize the communities by income and ethnicity for additional context, and then the user can determine where there's a need for say, additional farmers' markets or for the existing markets to begin accepting food programs.

00:06:28 **Tania**

Thank you for that. It sounds to me like your project is really very relevant to our Mt. SAC student population. Can you share a little bit more about how you saw that your project relates to our students?

00:06:42 **Dafna**

My project, the module that I created specifically focuses on Los Angeles County, and most of the farmers' markets are concentrated in that city of LA, but this investigation is really open-ended and can be applied for other areas.

00:06:57 **Dafna**

So, a student could easily use the framework of this module and the data to create their own project that specifically focuses on the Mt. SAC area. In the GIS certificate program, the last course in the sequence is a capstone project where students develop their own project topics using GIS. So, this module that I created could be a starting point for a student to expand on.

00:07:25 **Tania**

How fun? And then share it out with the campus community, right?

00:07:29 **Dafna**

Absolutely, yeah.

00:07:31 **Tania**

We're all visual learners. And to have something demonstrated to us in a very fun visual way is so powerful. So, it sounds like your sabbatical did really amazing progress really also for our campus, so that we can share some of this data.

00:07:47 **Tania**

Jessica, I wanted to ask you, can you please tell us how your educational path went? And you kind of hinted on that already earlier a little bit, but maybe expand a little bit on that, and how you came to focus on geography.

00:08:02 **Jessica**

Yes. Okay. So, I had a little bit of a longer path. I was a non-traditional transfer student, which meant I was just a little bit older, but I definitely gained a lot of really great experience at Mt. SAC. And I originally started out studying past cultures and I was very fascinated by people's relationship to the environment.

00:08:21 **Jessica**

But when I was thinking about a career, I knew I wanted to find a major, that one, had a lot of diversity when it came to potential career paths and involved some travel, I'm not going to lie - and had a modern lens on how we interact with the environment because that was what was so fascinating to me, and I've always been passionate about social equity.

00:08:42 **Jessica**

And I knew I wanted to be able to work in a field where I could potentially help problem solve and shed light on this. So, that is when I registered for Professor Golden's Geography class, Geography 1. At the time, it was spring semester, and I had taken a biology, science, and lab to transfer already, but I did need an earth science.

00:09:01 **Jessica**

And Professor Golden made learning about earth's natural system so fun that I wanted to take the lab. So, that summer, I showed up on the first day of a geography class hoping to add the lab. This was with another professor, Professor Gorsuch. Hi Professor Gorsuch, if you're listening. And I was wondering why I was there, because it turned out to be a part of a very special program at Mt. SAC called ACES; Achieving in College, Ensuring Success.

00:09:26 **Jessica**

It's a program on campus designed to help first-generation college students transfer to a four-year university. I found myself in an exciting new summer program that supports students holistically to take and pass a geography lecture and lab during the summer.

00:09:41 **Jessica**

But what made it more exciting was that we also took a counseling class about how to transfer. We wrote our university application essays and got feedback from counselors. And the best part, during finals week, we moved into UC Santa Barbara.

00:09:54 **Jessica**

So, it was a mix of a hands-on field trip and an immersive experience where I really got to see myself studying at a four-year university and practicing geography hands-on. We went hiking, kayaking, snorkeling at the Channel Islands, and then it turns out that actually Professor Golden was the one who created the program with our ACES counselor, Diana Felix.

00:10:16 **Jessica**

So, it was such a life-changing experience for me that I switched my major to geography that fall, and I applied to and ultimately, transferred to UCLA as a geography major with an AAT to transfer, an associate's degree to transfer.

00:10:30 **Tania**

Sounds amazing, your journey. And I think there's nothing wrong with saying you want something where you travel. I actually tell my students that too. When I think about my own career path, you think about what is it that you want your life to look like?

00:10:44 **Tania**

Do you want a desk job or do you want to engage with other people? Do you want to travel the world? You think about what your everyday life is going to look like, and then that's how you pick your path. So, you graduated from Mt. SAC a few years back now. So, how did you and Professor Golden then reconnect?

