

Hydro-Climatic Data Network (HCDN)

Watershed Characteristics Data File Parameter Descriptions

Column Name	Example/Units	Description	Source
Region	"12"	Region Number	
Station	"1010000"	Station Number	
MeanBFI	index	Annual Base Flow Index	Computed using Institute of Hydrology Wallingford Algorithm. ¹
BF/P	ratio	Annual Base Flow Index / Annual Precipitation	
Area	km^2	km^2 converted from mile^2	HCDN CD-ROM ²
Temp	degrees Fahrenheit*10	Annual Mean Temperature, 2.5 minute grid	PRISM, US_TAVG.14
Elev	m (meter)	1 km grid, ArcView	North American DEM
Slope	degrees	Slope is the maximum rate of change from each cell to its neighbors.	Created using ArcView's "Derive Slope" and the 1 km ArcView North American DEM, Ian Wilson
Solar	mm/yr (millimeter per year)	evaporation in mm/yr (millimeter per year)	Solar Radiation from 0.1 degree grid created using the equations on page 4.31 in the "Handbook of Hydrology"
AnnEvap	mm/yr (millimeter per year)	Precipitation - Streamflow	Computed from long-term precipitation – long-term runoff at each basin.
MayEvap	mm/0.5 yr (millimeter per half year)	Evaporation for May-October	
PPS	%*10	%*10, Percent (tenths) of Precipitation as Snow	2.5 minute grid, PRISM, US_PPS.14
SWE	inches*100	Snow Water Equivalent	2.5 minute grid, PRISM, US_SWE.14
TRange	degrees Fahrenheit*10	Annual Temperature Range	2.5 minute grid, PRISM, US_TRANGE.14
TMax	degrees Fahrenheit*10	Annual Mean Maximum Temperature	2.5 minute grid, PRISM, US_TMAX.14
JanTMin	degrees Fahrenheit*10	January Mean Minimum Temperature	2.5 minute grid, PRISM, US_TMIN.01
AnnTMin	degrees Fahrenheit*10	Annual Mean Minimum Temperature	2.5 minute grid, PRISM, US_TMIN.14
CDD	degree days	Cooling Degree Days	2.5 minute grid, PRISM, US-CDD-14
HDD	degree days	Heating Degree Days	2.5 minute grid, PRISM, US-HDD-14
Snow	cm/yr (centimeter per year)	cm (converted from in*10)	2.5 minute grid, PRISM, US_SNOW.14
Permeability	inches*100	Soil permeability	1 km grid, USGS, Lawrence, KS. Wolock, D.M., 1997. STATSGO soil characteristics for the conterminous United States. USGS Open-File Report 97-656.
Aspect	degree from true north	Aspect (steepest down-slope direction from each cell to its neighbors), 0 = north	Created using ArcView's "Derive Aspect" and the 1 km ArcView North American DEM, Ian Wilson
SWCH	mm (millimeter)	Soil Water Holding Capacity	Based on the global soil water holding capacity created by Dunne and Wilmott (1996) ³

¹ Institute of Hydrology, 1980, Low flow studies: Wallingford, Oxon, United Kingdom, Report No. I, 41 p.

² Slack, J. R., A. Lumb, and J. M. Landwehr. 1993. Hydro-Climatic Data Network (HCDN) Streamflow Data Set, 1874-1988. CD-ROM. U.S. Geological Survey, Reston, Virginia, U.S.A. Available from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A. [<http://www.daac.ornl.gov>].

³ Dunne, K. A., and C. J. Willmott. 2000. Global Distribution of Plant-Extractable Water Capacity of Soil (Dunne). Data set. Available on-line [<http://www.daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A.