



# TAKING ARCGIS ONLINE FOR A TEST DRIVE

DAVID DIBIASE TELLS JIM BAUMANN ABOUT THE IMPORTANCE OF OFFERING MASSIVE OPEN ONLINE COURSES (MOOCs) AS PART OF THE COMPANY'S EDUCATION PROGRAMME

**Jim Baumann:** You recently introduced massive open online courses (MOOCs) to Esri's education programme. How did this come about?

**DiBiase:** Well, it wasn't just me. I had the idea, but nothing would have come of it without the cooperation of leaders and staff members across the company.

We've followed the lead of several higher education institutions that introduced MOOCs about maps and GIS. The largest of those so far is 'Maps and the Geospatial Revolution' offered by Penn State through Coursera. Students in that MOOC indicated that they wanted to learn more about this subject, and that spatial analysis was the topic they most wanted to explore. The primary audience we had in mind was tech-savvy young professionals who are familiar with data analysis and want to learn more about the special capabilities of spatial data analysis.

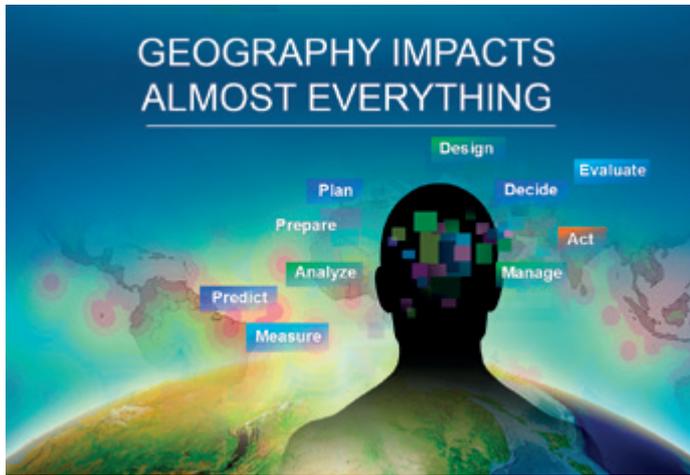
I joined Esri three years ago as leader of the education outreach team. The strategy I proposed for higher education was to complement our long-time efforts to support educators with new kinds of support provided directly to students. I believed then and still believe now that we need to spark a grass roots interest in and demand for not just our

technologies, but for the fundamental geographic approach that our technologies bring to life.

When I arrived at Esri in 2011, it wasn't clear how we could do that. Then MOOCs came along in 2012 and revealed a global mass market for free online education. This phenomenon provided the channel we needed to reach learners beyond the disciplines that traditionally include mapping and GIS in their curricula. I had a lot of experience in online teaching and learning from my years at Penn State, and Esri too had experience with web courses since the 1990s, so MOOCs seemed like a natural next step.

**How did you determine that a MOOC would fit into Esri's existing education programme?**

Esri's education enterprise is diverse and spread across the entire company. For the most part, however, our education offerings serve people who already use our technology. What's new about MOOCs is that they provide a way to engage with people who are curious about the power of spatial thinking and geospatial technologies, but who may not be GIS users or even have heard of Esri.



The course gives students an understanding of some fundamentals of spatial analysis

Most higher education institutions use the ArcGIS platform to some extent. In fact, 70% of the top 400 universities in the world (as ranked by *The Times*) maintain Esri education site licences. However, in many institutions, GIS is concentrated in a few academic departments and administrative units. Most college students never encounter GIS during their prescribed courses of study. My team has struggled for years to encourage adoption of the geographic approach across the college curriculum. MOOCs provide a way to engage thousands of current students and recent graduates across a broad spectrum of disciplines who seek a competitive edge in the job market, or who are simply curious about the technology. This is a new channel for Esri.

