



GISCorps Newsletter

GIS Professionals Volunteering for a Better World

February 2009

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URISA

GISCorps Partner Agencies

EWB

GSDI

MMEX

UNDP

UNHCR

UNJLC

UNOSAT

iMMAP

Volunteers for Prosperity

Relief Agency Links

Relief Web

global hub for time-critical humanitarian information on Complex Emergencies and Natural Disasters

A Message from the Core Committee

We would again like to bring to your attention the new GISCorps website which was launched in September 2008. As part of this launch, we validated our volunteer database and we built some additional back-end tools to help members of the Core Committee find volunteers suitable for deployment on a mission. (If you have not yet updated your record, you can still do so by accessing your profile from [here](#). If you need assistance regarding your login information, send an email to info@giscorps.org.)

These two activities will prove most beneficial in the recruitment for one of our latest endeavors. We have launched a K-12/4H initiative that we hope will see many of our volunteers engaged in a mission supporting the requests of the K-12 or 4H communities. This gives our volunteers the opportunity to instill in the younger generation an appreciation for our world and how spatial technologies can contribute to making a better world for everyone.

GISCorps Core Committee,
Dianne Haley, Ingrid Bruce, Mark Salling, Shoreh Elhami, Allen Ibaugh

P.S. Please email info@giscorps.org if you want to be removed from this list.

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Deployment and Partnership News

Missions in Progress:

- **Mission with HealthCare Volunteers (HCV) - Second Project:** HealthCare Volunteers (HCV) is a non-profit organization headquartered in California with the main goal of connecting any volunteers with a health-related volunteering opportunity. They have requested additional volunteers to continue and expand on their first project with GISCorps. Two volunteers have been recruited for this mission; Karl Tiller from Germany (currently residing in Uganda) and Nicolas Gignac from Quebec, Canada.

The mission involves two activities: first, geocoding the location of the volunteers, organizations (healthcare providers) and patients in a manner that would support a radius/distance search; and second, developing a process that would permit a volunteer to determine

Data/Information Links

Earthwatch Institute

Earthwatch Institute is an international non-profit organization that brings science to life for people concerned about the Earth's future.

Service at Sea

Service at Sea is a ship-based technology assistance program that will begin a circumnavigation of the earth in August, 2007, with a goal to assist conservation organizations who are using GIS technology to meet goals of their communities.

Society for Conservation GIS

A non-profit organization supporting individuals using GIS and science for the conservation of natural resources and cultural heritage

GISCorps Core Committee

Dianne Haley, Chair
Ingrid Bruce, Vice Chair
Shoreh Elhami, Co-founder
Mark Salling
Allen Ibaugh

Contact Us

<http://www.giscorps.org>

Email: info@giscorps.org

the volunteering opportunities within a specified radius of their location, or a patient to determine the volunteer healthcare providers within a specified radius of their location. Since the locations of volunteers, opportunities, healthcare providers and patients are global, this will require world-wide address matching.

