WPI

WRIGHT PALEOHYDROLOGICAL INSTITUTE

Wright Paleohydrological Institute

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

Winter 2022/2023

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

Wright Paleohydrological Institute (WPI) is a 501(c)(3) 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.

Inside this issue:

Fruitful Pompeii Field Work in June

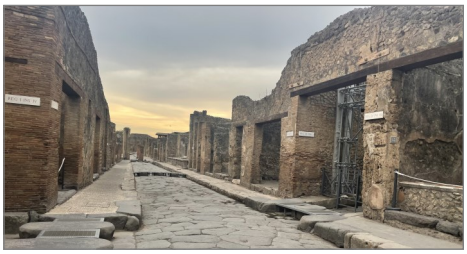
WPI's Wayne Lorenz and Catherine Trowbridge conducted paleohydrological field work in Pompeii and the Naples Bay area of Italy from June 10 through June 20, 2022.

Wayne and Catherine worked with local expert Peppe Illiano to document and measure five previously unmapped sections of the Augusta Aqueduct in the Naples Bay area. The team also explored several cisterns, including the Piscina Mirabilis and Tenuta Convivium in Cuma, to learn more about ancient cistern operations.

At Pompeii, the team accessed the park before it opened to utilize a metal detector to search for lead pipe remains. The Romans utilized lead pipe to transfer rainwater or water from nearby water towers into homes to support baths, wash stations, or latrines.

Wayne and Catherine met with University of Missouri anthropology professor Kate Trusler and field students at Pompeii to measure water-related aspects of the large Casa del Citarista, "House of the Lyre Player."

A special highlight of the trip was work conducted at the Central Baths at Pompeii. The baths were under construction during the time of the Vesuvius eruption, providing insight not only into how the Romans engineered the baths but also their construction processes.



Above: the team enjoyed rare glimpses of Pompeii without tourists during early morning access.
Right: Catherine Trowbridge is shown scanning a pool at the central baths.

Wayne Lorenz surveyed ancient Roman water infrastructure at Baia.

Catello Grimaldi met with Wayne Lorenz and Giuseppe Illiano in Naples to discuss future collaboration opportunities with the University of Rome, where Catello teaches civil engineering.

Colorado Gives Day is December 6, 2022

WPI, a 501(c)(3) non-profit, continues to study how ancient people dealt with water and how modern water can affect ancient structures.

Your generosity helps make this happen.

Please consider supporting our research and public education efforts in 2023 with donations from $5 to $200. (See the donation form on Page 4 of this letter or go to: https://www.wrightpaleo.com/make-a-donation.)

Greg Hobbs with Ken Wright in the Mug House cistern during research there.

Justice Greg Hobbs

WPI commemorates the passing of an icon in the field of water law, Greg Hobbs. Former Colorado Supreme Court Justice Hobbs was not only a prominent legal mind in the field of water rights, but a renaissance man who was skilled in photography, poetry, and teaching.

Justice Hobbs was also active with WPI, participating in several field trips in the Four Corners area.

Justice Hobbs made this research the subject of several photo essays and poems he developed for *Headwaters*, a publication of Water Education Colorado. We will miss his lyricism and insight.

Dr. Kate Trusler accepts a WPI award from Wayne Lorenz.
Photograph: Catello Grimaldi

WPI Medal for Dr. Kate Trusler

Kate Trusler, Ph.D., Anthropology Professor at the University of Missouri, received the WPI medal for Excellence in Paleohydrology in Pompeii, Italy, in June 2022.

Kate supports WPI's mission and has collaborated with Wayne Lorenz on several papers on Roman life, specifically latrines and water supply features in specific houses.

Kate's field school and WPI have worked together for several years now and Kate has been a valuable asset to WPI's Roman studies.

The video is also available on WPI's updated website: Wrightpaleo.com.

WPI Website and Video

WPI is sharing an updated website and new video!

The eight-minute video explains how WPI came to be, what WPI studies, and what WPI does. It features paleohydrological stalwarts Ken and Ruth Wright, Wayne Lorenz, and Andrew Earles and can be seen at: https://youtu.be/D1JwTiHnn9k or on WPI's updated website at: Wrightpaleo.com.

