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CRP 386 Spring 2008

**Applied Geographic Information Systems:  
Participatory Approaches  
to Environmental Justice**

*-subject to revision-*

Tuesday 5-8pm  
West Mall Building 3.116  
Instructor: Bjørn Sletto  
Office hours: Tuesday 1:00-2:30pm  
Office location: Sutton Hall 3.124B  
512/853-0770; bjornsletto@mail.utexas.edu

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**Course description**

Environmental justice is a research perspective typically applied to urban areas in the “developed world,” where scholars develop partnerships with activist groups to investigate unequal exposures to environmental hazards associated with industry and infrastructure development. The inequitable distribution of air, noise, and water pollution are typically linked with structures of race, gender and class, to the extent that environmental injustices have given rise to the term “environmental racism.” However, marginal communities in developing regions such as Latin America also carry a disproportionate burden of environmental problems associated with rapid urbanization. The marginality of such communities is compounded by broader political-economic structures and processes, including the dependency on raw materials markets and fickle service industries such as tourism, which characterizes many countries in the Global South. In this course, we will apply the literature in environmental justice, urban political ecology and critical development theory to understanding the causes and consequences of the unequal distribution of environmental risks associated with urbanization in the Global South, and particularly in Latin America. The course is structured around two field trips to Santo Domingo, Dominican Republic, a city that has experienced rapid, mostly uncontrolled growth during the past three decades. We will collaborate with various partners, including community organizations, activist NGOs, the state research and development institute CONAU, and the City of Santo Domingo Norte, and develop a participatory research methodology to research the causes and risks of flooding in an informal settlement. We will produce a GIS based on primary and secondary data (both qualitative and quantitative), posters and other visual products for community and Internet distribution, a gender and community diagnostic based on participatory ethnographies and surveys, and designs for community-based structural improvements.

**Course prerequisites and time commitment**

This course will meet once a week for three hours; since we will meet four times in Fall semester (times TBA), we will cancel four class meetings in Spring semester. We will take two field trips to Santo Domingo (see Key Dates, below) and students are expected to cover up to \$600 of their transportation and lodging. The remainder will be covered through scholarships. Students should be fluent in Spanish and have taken CRP 386: Introduction to GIS or seek the approval of the instructor. Interested students are also required to complete a questionnaire and submit a one-page Statement of Interest in Spanish. The course is limited to 9 students.

### **Pedagogical goals:**

1. To learn the fundamental theories, concepts and methodological approaches in environmental justice, urban political ecology and critical development theory.
2. To develop participatory research, design, and planning skills, including GIS, mapping, and survey strategies, through hands-on collaboration with community partners in Santo Domingo Norte.
3. To develop critical, analytical skills associated with international, participatory research and planning through readings, discussions, and learning from project partners.
4. To develop critical, analytical skills associated with questions of representation in international development and planning, readings, discussions, and learning from project partners.
5. To develop presentation skills for diverse settings and audiences, both in Spanish and English.
6. To develop basic digital documentation and representation techniques, including introductions to ArcPad, GPS, GIS, SketchUp, and PhotoShop.

### **Project goals:**

1. To facilitate community-based infrastructure improvements to remedy flooding problems in the informal settlement of Los Platanitos, Santo Domingo Norte, through the development of SketchUp models and a Spanish-language, professional project proposal.
2. To facilitate community-based monitoring, research, and communication associated with environmental risk in Los Platanitos through the training of research partners, the development of participatory methods, and the production of Spanish-language planning tools.
3. To facilitate public, infrastructure planning associated with flooding risk in the City of Santo Domingo Norte through the development and documentation of a Spanish-language, participatory GIS research methodology.
4. To provide basic, participatory GIS skills to our project partners Ciudad Alternativa and COPADEBA.