**Did you have any difficulty getting the project approved and pulling together the Esri team to create and manage the MOOC?**

**DiBiase:** No, it was really just a matter of timing. I met with Jack Dargermond and education services division director Nick Frunzi early in 2014. I presented the idea that we could create a free online course that would enable thousands of learners to ‘test drive’ the spatial analysis tools in ArcGIS Online. They agreed to support it on the spot.

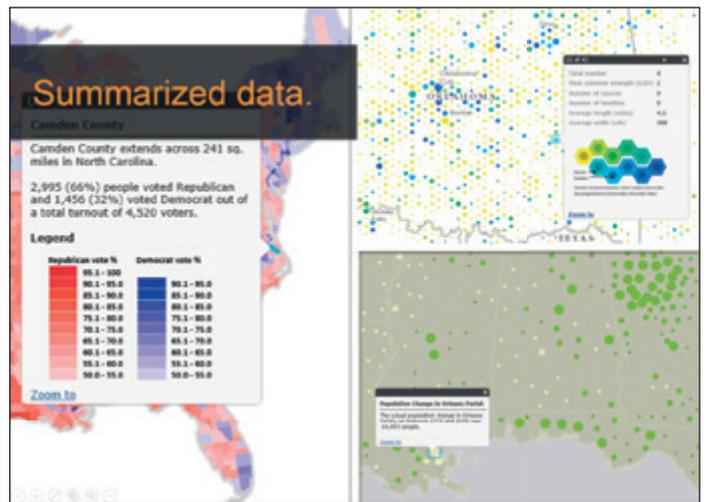
We went right to work and built a fabulous team. I’m so fortunate to be working with a great group of people across three Esri divisions who are working together to design, develop, and deliver our MOOCs. Our MOOC team includes members of my own education outreach group in marketing, the training services group in education services, and geoprocessing team members from our products division. In addition, a number of employees from across the company have stepped up to volunteer as teaching assistants who answer questions and give advice to our online students. It’s really been a great collaborative effort.

**Why did you decide to offer an intermediate level MOOC on GIS, rather than an introductory class?**

We want to create large-scale online courses that complement offerings by colleges and universities, not compete with them. Providing



Each week students have the opportunity to explore problems through spatial analysis using ArcGIS Online



By summarising data in different ways you can reveal patterns, answers questions and support further analysis

no-cost access to the analytic capabilities of ArcGIS Online is not something that a higher education institution can do without our help. Our hope is that educators will use our non-credit MOOCs as assignments or supplementary activities in their own for-credit courses. We also provide technology and staff support to institutions that request it for their own MOOCs. Whether it’s ours or an education partner’s MOOC, the key is to reach a mass audience that is, to some extent, new to GIS.

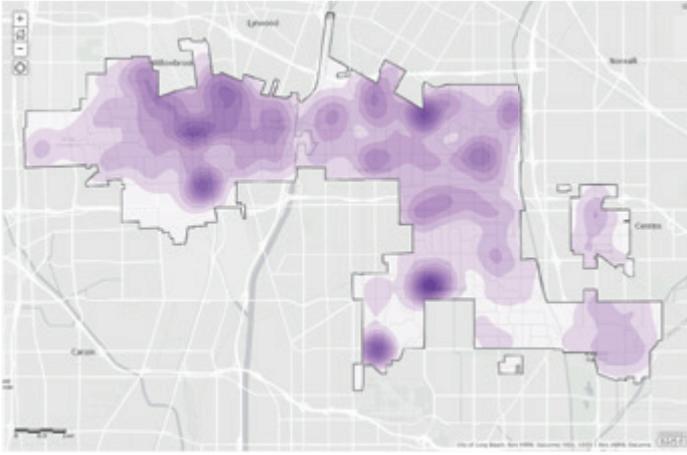
**What were the results of your initial offering of the MOOC?**

Our pilot offering of ‘Going Places with Spatial Analysis’ opened in September 2014. It’s a six-week online course that includes free access to an ArcGIS Online organisational account. We chose to limit enrolment for the first offering because everything about the course was new. So, we invited the first 1,200 students who expressed interest in participating. About 800 students registered. Of those, about 600 participated actively and 200 completed all the course content. We were pleasantly surprised by the completion rate, which is higher than most MOOCs. We were also encouraged by the very positive feedback we received from many participants.

