



### **New CUNY Field Station in the Caribbean- Barbuda Archaeological Research Center**

Since 2005, CUNY students and researchers have been engaged in science, education, and community outreach on the island of Barbuda in the Lesser Antilles, West Indies. NSF -funded projects led by Dr. Sophia Perdikaris (Brooklyn College and Graduate Center CUNY) with Paleo-environmental coordination by Dr. Allison Bain (Université Laval), and hosted by Dr. Reg Murphy of the Antigua/Barbuda Parks Department, with cooperation from the Barbuda School System, and the Barbuda Council have proved exceptionally productive in archaeology, paleoecology, marine biology, ethnography, climate history, and international trans-disciplinary investigation of long term island ecodynamics. Barbuda has seen successive major economic and environmental transformations beginning with initial human settlement by Lithic Age hunter-fishers (ca 3,000-5,000 BCE), continuing with Ceramic Age agricultural villagers (ca. 100-1500 CE), Colonial British plantation of enslaved Africans (ca. 1650-1833 CE), and post-emancipation local Barbudan combination of agriculture, hunting and fishing and wage labor (1833-present). All of these complex cases of human / landscape/ seascape/ climate interactions have been subject for coordinated investigation by scholars from CUNY, Caribbean, Canada, UK, Iceland, and France and remarkable new discoveries are being made each season (see <http://www.nabohome.org/publications/barbuda/barbudareports.html>). A very successful international field school has been held in January intersession since 2006, with research projects continuing into the summers. This program has been recognized as a collaborative project of the **Global Human Ecodynamics Alliance** (GHEA, [www.gheahome.org](http://www.gheahome.org)) and represents a major activity of the new **CUNY Human Ecodynamics Research** Center based at the CUNY Graduate Center. Three CUNY doctoral projects are now centered on the Barbuda research effort, and nine CUNY Anthropology grad students have participated in the summer and winter intersession field seasons, gaining valued tropical field experience and publication credits.

The CUNY teams have worked closely with the *Barbuda Council*, the *Barbuda Parks Department*, and the local Barbuda High School and Primary School systems to engage local students and teachers in the international field work and to encourage Barbudans to actively participate in heritage and environmental sustainability development. NSF support to Perdikaris' *Islands of Change* project has allowed direct contact between students and teachers in New York, Barbuda, Iceland, and Orkney, with innovative use of digital place based learning tools (the GPS + Camera= Empowerment project) and school to school contacts that have brought Barbudans to NYC and Iceland and Icelandic teachers to Barbuda and Orkney. Our student **Research Experience for Undergraduates** (REU) program emphasizes public outreach and engagement and in 2010 and 2011 the CUNY REU students worked to renovate and fully equip



two classrooms at the Barbuda elementary school, one aimed at younger children and science literacy, and the other aimed at upper level hands on environmental science work. The CUNY involvement in Barbuda and Antigua has thus produced strongly positive experiences for CUNY graduate and undergraduate students, for international global change science, and for local residents. In January 2011 collaboration between CUNY and Barbuda produced a three structure, five acre CUNY BARC *Field Research Station* in the historic center of Codrington Village which will greatly enhance our abilities to deliver science and education and will represent a major resource for the new CUNY *Human Ecodynamics Research Center*. This paper presents a visual summary of the ongoing international collaborations in prehistoric and historic archaeology and paleoecology and our continued work with the Barbuda school system to upgrade science teaching facilities at the elementary and high school levels.

### CUNY Research and Education Work in Barbuda 2005-2011

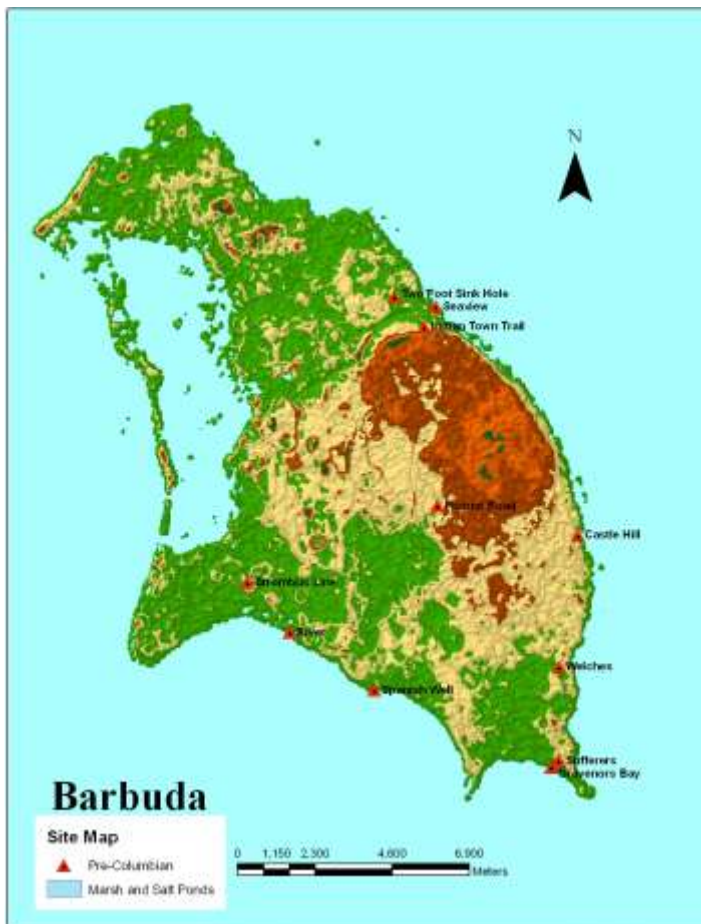


Figure 1 Map of Barbuda showing major research sites. A coring program in 2010 and 2011 coordinated by Dr. Allison Bain (U Laval & HERC affiliated faculty) has produced an excellent set of long term records of climate change and hurricane impacts.



