W

wading measurement. Discharge measurement during which a hydrographer takes readings while standing in a river[16].

wall block. A roughly cubical joint-controlled large block of limestone or dolomite, which has rotated outward from a cave wall[10]. See also cave breakdown; wall slab.

wall karren. These are found on vertical walls as a result of water flowing down the walls without any area-wide moistening although area-wide sprinkling occasionally influences their development[3]. See also meandering karren; humus-water grooves.

wall pocket. See pocket.

wall slab. A thin but large block of rock, which has fallen outward from the wall of a cave in limestone in which the dip is nearly vertical[10]. See also cave breakdown.

wang. (Malaysian.) Polje[10].

wash. A small ravine due to outwash by flow in desert regions[16].

wash load. The incoming load of suspended sediment passing through a river network without deposition[16].

waste load. The content of wastes by weight of volume transported by or discharged into a river[16].

waste water. Water containing sewage and waste products[16].

water-balance. An instrument designed to measure evaporation by gravimetry[16].

water-bearing. Containing water[16].

water-borne disease. Disease spread by organic contaminants contained in the water supply[16].

water budget. The quantitative accounting of water volumes involved in the hydrologic cycle[16].

water catchment. The intake of water from an aquifer or a surface reservoir[16].

water conservation. All measures to reduce the quantitative of qualitative spoilage of water[16].

water content. The amount of water lost from the soil after drying it to constant weight at 105ºC, expressed either as the weight of water per unit weight of dry soil or as the volume of water per unit bulk volume of soil[22]. See moisture content.

water course. Any channel conveying water[16].

water equivalent. The depth of water resulting from the melting of snow[16].

water hammer. An abnormally high pressure rise in a pipe when sudden changes in flow occur[16].

water-holding capacity. See specific retention.

water invasion. The sudden invasion of water into a well or borehole[16].

water level. The level of free surface of a water body or water column[16].

water logged. Water saturated[16].

water logging. Water accumulation on top of soil where the water table and ground surface coincide[16].

water of constitution. Chemically bound water[16].

water of crystallization. Water embodied in crystal structure[16].

water of dehydration. Water freed from hydrous minerals by chemical changes[16].

water pot. See kamenica, solution pan.

water quality. The physical, chemical, and biological characteristics of water[16].

water requirement. The quantity of water needed for crops regardless of the source[16].

water resources. The total supply of surface, ground, and reclaimed water that can be used[16].

water stage. The height of the water level[16].

water table. 1. The top surface of a body of slowly moving ground water that fills the pore spaces within a rock mass. Above it lies the freely draining vadose zone, and below it lies the permanently saturated phreas. In uniform aquifers, such as sandstone, the water table is a smoothly contoured surface intersecting the ground at rivers and lakes, but in limestone it is more complex. Individual cave conduits may be above or below the water table, and therefore either vadose or phreatic, and the water table cannot normally be related to them. The water table concept does, however, apply to the diffuse drainage of percolation water in the micro-fissure network of limestone, but its detailed structure may be complicated by the presence of conduits. The water-table slope (hydraulic gradient) is low in limestone due to the high permeability, and the level is controlled by outlet springs or local geological features. High flows create steeper hydraulic gradients and hence rises in the water level away from the spring. In France's Grotte de la Luire, the water level in the cave (and therefore the local water table) fluctuates by 450m[9]. 2. The upper surface of a zone of saturation except where that surface is formed by a confining unit[22]. 3. The upper surface of the zone of saturation on which the water pressure in the porous medium equals atmospheric pressure[22]. 4. The upper boundary of an unconfined zone of saturation, along which the hydrostatic pressure is equal to the atmospheric pressure[10]. See also potentiometric surface.

water-table aquifer. See unconfined aquifer.

water-table cave. In theory the water table offers the prime environment for cave development as it provides the shortest route through the phreas and is potentially more active chemically due to the presence of the air/water interface.

However, geological factors determine the details of cave inception and enlargement, and passages most commonly form just below the water table as a shallow phreatic variety of cave development. Development of this type is believed to be responsible for the 'levels' of cave passage found in some areas, as in the flint Mammoth Cave System, Kentucky. True water-table caves are rare except on a limited scale as extensions to cliff foot notches margined to tropical swamps. Also under these conditions, the water table may adjust down to the level of a mature phreatic cave and then modify the passage with horizontal dissolution notches — as is common in the caves of Mulu and Niah, Sarawak[9].

water-table divide. See divide.

water-table map. A map showing the upper surface of the phreatic zone of a water-table aquifer by means of contour lines[1]. See also phreatic zone; potentiometric-surface map; water-table aquifer.