### **Course requirements:**

1. Participation.  
Your active participation is crucial for the success of this course. You should come to class prepared to discuss the course readings, contribute to the development of the research methodology, participate in workshops and fieldtrips, and be engaged outside the classroom in developing technical solutions. It is also important that you maintain a professional, positive attitude when we face complications and challenges throughout the semester! You will be working in project teams to develop different components of the final class products, and it is crucial that you work actively with the other members of your team. Each team will also make regular presentations to the rest of the class of their progress and plans.
2. Fieldwork.  
You are expected to participate in two field trips to Santo Domingo. The first field trip will last from January 3 to January 14; the dates for the second trip are still TBA, but will take place during Spring Break. You must attend these field trips to receive a passing grade in the course. More specific information and requirements for the field trips will be announced. [http://www.sosuanieufs.com/sub\\_sites/esmeralda/hotel\\_esmeralda.html](http://www.sosuanieufs.com/sub_sites/esmeralda/hotel_esmeralda.html)

3. Administrative requirements.

This is a UT-approved service-learning course, following criteria suggested by the Provost's office (<http://www.utexas.edu/provost/academic-service-learning/>). The course is also designed to meet the call for more service-learning courses per Senate of College Councils resolution SR 109 passed on February 20, 2003. The course is developed in collaboration with the Volunteer and Service Learning Center of the Office of the Dean of Students (<http://deanofstudents.utexas.edu/vslc/>). Since you are required to meet outside UT property and to work with community members in schools, you need to complete certain paperwork. These include the following:

-the course is classified as a "class project" by the University of Texas Office of Research Support and Compliance. Each student must sign a project approval form, completed by instructor, before he or she can begin fieldwork. See <http://www.utexas.edu/research/rsc/humanresearch/forms/classproject.pdf>.

-each student must sign a "Release and Indemnification Agreement" provided by the Volunteer and Service Learning Center. This form is required of all UT students who will attend class meetings off-campus or take fieldtrips. See <http://www.utexas.edu/student/vpsa/travel/>

-each student must complete and sign an "Authorization for Emergency Medical Treatment" as required by the University of Texas. See <http://www.utexas.edu/student/vpsa/travel/>

-each student must complete and sign a "Request for Travel Authorization" as required by the University of Texas. See <http://www.utexas.edu/student/vpsa/travel/>

-each student must provide proof of medical insurance ("copies of current medical insurance certificates, or both sides of a current group insurance membership card, for each person who wishes to participate in the activity or event") See <http://www.utexas.edu/student/vpsa/travel/>

-each student should take the UT Health Services "Online Travel Health Course" and familiarize themselves with the suggested vaccination requirements and health-related precautions for travel to the Dominican Republic. You are responsible for obtaining any recommended vaccinations. Go to <http://healthyhorns.utexas.edu/education/travelhealth.html>

-if you bring your laptop or other valuables on the field trips, you should purchase insurance. You can do this most easily and economically by buying renter's or homeowner's insurance. UT or the School of Architecture is not responsible for the safety of your belongings on field trips.

4. Course feedback.

This course will benefit greatly from students' comments, advice, and critique. You will occasionally be asked to complete an "Ongoing Course Assessment" administered by the UT Division of Instructional Innovation and Assessment and made available through UT Direct. The online survey will only take 3-6 minutes each time and is completely anonymous. Go to <https://web.austin.utexas.edu/diia/oca/>

5. **Logbook.**  
You will keep a weekly, electronic logbook where you record your impressions, insights, questions and experiences, and also make *critical* comments on the readings when applicable. This is akin to a researcher's "field notes" and is an excellent means of developing and sharing ideas and solutions. You should write the equivalent of at least one, double-spaced page and post to the Discussion Board on Blackboard by 6pm on Monday evening. Note: your comments are public information and not subject to copyright restrictions.
7. **Individual writing assignments for project deliverables.**  
This course takes a participatory approach and the paper topics will depend on the final products delivered by the class as a whole. But you are expected to write sections or chapters of the various reports we will produce in this course. Your sections or chapters will constitute approximately 20 pages of text and should be written in Spanish. You should expect to make various revisions and/or versions of your sections or chapters for different representational formats. The project deliverables will include an infrastructure project proposal, a participatory GIS methods handbook or report, a community diagnostic report, and community planning tools to be determined.
8. **Individual paper.**  
You are required to write a 10-page paper, topic to be determined.
9. **Presentations.**  
The class as a whole will present in the School of Architecture City Forum on Friday, April 25, 12-1:30. Each student is expected to participate in preparing for and presenting at this events.
10. **Team contribution.**  
Since this course is structured as a "class project" in collaboration with community members and institutional partners, a number of unanticipated questions tasks will arise, both during field trips and here at UT. These tasks will be determined as we develop our methodology and will be divided among three project teams, and equitably among student participants in the project teams. Each project team will be responsible for organizing their work and dividing the responsibilities. The work may involve conducting secondary or primary research; taking, editing and uploading photographs; recording interviews and videotaping; preparing the logistics of community meetings; attending meetings with collaborators and making phone calls; designing elements of the team deliverables, including the GIS, posters, and proposals and reports, and so on. Approximately half of your "team contribution" grade will be determined by instructor based on his evaluation of the quality of the overall work contributed by your team as a whole. The other half will be based on the anonymous evaluation of your work by your team members.