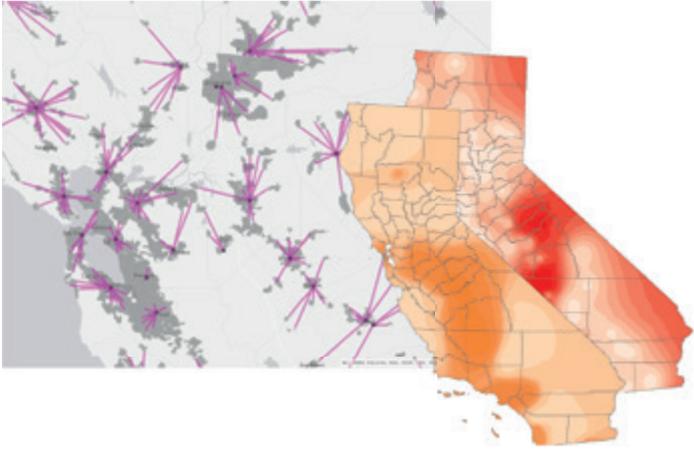
**What’s in the future for MOOCs at Esri?**

Immediately after the pilot offering concluded, we opened an unlimited second offering of ‘Going Places’. We’ve invited over 10,000 people to join the course and nearly 5,000 have at least logged in, with more than 3,500 actively participating. Many students express excitement about the capabilities of ArcGIS Online, and appreciation to Esri for offering the course. Many are experienced ArcGIS users. Many others are new to Esri. The company is pleased with the response. We plan to offer Going Places two or three times this year, depending on demand.

We’ve also begun to design a second MOOC. Course design begins with a target audience, which in this case is current students and recent graduates of business schools, both bachelor’s and MBAs. We assembled a team of Esri people with recent business degrees to advise us and we have a small group of GIS-savvy B-school faculty members who are eager to help. We want to help folks coming out of B-schools see



Creating density surfaces can simplify complex data and bring new insights to support decision making



Students explore population exposures: locating the nearest monitoring stations or, finding the predicted exposure

how location analytics can give them a competitive edge in a tough job market. We've tentatively titled the MOOC 'The Location Advantage'.

Based on the reception of 'Going Places' within and beyond the company, I expect Esri will develop a suite of MOOCs to help expose our technology and outlook beyond our existing user base. We're already discussing the possibility of a third MOOC to be developed in late 2015, but we haven't settled on an audience or topic yet.

Meanwhile, we're mindful that free, large-scale online courses are expensive to build, maintain, promote, and run. Whether Esri will be able to sustain this effort remains to be seen. But I like to think that if we continue to attract both the large numbers of enrollees and positive reviews, we'll be able to grow our MOOC portfolio in years to come.

**What sort of educational opportunities are available from Esri for those students that have taken the MOOC and want to continue learning GIS?**

We define success in part by the number of MOOC students who seek to learn more about GIS and Esri. At the conclusion of each MOOC offering, we suggest a number of next steps. Students can seek out further training opportunities provided by Esri's training services group (<http://training.esri.com>), including self-paced web courses and seminars. They may also move on to Learn GIS (<http://learn.arcgis.com>), Esri's newest education destination, where they can join an ArcGIS Online organisation for free and access additional case-based self-study exercises.

We also encourage students to check out Esri's ArcGIS for Home Use license ([www.esri.com/software/arcgis/arcgis-for-home](http://www.esri.com/software/arcgis/arcgis-for-home)), which enables anyone to run ArcGIS for Desktop on their personal computer for non-commercial use. The Home Use licence also includes an ArcGIS Online subscription account. Finally, we're happy to discuss formal education opportunities at leading institutions, both online and on campus.

