THE GLOBE PROGRAM

ENSO PHASE III "Water in Our Environment" Collaboration Webinar

Webinar # 4 Webinar # 4 Monitoring Earth's Water from Space

Date: Thurs., Dec. 7th, 2017
Time: 8 pm EST/ 01:00 UTC
Log in information: https://gsfc610.adobeconnect.com/ensodec7/

We will have our SME (subject matter expert) share scientific background information for the first half hour. Feel free to invite your students to join the online presentation and hear from a NASA scientist!

Subject Matter Expert: Dr. Matt Rodell
Matt will review Earth's water cycle, and will describe the importance of being able to collect measurements during each phase of the water cycle. We will learn how and why some NASA Earth-observing satellites measure water both above and below ground. He will also share some of the ways in which NASA Earth-observing satellite data is used in real-world applications; such as agriculture, landslides, flooding, and drought response and monitoring.

Dr. Matthew Rodell is Chief of the Hydrological Sciences Laboratory at NASA Goddard Space Flight Center (GSFC) in Greenbelt, Maryland. Dr. Rodell is a member of the science team for NASA's Gravity Recovery and Climate Experiment (GRACE) and GRACE Follow On missions and contributes to the formulation of future gravimetry missions. He leads the Global Land Data Assimilation System (GLDAS) project, which produces high resolution fields of land surface states (e.g., soil moisture and temperature) and fluxes (e.g., evapotranspiration) by integrating satellite and ground based observations within sophisticated numerical models of land surface water and energy cycle processes. He also leads projects focused on mapping, monitoring, and forecasting groundwater storage changes, droughts, and floods. Dr. Rodell is an Editor of the Journal of Hydrometeorology and has previously served as an Associate Editor for the Journal of Hydrology, Chair of the Hydrology Program for the American Geophysical Union (AGU) Fall Meeting, and a leader of various national and international scientific working groups. He received a Presidential Early Career Award for Scientists and Engineers (PECASE) in 2006, a NASA/GSFC Earth Science Achievement Award in 2007, a Robert H. Goddard Award for Exceptional Achievement in Science in 2011, and an Arthur S. Flemming Award for outstanding federal service in the area of basic science 2015. He has more than 100 peer-reviewed publications in journals that include Nature, Science, Water Resources Research, and the Bulletin of the American Meteorological Society. He holds a B.S. in environmental science from the College of William and Mary and a Ph.D. in geological sciences from the University of Texas at Austin.

During the second half hour, we will engage in a collaborative discussion to share some ideas for teaching students about the impact of water, both below and above ground, on our environment. We will see how these concepts fit very easily into the Next Generation Science Standards, and will share ideas for good teaching resources. We will use NASA Wavelength to see lists of good teaching resources related to floods, erosion and landslides, and agriculture, and will be asking folks to give ideas of good resources to add to

these lists. Cassie Soeffing, one of the developers of the NASA Wavelength tool, will give us a demonstration of the many features that lie within this great resource! We will also work on connecting some teachers with each other so they can do come comparing and contrasting of their GLOBE data to see how water both above and below ground impacts the environment differently.

Some focus questions will include:

- Does our region have plenty of freshwater resources for the people who live there?
- Where do people in our region get their water from?
- Is our region prone to flooding?
- Do we experience landslides or erosion in our region?
- How is the local soil for growing crops?
- Have we seen any changes in the amount of precipitation falling in our region over the past five years?
- How is the amount of precipitation expected to change in the next decade? How will these changes impact people's lives?

Our next webinar will focus on the impact of water in Asia and the Pacific. It will be held at a time that is most convenient for the GLOBE scientists, teachers, and students in that region. As always, it will be recorded and archived in case the time period is not good for you.