Taxonomic formative elements that change the base DI[a]

Order modifier	DI change	Rationale
Andisols	+4	Andic soil materials have high water retention properties
Alfisols, Ultisols	+3	Argillic horizon enhances water retention
Mollisols	+1	Large amounts of organic matter enhances water retention
Gelisols	-5	Frozen for much of the year, making soil water less accessible
Suborder modifier	**DI change**	**Rationale**
Arg	+3	Argillic horizon enhances water retention
Fluv	+2	Floodplain soils may have more incidents of extreme wetness/ponding
Calc, Gyps	+1	Calcic and Gypsic horizons facilitate water retention
Hum	+1	Large amounts of organic matter facilitate water retention
Dur	-2	Duripan (or ortstein) reduces rooting volume
Fol	-2	Thin to bedrock, Folists do not retain large amounts of water
Vitr	-2	Coarse textures reduce water retention
Sal	-3	Salty soil water is not always readily available to plants
Psamm	-6	Sandiness causes soils to drain freely and dry quickly
Great Group modifier	**DI change**	**Rationale**
Hist	+4	High organic matter contents point to additional wetness
Arg	+3	Argillic horizon enhances water retention

Hydr	+3	These soils have high water rentention capacities
Fluv	+2	Floodplain soils may have more incidents of extreme wetness/ponding
Melan	+2	Large amounts of organic matter facilitate water retention
Pale	+2	Strong development and thick Bt horizons facilitates water retention
Calci, Calc	+1	Calcic horizon facilitates water retention
Gyps	+1	Gypsic horizon facilitates water retention
Hum	+1	Large amounts of organic matter facilitate water retention
Somb	+1	Large amounts of organic matter facilitate water retention
Umbr	+1	Large amounts of organic matter facilitate water retention
Epi	-2	Perched water makes the upper profile wetter than it otherwise might be
Fol	-2	Drier than other Histels
Hal	-2	Salts reduce plant's ability to utilize water
Natr, Na	-2	Sodium negatively influences soil water uptake by its influence on structure and water chemistry
Plinth	-2	Plinthite reduces rooting volume
Quartz	-2	Typically sandy, with little opportunity to retain water or neoform clay minerals, which retain water
Dur	-2	Duripan (or ortstein) reduces rooting volume
Vitr	-2	Coarse textures reduce water retention
Fragi, Fragloss	-3	Fragipan reduces deep percolation and commonly perches water

Petr	-3	Indurated horizon reduces rooting volume
Sal	-3	Salty soil water is not always readily available to plants
Anhy	-5	Anhydrous conditions typical of similar to cold, dry soils
Psamm	-6	Sandiness causes soils to drain freely and dry quickly
Subroup modifier	**DI change**	**Rationale**
Lamellic	+5	Lamellae enhance water holding capacity of otherwise xeric, sandy soils
Paleargidic	+5	Combination of Pale (+2) and Argidic (+3)
Andic, Aquandic, Udandic, Ustandic	+4	Andic soil properties typically impart high water retention capabilities
Histic, Thaptic-Histic	+4	High organic matter contents point to additional wetness
Calciargidic	+4	Combination of Calcic (+1) and Argic (+3)
Alfic, Argic, Aqualfic, Argiaquic, Argidic, Haploxeralfic, Ultic	+3	Bt horizon enhances water holding capacity
Albaquultic, Aquultic	+3	Implies strong Bt horizon and enhanced water holding capacity
Ruptic-Ultic, Ruptic-Alfic	+3	Bt horizon enhances water holding capacity
Hydric (in Histosols only)	+3	These soils contain a layer of water
Palexerollic	+3	Strong development and thick Bt horizons facilitates water retention
Ruptic-Histic	+3	High organic matter contents point to additional wetness
Cumulic	+2	Overthickened A horizon facilitates wtaer retention

Fluvaquentic, Fluventic, Torrifluventic, Udifluventic, Ustifluventic	+2	Floodplain soils may have more incidents of extreme wetness/ponding
Hydric (all but Histosols)	+2	These soils have high water rentention capacities
Vitrandic, Vitritorrandic, Vitrixerandic	+2	Coarse textures reduce water retention
Calcic, Calcidic, Gypsic, Haplocalcidic	+1	Calcic horizon facilitates water retention
Argiduridic	+1	Combination of Argic (+3) and Duric (-2)
Kandiudalfic, Kandiustalfic	+1	Bt horizon enhances wtaer retention, but low activity clays limit this effect
Natrixeralfic, Natrargidic	+1	Combination of Natr (-2) and Alfic (Argic) (+2)
Humic, Humaqueptic	+1	Large amounts of organic matter facilitate water retention
Mollic, Aquollic, Rendollic, Udollic, Ustollic, Xerollic, Haploxerollic	+1	Thicker A horizons facilitate water retention and infiltration
Pachic, Umbric	+1	High organic matter contents facilitate water retention
Ustalfic	+1	Bt horizon enhances water holding capacity
Fragic, Fragiaquic	-1	Fragipan reduces deep percolation and commonly perches water
Duric, Duridic	-2	Duripan (or ortstein) reduces rooting volume
Halic	-2	Salts reduce plant's ability to utilize water
Natric	-2	Sodium negatively influences soil water uptake by its influence on structure and water chemistry
Plinthic, Plinthaquic	-2	Plinthite reduces rooting volume

Sodic	-2	Salts reduce the plant's ability to utilize water
Vitric	-2	Coarse textures reduce water retention
Haploduridic	-2	Duripan reduces rooting volume
Salic, Salidic	-3	Salty soil water is not always readily available to plants
Terric	-3	Thin nature of histic epipedon suggests that the water table is not as high as in competing subgroups
Arenic	-4	Sandiness reduces water retention capacity and facilitates surface dryness
Ruptic-Lithic	-4	Half the value of Lithic (-8)
Petroferric	-4	Indurated horizon reduces rooting volume
Petrocalcic, Petrocalcidic, Petrogypsic	-5	Cemented subsurface pans reduce rooting volume
Grossarenic	-6	Thick, sandy surface horizons reduces water retention capacity and facilitates surface dryness
Psammentic, Torripsammentic	-6	Sandiness causes soils to drain freely and dry quickly
Lithic	-8	Shallow bedrock contact greatly reduces rooting volume

a. Modifiers that merit no DI change are not included here.