- **Mission with Broadmoor Development Corporation (BDC) - New Orleans:** GISCorps volunteer Jennifer Harrison, President, Inner Corridor Technologies, Inc. in Houston, Texas, will be training staff at the Broadmoor Development Corporation (BDC) in New Orleans on the use of GIS for mapping and analysis of local data on their community from February 19-20, 2009. Kathleen Coverick, Urban Planning Fellow at BDC, notes that though the BDC has purchased the software, the staff have only beginner's knowledge of how to use it and the training is intended to make GIS a much more powerful tool for helping the organization meet the needs of a community hard hit by the devastation of Hurricane Katrina in 2005.
- **Global Spatial Data Infrastructure (GSDI) Small Grants Program's 2008-2009 Projects:** GISCorps first participated in the review of 2005/2006 Small Grants projects in 2005 and most recently has participated in the 2008/2009 projects. The team has reviewed 31 applications – 19 from Africa and six each from Asia and the Americas. The announcement of awards is expected soon and we are investigating the potential role of GISCorps volunteers for a dozen of those proposals. The 2008/2009 efforts are currently spearheaded by Mark Salling, a GISCorps Core Committee member. Read about the 2005/2006 projects [here](#).
- **Mission with COPAE – Guatemala:** On October 20, 2008, GISCorps received a request from a group of volunteers who were assisting a Guatemalan NGO (COPAE) to monitor and diagnose damage to indigenous people's homes near the Marlin Mine in the vicinity of Sipacapa, Guatemala. They were interested in obtaining hard copy maps from high resolution imagery and base data. They also wanted the imagery to become accessible to them in Google Earth (GE) environment. GISCorps volunteer, Lars Bromley of Washington D.C. was contacted for this project and is currently working with their team. He was able to geo-reference and overlay a high resolution imagery which was provided by Digital Globe in GE interface. The image can be viewed [here](#) (you have to have GE installed on your pc to view this map). The next phase of the project may involve locating all the damaged homes that the group had inspected on higher resolution imagery.
- **Mission with (PRAD) and (FBR) - Myanmar (Burma)** This mission is in partnership with Partners Relief Development (PRAD) and Free Burma Rangers (FBR). The request was for one GIS instructor to teach an introductory ArcGIS course and also assist PRAD/FBR with database design and application development for two weeks. Joe Forrest from North Carolina was selected for this project and is currently in Mae Sot, Thailand. Read more about the mission [here](#).
- **Mission with (AAAS) – Guatemala:** The Science and Human Rights Program of American Association for Advancement of

Science (AAAS) requested one volunteer with expertise in cadastral mapping and also fluency in Spanish to assist an ongoing legal case that seeks to protect property rights of an indigenous group in Guatemala. Odra Cardenas of Washington State was recruited for this mission and collected all relevant documents pertaining to the property holdings, as well as a satellite image for reference. At this point, due to details of the ongoing court case in Guatemala, a local surveying firm has been hired to serve the court and provide expertise. Should the Guatemalan case fail, plaintiffs are ready to bring the case to the Organization of American States (OAS). In that case, AAAS and Odra will review the materials and provide advice on possible alternatives for presenting evidence to OAS.

Read more about completed projects [here](#).
Read more about projects in progress in [here](#).

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URISA Announcements

Upcoming Conferences

- [URISA's GIS in Public Health Conference](#)
June 5-8, 2009 - Providence
- [URISA/NENA Addressing Conference - Abstracts Submissions Due February 13, 2009](#)
August 4-6, 2009 - Providence
- [47th Annual URISA Conference - Abstract Submissions Due February 27, 2009](#)
September 29-October 2, 2009 - Anaheim, California
- [GIS in Transit Conference - Abstracts Due February 27](#)
November 10-12, 2009 - St Petersburg, FL

What's New

- [URISA Board Endorses Building a National GIS Proposal](#)
- [URISA Annual Conference Call for Participation Announced](#)
- [2009 Exemplary Systems in Government Awards Process Opens](#)
- [URISA Comments on Guidelines for Procurement](#)
- [2009 URISA Student Paper Competition Opens](#)
- [COGO Recommends Establishment of Geospatial Subcommittee in Congress](#)
- [Nominations Sought for URISA's GIS Hall of Fame](#)
- [URISA Announces Webinar Series](#)
- [Check out the Latest Job Listings](#)

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Shop for GISCorps Stuff!!

Do you find yourself in need of a new T-shirt, coffee mug, ball cap or

tote bag? Do you want to advertise GISCorps and your association with the organization? Well, you are in luck! You can now find various GISCorps items at our online shop at:

<http://www.cafepress.com/giscorps>

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ESRI's 29th User Conference, San Diego, July 13-17, 2009

As in the past several years, GISCorps will be present at ESRI's 29th User Conference. Members of the Core Committee and several volunteers will present at the conference. Detailed information regarding those presentations will be published in the next newsletter. For more information about the conference, click [here](#).

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47th URISA International Conference

The 47th URISA Annual Conference will be held in Anaheim, September 29-October 2, 2009. You can view the photos taken at various GISCorps activities during the 46th conference in New Orleans from [here](#).

