



WRIGHT  
PALEOHYDROLOGICAL  
INSTITUTE

Paleohydrology is “the study of water use and handling by ancient people.”

Wright Paleohydrological Institute (WPI) is a non-profit organization established in 1996 for the study of ancient water use. WPI is a public foundation with a proud record of public interest activities related to ancient water management.

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# Wright Paleohydrological Institute

To further the knowledge of past civilizations through the study of ancient water management and practices.

Winter 2018/2019

## Pompeii Research in 2018

Wayne Lorenz was in the Naples Bay region of Italy last spring continuing his studies on household water systems in Pompeii and the alignment of the Augusta Aqueduct that fed Pompeii and the Naples Bay area. Wayne and his team found several additional remnants of the aqueduct that will help to define its original alignment.

Wayne has developed a report on 2018 field work at Pompeii’s House of

Efebo. Wayne also recently published *Prominent Features of the Augustan Aqueduct in the Naples Bay Area* via IWA Publishing (with coauthors Giacinto Libertini, Bruno Miccio, Nino Leone and Giovanni De Feo).

These documents are available by calling Jamie Akens at (303) 480-1700.



The House of Efebo contained a diverse assortment of water management strategies. Part of the reason this house is so interesting is its complex construction history.

## New WPI Site: Glanum

WPI is beginning preliminary desktop work to gather information on the Glanum archaeological site in Provence, France, to support study of the water management systems of this important ancient site.

Glanum is a showcase of ancient water use and handling and drainage and flood control practices. It features the remains of the Monumental Fountain, a

sacred well, a triumphal arch, a mausoleum, a Hellenic fountain and much more. Glanum is in a beautiful valley that is not often visited by tourists. It was first settled in the 7<sup>th</sup> and 6<sup>th</sup> centuries B.C. by Gauls, then later Greeks and then Romans during the 2<sup>nd</sup> and 1<sup>st</sup> centuries B.C.

Andrew Earles and Wayne Lorenz will be the Project Managers for this research.



A special feature of Glanum is a 1<sup>st</sup> century mask that spouted water into a pool of the public baths.

## Thank You for Your Support in 2018

WPI continues to study how ancient people dealt with water and how modern water can affect ancient

structures. Your generosity helps make this happen. You can support our public education efforts in 2018

with donations from \$5 to \$200. Ruth and Ken Wright match contributions at two to one.



Wayne Lorenz as he began his presentation at the Fort Collins Museum of Discovery planetarium.

## Pompeii Planetarium Presentation in Fort Collins

WWE's Wayne Lorenz presented a Digital Earth show at the Fort Collins Museum of Discovery planetarium in 2018 based on his nine years of scientific research in Italy. The presentation was a repeat performance of two shows Wayne gave at the Denver Museum of Nature and Science (DMNS) in 2017.

Using DMNS aerial satellite imagery and still photographs by Gary Witt and himself, Wayne took his audiences along the path of the ancient Augustan aqueduct that served Pompeii and the Naples Bay area.

The program began at the springs of the Apennine Mountains and then flew along the alignment of the

Augustan Aqueduct, stopping at features Wayne has studied along the way, including Pompeii and its water system.

Wayne is grateful to Ben Gondrez of the Fort Collins Museum of Discovery for the invitation to speak and to Dr. Ka Chun Yu of DMNS for helping transition Wayne's program to a new planetarium.



Remains of the ancient city of Guayabo on the slopes of the Turrialba Volcano as seen through a clearing in the jungle.

## Guayabo, Costa Rica, Civil Engineering

Engineer Anna Campbell and her colleague, Daryn Hobbs, visited the historic ruins of Guayabo during a trip to Costa Rica in 2018. The site was designated as an International Historic Civil Engineering Landmark by the American Society of

Civil Engineers after WPI nominated it in 2009.

Guayabo was first inhabited more than 3,000 years ago. It is the result of impressive engineering skill in the construction of water catchment and sedimentation tanks,

surface and underground water channels, and ditches and channels throughout the city for drainage.

Anna and Daryn reported that since 2009, Guayabo has been well cared for. It is a rarely visited "jewel."

## Paleohydrology Lectures

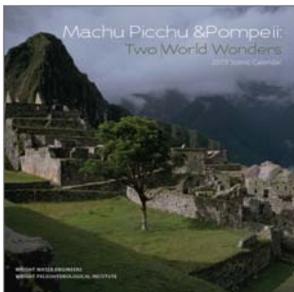
WPI provides many public lectures each year. Two lecture highlights of Ken and Ruth Wright's in 2018 took place in Durango and Denver.