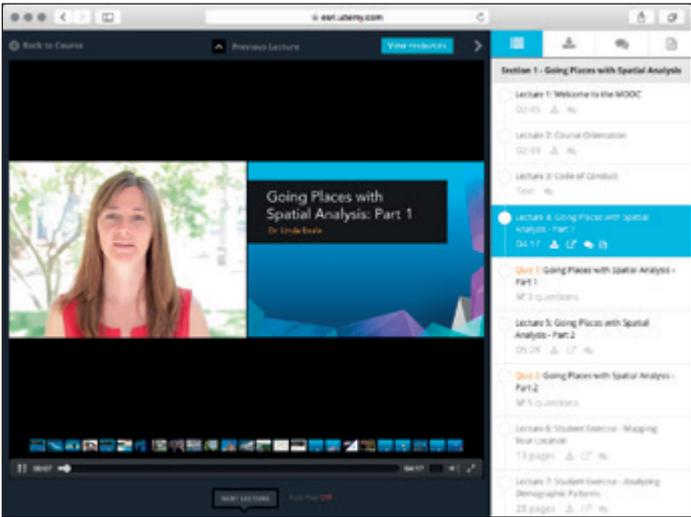
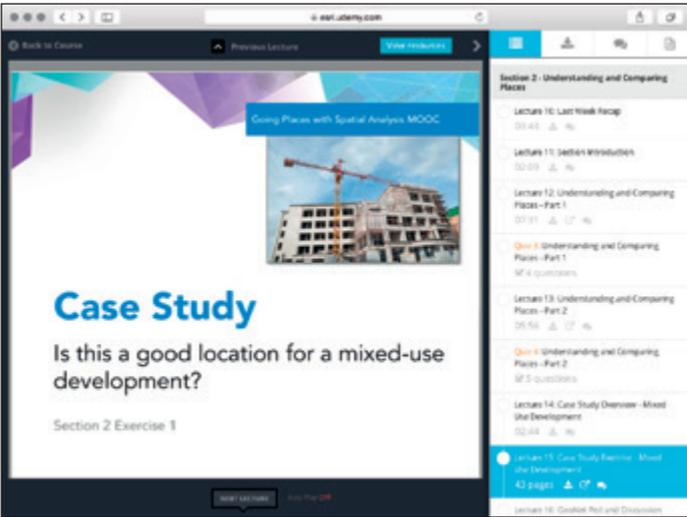
**How important do you believe MOOCs are in educating people about the power of GIS?**