### **Readings**

*Required readings* are available for download on Blackboard.

### **Key dates**

January 3 (Thursday): Arrival in Santo Domingo.

January 14: Departure from Santo Domingo.

January 15: No class.

February 26: Draft planning tools, project proposal and GIS methods documentation due.

March 4: Presentation practice and prepare for Santo Domingo trip.

March 7 (Friday): Arrival in Santo Domingo (Spring Break begins).

March 13: Departure from Santo Domingo.

March 18: No class.

April 15: No class. Individual paper due.

April 22: Revised planning tools, project proposal and GIS methods documentation due.

April 25: Presentation, "City Forum," 12-1:30pm

April 29: Last class day.

May 6: Final project proposal, community planning tools and posters due.

### **Grading**

1. Participation, including in class and during field trip: 20 percent.
2. Logbook: 10 percent.
3. Presentations: 5 percent.
4. Individual writing assignments for project deliverables: 25 percent.
5. Individual paper: 10 percent.
6. Team contribution: 30 percent

### **Policy on academic dishonesty**

The Honor Code of the University of Texas states: The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. For further information please visit the Student Judicial Services Web site: <http://deanofstudents.utexas.edu/sjs>.

## Detailed Syllabus

- November 10: I. Introduction to the course: course requirements, administrative issues.  
II. Theoretical context: political ecology, contextualization and multi-level analysis  
III. Initial conversation about field research: goals and approaches

### Readings:

- Vayda, Andrew. 1983. "Progressive contextualization: methods for research in human ecology." *Human Ecology* (11): 265-281.  
Bryant, Raymond. 1997. "Beyond the impasse: the power of political ecology in Third World environmental research." *Area* (1): 5-19.  
Schaun, Kelly and Kent Butler. 2007. *Santo Domingo, Dominican Republic: Opportunities for Collaborative Research, Educational Programs and Technical Assistance*. The University of Texas at Austin, School of Architecture, Center for Sustainable Development (review).  
Sletto, Bjorn. 2007. *Diagnóstico participativo sobre las causas, riesgos y consecuencias de las inundaciones en la cañada Los Platanitos, Municipio Santo Domingo Norte*. The University of Texas at Austin, School of Architecture, Center for Sustainable Development (review).

### Optional:

- Bryant, Raymond. 1992. "Political ecology: an emerging research agenda in Third World studies." *Political Geography* (1): 12-36.  
Bryant, Raymond. 1998. "Power, knowledge and political ecology in the third world: a review." *Progress in Physical Geography* 22 (1) :79±94

- November 18: I. Presentation by Kelly Schaun; fieldwork challenges.  
II. Rapid Rural Appraisal, participatory design, and other participatory research approaches  
III. Theoretical context: development, urbanization, and informal settlements  
IV. History and development of Santo Domingo  
V. Team preparation of initial research approaches, goals and representations.

### Readings:

- Chambers, Robert. 1994. "The Origins and Practice of Participatory Rural Appraisal." *World Development* 22 (7): 953-969.  
Greene, Solomon. "Staged Cities: Mega-Events, Slum Clearance, and Global Capital." *Yale Human Rights and Development Journal* 6: 161-187 (read theoretical sections and the Santo Domingo case study).  
Lacey, Marc. 2007. "A Rights Advocate's Work Divides Dominicans." *New York Times*, September 29, 2007.  
<http://www.nytimes.com/2007/09/29/world/americas/29sonia.html?hp>  
Navarro, Andrés. 2004. "Introducción," in *Plan Cigua: Plan de desarrollo para La Ciénaga y Los Guandules*. Santo Domingo: Ciudad Alternativa.  
Navarro, Andrés. 1996. "Desarrollo urbano en República Dominicana: preocupaciones y expectativas." In *Antología Urbana de la Ciudad Alternativa*, pp. 13-18. Santo Domingo: Ciudad Alternativa.  
Yunén, Rafael Emilio. 1992. "La ciudad del presente." In *La Ciudad en el Tiempo*, pp. 72-101. Santo Domingo: Ciudad Alternativa (read relevant sections).  
Participatory Planning, Monitoring and Evaluation, Wageningen University:  
[http://portals.wi.wur.nl/ppme/?Tools %26 Methods](http://portals.wi.wur.nl/ppme/?Tools%26Methods)

