Pre-reading for Unit 1.1: CZO Overview

Reading groups will pre-read and report on the following four reports to gain some basic knowledge of Critical Zone science and observatories.

By the end of class, make sure that you are in one of 4 groups responsible for one of these papers.

Your group report should be 5 minutes long. If you make slides, bring them on a flash drive. If instructed to do so, upload your report to the course learning management system.

The reading includes a science plan developed by the Critical Zone science community prior to the establishment of the U.S. National Science Foundation’s CZO program, a National Research Council report that helped to formally guide the lead-up to the observatory program, and a report that is the culmination of a workshop of international CZ scientists who identified a series of science challenges to be addressed by the CZ community in the coming decade and an interim report on the accomplishments of CZO’s to date. Combined, these reports provide basic knowledge of “what is” CZ science and provide some history and framework for understanding CZ science.

The four reports are:

1. Committee on Basic Research Opportunities in the Earth Sciences. (2001). [**The Critical Zone: Earth's Near-surface Environment**](http://books.nap.edu/openbook.php?record_id=9981&page=35). In *Basic Research Opportunities in Earth Science* (pp. 35–45). Washington, D.C.: National Academy Press.
	* Please pay particular attention to Figure 2.1.
2. Brantley, S., White, T., White, A., Sparks, D., Richter, D., Pregitzer, K., et al. (2006). [**Frontiers in exploration of the Critical Zone**](http://www.czen.org/sites/default/files/CZEN_Booklet.pdf). In *Frontiers in exploration of the Critical Zone: Report of a workshop sponsored by the National Science Foundation (NSF)* (pp. 1–30). Newark, DE.
	* Please pay particular attention to Figures 4–7, 10, 11 and 13, and Table 1.
3. Banwart, S., Chorover, J., Gaillardet, J., Sparks, D., White, T., et al. (2013). Sustaining Earth’s Critical Zone: [Basic Science and Interdisciplinary Solutions for Global Challenges](http://www.czen.org/sites/default/files/Sustaining-Earths-Critical-Zone_FINAL-290713.pdf), University of Sheffield, United Kingdom, ISBN: 978-0-9576890-0-8.
4. NSF Review Panel (2011), Critical Zone Observatory Program, NSF (<https://www.nsf.gov/geo/ear/programs/czo-panel-report-april11.doc>)