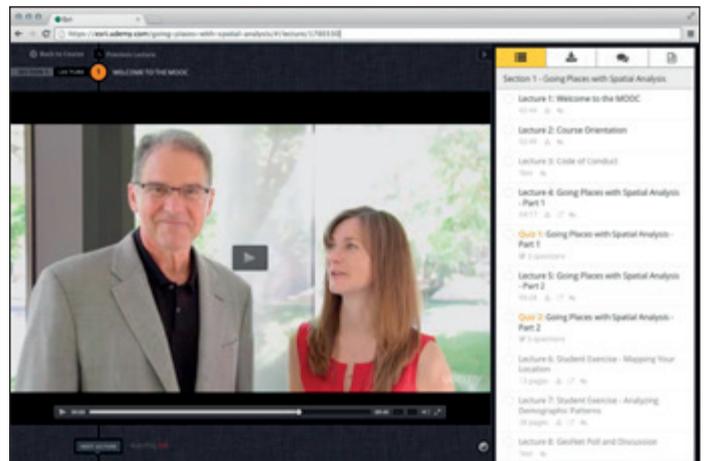
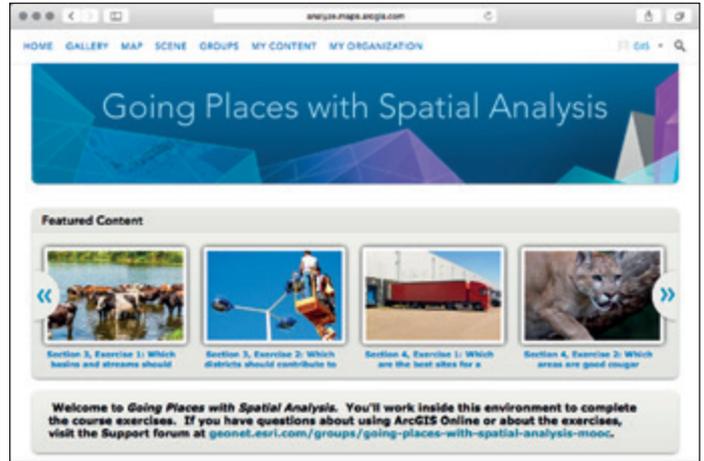
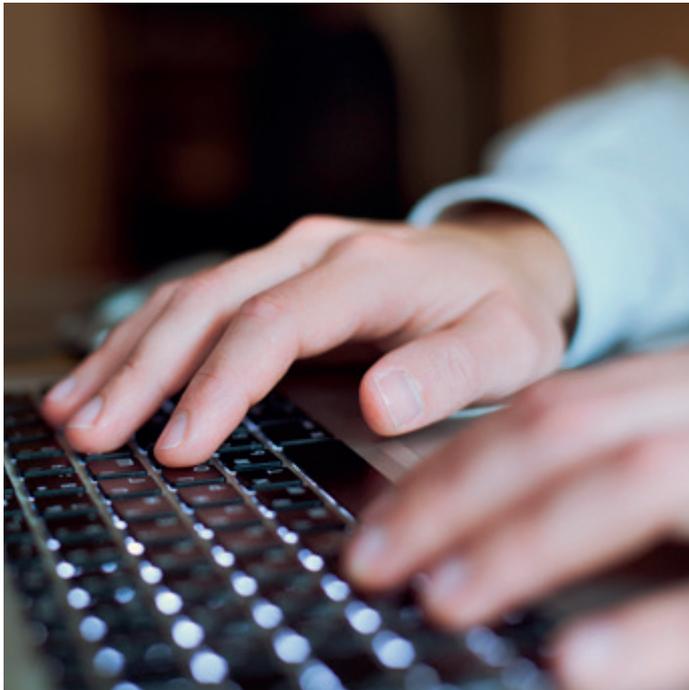
Back in 2003, the US Department of Labor identified geospatial technology as a high growth tech industry, along with biotech and nanotech. At the same time, however, they pointed out that awareness of the industry remained low. We're still struggling to achieve mainstream awareness of our technology and our field. MOOCs may be helping.

Esri has a loyal and energetic following among its customers and friends. You can think of that as a kind of constellation of individuals and organisations that orbit Esri. However, business-to-business companies like Esri struggle mightily to reach people beyond their orbit.

Our goal is to reach people who may not know what GIS is or haven't heard of Esri. In the context of higher education, we want to reach beyond the traditional map-conscious disciplines like geography to others such as health, business, engineering, computer science, and even the humanities. Attracting the interest and participation of these disciplines has always been a challenge for my team. I personally am not aware of any strategy for broadening our reach beyond our own constellation than MOOCs, because MOOCs are an opportunity for people to exercise their curiosity and expand their horizons. MOOCs are a low-cost, low-risk means to explore things about the world that you might not encounter otherwise.

I think there a lot more people who would be interested in GIS if we expose it in a way that is challenging but supportive and fun, and that's what we try to do with these MOOCs. I believe this is one of the best strategies we have for helping the wider world understand the power of the geographic perspective and the effectiveness of geospatial technologies to bring geography to life. Time will tell if that hunch is right, but from this early vantage point I'm optimistic.





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David DiBiase is director of Esri's education outreach team ([www.esri.com](http://www.esri.com)). Jim Baumann is a writer for Esri

David DiBiase and course author Linda Beale in the introductory video in 'Going Places with Spatial Analysis'

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