

1. **Abstraction:** The removal or extraction (mining) of groundwater
2. **Aeration zone:** The area of land that is only partially saturated or completely unsaturated.
3. **Agricultural land:** This simply refers to land that is suitable for farming.
4. **Agriculture:** Agriculture the artificial cultivation (growing or rearing) of plants or animals. Agriculture that grows crops is known as arable agriculture, agriculture that involves rearing animals is known as pastoral agriculture.
5. **Alluvial River:** An alluvial river is any river that carries load. Nearly all rivers (except some rivers flowing over ice shelves and glaciers) carry load.
6. **Aquaculture:** Aquaculture is the artificial farming of aquatic plants and animals. Aquaculture may take place in freshwater or seawater.
7. **Aquiclude:** Rock that can not hold water.
8. **Aquifer:** Rock that can hold water.
9. **Aquifer:** Rocks that can hold water.
10. **Aquitard:** A layer of rock that limits the movement of groundwater. It may be non-porous and has low hydraulic conductivity e.g. it is a clay that water finds it hard to pass through.
11. **Artesian basin:** An artesian basin or aquifer is a confined aquifer containing groundwater under positive pressure. This causes the water level in the well to rise to a point where hydrostatic equilibrium has been reached (balance between pressure on the aquifer and pressure from the aquifer).
12. **Attrition:** This when load in a rivers flow crash into each other, causing pieces to break off.
13. **Bank:** The sides of a river channel. A river channel has two banks.
14. **Bank:** The sides of the river channel.
15. **Bankfull discharge:** The maximum amount of discharge that a river can hold before it burst its banks and floods.
16. **Bed:** The bottom of the river channel
17. **Bluff line:** The outer limits of the floodplain. The bluff line is basically the edge of the valley floor.
18. **Brackish water:** Water that has a higher salinity content than freshwater, but not as high as saltwater.
19. **Braided River:** A braided river is a river with a number of smaller channels, separated by small and often temporary islands called eyots. Braided rivers usually form on rivers with variable flow (wet and dry season or snow melt season) and high quantities of load. When a river is at maximum discharge it is able to transport most of its load. However, when the discharge falls along with the velocity an energy of the river, deposition starts to take place, creating eyots.
20. **Canopy drip:** When intercepted water drips off the leaves of vegetation (drip tip leaves in rainforests are actually designed to allow this to happen).
21. **Capacity:** The maximum amount of load that a river can transport.
22. **Capillary action (or rise):** Water that may move upwards towards the surface.
23. **Channel:** The confines of the river, encompassing the bed and two banks.
24. **Channel:** The physical confines of the river, encompassing two banks and a bed.
25. **Channel flow:** Water that travels in a river
26. **Coastal stabilization:** Wetlands that occur along the coastline and on river banks have prevent erosion from the sea or by rivers.
27. **Competence:** The maximum diameter of a piece of load that a river can transport.
28. **Condenses:** When water vapor turn into water droplets. Water can only condense around condensation nuclei.
29. **Confluence:** Where two rivers meet.
30. **Conversion to biofuels:** Although not strictly reducing the amount of agricultural products (biofuels are agricultural products), this does decrease the supply of agricultural products available for human consumption. Biofuels are often favored by farmers, because they demand a higher price. Linked to Deforestation.
31. **Corrasion (abrasion):** When bits of load crash into the bed and banks. This process causes the load, bed and banks to wear away.
32. **Corrosion (solution):** When the slight acidity of water cause bits of load and the bed and the banks to dissolve.
33. **Critical Erosion Velocity:** The minimum velocity that a river needs to be traveling for it to start eroding and then transporting material.
34. **Cross-sectional area:** The width of the river multiplied by the depth of the river. Because the depth of the river will vary across its width, an average depth reading is normally taken.
35. **Dam:** A barrier placed across a river. A dam is usually made from reinforced concrete.
36. **Dams:** Dams can hold water and regulate the discharge of water. Although some water will be released from dams during periods of heavy rain, it is very unlikely that the river will be allowed to exceed bankfull discharge. Therefore, this will reduce the peak discharge.
37. **Deficit:** When evapotranspiration has exceeded precipitation for a long period. During these arid periods deep groundwater will have to be used or artificial stores e.g. reservoir
38. **Desertification:** Very simply, this is the process of land turning into desert.
39. **Discharge:** This is the amount of water in a river at a given point.
40. **Drainage basin:** The area drained by a river and its tributaries. A drainage basin is considered to be an open system because water can be added or lost from a drainage basin.

