Hydrology Post-Doctoral Position
Available at the Center for Western Weather and Water Extremes (CW3E)
Part of UC San Diego's Scripps Institution of Oceanography

Location: La Jolla, CA.
To apply: Please send CV, cover letter and 3 references to Luca Delle Monache
(ldellemonache@ucsd.edu) and Rachel Weihs (rweihs@ucsd.edu)
Deadline: Position is available immediately. Preference will be given to applications
received by 26 April 2019, but applicants will be considered until the position is filled.

The Center for Western Weather and Water Extremes, (CW3E; cw3e.ucsd.edu) is a
research and applications center established in 2014 at Scripps Institution of
Oceanography by its Director, Dr. F. Martin Ralph. CW3E focuses on the physical
understanding, observations, weather predictions of extreme weather and water events
to support effective policies and practices to improve resilience in the Western U.S.
CW3E carries out its goals with a diverse network of research and operational partners
at more than ten other institutions across the U.S. Individuals will be joining a group of
several existing Postdoctoral scholars and graduate students, and a number of
experienced faculty, researchers and staff at Scripps who are involved with CW3E.

CW3E seeks a Postdoctoral researcher to design and contribute to efforts that lead
toward improved operational application of distributed hydrologic and
hydrometeorological sciences. The position would work on research that improves
hydrologic model performance associated with extreme events. Anticipated
methodologies include data assimilation (DA) techniques that leverage in-situ soil
moisture observations and remotely sensed observations, improving hydrologic model
parameterization, calibration and determining the most appropriate unbiased
atmospheric forcings for hydrologic model applications from NWP output. Additionally
the candidate would develop guidelines for parsimonious application of hydrologic
models in time and space and evaluation processes and metrics for hydrologic model
simulations and forecasts that isolate areas of potential improvement. The research
would support the development, by the candidate, of a prototype decision support
system that combines a variety of observed and forecast information to aid in
operational decision making. Through the research the candidate would continually
develop and support a connection between CW3E and California-Nevada River Forecast
Center operational forecasts systems and U.S. Army Engineer Research and
Development Center (ERDC). The candidate should have experience with WRF-Hydro
and/or GSSHA (Gridded Surface/Subsurface Hydrologic Analysis), hydrological model
development, calibration, application, and verification. Additional experience in
developing observed datasets for forcing hydrologic models and operating hydrologic
and hydraulic models in a forecasting mode using NWPs or other sources is also desired.

Applicants should have 0-2 years of Postdoctoral experience, or be nearing completion
of their Ph.D. (estimated within 3 months), and be self-motivated and hard-working.

Good written and verbal communication skills, including the ability to produce scientific publications and presentations and meet project milestones are required. Strong analytical backgrounds with a Ph.D. in hydrology or environmental engineering is preferred. Programming experience working in a Unix environment with experience in scripting languages such as Python, Perl, R and Matlab is highly desired. Successful applicants should be comfortable independently working with large code libraries and databases, utilizing large meteorological data sources, and producing novel visualizations.

Per normal Postdoctoral appointment policies, all positions are envisioned as being initially for 1-year, with extension possible contingent upon performance and availability of funding. The University of California, San Diego is an AA/EOE.