Integrated Approaches to Participatory Development (IAPAD):

<http://www.iapad.org/>

Optional:

- Chambers, Robert. 1994. "Participatory Rural Appraisal (PRA): Challenges, Potentials and Paradigm." *World Development* 22 (10): 1437-1454.
- Engel-Yan, Joshua, Chris Kennedy, Susana Saiz, and Kim Pressnail. 2005. "Toward sustainable neighbourhoods: the need to consider infrastructure interactions." *Canadian Journal of Civil Engineering* 32: 45-57.
- Luck, Rachel. 2007. "Learning to talk to users in participatory design situations." *Design Studies* 28: 217-242.
- Martin, Philip, Elizabeth Midgley and Michael Teitenbaum. 2002. "Migration and development: Whither the Dominican Republic and Haiti?" *International Migration Review* 36 (2): 570-592.
- Sutton, Sharon and Susan Kemp. 2006. "Integrating Social Science and Design Inquiry through Interdisciplinary Design Charettes: An Approach to Participatory Community Problem Solving." *American Journal of Community Psychology* 38: 125-139.
- Wucker, Michele. 1999. *Why the Cocks Fight: Dominicans, Haitians and the Struggle for Hispaniola*, pp. 27-59. New York: Hill and Wang.

- December 1: I. Development of research approaches, goals and representations.  
II. Theoretical context: Political ecology and critical approaches to gender, race and power.  
III. Environmental issues in Santo Domingo

Readings:

- CONAU. 2007. *GEO Santo Domingo: Perspectiva del Medio Ambiente Urbano*, pp. 117-131, and 198-206. Santo Domingo: CONAU and PNUMA (skim).
- Rocheleau, Dianne and Laurie Ross. 1995. "Trees as Tools, Trees as Text: Struggles over Resources in Zambrana-Chacuey, Dominican Republic." *Antipode* 27 (4): 407-428 (skim).
- Mark Pelling. 2002. "Assessing urban vulnerability and social adaptation to risk: Evidence from Santo Domingo." *International Development Planning Review* 24 (1): 59-76 (skim).
- Risk and Vulnerability Assessment Tool (RVAT)*. NOAA Coastal Services Center. <http://www.csc.noaa.gov/rvat/rvat.html> (review carefully).

Optional:

- Chantada, Amparo. 1996. "Medio ambiente, crisis y desarrollo: reflexiones en torno a los Ríos Ozama e Isabela." In *Antología Urbana de la Ciudad Alternativa*, pp. 149-181. Santo Domingo: Ciudad Alternativa.
- Okoko, Eno. 1999. "Women and environmental change in the Niger Delta, Nigeria: evidence from Ibeno." *Gender, Place and Culture* (4): 373-378.
- Rocheleau, Dianne et al. 1995. "Gendered resource mapping: focusing on women's space in the landscape." *Cultural Survival Quarterly* 18: 62-68.
- Grasmuck, Sherri and Rosario Espinal. 2000. "Market Success or Female Autonomy? Income, Ideology, and Empowerment among Microentrepreneurs in the Dominican Republic." *Gender and Society* 14 (2): 231-255.

- December 15: I. Development of research methods  
II. Theoretical context: Critical perspectives on difference, knowledge, and participatory planning.

Readings:

Bebbington, Anthony, Leni Dharmawanb, Erwin Fahmic and Scott Guggenheim. 2004. "Village politics, culture and community-driven development: insights from Indonesia." *Progress in Development Studies* 4 (3): 187–205 (skim).

Lane, Marcus. 2003. "Participation, Decentralization, and Civil Society: Indigenous Rights and Democracy in Environmental Planning." *Journal of Planning Education and Research* 22: 360–373 (skim).

Navarro, Andrés and Ayacx Mercedes. 1996. " Organizaciones barriales, mejoramiento urbano y desarrollo de la ciudad." In *Antología Urbana de la Ciudad Alternativa*, pp. 57–67. Santo Domingo: Ciudad Alternativa.

