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Last year marked the completion of a three-year project of scanning and georectifying thousands of maps from the map collections of the Research Archives. This created an opportunity for CAMEL to focus on expanding its outreach during 2009–2010. CAMEL’s primary focus will always be on the acquisition and management of geospatial data pertaining to the ancient and modern Near East. However, the data are meaningless if they are not used by researchers, students, and others interested in exploring different aspects of the region. It’s when the data can be easily combined to answer research questions and educate that they become truly important.

To expand its outreach, CAMEL partnered with Wendy Ennes in the Oriental Institute’s Education Department in order to develop an innovative educational program for students in the Chicago Public Schools. Funded by a grant from the Chicago Public Schools’ Museum Connection Program, the Science of Archaeology Program created a curriculum for the sixth-grade students at Claremont Academy on 64th Street. The curriculum combined hands-on archaeological excavations using the simulated excavation site in the Kipper Family Archaeology Discovery Center with hands-on analysis of the freshly excavated data using the tools of Geographic Information Systems (GIS) computer software and CAMEL data (fig. 1a–c). Students were challenged to analyze the spatial patterning of objects they had excavated in order to determine the location



Figure 1a. During the past year, sixty students in the sixth-grade class of Claremont Academy participated in the Science of Archaeology Program developed in partnership between CAMEL and Wendy Ennes of the Oriental Institute’s Education Department. Here some of the students participate in hands-on excavations undertaken in the Kipper Family Archaeology Discovery Center

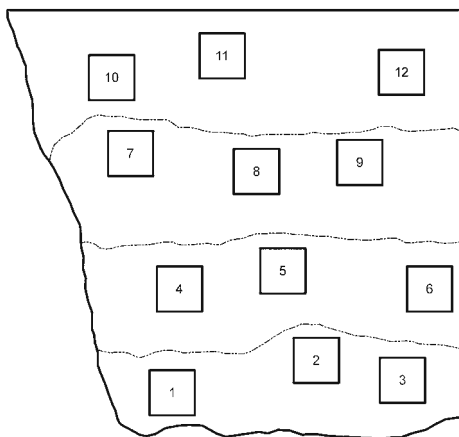


Figure 1b. The locations of artifacts they recovered were recorded using a scaled map of the simulated excavation site produced by CAMEL staff



Figure 1c. Both the map and the recorded data were then imported into GIS software on computers at the school. Students learned how to use the software to analyze the spatial distributions of the artifacts and then using clues contained in a fictitious ancient text they were able to draw hypotheses as to where a golden medallion might be uncovered



Figure 2. This British Survey map of the head of the Persian Gulf was produced in 1915 and is now a part of CAMEL’s digital archive. Historical maps such as this one contain a great deal of information that had been lost by the time more modern imagery and maps were produced. For example, this map shows areas of marsh in southern Iraq that tragically no longer exist today. It also shows portions of canal systems, the reconstruction of which has been essential to understand more ancient landscapes of southern Mesopotamia

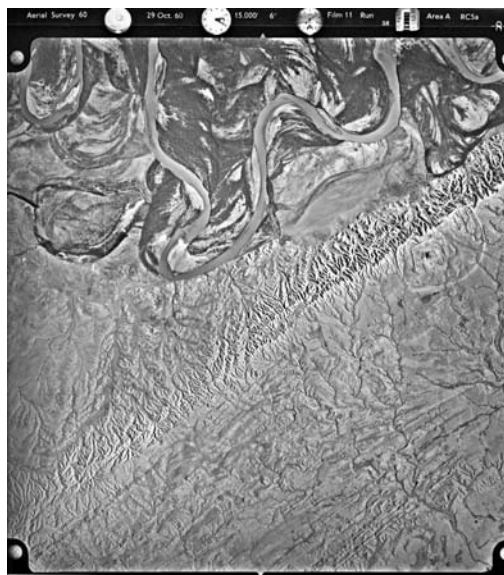


Figure 3. Donations of paper maps and aerial photographs pertaining to the Near East are always most welcomed by CAMEL. CAMEL can take these paper items and turn them into georectified digital images that can be more easily used by researchers, students, and projects interested in the region. During 2009–2010 CAMEL received several such donations from people both in the Oriental Institute and around the world. This October 29, 1960, aerial photograph of the Dizful area in Iran was donated to CAMEL by Robert McC. Adams. Historical aerial photographs such as this one are extremely valuable as they provide a highly detailed view of the landscape at a certain point in time. In the case of Dizful, a major dam has since flooded the area covering all traces of the landscape seen in portions of this photograph

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Figure 4. This is a section of an 1850 map produced during the expedition of a British officer, Lieutenant Colonel Chesney, which McGuire Gibson made available for CAMEL to digitize. Maps like this provide an invaluable glimpse of the landscape of the Near East well before the twentieth century. This section of this Chesney map shows the Strait of Hormuz and the coast of Oman.

of a particular artifact mentioned in a fictitious ancient text. This taught students about the interdisciplinary nature of archaeology, helped them understand specific challenges faced by Near Eastern archaeologists, and demonstrated the utility of using GIS software for spatial analysis just like CAMEL does. CAMEL's outreach was also enhanced through an article about its work, "Layers of the Past: Combining Data from Two Centuries' Worth of Images Creates a New View of the Ancient Near East," that appeared in the May/June issue of *Archaeology* magazine. This is the latest in a series of publicity and articles on the work of CAMEL, which continue to attract the attention of people around the world. While CAMEL has always provided data from its collections as freely as possible to hundreds of users who have contacted us, publicity like this increases the number of people interested in donating their own maps and data to CAMEL's collections and the number of people interested in putting these unique datasets to good use.