00:11:04 **Jessica**

So, after I changed my major, I took every geography class I could at Mt. SAC, including my all-time favorite by Professor Golden, California Geography. This class is so eye-opening on how geography is used through all levels of society, which plays in with GIS because it showed resource access and allocation, political boundaries, policies, also to the amazing way California was formed through earth's natural processes.

00:11:28 **Jessica**

Then I ended up going back to work for ACES, during the summer geography program as a supplemental instructor. And I've done that for three years. Specifically, for Geography 1 and Geography 1 Lab. This program can boast over a 90% passing rate. So , it's incredibly helpful to students if you want to take it.

00:11:46 **Jessica**

So, this last summer we did a final project using ArcGIS StoryMaps, which help students connect the physical geography to either the student's ancestry or lived experience. And the program had so many fun features to easily create a visual representation of a story or a journey, and that's how Professor Golden and I reconnected.

00:12:07 **Tania**

Beautiful. That's really so nice of you to come back year after year. That really shows the impact that program had on you and your commitment to give back to our Mt. SAC family. So, thank you for that. Can you maybe provide us with some examples of how you've investigated equity issues from a geographic perspective then?

00:12:31 **Jessica**

Yes. So, when I transferred to UCLA, I wanted to study health geography. There wasn't a specific program course load for that, but I wanted to know more about health equity issues. So, I kind of dove in, took every single class I could. I was a global health minor, but also, a public health minor where I took every health-related geography class I possibly could.

00:12:51 **Jessica**

This included classes like health geography, epidemiology, which is the study and spread of diseases like COVID, social geography, geography of sexuality and identity, health inequality, borders, all of those things; which all boils down to the big question of nature versus nurture - what really drives our health outcomes? Is it ethnicity, our parents, our genes? And the answer for every class has been, you guessed it; geography, seriously. Your environment and geography determine your health.

00:13:21 **Jessica**

So, this is one of the biggest reasons GIS is so important today because you visually represent that data and use it to improve people's health, life expectancy, and overall happiness in my opinion.

00:13:32 **Jessica**

So, I've used map making to look at inequality issues with homelessness, access to health education, access to food and uncontaminated water, proper healthcare for historically disadvantaged populations. I studied abroad in Peru for global health for a summer, and we went to the Andes Mountains, Amazon River Villages, Pueblos jóvenes, which are the shanty towns.

00:13:53 **Jessica**

And I saw how directly, how geography plays a huge part in access to sexual and reproductive health education, proper preventative care, and maternal mortality rates for women far from the nearest hospital. There was one big hospital for the entire Peruvian Amazon region, and that housed only one surgeon, and he was going to retire at the time.

00:14:15 **Jessica**

It was the equivalent of having one hospital for all of New York. However, it's not so black and white. Peru has used geography to do what I thought was extreme planning for mothers to get to the hospital in time, and that greatly improved their maternal mortality rates, and we could really learn from their incredible success with that.

00:14:31 **Jessica**

After I did that, I did a community development and social justice scholarship program where I interned for a reproductive justice non-profit organization that focused on policy reform, and I researched specifically on doctor and provider bias, and geographic access to proper reproductive healthcare for Latino populations, especially specifically about endometrial disorders, and how painful periods can be, and how young women lose hundreds of days of school work and life-living days to pain that is dismissed as normal, when a close geographic proximity to community educated providers would catch these disorders before it's too late because they can often lead to more pain surgery and infertility. Disproportionately affecting women are people with uteruses of color.

00:15:16 **Jessica**

So, with that geography lens on health, I was able to win the Dean's prize for most innovative research and spoke to the dean for an hour about it. So, see, geography can get you into places speaking up for very important matters spanning policymaking.

00:15:30 **Tania**

Well, I want to change my career now.

00:15:33 **Tania**

That's really, really cool what you do. So, are you still at UCLA or have you graduated and what are your future educational plans?

00:15:42 **Jessica**

I did graduate from UCLA. I graduated right before the pandemic. I'm currently substitute teaching, which I do actually do a lot of geography and unfortunately, physics. But I teach mostly science-type classes, social science kind of classes.