Nygren, Anja. 1999. "Local Knowledge in the Environment–Development Discourse: From Dichotomies to Situated Knowledges." *Critique of Anthropology* 19 (3):267–288 (skim).

Optional:

Agarwal, Arjun. 1995. Dismantling the divide between indigenous and scientific knowledge. *Development and Change* 26: 413–439.

LaChapelle, Paul, Stephen McCool and Michael Patterson. 2003. "Barriers to Effective Natural Resource Planning in a "Messy"World." *Society and Natural Resources* 16: 473–490 (skim).

**January 3: Departure for Santo Domingo.**

Readings:

*History of Dominican Republic.*

Valdéz, Cristóbal. 2002. "La evolución inteligente." In *Ideas Urbanas para Santo Domingo*, pp. 23–31.

**January 14: Return from Santo Domingo.**

January 15: No class!

January 22: I. Theoretical context: critical approaches to political ecology: Marxist and post-structural approaches; bringing political ecology to the urban "North"  
II. Review of fieldtrip, planning of future work.

Readings:

Adger, Neil et al. 2001. "Advancing a political ecology of global environmental discourses." *Development and Change* 32: 681–715.

Heynen, Nik et al. 2003. "The Political Ecology of Uneven Urban Green Space: The Impact of Political Economy on Race and Ethnicity in Producing Environmental Inequality in Milwaukee." *Urban Affairs Review* 42 (1): 3–25.

Rocheleau, Dianne, Philip Steinberg and Patricia Benjamin. 1995. "Environment, Development, Crisis, and Crusade: Ukambani, Kenya, 1890–1990." *World Development* 23 (6): 1037–1051.

Optional:

Swyngedouw, Eric and Nikolas Heynen. 2003. "Urban Political Ecology, Justice and the Politics of Scale." *Antipode* 35 (5): 898–918.

January 29: I. Theoretical context: Review/general discussion of environmental justice.  
II. Team reports; workshop.

Readings:

Cole, Luke W. and Sheila R. Foster. 2001. *From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement*. New York: New York University Press. Read carefully the Preface and the Introduction; skim chapters 2 and 3.

Esnard, Ann Margaret. 2001. "Environmental Justice, GIS and Pedagogy," *Cartographica* 38 (3 and 4): 53-61. (Skim).

Pellow, David and Robert Brulle, eds. 2005. *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement*. Cambridge: MIT Press. Read carefully the Introduction; skim chapters 1, 2 and 4.

February 5: No class

February 12: I. Theoretical context: Environmental justice, action research and participation  
II. Team reports; workshop.

Readings:

"Burden of Proof: Using Research for Environmental Justice," special issue of *Race, Poverty & the Environment*, Winter 2004.

Roaf, Virginia. 2005. *Community Mapping: A Tool for Community Organising*. London: WaterAid, [www.wateraid.org](http://www.wateraid.org).

Optional:

Blaut, James et al. 2003. "Mapping as a Cultural and Cognitive Universal," *Annals of the Association of American Geographers*, 93(1): 165-185.

Goldwasser, Matthew. 2004. *A Guide to Facilitating Action Research for Youth*. Philadelphia: Research for Action; [www.researchforaction.org](http://www.researchforaction.org).

Corbett, John and Peter Keller. 2006. "Using Community Information Systems to Communicate Traditional Knowledge Embedded in the Landscape," pp. 21-27 in special issue, "Mapping for Change: Practice, Technologies and Communication." *Participatory Learning and Action* 54 (April).

February 19: I. Theoretical context: Critical approaches to environmental justice.  
IV. Team reports; workshop.

Readings:

Pellow, David and Robert Brulle, eds. 2005. *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement*. Cambridge: MIT Press. Chapter 10, 11 and 13.

"Tox Town: An Internet Introduction to Environmental Health and Toxic Chemicals." *Children, Youth and Environments* 15(1): 307-317. (Skim).

Cole, Luke W. and Sheila R. Foster. 2001. *From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement*. New York: New York University Press. Chapters 5 and 7.

February 26: I. Theoretical context: Environmental justice, participation, and GIS/mapping.  
III. Team reports; workshop.