water tracing. Underground drainage links through unexplored caves confirmed by labeling input water and identifying it at points downstream. The common labeling techniques involve the use of fluorescent dyes (fluorescein, rhodamine, leucophor, pyranine etc.), lycopodium spores, or chemicals such as common salt. Detection of dye downstream may be purely visual, but if the dye is used at a subvisible (environmentally acceptable) dilution, suitable detectors must be placed in all potential risings and collected for subsequent fluorometric examination (although water samples are more desirable and beneficial). Lycopodium spores are usually collected in fine nets, along with other stream-borne sediment, and must then be identified under the microscope. If chemical tracers are used, regular water samples must be collected for subsequent analysis, or the resurgent waters must be monitored with suitable electronic detectors and recorders. Flowpaths can also be confirmed by transmission of artificial or natural flood pulses, which provide additional data on the nature of conduits, as a pulse is transmitted instantaneously through flooded passages. The longest successful water trace was from Beysehir Golu to the Manavgat springs, in Turkey, over a distance of 130km; 390kg of fluorescein was used and the dye reappeared after 366 days[9].

water trap, watertrap. A place where the roof of a chamber or passage of a cave dips under water but lifts again farther on[10]. Synonym: trap.

water works. A plant where water is treated and prepared for municipal consumption[16].

water year. A 12 month period for streamflow computation[16].

waterlogged. Water saturated.

waterlogging. Water accumulation on top of soil where the water table and ground surface coincide.

watershed. 1. A drainage basin[16]. 2. A divide separating one drainage basin from another[16].

waterway. An artificial or natural watercourse fit for navigation.

wave karren. Wavy karren surfaces that appear similar to corrugated tin. When denuded they are a disposition for the formation of Rinnenkarren[3]. See also covered karren; Rinnenkarren; root karren.

wayboard. One of many thin beds of volcanic clay that occur at intervals within the Carboniferous carbonate succession of the Peak District, England; a term formerly used by lead miners (see toadstone). Wayboards have potential significance during speleogenesis when they may act as local aquicludes, inception horizons or providers of strong acid formed by oxidation of sulfide minerals[9].

weathering. The process of disintegration and decomposition as a consequence of exposure to the atmosphere, to chemical action and to the action of frost, water and heat.

wedge storage. 1. Water storage in the form of a wedge overlying a prism[16]. 2. storage in a flooded river segment[16].

weir. A dam across a water course to control, raise, or measure water flow[16].

weir coefficient. A coefficient used in transforming water depths into discharge volumes in weir measurements[16].

well. 1. A shaft or hole sunk into the earth to obtain water, oil, gas, or minerals[10]. 2. A deep vertical rounded hole or shaft in the floor of a cave or at the bottom of a closed depression[10]. 3. A bored, drilled or driven shaft, or a dug hole, whose depth is greater than the largest surface dimension[22].

well function. An exponential integral as used in Theis' nonequilibrium equation[16].

well hydrograph. A graph of water level fluctuations in a well[16].

well loss. Head loss caused by flow through a screen and inside a well[16].

well-sorted grains. An assortment of grains having the same diameter[16].

well yield. The volume of water discharged from a well in gallons per minute or cubic meters per day.

wet line. That portion of line of submerged under water in stream measurements[16].

wet suit. A diving garment of foam neoprene designed to insulate the diver from the cold but which allows a thin film of water to penetrate between the suit and the body[25].

wetland. A general term used for a group of wet habitats, in common use by specialists in wildlife management. It includes areas that are permanently wet and/or intermittently water-covered, especially coastal marshes, tidal swamps and flats, and associated pools, sloughs, and bayous[1].

wettability. The property of a solid substance to be wetted by a liquid such as water[16].

wetted area. The cross sectional area of that portion of a channel that is filled with water[16].

wetted perimeter. The perimeter over which flowing water is in actual contact with the channel walls and bottom[16].

wetting period. The period of contact between a liquid and a solid surface during which wetting occurs[16].

whaletail. A descender consisting of an aluminium block with slots, knobs and a safety gate[25].

whitlockite. A cave mineral — $Ca_9(Mg,Fe)H(PO_4)_7$[11].

width of contribution. The width of the contributing region between the ground-water divide from which water enters a well. This usually occurs with an inclined piezometric surface[16].

wilt, to. The shrinking of cell walls due to loss in turgor as a result of water deficiency in the plant[16].

wilting coefficient, wilting point. The soil moisture content at which plants wilt[16].

wind factor. The factor containing a monthly mean wind velocity in evaporation[16].

wind field. The air velocity field above ground due to wind action[16].

window. 1. In speleology, a natural opening above the floor of a passage or a room, giving access to an adjoining cavity or to the surface; larger and less symmetrical than a porthole. 2. The opening under the arch of a small natural bridge[10]. See karst window.

windypit. Open fissure, widened by landslip, common in valley side situations where limestone overlies weaker rocks such as clays or shales. The term is commonly used to describe gulls and tectonic caves in the Jurassic limestones of north-east Yorkshire, England[9].

withdraw, to. To draw water from an aquifer or reservoir[16].

workover. The reworking of a well that has declined in yield[16].

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