Minutes
UCIME Group Meeting
February 22, 2002

Important Dates and Announcements:
The next UCIME meeting will be as needed and will be announced.

Attendees: Keith Clarke, Helen Couclelis, Noah Goldstein, Jeannette Candau, Jeff Onsted, Xiaohang Liu, Tim Robinson, Sean Mullin, Ryan Aubry and Lisa Gonzales.

Group member reports:

Xiaohang:

- She has been working on finalizing the Density Model, which reads SLEUTH input layers and outputs a population density map. It is done by doing multiple regressions all set up in C that uses various parameters such as distance from highway, year of settlement, distance to downtown, etc. She used landuse polygons as her basis and not census tracts. She has run into a few problems with the recursive algorithm because of the stack size, as you can't control the size of the images people will use. The error is a bit high but workable. We hope to see a demo at our next meeting. Keith suggested this would be a good conference level paper.
- She just began another project with Keith to use CA modeling to study non-energy related mineral deposits. This is work in collaboration with Gary Raines who was here last year.

Ryan:

- He met with Jaimie Goldstein who delivered the 2000 assessor's data so that we no longer will have to work with 1998 information. It contains data for the entire county, about 100,000 parcels. This information will be very useful for the up and coming project with the Santa Barbara ECP, hopefully to be funded by the Irvine Foundation.
- He has been discussing with Rich Applebaum on how to revise the neighborhood coverage, which divides the South Coast up into 20 neighborhoods, each with a series of variables in an Excel spreadsheet. He is working on the More Mesa neighborhood to look at the job/housing imbalance. Once the technique is established, it can then be applied to other neighborhoods. Certainly this will not find the 15,000 people the SCOPE model under estimates from the 2000 census. The approach does integrate some of the Cox Cable data, mentioned last meeting.
- Ryan is going to TA 176c for Wei-Ning Xiang next term and they might use the Santa Barbara data for the class.

Jeannette:

- She is just one signature away from having a completed master's thesis.
- She has been pulling data (historical data layers, etc) together for the Central Valley project to be able to do the calibrations.
- She also has been tinkering with variations on the Santa Barbara projections as we have some new data layers (green scenarios)

- Pat Saley drafted a report about naming, which indicates we need to carefully select the names of the various scenarios we create, example "business as usual", as no one understands.
- She sent Mark Feller the Anderson Level II data.
- Keith mentioned that Lionel Wyginsfrom Rutgers University is coming here on sabbatical and has some funding to work on landuse modeling in the Central Valley. She is coming next year.
- Keith mentioned to not forget that we need more animations, particularly for landuse. He also suggested that Ron Stimpson from the University of Queensland is working on a SLEUTH application for Brisbane. We all might have to go down for consultation.

Jeff:

- There is a 12-minute video now out about SCOPE. It's quite professional and for our next meeting we'll take a look. It's a series of interviews and screen shots from the web page.
- He has given 2 presentations on SCOPE (Geography Honors Group and Goleta Rotary Club).
- He also continues to work on SCOPE, specifically on getting overlapping graphs as well as restructuring and refining the model. He hopes this work will take care of the 15,000 people missing. He has a list of 18 tasks that came with his funding and will keep him busy for a while.
- His thesis has one signature and more to come.

Lisa:

- Lisa is a senior undergraduate Geography major who is working with Martin on the "What if?" model. They are awaiting a hardware key before they can get going. She circulated a list of data that is needed and everyone agreed to help out with data acquisition (landuse, rivers, roads, soils, slopes, political divisions, etc). Martin will come to the next meeting with a short presentation in hand.

Keith:

- He gave a colloquium on SLEUTH at the University of Michigan, which went very well. His talk was jointly sponsored by Urban Planning in the School of Natural Resources School and their complex Systems Institute in the Physics Department. The GIS expert in Natural Resources, Dan Brown, got funding under Bio-Complexity last year and is developing a model in Stella, which is similar to SLEUTH. It might be an interesting coupling effort.
- County Planning is doing an Open House on Monday the 25th. All are welcome to attend.

- He is going to Ohio for a workshop. His role will be to summarize the state of landuse modeling. He hopes to get a paper out of it.
- The call for papers just came out for the URISA meeting, 24-25th of October in Chicago. Maybe Lisa could go and present something on "What If?".