Readings:

Mantaay, Juliana. 2002. "Mapping Environmental Injustices: Pitfalls and Potential of Geographic Information Systems in Assessing Environmental Health and Equity," *Environmental Health Perspectives* 110 (supplement 2) April: 161-171.

Optional:

Ratray, Nicholas. 2006. "A User-Centered Model for Community-Based Web-GIS." [http://www.urisa.org/publications/journal/articles/a\\_user\\_centered\\_model](http://www.urisa.org/publications/journal/articles/a_user_centered_model)

March 4: I. Team reports; workshop.  
II. Practice presentations.

**March 6: Departure for Santo Domingo.**

March 11: No class; Santo Domingo; presentations and consultations.

**March 13: Return from Santo Domingo.**

March 18: No class.

March 25: I. Review of fieldtrip.  
II. Theoretical context: Participatory research, planning and representation.  
III. Team reports; workshop.

Readings:

Duncan, James and David Ley. 1993. "Introduction: Representing the Place of Culture," pp. 1-21, and "Epilogue," pp. 329-334, in *Place/Culture/Representation*. London: Routledge.

Harris, Trevor and Daniel Weiner. "Community-Integrated GIS for Land Reform in South Africa." Research Paper 9907, West Virginia University, Department of Geography and Geology. Paper presented at GISOC'99 An International Conference on Geographic Information and Society, The University of Minnesota, Minneapolis, June 20-22, 1999

Sarewitz, Daniel. 2004. "How science makes environmental controversies worse." *Environmental Science & Policy* 7: 385-403.

Optional:

Barnes, Trevor, "Introduction: Writing Worlds," pp. 1-17, and Duncan, James and David Ley, "Afterword," pp. 248-253. In *Writing Worlds: Discourse, Text and Metaphor in the Representation of Landscape*. London: Routledge, 1992.

April 1: I. Team reports; workshop.

April 8: I. Team reports; workshop.  
II. Prepare City Forum presentation.

April 15: No class. **Individual paper due.**

April 22: I. Team reports; workshop.  
II. Practice City Forum presentation.

**April 25: City Forum Presentation, Texas Union.**

April 29: Last class day.

May 6: No class; Final project proposal, community planning tools and posters due.

## **Instructions for individual and team assignments**

The class will be divided in three project teams; two with three students each and one with four students. Each team will coordinate and assume responsibility for specific tasks associated with the development of the various class products. Each week, each team will report on its progress to the class as a whole and schedule tasks for the following week. Each team is responsible for coordinating with each other, including providing brief tutorials and writing short instructions on specific techniques and methods, as they arise. These documents should be uploaded to each respective team's folder on the Discussion Board in Blackboard and saved in the class folder in the SOA lab. Each team will need to research and develop methods and conduct research that are beyond the scope of the formal instruction in the class, ensuring that these methods and research contribute to improving the quality of the final class products. The project teams are organized as follows:

### ***GIS and field mapping***

This team assumes responsibility for *GIS and map production*. This includes obtaining and analyzing secondary GIS data, developing and executing field mapping and participatory mapping processes, learning and working with ArcHydro or other relevant software, and incorporating qualitative field research data in the final GIS. This team will also collect field data associated with the physical, environmental aspects of the flooding issue we're studying, using such methods as field measurements, GPS units, stream velocity meters, and so on. This team will be responsible for the GIS report, with description of the risk assessment methodology, directed to the City of Santo Domingo Norte and its partners.

### ***Participatory design and representation***

This team assumes responsibility for the *participatory design* element of the project, including developing the methodology and securing the necessary field data such as photographs and measurements for the design of physical models to ameliorate the risk of flooding. The team should consider the social dynamics in the community as they develop strategies for appropriate design. The team should also consider forms of *representation* appropriate for different audiences, and consult with the two other teams regarding the challenges and opportunities and technical demands of different representational forms. This team will be responsible for the project proposal for community-based structural improvements, written for the City and prospective funders.

### ***Qualitative research and relationship-building***

This team assumes responsibility for the *qualitative research* component of the project. This involves developing and executing participatory research methods to document the social, political, historical and cultural context of the study area, in order to better understand the social factors that determine different vulnerability to flooding. The team should in particular investigate social networks and power relationships associated with gender and identity formations, which might have a bearing on our project and on decision-making and implementation of infrastructure improvement projects. The team's methodology may include interviews, focus groups, household surveys, photography, video, and so on. This team also plays an important role in communicating and coordinating with community organizations and community members during fieldwork. This team will be responsible for the community diagnostic and for the community-oriented planning and educational tools.

