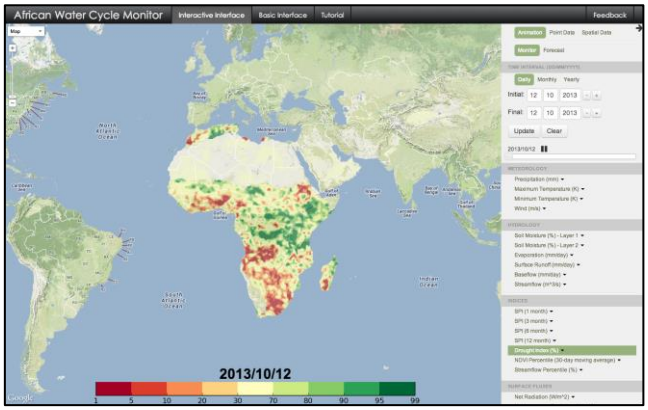
URBAN INFRASTRUCTURE AND ENVIRONMENT
Department of Civil and Environmental Engineering – Princeton University

African Water Cycle Monitor:



A challenge commonly faced in the monitoring of drought and flood related events is the rapid and efficient dissemination of the many available data products that may be useful to different user groups such as government officials, scientists, or watershed managers. To this end, the African Water Cycle Monitor (AWCM) is a simple and intuitive web-based interface that has been developed along with a monitoring and forecasting system to make this data available over the continent of Africa. The data that are available through the user interface include maps of evaporation, surface runoff, discharge, soil moisture, drought index, precipitation, temperature, and mean wind speed among others. The web interface allows users to access the entire daily, monthly, and yearly records of the data from 1950 to the present, as well as 7-day and 6-month forecasts through a Basic and Interactive interface. The available data also includes time series of each of these variables that can be viewed for each ¼º grid cell over the African continent through a Point Data interface.

The Basic interface provides quick and easy access to current hydrological and drought conditions in the form of premade maps for the African continent. The user is also able to choose to display historical maps that date back to 1950 and download the preprocessed images. The Interactive interface is based on Google Maps and allows the user to interact with the system, to zoom in on specific regions, display maps and time series for specific points, and download data for both points and spatial regions. Along with displaying static maps of the variables the user can choose a time interval to animate the images and show the evolution of drought and hydrologic variables as well as their short-term and seasonal forecasts. Any of the displayed maps or spatial data can easily be downloaded for personal use in popular GIS software packages through the web interface. The system can also display time series of the hydrological and drought related variables for every grid cell over the continent, allowing for the viewing and extraction of data to compare with specific gauges or other in-situ measurements. When the user clicks on a grid cell, a popup window appears showing plots that can be manipulated and saved for any user-defined period. Through this system and each of its interfaces, the user will be able to access, visualize and download a wide variety of information about the hydrologic and drought related conditions over the continent of Africa. A full tutorial is also given within the web interface to help explore all of the available features.

The African Water Cycle Monitor can be accessed at:

http://hydrology.princeton.edu/monitor/

Frank Powell Allen Reading Room

General Information

The Frank Powell Allen Reading Room is located in the E-Quad, Room: E301. The room contains engineering drawings, engineering calculations, correspondence and other primary and secondary sources for a variety of structures. The most extensive collections are the Felix Candela, Robert Maillart, Christian Menn, and Anton Tedesko Archives. While the majority of the material is stored and accessible in the Reading Room, some material is stored in the Friend Center. A hard copy catalog (more complete than the digital catalog, but still incomplete) is located on top of the filing cabinet to your right as you enter the room.

The room is typically locked; please contact either Prof. Maria Garlock (E-Quad, Room: E307, mgarlock@princeton.edu) or Prof. Sigrid Adriaenssens (E-Quad, Room: E332, sadriaen@princeton.edu) to schedule a time to visit.

Associated Online Resources

- Incomplete digital catalog of contents (the hard copy catalog is more complete):
  - www.refworks.com → Login
    - Login Name: ceearchive
    - Password: bridges

- CEE 262's Gallery of Structures
  - http://www.princeton.edu/~civ262/Gallery/
  - Photographs and limited data for many of the bridges, towers, roofs, and structural artists covered in CEE 262