- He met with Michael Batty's former student, Yichun Xie, who is attempting to apply SLEUTH to all of eastern China and integrate it with one of his own models, DRUM This will be interesting to see how this comes out.
- He just purchased a new computer that will be the new server for the Descartes Lab, should be a screamer and be a great addition.

Noah:

- He is working with Jeannette and Martin to look at population growth in the Santa Barbara area since 1929 to 2001 by breaking it up into smaller pieces. They are using the Historical Urban Projection layer as well as projected data out to 2030. Martin is taking the lead on this one.
- He is giving a talk next week at the USGS in Menlo on SLEUTH.
- He also has been discussing with Len Gaydos on the possibility of having a SLEUTH workshop where all those working with the model could get together for a short conference. Willing participants would then be asked to write chapters for a book on the use and application of the model. The effort would be co-sponsored by UCSB and the USGS. Noah is going to take the lead on this. The book would contain a CD with the source code and all the applications of the model around the world. The thought is to have the following conference sessions: background, applications, testing of the model, integrating modeling, and using it as a theoretical test bed on issues relating to urban growth. Dates have not been determined but most likely it will happen before GIS/EMS-V.
- He continues to work with Xiaohang on the genetic algorithm calibration with SLEUTH and they will present their work at AAG.
- He hopes to attend a conference on complexity at the New England Center for Complex Systems at the end of May, where he hopes to give a paper on co-evolution and the strengths/weaknesses of dynamic systems.
- Keith has a new PhD student coming in next year that will be working on urban modeling.

Tim:

- He has been working with Ed Beighley, SBC-LTER watershed modeler, specifically on impervious surface layers here one the South Coast as well as getting a handle on methods to do hydrograph separations (using the variation of silica concentrations across the hydrograph).
- Over the last month we only had one small storm, hence not much creek sampling. His free time has been put to installing more stream sampling equipment (pressure transducers and auto-samplers).
- He spent a day doing a video shoot for the Jason Program, an educational program for middle schoolers, which was looking at stream water quality and urban runoff. The video will be out in June.
- He did a bit of consulting for the City of Ventura on their drinking water stream monitoring program.

- With Arturo Keller, he just begun working on a yearlong project to build a nutrient TMDL, watershed model, to look at nutrient loading throughout the Santa Clara River basin.
- He is working on two papers for conferences coming up in the spring, UC-TSRTP (Toxic Substance Research and Training Program) and American Water Resources Association.
- Beyond that, he is studying for written qualifying exams, coming up next month.
- If anyone has any hard or digital copies of references that should be in the UCIME library, please send them to Tim soon for archiving and including on the web page.
- The Watershed Science Group has an interesting speaker coming next month, Drew Ackerman from SCCRP, who will be talking about bacteria modeling for the Santa Monica Bay.

Sean:

- He continues to work on the interface with a sub-committee. The idea now is after a few flashing initial images, the user will go through a series of questions that will lead you into different scenarios. Some questions are where should we build, how should build, and who should be build for, each with only three possible answers (yes, no, neutral). There will only be one question at a time, which enables a hierarchical structure for rapid jumping down the list. At the end it will send you to a scenario, where we would have the pre- cooked report cards, images and graphs. We would like a scenario map that would give the user an idea of how close he/she was to other like scenarios. If you are not getting appropriate responses in the process, the interface will then bump you out to a web page for more review. So here is where Sean needs to focus his work for the next couple of weeks.

- We made a list of the final scenarios we are going to accept:
  1. Urban growth boundary (growth only inside the boundary, excluding parks)
  2. Commercial Moratorium. No growth or slow growth (50%) for commercial building.
  3. Business As Usual: a conservative approach, only parks and water are excluded, unrestrained growth. This really means urban growth boundary with agriculture at 50% and all else is available.
  4. No holds Barred: take off all restrains and let it go.
  5. Green: no growth in riparian zones, coastal zones, groundwater recharge areas and parks.
  6. Caltrans Hell / Crazy Roads: building more roads and widening them.

  At the present we do not have the Coastal Zone included for 1 and 2, which we should include. Sean is going to put a questionnaire out to all for us to evaluate scenarios and questions.

Helen:

- She continues to write various papers.