The 2023 Machu Picchu calendar is now available! It can be purchased in the WPI store at: Wrightpaleo.com.

Machu Picchu Paper by Ken Wright Published in *Water*

Ken Wright has had a new paper, "The Masterful Water Engineers of Machu Picchu," published in *Water*. The paper is part of a special issue of *Water* devoted to water engineering in ancient societies, edited by Charles Ortloff.

Ken's paper explores the water achievements of the Inca as exemplified by Machu Picchu in Peru. He demonstrates that the Inca were masterful planners, designers, and constructors.

The article is available at: https://www.mdpi.com/2073-4441/13/21/3049.

The Casa dell'Efebo features beautiful mosaic fountains.

Lorenz has New Paper Published on Pompeii

Wayne Lorenz co-published a paper "Ancient water management in the casa dell'Efebo in Pompeii" in Springer Nature's *Water History Journal.*

Dr. A. Kate Trusler and Jessica N. Bernstetter Totsch are the second and third authors of this paper, which focuses on the diverse assortment of water management strategies used and reviews the water and sanitation features present in the Casa dell'Efebo in ancient Pompeii.

The paper combines both engineering and anthropological theories on the house, which is a microcosm of water management in general at Pompeii.

You can read and share the paper at: https://rdcu.be/cT48M.

Mesa Verde Area Drought

Ken Wright notes that the Great Drought of AD 1135 to 1170 included Mesa Verde and extended all the way to what is now the Central United States. Although it is hard to fathom, sand dunes across the Central United States actively migrated due to topsoil blown during the 12th century drought.

The Ancestral Pueblo people of the Four Corners area learned to be resourceful during this period. As crops withered, they reverted from domesticating turkeys and farming maize, beans, and squash to hunting and gathering. The 12th century drought resulted in famine, reduced reproduction rate, war, and migration.

WPI recommends a new article in *Civil Engineering* magazine on water harvesting at Mesa Verde at: https://lnkd.in/gSUUwkWp. WPI was interviewed for the article and provided photographs.

The Killpecker sand dunes in Wyoming were impacted by the 12th century drought.

Future Pompeii Presentation at DMNS

Wayne Lorenz and Catherine Trowbridge met with Bob Raynolds of the Denver Museum of Nature and Science (DMNS) to discuss their field work in Pompeii and the development of a Pompeii presentation for the planetarium.

The presentation is loosely slated for next spring. Please let us know if you would like to be invited.

Wayne Lorenz and Catherine Trowbridge teach about Pompeii at Mountain Song Community School.

Recent WPI Presentations for Public Education

WPI Team members continue to focus on WPI's mission of public education.

2022 highlights have been:

- Ken Wright was the keynote speaker at Kiewit Engineering Group's Geotechnical Event in September.

Andrew Earles provided an overview of drainage management projects performed for the World Monuments Fund in June.

Wayne Lorenz and Catherine Trowbridge presented to Mountain Song Community School's 6th grade class in October on the water cycle, Roman aqueducts, and water use and supply within Pompeii.

Wayne Lorenz gave a presentation to a University of Colorado College of Engineering fundraising event in November.

Ken Wright presenting to 100 geotechnical engineers on foundation preparation at Machu Picchu.

Wayne Lorenz presenting to 120 University of Colorado alumni on Roman climate and sustainable design.

University of Colorado to House WPI Research Records

WPI met with University of Colorado (CU) Head of Archives and Collections Section Lead Megan Friedel to discuss ways to preserve WPI records for use by the general public at CU.

WPI Archivist Patricia Pinson will work with Megan and WPI researchers to transfer our files to CU without an interruption in current research.

Nanyue Palace Water Management, Guangzhou, China

China is promoting tourism at the Nanyue Palace. Dr. Andrew Earles assisted World Monuments Fund with a consultation on water management issues at this 2,000-year old site in the heart of the metropolis of Guangzhou, China.

The archaeological site, rediscovered near the city center in the 1970s, includes what is believed to be the earliest discovered Chinese water garden as well as palace ruins.

WPI provided consultation on groundwater and surface water management issues at the Nanyue Palace site in China.

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

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.

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AGAIN, WPI THANKS YOU FOR YOUR SUPPORT

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