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Water Data Resources

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There exist numerous, web-based water portals that provide links to a variety of water data. We have developed a list of those sites highlighted by the papers in this special issue. Accessing and using water data is a metric of success. Further research needs to be conducted to determine what audiences are using these data and how "user-friendly" such sites are. This represents just a slice of the global water "data landscape." Appendix 1 of Gallaher and Heikkila's paper provides a table of a sample of water agencies examined in the U.S. that provide city, local, and regional state data.

Global Data: Climate, Agriculture, and Water

- Climate Research Unit, University of East Anglia (http://www.cru.uea.ac.uk/data). For example, a historical monthly precipitation dataset for global land regions from 1900 to 1998.
- The PRECIS Regional Climate Modelling System (http://www.metoffice.gov.uk/precis/).Developed by the Met Office Hadley Centre, this is a regional climate modeling system to generate climate change projections.
- European Centre Hamburg Model, ECAHM 6 (http://www.mpimet.mpg.de/en/science/models/echam.html). Developed at the Max Planck Institute for Meteorolggy, ECHAM is an atmospheric general circulation model.
- Food and Agricultural Organization of the United Nations – FAOSTAT (http://faostat.fao.org/). Provides national data on crop production and crop yield trends (and other statistical data on hunger and malnutrition) that includes 245 countries and 35 regional areas from 1961 to present.
- Regional Data Exchange System (RDES) on Food and Agricultural Statistics in Asia and the Pacific (http://www.faorap-apcas.org/). Launched in 2001 and funded by FAO and the Government of Japan, it provides reports and statistical information at the provincial level on crop statistics and country profiles on 16 Asian and Pacific countries.
- Food and Agricultural Organization of the United Nations (FAO) EcoCrop (http://ecocrop.fao.org/ecocrop/srv/en/home). Since 1991, the Land and Water Development Division of FAO created EcoCrop to identify plant species for specific environments to inform land use planning.
- Food and Agricultural Organization of the United Nations (FAO) AQUASTAT (http://www.fao.org/nr/water/aquastat/main/index.stm). A global water information system developed by FAO's Land and Water Division. The program collects, analyzes, and disseminates information on water resources, water uses, and agricultural water management focusing on Africa, Asia, Latin America, and the Caribbean.
- European Space Agency – GlobCover (http://due.esrin.esa.int/globcover/). Beginning in 2005, the GlobCover Portal provides global composites and land cover maps for 2005, 2006, and 2009.

United States Water Data

- U.S. Geological Survey Water Data for the Nation - NWIS (http://waterdata.usgs.gov/nwis). Access to water resources data in all 50 states and territories that include surface water, groundwater, water quality, and water use.

- U.S. Geological Survey National Water Census (http://water.usgs.gov/watercensus/0). Develops new water accounting tools and assesses water availability at regional and national scales.
- U.S. Geological Survey Water Quality Assessment Program (http://water.usgs.gov/nawqa/).NAWQA provides information on water quality conditions, regional and national assessments as well as monitoring of hydrological characteristics. Land use and other landscape features are possible.
- U.S. Geological Survey Reservoir Sedimentation Database (http://ida.water.usgs.gov/ressed/). Provides access to sedimentation survey data for selected reservoirs in the US.
- U.S. Geological Survey WaterAlert (http://maps.waterdata.usgs.gov/mapper/wateralert/). A mobile app service that sends e-mail or text messages when certain parameters measured by USGS realtime data collection stations exceed user-defined thresholds.
- U.S. Geological Survey WaterNow (https://water.usgs.gov/waternow/). Check current conditions at for water data at gaging stations on your cell phone.
- Water Quality Portal (http://www.waterqualitydata.us/). Consortium between the USGS, EPA and the National Water Quality Monitoring Council to provide water quality data.
- U.S. Environmental Protection Agency's Environmental Monitoring and Assessment Program (http://www.epa.gov/emap2/). Data collected from 1990 to 2006 monitored and assessed the status and trends of national ecological resources.
- U.S. Environmental Protection Agency National Aquatic Resource Surveys (http://water.epa.gov/type/watersheds/monitoring/aquaticsurvey_index.cfm). Data on US streams, rivers, lakes, resevoirs, coastal waters, and wetlands to characterize water quality conditions.
- Consortium of Universities for the Advancement of Hydrologic Science – CUAHSI (http://wdc.cuahsi.org/). Provides data services and data to the hydrologic science community and supports the Hydrological Information System (HIS) accessed via the HydroDesktop (http://hydrodesktop.codeplex.com/). CUAHSI provides access to over 100 agencies and their water data.
- National River Restoration Science Synthesis (http://library.ucr.edu/wrca/restoration/nrrss.html). Provides a catalog of river restoration projects.
- U.S. Geological Survey LandSat 8 - LandSat Data Continuity Mission (http://www.nasa.gov/mission_pages/landsat/main/index.html). LandSat provides the longest unbroken data stream of the Earth's surface, as seen from space, to track land cover changes since 1972.
- NASA Thermal-Infrared Sensor (TIRS) , LandSat 8 (http://www.nasa.gov/mission_pages/landsat/main/LDCM_TIRS_intro.html). State water managers use thermal energy bands to track land use and water consumption for agriculture.
- Water Data Exchange (WaDE) (http://www.westernstateswater.org/wade/). U.S. Western states will adopt a data exchange protocol to sustainably manage water resources to address consumptive use of water for agricultural crops.
- Water Mark-Up Language (http://www.opengeospatial.org/projects/groups/waterml2.0swg). An Open Geospatial Consortium encoding standard for the representation of in-situ hydrological observation data.