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Featured Project

Developing GIS Models for Rainwater Harvesting

By Melinda Laituri & Joel Murray, Colorado State University

In late 2008, GISCorps volunteer Melinda Laituri, a Colorado State University professor, and one of her students, Joel Murray, started working on a GISCorps mission. The new mission was commissioned by [EnterpriseWorks/VITA](#) (EWV), an international not-for-profit organization based in Washington DC working to combat poverty through economic development programs based on sustainable, enterprise-oriented solutions.

EWV plans to undertake desk studies in 20 countries/regions to consolidate the information and lessons learned from former and current rainwater harvesting programs, with a view to disseminating the information widely and to support the design of a pilot project. The pilot project will test whether domestic rainwater harvesting (DRWH) has the potential to be an affordable and sustainable option for the poor with limited access to groundwater when supported through a market-based approach. The market-based approach includes developing a

sustainable supply chain to support the delivery of DRWH goods and services, stimulating demand for such services by leveraging consumer preferences, and applying sustainable business models and with user fees that ensure full cost recovery. This approach has been successful in other sectors and EWV would like to determine whether and how it can be successful with DRWH. Two African countries were selected for the pilot project; Kenya and Ethiopia (Figure 1) and a variety of datasets including but not limited to population, precipitation, and terrain were compiled and used in several GIS models to determine the feasibility of DRWH in these countries.

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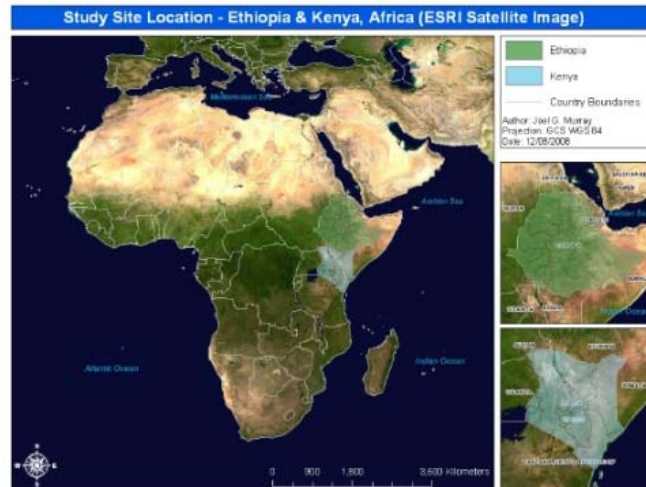


Figure 1: Two Selected Countries for the Pilot Project

Two sets of suitability models were developed in ArcGIS environment; one for Rooftop RWH and the other for Ponds/Pans RWH (Figure 2). Preliminary results of the study indicate that over 95% of Ethiopia is suitable for Rooftop RWH, but only 57% is suitable for Ponds/Pans RWH. Kenya is over 80% suitable for both Rooftop and Ponds/Pans RWH (see figures 3 and 4).

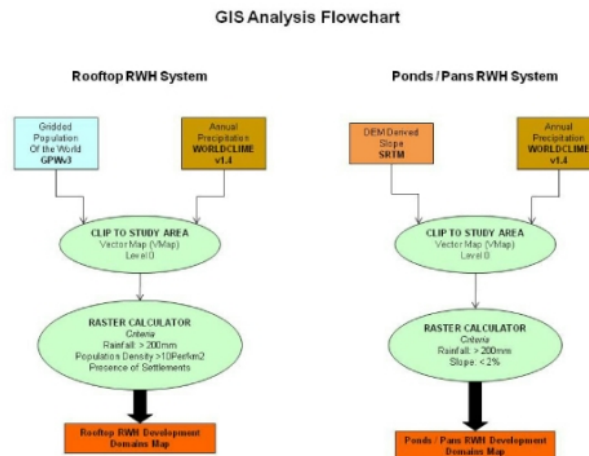


Figure 2: Two Suitability Models

Although RWH potential maps for Ethiopia and Kenya look promising the models are extremely simplistic and a review of model criteria should be considered. Other datasets such as land use and rooftop types as well as RWH system installation costs can be added as model parameters to improve accuracy. NDVI and higher resolution temporal data such as monthly precipitation grids can also be used to examine seasonality effects.