Figure 2. CUNY doctoral student Megan Hicks (right) and Research Experience for Undergrad students carry out site survey in the Castle Hill area of the west coast, documenting surface finds of Archaic age stone tools.



Figure 3. Dr. Tom McGovern (HERC Associate Director) works with students at caves used from Archaic prehistory down to the present for shelter and occasional ritual activity.





International Scientific Collaboration links North Atlantic and West Indies through CUNY



Figure 4 Dr. George Hambrecht (CUNY Deputy Director HERC) briefs Icelandic team members (from left Sif Jóhannesdóttir, Adolf Fridriksson, Gardar Gudmundsson, Orri Vesteinsson) on excavations at the 17<sup>th</sup>-19<sup>th</sup> c site of Highland House. Icelandic teachers, archaeologists, and ecologists have been involved in the Barbuda research through the North Atlantic Biocultural Organization research cooperative ([www.nabohome.org](http://www.nabohome.org)).



Figure 5. Gardar Gudmundsson of Icelandic Institute of Archaeology (HERC Affiliated Institution) using his Trimble mapping GPS to record rescue excavations of Archaic Age shell midden (ca. 5,000 BP) at the River site Jan. 2011.

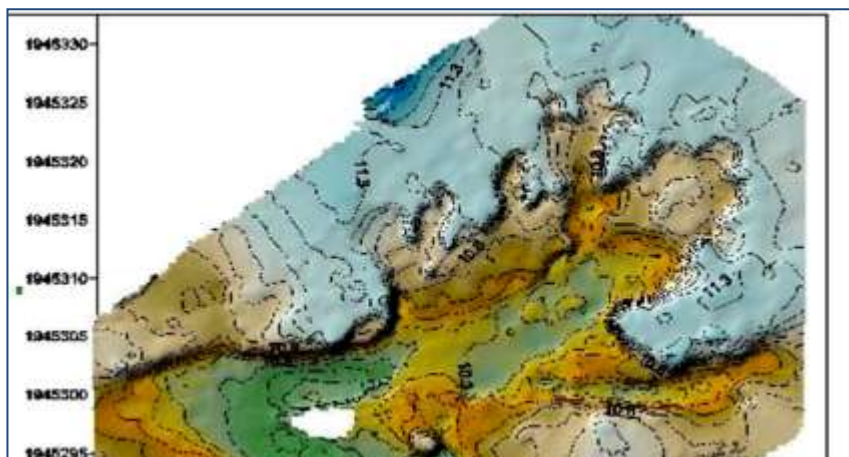


Figure 6 High resolution contour map of River Site by Gardar Gudmundsson.





Figure 7. Kite used for digital aerial photography by Gardar Gudmundsson



Figure 8. Kite aerial photo of the Seaview early Saladoid Ceramic Age site showing patterns of pits and hearth features associated with nearly intact village site under open area excavation by CUNY team led by CUNY Anthropology ABD Aaron Kendall.



Figure 9 Saladoid white on red ware vessel from Seaview. CUNY Anthropology doctoral student Norie Manigault is carrying out a comprehensive study of the pottery recovered for his PhD thesis with help from HERC Associate Director Dr. Reg Murphy.



## Community Outreach in Science Education



Figure 10. Door of renovated science classroom, Barbuda Elementary School



Figure 11. Renovated classroom equipped with lab project kits tied to the existing science curriculum.



Figure 12. Heavily used 2010 renovated science reading classroom Barbuda Elementary School



The Barbuda Archaeological Research Center Field Station Under Construction



Figure 13. CUNY Barbuda Field Station Main Building nearing completion January 2011. This 3 bedroom house on a 5 acre lot is provided on a 99 year grant from the Barbuda Council, and has council water and electricity. The lot is being graded and fenced and will be developed with “edible landscaping” using native plants as a project directed by Dr. John Mussington of the Barbuda High School as a sustainability project. Full bathroom and kitchen, air conditioning, and large water cistern, new roof and interior.



Figure 14. Barbuda Council crews pour cement slab around the Research Station Main Building. The concrete was donated by a local contractor and the labor was provided by the Barbuda Council and the High School Manual Arts class. The concrete surface will be covered with shade structures to provide outdoor classroom and wet lab working space.





Figure 15.. Dr. Perdikaris ( HERC Director) outside renovated CUNY Barbuda Research Station Annex. This historic structure is part of the 18th-19th c *Government House* which we hope to convert into a museum and heritage center. The Annex will provide internet access and environmentally controlled housing for electronics and data processing.



Figure 5. Nissan Extended Cab 4WHD pickup truck owned by the *CUNY Barbuda Archaeological Research Center (BARC)* outside the field research lab of Dr. Reg Murphy in Antigua. Dr. Murphy is a CUNY research adjunct professor in the Anthropology Program as well as Associate Director of HERC and has been exceptionally generous with time, resources, and student support.

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