## Contact information

### Applied GIS class

Dana Stovall	<a href="mailto:dana.stovall@gmail.com">dana.stovall@gmail.com</a>	314-550-6797
David Baumann	<a href="mailto:davebaumann@mail.utexas.edu">davebaumann@mail.utexas.edu</a>	502-767-2438
Erin Daley	<a href="mailto:erinedaley3@yahoo.com">erinedaley3@yahoo.com</a>	803-546-7991
Maritza Kelley	<a href="mailto:m_kelley@mail.utexas.edu">m_kelley@mail.utexas.edu</a>	805-602-0070
Martin Thomen	<a href="mailto:martinthomen@gmail.com">martinthomen@gmail.com</a>	512-380-0302
Meredith Bossin	<a href="mailto:mbossin@gmail.com">mbossin@gmail.com</a>	832-771-1668
Monica Bosquez	<a href="mailto:monica_bosquez@hotmail.com">monica_bosquez@hotmail.com</a>	512-590-0125
Rosa Donoso	<a href="mailto:rosaelenadonoso@yahoo.com">rosaelenadonoso@yahoo.com</a>	512-228-0666, 512-499-8118
Shawn Strange	<a href="mailto:shawn.strange@gmail.com">shawn.strange@gmail.com</a>	512-914-3457
Solange Muñoz	<a href="mailto:solangemun@gmail.com">solangemun@gmail.com</a>	512-657-3127
Bjørn Sletto	<a href="mailto:bjornsletto@mail.utexas.edu">bjornsletto@mail.utexas.edu</a>	512-853-0770
	(in Santo Domingo)	809-207-2727

### Hotel in Santo Domingo

Guest House Esmeralda,	809-221-5354
Calle Elvira de Mendoza # 151 at Santiago	809-707-0388
El Gazcue	809-763-0388
Santo Domingo	
<a href="http://www.sosuanieufs.com/sub_sites/esmeralda/hotel_esmeralda.html">http://www.sosuanieufs.com/sub_sites/esmeralda/hotel_esmeralda.html</a>	
<a href="mailto:alexandra.g@codetel.net.do">alexandra.g@codetel.net.do</a>	

### Los Platanitos (Facilitadores Comunitarios)

Bartolo Reynoso, presidente, Comité Intermedio y Comunitario	829-387-8340
Francisco Vincente Zyvas, presidente, Consejo de Desarrollo	809-701-5233
Roselio Antonio Garcia, Junta de Vecinos, La Unidad (bajo)	809-569-4533
Francisco de Asis, Junta de Vecinos, La Unidad	809-569-4545
Elias Brito Reynoso, secretario, de 2o de Febrero (arriba)	

### Ayuntamiento Santo Domingo Norte

Gabriel Baez, director de planificación	<a href="mailto:arggabrielbaez@yahoo.com">arggabrielbaez@yahoo.com</a>	809-223-5969
Luís Reyes, Director, Dirección de Relación con la Comunidad		
Guillermo Matos, subdirector de la relación con la comunidad		829-283-7180
Pablo Pichardo, Director, Asuntos Internacionales		809-350-8727, 809-631-7978
Arq. Eira Mejía, Gerente de Planificación y Proyectos	<a href="mailto:urbana@gmail.com">urbana@gmail.com</a>	809-535-2654, 809-979-0843 (cel)

### CONAU (Facilitador Técnico)

	<a href="http://www.dataurbana.gov.do">http://www.dataurbana.gov.do</a>	809-682-5170
Omar Rancier, Director Técnico	<a href="mailto:orancier@gmail.com">orancier@gmail.com</a>	809-376-8576 (cel)
Lisselot Binet, técnica GIS	<a href="mailto:uulbinet@hotmail.com">uulbinet@hotmail.com</a> , <a href="mailto:lbinet@dataurbana.gov.do">lbinet@dataurbana.gov.do</a>	809-682-5170 x 101, 809-457-2640 (cel)
Teresa Moreno, Coordinadora de Proyectos	<a href="mailto:cristemo@hotmail.com">cristemo@hotmail.com</a>	809-472-0626 x 101
Eugenia Sosa, Coordinadora Técnica	<a href="mailto:esosa@dataurbana.gov.do">esosa@dataurbana.gov.do</a>	