00:15:58 **Jessica**

And I wanted to do that because I wanted to see if I wanted to be a teacher in the K through 12. But I think after all of my experiences at Mt. SAC and everything, I'm going to go into therapy, counseling and therapy. And I want to see how I can take a geographical lens to that because mental health is just as important, and I don't see it being looked at from an environmental perspective many times.

00:16:24 **Jessica**

There are some programs out there that do greatly consider the environment when treating mental health, but it's not that common. So, I would love to explore that as another avenue to help people improve their health, especially because of this online component with GIS, and being able to share those visual representations with many people at once, not just once presenting it in a classroom on a piece of paper.

00:16:50 **Jessica**

So, especially with the interactive maps where people can slide, or touch things and the map will change and to really take them through that process of either what is the issue or maybe potentially spark people to figure out how we can change it.

00:17:09 **Tania**

So, I think your imagination has no boundaries. Your desire to do amazing work has no boundaries. So, I'm sure we'll still hear lots from you in the future. It's really, really special what your plans - I absolutely love it.

00:17:24 **Tania**

So, if we think of other students here at Mt. SAC that might be listening in also, how could students use GIS to explore other equity issues? You kind of touched on that a little bit already, but if you have a specific maybe-

00:17:40 **Jessica**

Yes. So, I definitely think students can use GIS. I am telling you it's better than a graph. Even if you're just using these for your projects, it is worth it a hundred percent. I have taken projects, for example, exploring homelessness in San Diego County, and have created these like beautiful maps that really just slam dunks it for your professor when you're trying to show your point on a project for social sciences.

00:18:06 **Jessica**

And I really see this being used in the future because of all of the environmental concerns we have for our future. So, students my age, younger, these are things that, especially when I was at UCLA, that we really have to think about because it's on our shoulders to try to find solutions. So, I definitely see students using GIS for a variety of reasons. And I think the main way is to transfer data and we are definitely in a data-driven world right now.

00:18:43 **Tania**

Exactly. And the easier we can make it for the user to understand the message that a map or a story is trying to tell, the better it is, the more people we capture, the more people can understand the importance of the topic that you're trying to convey. Thank you so much, Jessica for sharing all that.

00:19:01 **Tania**

Dafna, I wanted to turn to you for a moment here because talking about maps, Jessica mentioned maps - I know that during your sabbatical, you also produced a very special map that is also special to me because I'm our sustainability coordinator on campus. But can you tell us a little bit about this map?

00:19:19 **Dafna**

So, this map was not a purposeful intention. I was taking coursework in cartography and we were learning how to use Adobe Illustrator to make maps, whereas traditionally, I would use a GIS program and we had to select specific project to work on our own map-making.

00:19:40 **Dafna**

And so, I chose to work on creating a sustainability map of the Mt. SAC campus. I had been part of creating the online digital version that's available from the Mt. SAC website, but the map that I just created using Adobe Illustrator really puts an artistic feel to the map, and it highlights all of the sustainability-related assets of the school. And there's a lot of them.

00:20:07 **Dafna**

A large printout of this map is currently on exhibit at the library until the end of the semester in honor of Geography Awareness Week. And I really encourage everyone to come see it. This map, it can't be posted online because unfortunately, I can't make it digitally accessible.

00:20:23 **Dafna**

So, this library exhibit is a really good opportunity for everyone to come see it. And there were so many sustainability-related assets at Mt. SAC that I couldn't really fit everything on the map. So, I have plans for a second map that would feature some of the cultural assets that didn't make it on this first map.

00:20:41 **Dafna**

Many people don't initially think of cultural assets as part of sustainability, but they really are because they're part of making the community and making the community worthwhile for our experiences.

00:20:54 **Tania**

Absolutely. I went by the map the other day and it's really, really pretty. So, I invite everyone to go by there and to check it out. And again, as a sustainability coordinator, I thank you for increasing the awareness of sustainability on our campus. And as you said, it's so much more than just the environmental aspect of it. Like where is our wildlife sanctuary or where's our sustainability garden?

00:21:15 **Tania**

It's also the cultural aspect. Where are our good gathering spaces to hang out, and connect with your fellow students or colleagues or both, right? So, very fun, very fun. So, everybody go check out the library exhibit.

