

Cunningham parlays interests into GIS internship

The following story is one in a series of profiles of the undergraduate students in our department. For the complete list, visit www.geog.psu.edu/academics/current-undergraduate-students/undergraduate-student-profiles.

GIS drove **Jim Cunningham** to ask his girlfriend to marry him and give up what he thought was his career path -- the priesthood.

GIS challenged him in the classroom. He was looking for a field that required technical and analytical skills. And, jobs for GIS analysts are in demand.

Above all, the GIS fulfilled him in a way he hadn't felt since he was in theology school, when he thought his vocation was to become a priest. And, as he became more and more confident about a potential career in GIS, things started to fall into place: He proposed to his girlfriend on Dec. 24, 2009, and gave up the path to priesthood; he designed his own internship in GIS; and he's on pace to graduate next fall.

"GIS challenged me enough, rewarded me enough, and truly interested me enough to finally see myself pursuing a career instead of the priesthood as part of the fulfillment of my vocation," says Cunningham, 37. "So this career pursuit would, naturally, allow me to consider the real possibility of mar-



Cunningham and the digital version of the archdiocesan map he made during his internship with the Office for Research and Planning of the Archdiocese of Philadelphia

riage as part of my call."

And, his girlfriend said yes.

Cunningham's life before finding GIS included a number of career starts. He'd been an actuarial science major at Penn State Berks from 1991 to 1993. He got a philosophy degree from Saint Charles Borromeo Seminary in 1996. He worked his way up through numerous jobs with a quarry company for seven years. And he was in the Navy for four years.

He'd reached a limit for each, though. He no longer felt challenged seven years into his jobs with the quarry company.

He joined the Navy for a physical challenge and reset his thoughts, he says.

The call to priesthood still stood out as the strongest.

But one day, some Navy friends told him about how they used GIS and remote sensing in Afghanistan. The work was similar to what he'd been doing in the Navy as a cryptologic technician, which doesn't exist in the civilian world.

Something clicked with Cunningham. GIS was a growing field with good job prospects, and it looked like challenging, analytical work. So he gave it a shot.

"I always had an amateur interest in maps and surveying maps," he says, thinking "this is very much something that interests me."

That first semester back at Penn State in fall 2009 reaffirmed his decision to study geography, and he credits two courses — GEOG 160 (mapping) with teaching assistant John Clark and GEOG 364 (spatial analysis) with assistant professor Alexander Klippel — as the catalysts. He enjoyed the subjects and the instructors were helpful, he says.

"My success in 160 and 364 both equally lent a tremendous amount of encouragement with my vocation and my choice of GIS," he says.

Since then, it's been smooth sailing.

"The past semesters strengthen that confirmation. I don't think I'd want to be doing anything else," he says.

Cunningham parlayed his interest in GIS into an internship during the summer of 2010 with another one of his long-time interests: the Catholic Church.

The idea had roots in the final project of his GEOG 363 class. The assignment: Find an application of GIS that's engaging to him and make a digital poster.

"I was sitting in the lab thinking 'what am I interested in,' Googling 'GIS and astronomy,' 'GIS and Mars,' 'GIS and 'Catholic church,'" he says.

Something caught his eye on that last search — a meeting transcript from the Office for Research and Planning of the Archdiocese of Philadelphia. It outlined how it used ArcGIS to produce maps for

the diocese.

Cunningham saw the maps they produced and had an idea.

"That's something I can do, and feel more driven to do it because of whom you're doing it for," he says.

Through his connections within the archdiocese, he set up a meeting to get more information. He found out the archdiocese had outstanding mapping projects it needed to have done, so he offered to intern for them.

They accepted.

"One of the biggest rewards was that my GIS work was geared toward providing a real-world service to priests and the people in their parish," he says. "For a Catholic who once studied for priesthood this reward was multi-faceted: GIS, mapping, priests, the Church, and a small office with a great rapport."

For Cunningham, the capstone project was an archdiocesan wall map he had free reign to make. He said the map is produced each year, and it tries to be inclusive of all local parishes, national parishes, schools, colleges and other locations related to the archdiocese. It didn't include roads.

Cunningham spent a couple weeks trying to figure out the labeling and could have benefited from taking Cindy Brewer's GEOG 361 cartography class first.

"Even now I can see some deficiencies in my work that her instruction would have helped to correct," he says.

For another project, he geocoded the locations of Catholic Social Services in

a parish. He mapped the locations of the different services it provides and their relationship to the social services headquarters.

And for another project, he made a wall map for a parish that wanted an update to their hand-drawn version it'd be using.

"They wanted to be able to direct people to their parish when they called," he says.

Cunningham used the most recent TIGER line data and represented the most recent parish boundaries. He used ArcMap to show relationships to surrounding parishes.

Cunningham says the internship benefited because he got hands-on application of what he'd done in class, he enhanced his portfolio, and developed contacts. Again, it reaffirmed his decision to study geography.

"It supports what we're taught — GIS is really used everywhere," he says. "I never would have thought the Catholic Church was using GIS."

Most recently, Cunningham's GIS class portfolio consists of advanced web mapping (GEOG 497K) with Jim Detwiler and a programming course (GEOG 497F) with Krzysztof Janowicz. He admits there were steep learning curves, but that only strengthened his desire to work in GIS.

Cunningham will graduate in December 2011, and he hopes to work with a land management agency or a county commission.