Minutes
UCIME Group Meeting
January 18, 2001

**** Important dates and announcements:**

- Our next UCIME meeting will be **2/22/02 at 9:00 am** in Keith's office.
- Next month will be our last official meeting, but the project will continue on a "no cost extension" through the end of the summer and we will meet throughout that time.
- The project is sponsoring Wei-Ning Xiang during his sabbatical from University of North Carolina at Charlotte. He is teaching two courses for the Department on Multi-Criteria Decision Making and 176c. He is also looking into how to directly use SLEUTH in decision-making. He is working on an interface to play with forecasting and create scenarios in 5-year intervals that is continually directed in the hopes of coming up with a consensus forecast instead on an average Monte Carlo approach. Be sure to go by and visit or send questions to wxiang@email.uncc.edu.

Attendees: Keith Clarke, Helen Couclelis, Noah Goldstein, Jeff Onsted, Xiaohang Liu, Melissa Kelly, Tim Robinson, Martin Herold and Ryan Aubry.

Jeff:

- He has submitted a draft of his master's thesis to Keith and is awaiting comments.
- He did a presentation of SCOPE to the Flowers Growers Association in Carpinteria to a very interested and lively group of 30-40 people. Their reaction was very positive to both SCOPE and SLEUTH.
- Regarding the model, he has the web version now working and producing the same results. He is still working on the input tables.
- We have obtained a small grant from ECP, which is funding Jeff this term.
- Keith suggested improving the initial page of the model webpage and get a counter and log to keep track of those accessing the page.
- Jeff estimated that 300-500 people have been through a presentation on SCOPE. Keeping a log would be helpful for a benchmark of project success.
- He hopes to go to LANL at some point, maybe over the summer.

Ryan Aubry:

- He is now being supported on the UCIME project.
- He has been working on three projects with Enki (Yoo Eun Hye) who has been very helpful with her excellent programming skills, particularly in Avenue. The first is to rework the County Zoning Map to distill the variations between all the city interpretations here on the South Coast. They have created 5 different landuse categories (low density housing, medium density housing, high density housing, commercial, agriculture and park lands) that could be used with SCOPE or SLEUTH. He feels the County Assessors landuse maps by parcel are now 90% accurate, which

well be very helpful for in filling in urban areas. This effort should help Melissa with her landuse mapping.

- The second project is working with Jim Newman at ECP on more detailed maps to look at the jobs-housing imbalance. Jim has come up with a set of global variables to assess the issues (income, square footage of office space, traffic trips by parcel; e.g. census by GIS).
- The third project is to work with Cox Cable data to get the number of units per parcel, essentially counting the number of cable hookups to determine number of units in a given parcel.

Noah:

- He is waiting to hear about the paper submitted to Computers, Environment and Urban Systems that he did with Jeannette and Keith. It compares using Sleuth for back casting with the county assessor's map. They found that the spatial resolution is better with the parcel map.
- He and Xiaohang are working on a paper for AAG on creating a genetic algorithm to calibrate SLEUTH instead of the brute force approach being used now. This will dovetail with a second paper that will focus a computational comparison of the two approaches.
- He submitted an abstract for the Complex Cities Conference in Nashua New Hampshire in June on the co-evolution of natural and urban (human) systems.
- There is a NSF dissertation approval grant that he is working on. This effort goes hand in hand with his dissertation proposal, which is forthcoming.
- He hopes to go to LANL in May to work with Steen and Claes.
- In the spring he will be working with Jeannette to look at SLEUTH in respect to how it responds to rules by creating simple spatial scenarios and running the model.
- He is taking Geog184a on Cartographic Programming, to get a better handle on programming, as well as Helen's Geog 225 seminar on Agent Based Modeling. A webpage will be developed for the course; Helen will send materials to Tim for incorporation. Helen suggested that because of the wide interest in Agent Based Simulations in Landuse Change and Geography that maybe the group could work on a book.
- He met with Wei-Ning and to discuss SLEUTH. Since SLEUTH has an exclusion layer, which is binary or probabilistic (0-100) and a slope layer, the thought was to have the exclusion layer be a proxy to the human environment and the slope layer for the physical environment, the latter incorporating streams. Having the two proxies in effect create two knobs instead of one. Also included is a weighting function (non-linear float) that enables one to play with the function.