### Ciudad Alternativa (Facilitador Técnico)

Ing. Ezéquiel Pequero, Mejoramiento Urbano		809-681-7411/7436
Arelis Mejía, Directora de Proyectos		
Sandra Amparo Castillo	<a href="mailto:sandraamcas@hotmail.com">sandraamcas@hotmail.com</a>	
Marianela Pinales	<a href="mailto:marianpinales@hotmail.com">marianpinales@hotmail.com</a>	809-854-0394

**COPADEBA (Facilitador Técnico)**

Antonio Paz (Fermin) [copadeba1979@yahoo.es](mailto:copadeba1979@yahoo.es)

809-684-2009 (oficina)  
829-912-7152 (cell)

**Teofina Vallejo, Coordinadora, Los Guaricanos,  
Proyecto "Barrio Mirador Norte" (5 enero)**

**809-569-5262**

Nicanor Soriuño Báez, Comité Local, Los Pinos, Sabana Perdida  
Lucitania Jiménez, Comité Local, Los Pinos, Sabana Perdida  
Pablo Miguel Rosario, Comité Local, Los Pinos, Sabana Perdida  
Raquel Almante, Comité Local, Los Pinos, Sabana Perdida

**Other**

**Andrés Navarro, PARME (Asesor)** [andres.navarro@parme.org.do](mailto:andres.navarro@parme.org.do) 809-658-0480 (cell)  
<http://www.parme.org.do/> 808-482-7410 (PARME)

Oficina Nacional de Estadísticas [www.one.gov.do](http://www.one.gov.do)

Ayuntamiento Distrito Federal [www.adn.gov.do](http://www.adn.gov.do)

Carlos Jimenez Briceño, consultante, DEMs [cbriceno@codetel.net.do](mailto:cbriceno@codetel.net.do) 809-696-8687 (cel)

JICA-Republica Dominicana  
Estudio del Plan de Manejo Integrado de Desechos Sólidos en Santo Domingo de Guzmán  
Dirección de Gestión Ambiental y Aseo Urbano,  
Ayuntamiento del Distrito Nacional y El Equipo de Estudio JICA  
Arzobispo Meriño, esq. El Conde  
Palacio Consistorial, 2do piso  
Costado Oeste del Parque Colón  
Tel. 809-333-7313  
Distrito Nacional, Santo Domingo  
<http://www.adn.gov.do/JICA/>

Roberto Reyna, rector, Universidad Autonoma de Santo Domingo  
[Roberto\\_reyna@hotmail.com](mailto:Roberto_reyna@hotmail.com), [roberto\\_reyna@codetel.net.do](mailto:roberto_reyna@codetel.net.do), [rectoria.uasd@codetel.net.do](mailto:rectoria.uasd@codetel.net.do)  
809-535-8273, cel: 809-707-3956, 809-501-1325

CAASD (Corporacion de Aqueducto y Alcantarrilado de Santo Domingo)  
Mariano German, Director  
Francisco Gonzales, Sub-Secretario de Estado

Sina del Rosario  
Directora del Plan Director de Santo Domingo [sinalt@yahoo.com](mailto:sinalt@yahoo.com) 809-440-2927

VILLA MELLA, SANTO DOMINGO NORTE...NOTICIAS blog  
<http://villainfodigital.blogspot.com/>

NOTICIASIN.com  
[http://www.antena-sin.com/noticiassin/Details.asp?id\\_article=14816](http://www.antena-sin.com/noticiassin/Details.asp?id_article=14816)

Diario Libre Online  
<http://www.diariolibre.com/app/article.aspx?id=125795>

Sub-Dirección de Servicio Geológico de la Rep. Dominicana  
<http://dgm.gov.do/sdgeologia/avancelistado1.html>

This site has some good maps that show the Geological Makeup

This page seems to have some good sources for info:

[http://www.lfsd.edu.do/Index/Projet\\_eau\\_site/intervenants.htm](http://www.lfsd.edu.do/Index/Projet_eau_site/intervenants.htm)

Instituto Cartografico Militar:

<http://www.secfaa.mil.do/icm.htm>

El Atlas Nacional:

<http://kiskeya-alternative.org/publica/eleuterio/atlasnac.htm>