

Best of Last Week—Coastal cities sinking, when to charge electric cars, prepping for deflecting asteroids

September 26 2022, by Bob Yirka

Investigating a pile of industrial waste mixed with charcoal on Slaves' Hill, Timna Valley. Credit: Erez Ben-Yosef and the Central Timna Valley Project.

It was a busy week for the study of human impacts on the planet as a team of researchers at Tel Aviv University found [evidence of human](#)

[activity 3,000 years ago](#) that destroyed local vegetation and irreparably damaged the Timna Valley environment. Analysis of ancient charcoal pits revealed deterioration of firewood quality due to overuse. Also, a small international team of archaeologists found that [many ancient Maya cities were dangerously contaminated with mercury](#) due to overuse of products that contained the toxic metal. And a team of researchers at Nanyang Technological University, working with a group at NASA's Jet Propulsion Laboratory and another colleague from ETH Zürich, found that [parts of many coastal cities are sinking faster than the sea is rising](#) due to land subsidence.

In technology news, a team at Stanford University found that [charging electric vehicles at home at night is not the way to go](#). The stress on the [electric grid](#), they found, could increase peak demand by 25%. Also, a team with members from institutions across the U.S. developed [a cobalt-free cathode for lithium-ion batteries](#)—an option that could mitigate price volatility and geopolitical complications. And a combined team from the Department of Energy's Oak Ridge National Laboratory and the University of Tennessee, Knoxville, developed [a lithium-ion battery material that breaks the barrier on fast charging](#), potentially opening a pathway to improved charging for [electric vehicles](#). Also, a team of researchers at the Chinese Academy of Sciences developed [a new way to generate electricity using ocean waves](#) by harnessing static electricity.

In other news, a trio of researchers at the University of Houston discovered [a muscle that can promote glucose and fat burning to fuel metabolism for hours while sitting](#). Stimulation of the soleus muscle in the calf, they found, could elevate muscle metabolism. Also, a team at NASA has been [developing a means for deflecting an asteroid](#), which is a key test of planetary defense. And finally, a team with members from the University of Colorado, the University of Arizona and Alma College found that [resistance-breathing training using a device called POWERbreathe can lower blood pressure](#). In some cases, it works as

well as medications or exercise.

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