Figure 5. U.S. Declassified Spy Satellite images, also called Corona images, are an important part of the historical depth of CAMEL's holdings. These photos, taken largely in the 1960s and 1970s, were first declassified in the mid-1990s. An ongoing CAMEL project to georectify these images allows users to directly compare them digitally to more recent satellite imagery. Urban and agricultural development can then be analyzed to see how it has impacted archaeological sites in the intervening decades. These two images are of Elephantine in Egypt. On the left is a Corona image from July 19, 1963 and on the right is a DigitalGlobe Quickbird-2 satellite image taken on January 6, 2008. In the 2008 image, you can see new development such as the Movenpick Hotel and resort complex on the northern part of the island. On both images the archaeological site is visible on the southern part of the island, but with noticeably more encroachment from buildings today than in 1963

While extending its outreach, CAMEL was hard at work continuing to expand its core collections. In 2009–2010 CAMEL’s digital collections increased by more than 3,000 to just over 13,000 geospatial datasets. This growth is expected to continue with donations and collaborative ventures such as the forthcoming digitization in 2011 of the map collections of the W. F. Albright Institute for Archaeological Research in Jerusalem and Chicago House in Luxor. Both of these centers along with several others are being funded under a four year U.S. Department of Education, Technological Innovation and Cooperation for Foreign Information Access (TICFIA) grant.

CAMEL also continued to make the data in its collections more readily available and useful. Work by volunteers and CAMEL staff progressed throughout the year on the georectification of the 1,100 U.S. Declassified Spy Satellite (Corona) images in the CAMEL collections. Georectification is a process by which images or maps of portions of the earth are encoded with their locational information so that they can be instantaneously overlaid in a GIS with other sources of data from that same area or adjacent areas. Georectifying these images will save individual users of these data the countless hours and expense of having to georectify the images themselves before they can be used. Three hundred of these images were sent last year to Jesse Casana at the University of Arkansas to be georectified as part of an ongoing National Endowment for the Humanities grant. The rest are being georectified by hand by CAMEL. One hundred of these images were georectified by CAMEL this past year.

Finally, CAMEL had a happy reminder this year of the role that it continues to play in the teaching and training of students at the University of Chicago. While CAMEL’s data and facilities continue to be used throughout the year for teaching and research purposes, no event demonstrates that better than the graduation of one of our own. This year, Joshua Trampier, who has done an extraordinary job for numerous years as Assistant and then Associate Director of CAMEL, successfully completed his PhD in Egyptian Archaeology. His dissertation research, which incorporated a good deal of CAMEL data from the delta of Egypt along with archaeological survey,



Figure 6. This year CAMEL, on behalf of the Oriental Institute’s Tell Zeidan Project, purchased a historical topographic map of Raqqa in Syria to aid the archaeological survey around Tell Zeidan. This map (on the right) is one of a large series of topographic maps of the Middle East created by the Soviet Union during the Cold War. The portion of the map right around Raqqa is compared here with a U.S. Declassified Spy Satellite (Corona) image taken on November 4, 1968 (on the left). Both the map and photo show the notable horseshoe-shaped wall of the Islamic-period city

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provides an excellent example of the sort of research that CAMEL enables. While CAMEL will miss the important long-term contribution that Josh made to our team effort, we all wish him well in the years ahead.

CAMEL is as always indebted to all of those who give of their time and efforts. Without the dedicated staff and volunteers at CAMEL, nothing could be accomplished. During this year Joshua Trampier and Robert Tate served as Associate Directors and Elise MacArthur and Susan Penacho as Assistant Directors of CAMEL. William Kent was a Senior Supervisor. Bryan Kraemer served as a database administrator for our growing collections. Charlotte Simon worked with us, in her capacity as an intern in the Education Department, on the creation of the curriculum for the CPS Science of Archaeology Program. Matthew Cuda, Meg Swaney, Christopher Harvey, and Kevin Wilkerson were all Student Assistants. Our volunteers for 2009–2010 were: Marc Block, Jim Boves, Alexander Elwyn (who I inadvertently left off this list last year), Vincent van Exel, Debora Heard, and Larry Lissak. We always are happy to train new volunteers to work with us. In addition, I would like to thank all those who donated financially or in contributions of physical or digital geospatial data to CAMEL throughout this year.

Reference

Branting, Scott

1996 “The Alişar Regional Survey 1993–1994: A Preliminary Report.” *Anatolica* 22: 145–58.