00:21:28 **Tania**

So, Jessica, had already mentioned earlier how she became interested in geography and GIS. And so, I'd like to close our conversation today with hearing from you, Dafna, about what made you decide on this majoring career, and maybe you have some lessons learned that you would like to pass on to our students.

00:21:46 **Dafna**

Yeah, when I was an undergraduate student and I first announced to my parents that I was going to major in geography, they were really nervous about how this would translate into a successful job because there aren't a lot of jobs necessarily with the title "geographer" and it's a little obscure.

00:22:02 **Dafna**

But with the GIS skills that I developed, I've had such an incredible career working on really interesting projects. I worked for the National Park Service, mapping the movement of mountain lions and coyotes, building a digital atlas of Native American cultures, and an inventory of vegetation and animal habitat in the Santa Monica Mountains.

00:22:24 **Dafna**

I worked with an architect on creating a green map for the city of Santa Monica, and I also worked on new park planning for the city of LA, and new greenway opportunities along the LA River. And I just wanted to take a minute and point out that one of the approaches that we can take to some of the mental health problems that is facing our younger generation is greater accessibility to open space, green areas, and parks.

00:22:51 **Dafna**

And so, looking at accessibility to these natural spaces is another way of approaching equity and accessibility. And that kind of ties into Jessica's areas of interest too.

00:23:07 **Tania**

Absolutely. Thank you for sharing that, Dafna. I think it's very true that often when we start out our careers and we tell our parents what we're doing and they get worried and thinking if we can make something out of it. And again, lessons that I tell my students and advice I give is, you need to follow your passion.

00:23:26 **Tania**

Because when you do what you're passionate about, then you don't care about long hours and you don't care about so many things, and you'll have that spark in your eye that employers will see also, and that will make them want to hire you.

00:23:40 **Jessica**

So, I want to turn to Jessica one more time; do you have any closing remarks or advice for others? You've shared so many beautiful things.

00:23:48 **Jessica**

Yes, definitely. First, I just wanted to say hi to all of my geography students. I hope you're doing well. And I only say that because they hear me repeat this advice that I'm about to say. They love it when I repeat myself.

00:24:03 **Jessica**

So, I think you should use your time at Mt. SAC to really solidify and shore up your technical skills, your GIS skills, your typing and digital skills, anything involving harder skills for computers.

00:24:18 **Jessica**

Because when you transfer or when you go into the workforce, everything is so fast-paced that you don't have the time to be naturally learning these things in a way that you can sustain. So, then you might just feel overwhelmed. So, I definitely suggest to use your time at Mt. SAC to do that.

00:24:38 **Jessica**

Also, study abroad. If you can study abroad, you should study abroad no matter what. Even if it's just for a summer - I only went for a summer and then I definitely learned that if you want to do just a summer and you're a transfer student, you can go the summer after you graduate. You can already graduate and you can use the financial aid money from the next year that you will not be a student in order to help you study abroad the summer after you graduate.

00:25:07 **Jessica**

So, I went in the summer in between, so it borrowed money from the year that I was a student, but it was worth it. It was incredible. Everything I did to try to travel was worth it, and it changes your perspective, and it makes you more creative when you come home for your own life, and for those around you. So, those are my two pieces of advice.

00:25:30 **Jessica**

And then maybe to find resources, to find programs that are geared towards you so that you can form a community to help you get through school.

00:25:40 **Tania**

Thank you so much, Jessica. And I think that's not only advice for our students, but also, something for our professors to listen to because we as faculty have the opportunity to be part of study abroad programs. So, consider looking into that so that you can go somewhere and take our very own students with you.

00:25:59 **Tania**

And also, of course, like those soft skills that you've touched on, we all have an obligation to do that for our students. I teach in the sciences, and I always emphasize the importance of graph reading skills and you know, of course, we all infuse math and writing skills, reading skills. And so, I really appreciate that you said that you found that to be really important and helpful as you move through. You're still young, but already so exciting in career.

00:26:24 **Tania**

Thank you both so very, very much for your time. This has been very fun talking to you about all the amazing things GIS has to offer, and I hope to see a lot more of your maps spread around our campus. So , thank you so much.

00:26:43 **Christina**

Thank you for listening to the Magic Mountie Podcast. And don't forget to share your favorite episodes.