



ICOMOS ICAHM
International Committee
on Archaeological
Heritage Management



Mission Statement

NASA ROSES Space Archaeology Workshop on Research and World Heritage

Prepared by

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and

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Hosted by

Michael Harrower, Ph.D.

Johns Hopkins University, Department of Near Eastern Studies

Space-based and geospatial technologies offer powerful means of supporting the tandem goals of scientific research (understanding) and Cultural Resource Management (preserving) the ancient past. The World Heritage Convention, signed 40 years ago next year (2012), has been ratified by more countries (187) than any other international treaty in history. The Convention obligates all signatories (States Parties) to inventory and evaluate cultural and natural resources, evaluate their importance, and take steps to conserve and preserve such resources through the establishment of appropriate institutions and through training. This workshop will deal with a certain type of cultural resource, archaeological sites, and explore how aerial and satellite remote sensing can advance scientific research alongside the goals of the World Heritage Convention.

Topics will include public and private institutional support and cooperation, funding sources, imagery sources and access. Leading experts will introduce cutting edge NASA technologies and will offer basic instruction and opportunities to discuss access and processing of Radar, Lidar, and Multispectral/Hyperspectral imagery.

Finally, this workshop will also explore the desirability of establishing a network of NASA/UNESCO/ICAHM University Affiliates, which would develop online GIS data

bases for areas or archaeological sites of global importance, including World Heritage Sites, and provide technological support for agencies and universities in World Heritage Convention signatory countries.

Agenda

Day 1

8 October 2011

8:00 -8:10 a.m.

Welcome to Johns Hopkins Archaeological Research Facility and Orientation to the Campus

Michael Harrower, Johns Hopkins University, Department of Near Eastern Studies

8:10-8:20 a.m.

Preview of Workshop

Douglas Comer, ICAHM

8:20-9:00 a.m.

A History of Space Archaeology

Ronald Blom, JPL/NASA

9:00 a.m.- 10:00 a.m.

Multispectral Technology and Archaeological Applications: Part 1, Technology

Mike Abrams, JPL/NASA

10:00-10:15 a.m.

Coffee Break

10:15 -11:30 a.m.

Multispectral Technology and Archaeological Applications: Part 2, Applications

Mike Abrams, JPL/NASA

11:30- Noon

Using Hyperion at Faynan, Jordan

Stephen Savage, Arizona State University

Noon-12:30 p.m.

Questions and Discussion

12:30 p- 1:30 p.m.

Lunch

1:30-2:00 p.m.

Climate Change and Satellite Imagery Based Hydrological Modeling

Benjamin Zaitchik, Johns Hopkins University Ancient Studies

2:00 p.m.- 2:30 p.m.

Geospatial Hydrological Modeling in Archaeological Research

Michael Harrower, Johns Hopkins University, Department of Near Eastern Studies

2:30-3:00 p.m.

Serving Data to Research Affiliates

Edward Crawford, GeoEye

3:00-3:15 p.m.

Coffee Break

3:15- 3:45 p.m.

Statistical Advances for the Automated Detection of Archaeological Sites

Daniel Sussman, Johns Hopkins University, Statistics and Imaging Department

3:45-4:15 p.m.

The Corona NASA ROSES Project

Jesse Catana, Center for Advanced Spatial Technologies (CAST), University of Arkansas

4:15-5:00 p.m.

Questions and Discussion

Day 2

9 October 2011

8:00-8:10 a.m.

Housekeeping and Updates

Douglas Comer

8:10.-10:00 a.m..

Synthetic Aperture Radar (SAR) Technology and Environmental and Archaeological Applications: Part 1, Technology

Bruce Chapman, JPL/NASA

10:00-10:15 a.m.

Coffee Break

10:15 a.m.-Noon

Synthetic Aperture Radar (SAR) Technology and Environmental and Archaeological Applications: Part 2, Applications

Bruce Chapman, JPL/NASA

Noon-1:00 p.m.

Lunch

1:00-3:00 p.m.

LIDAR Technology and Applications to Archaeology

Devin White, IAI

3:00-3:15 p.m.

Coffee Break

3:15-4:15 p.m.

The Use of LIDAR at the Mayan Site of Caracol, in Belize

Arlen Chase, University of Central Florida

4:15-5:00 p.m.

Questions and Discussion

Day 3

10 October 2011

8:00-8:10 a.m.

Housekeeping and Updates

Douglas Comer, ICAHM

8:10-9:00 a.m.

The NASA Space Archaeology Program

Craig Dobson, NASA

9:00-10:00 a.m.

The UNESCO Remote Sensing Program

Mario Hernandez, UNESCO (Invited)

10:00-10:15 a.m.

Coffee Break

10:15.-11:00 a.m.

Applying Remote Sensing and GIS for Management, Research, and Interpretation of Archaeological Sites

Douglas C. Comer, ICAHM

11:00- 11:30 a.m.

Using Satellite Imagery to Monitor Change at Ancient Gordian, in Turkey

Compton Tucker, NASA Goddard

11:30 a.m.-12:30 p.m.

World Bank Development Activities and the Environment

Stephen Lintner, World Bank, Senior Advisor on the Environment

Lunch and Discussion