In May, Ken and Ruth Wright were pleased to give

an illustrated lecture on the Inca road system to the Durango branch of the San Juan Archaeological Society at Fort Lewis College in Durango.

In October, Ken Wright provided a presentation and

book signing at the American Society of Civil Engineers conference in Denver. His topic was *Machu Picchu, A Civil Engineering Marvel*, which was one of Ken's books for sale afterward.



*Machu Picchu and Pompeii: Two World Wonders* has been well received.

## 2019 Machu Picchu and Pompeii Calendar

Our 2019 scenic calendar, *Machu Picchu and Pompeii: Two World Wonders*, has arrived! The 2019 calendar features six pages of Machu Picchu photos and six pages of Pompeii photos for the armchair traveler.

The new calendar was designed by Todd Clary Creative and includes photos by Ruth Wright, Ken Wright, Gary Witt, Wayne Lorenz and Kurt Loptien. It is the 23<sup>rd</sup> calendar that we have produced after WPI

first obtained a permit to study Machu Picchu in 1994.

Calendars are available for purchase at <http://wrightpaleo.com/wordpress/scenic-calendar/>.

## Institute of Andean Studies Poster Presentation

Ken and Ruth Wright will present a poster titled *Moray: A Ceremonial Site* at the January 2019 meeting of the Institute of Andean Studies at the University of California–Berkeley.

The poster will illustrate that the Moray site, long described by tour guides and others as an “agricultural research station,” was no such thing.

The research of Ken and Ruth and others with WPI has demonstrated that the site could not have been an agricultural research station—various factors that would have been necessary for this to have been the case simply do not exist there.

The poster will demonstrate the various reasons why the Wrights found that Moray

was not a research station and why they have concluded it was a place for religious ceremonies.

Please call Sally Kribs at (303) 480-1700 if you would like a copy of the poster.



The Inca archaeological site of Moray in Peru's Sacred Valley has a unique design of circular terraces like these along the slopes of four karst sinkholes.

## Waikiki Natatorium

WPI is continuing its work for the National Trust for Historic Preservation (NTHP) on the Waikiki Natatorium, a 100-meter-long and 33-meter-wide ocean water swimming pool and World War I memorial.

The historical Waikiki Natatorium uses water from the Pacific Ocean but the sharks and jellyfish are kept out with grates.

Over the past several years, NTHP's Brian Turner has been working diligently with local engineers, the state of Hawaii, the City of Honolulu and others in order for the original Environmental Impact Statement (EIS) to be reassessed. The original EIS did not include a preservation/rehabilitation alternative in its assessment. Recently, Mr. Turner was successful in getting a revised draft released.

WPI is currently assisting the NTHP by providing feedback on this draft EIS. Dr. Andrew Earles and Karl Kingery (both swimmers) will be assisting in developing these comments in the hope that this historic landmark can ultimately be preserved and reopened to the public.



The historical Waikiki Natatorium (center of above photo) uses water from the Pacific Ocean. Bleachers for spectators are on its right. (Photo by Ron Slausen.)

## Update on Farnsworth House Preservation

WPI was happy to hear from Ashley Wilson of the National Trust for Historic Preservation in 2018 regarding the architecturally important Farnsworth House in Plano, Illinois.

In 2014, WPI performed work for the National Trust to help develop flood mitigation strategies for the historical Farnsworth House, designed by Ludwig Mies van der Rohe. As a

part of this work, we established base flood elevations and provided projections for water surface elevations for events greater than a 100-year event. Based on the data that WPI provided and input from multiple stakeholders, the National Trust decided to pursue a plan to use a lift to temporarily elevate the Farnsworth House during large floods.

Ms. Wilson contacted WPI Project Manager Andrew Earles to be sure that nothing had changed with regard to base flood elevations in the area. Andrew enjoyed reconnecting with Ashley, and is very glad to hear that our elevation plans are being used to protect the Farnsworth House from future flooding.



The Farnsworth House in Plano, Illinois, is located in a floodplain that has experience increased flooding over time.

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**A COPY FOR YOUR RECORDS:**

**This is a record of my contribution to the Wright Paleohydrological Institute to further publicly oriented scientific research on water management and use of water by ancient people along with associated public educational efforts. All contributions are fully tax deductible.**

\_\_\_\_\_ \$5.00      \_\_\_\_\_ \$10.00      \_\_\_\_\_ \$25.00      \_\_\_\_\_ \$50.00      \_\_\_\_\_ \$100.00      \_\_\_\_\_ \$200.00      \_\_\_\_\_ Other

**AGAIN, WPI THANKS YOU FOR YOUR SUPPORT**

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