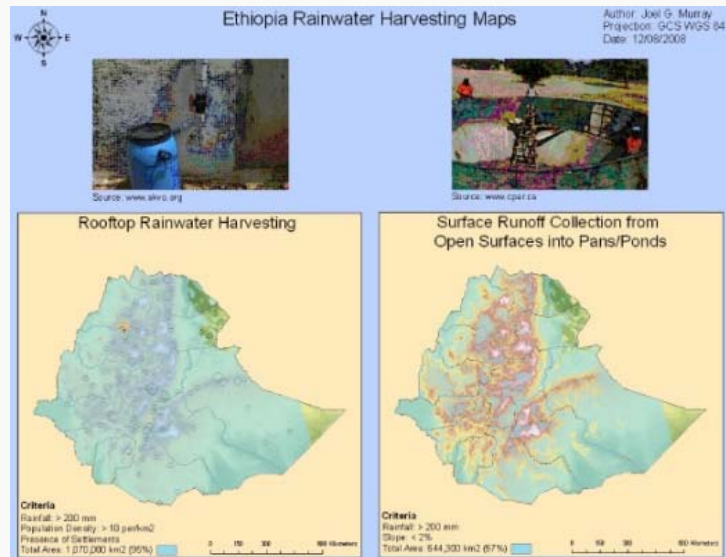


Figure 3: Ethiopia Rainwater Harvesting Map

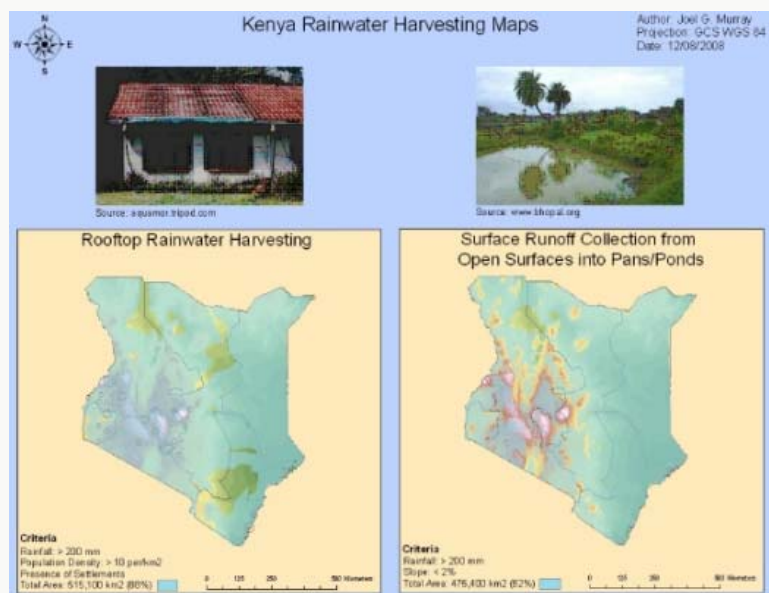
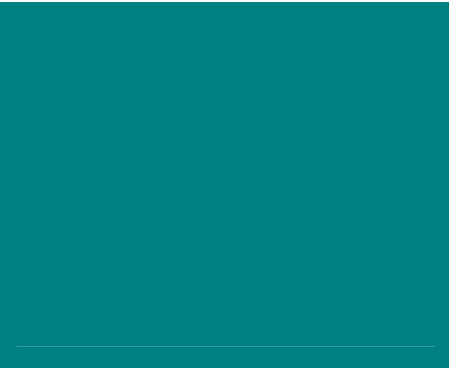


Figure 4: Kenya Rainwater Harvesting Map

Overall, this project has successfully shown that GIS is a cost effective method to identify RWH as a viable option to improve water supply in both Ethiopia and Kenya. Furthermore, through the use of a market-based approach, a sustainable supply chain to support the delivery of RWH goods and services can be promoted.

EWW is interested in expanding the existing models and/or developing



additional models to include other variables such as rooftop type, land use, and socio economic parameters. GISCorps volunteers with expertise in this subject may contact us at: info@giscorps.org

A complete account of the study can be found at:

<http://welcome.warnercnr.colostate.edu/~murrayj/index.html>

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