Melissa:

- She continues to work on the 1976 landuse layer and has one student working with her this term. They are hoping to finish by the end of this term.

Helen:

- She has been reviewing Jeannette's thesis and will have comments to her soon.
- She has been working on her seminar this term on Agent Based Modeling, which is building in momentum.
- She is working on two papers; one is for a keynote address at a conference in Melbourne in July on the different sources and kinds of uncertainty, and the second with Claes on the integration of urban environmental analysis. She hopes to go to LANL in May.

Xiaohang:

- She is wrapping up the urban density project and is beginning to write up her conclusions. The final form will be a report with the script of the developed linear regression. Keith would really like some code.
- She received a Lockheed Martin Graduate Fellowship to look at uses of high resolution IKONOS imagery. She needs to submit a list of items that she will need for the project.
- She submitted an abstract for the Remote Sensing of Urban Areas conference in Istanbul in June.

Martin:

- Martin submitted two papers for the Istanbul conference as well.
- He is going to look into other funding opportunities with Lockheed Martin.
- He and Keith worked on an NSF proposal on national landuse change modeling at a one- kilometer resolution. The funding is for two years, the work of which he will do with Jeff Hemphill.
- He and Noah are working on a paper on spatial metrics with SLEUTH. Toby Carlson is awaiting the paper.
- Keith gave Martin the "What If" model and he will begin to play with it.

Tim:

- The rains of December kept him busy with fieldwork through 12/22.
- He finished and submitted his paper for the Coastal Water Resources meeting of the American Water Resource Association in May in New Orleans. It was a good exercise to synthesize the data collected since the beginning of the water year in October.
- He wrote a UC Toxic Program grant to be able to hire a student for 20 hours during two terms for data entry and field work assistance.
- Tim did receive the Coastal Environmental Quality Graduate Fellowship from the University of California Marine Council that will fund two years of his research for his PhD. It includes salary and some funds for equipment.

Keith:

- All indications suggest that the Irvine Foundation Grant will get funded, which will start in March and fund Jeff and Ryan Aubry. The proposal is to fund the whole ECP enterprise with $150,000.
- While cleaning out his office over the Holidays a few items of interest were discovered and will be circulated around the group in a UCIME file. Please read through the materials and pass them on. The literature includes: a review of the Gigalopolis webpage in Natural History, brochure for CommunityViz; Buckminster Fuller Institute presentation of SpaceshipEARTH by Marshall Lefferts and Joshua Arnow; Land Use and Land Cover Change Newsletter; and a report on Metropolitan Philadelphia and its Future.
- Marshall Lefferts from the Foundation of Conscious Evolution, a Buckminster Fuller Institute funded project, visited Keith last week. His project is called SpaceshipEARTH (Default_XREF_styleREFwww.spaceshipearth.org) and is very similar to UCIME but on a global scale. They claim to have the most accurate flat map of the world.
- Keith hopes to go to LANL in May.
- He is fine-tuning the spend-out for the UCIME grant. October first is the final date for all expenditures. If there are any expenses that you have, please let Keith know.
- He wrote a second proposal last week, this one with Annabel Ford and Oliver Chadwick regarding the NSF Bio-Complexity initiative, which is due on 1/24. This is the second run at the funding, the first returning very positive comments. The project will be mostly developed here but has components in Costa Rica and Belize. It is a $3 million dollar grant that will couple models in Stella to create an environmental systems model for the Mayan forests. The model will be tied into a GIS and SLEUTH to predict population totals and landuse change.