41. **Drainage basin size:** In small drainage basins, it is more likely that precipitation will reach the river more quickly. In bigger drainage basins, surface run-off, throughflow and baseflow are all going to take longer.
42. **Drought:** Periods of drought can be worsened if groundwater has been depleted. Under normal circumstances groundwater can be relied upon in times of drought. However, if groundwater has been managed unsustainably, then there might be no groundwater to rely.
43. **Economic Water Scarcity:** This is when the supply of water exists, but there is not enough money to extract, treat and transport it.
44. **Effluent controls and enforcement:** By setting limits on what industries and households can release into rivers and the ground, you will improve the quality of the water.
45. **Erosion:** Erosion is the wearing away of something. When talking about rivers it normally means the wearing away of the bed, banks and its load.
46. **Estuary:** The tidal section of a river near the mouth.
47. **Eutrophication:** This is the processing of artificially adding nitrates and phosphates (through fertilizers and sewage) to wetland areas e.g. rivers and lakes. The added nitrates and phosphates causing excessive growth of algae.
48. **Evaporation:** The process of water turning from a liquid into a vapour. Evaporation only takes place from a body of water e.g. a lake, puddle or the sea.
49. **Evapotranspiration (EVT):** the loss of water from vegetation and water surfaces to the atmosphere
50. **Falling or recessional limb:** The period of time that a rivers' discharge is falling after a storm event and returning to its normal flow.
51. **Fertilizers:** Fertilizers are substances that artificially supply the soil with nutrients. Fertilizers can increase the productivity of agricultural land, but can also cause eutrophication of nearby wetlands.
52. **Fisheries:** Wetlands can support large numbers of fish which can support local populations.
53. **Flood control:** Wetland vegetation can reduce the velocity of rivers flowing into them or from them and act as natural stores of water. If you remove or drain areas of wetland more pressure is placed upon the main river channel. Coastal and marine wetland areas can also absorb the energy of tropical storms, tsunamis etc.
54. **Floodplain:** The floor of the valley floor that gets flooded when a river exceeds bankfull discharge. Floodplains tend to be much wider in a rivers' lower course where horizontal erosion has had a greater effect.
55. **Flora and Fauna:** Many wetlands are unique habitats that support indigenous aquatic plants and animals. Many wetlands support rare reptilian and amphibian species. Many migratory birds also rest in wetlands flying to and from nesting and breeding grounds.
56. **Flotation:** Material transported on the surface of a river.
57. **Fluvial:** Anything found on or made by a river. This includes all landforms.
58. **Glacier:** A slow moving river of ice ages. many of the world's glaciers are melting. The melting of glaciers at their snouts is known as ablation.
59. **Gradient:** The steeper a river is the more likely it is to erode. Geology: Softer rock and particularly unconsolidated rock like sand are going to be more vulnerable to erosion.
60. **Ground subsidence:** If too much groundwater is removed, then the ground above the aquifer may sink (subside). This has happened in Mexico City, where its growing population has exploited groundwater unsustainably.
61. **Groundwater:** Water held under the surface of the earth.
62. **Groundwater:** water held underground sometimes by porous rock (feeds springs)
63. **Groundwater Depletion:** Supply is also being reduced because groundwater is not only being polluted, but removed unsustainably. Over abstraction can cause subsidence and saltwater intrusion, but also conflict over reducing supplies e.g. Israel and the West Bank.
64. **Groundwater flow (baseflow):** Water that travels through saturated ground.
65. **Groundwater recharge:** Wetlands can collect large areas of precipitation and river discharge. As this water is held in storage it will infiltrate and percolate into the ground to recharge groundwater.
66. **Groundwater store:** When water is held in saturated ground.
67. **HEP:** Hydroelectric power. Electricity that is generated by the force of descending (falling) water.
68. **Hjulstrom Curve:** A graph that shows the relationship between river velocity and particle size when looking at a rivers' ability to erode, transport and deposit.
69. **Human Impact:** Humans can affect erosion in many ways; deforestation can increase run-off and therefore the discharge of the river, pollution can increase the acidity of the river, dams can remove load and increase clear water erosion, irrigation may remove water and therefore reduce velocity.
70. **Human Modifications (Urban Hydrology):** Humans can change the hydrology of rivers in many ways. Below is a summary of some of the most common: Urbanization, Sewer Systems, Pollution
71. **Hydraulic Action:** This is when air and water gets trapped in cracks on a rivers beds and banks. The build up of pressure within the cracks causes bits of the bed and banks to break off and the cracks to get bigger.
72. **Iceberg:** A large piece of ice that has broken off a glacier or ice shelf. 90% of icebergs are submerged underwater
73. **Ice sheet:** Also known as a continental glacier, ice sheets are areas of ice over 50,000 square kilometres found on land. The world's only ice sheets are found on Antarctica and Greenland.
74. **Ice shelf:** Thick floating platforms of ice. Ice shelves are between 100, and 1,000m thick

75. **Impermeable:** Surfaces that do not allow water to pass through them.
76. **Infiltration:** When water moves from the surface into the ground below. The infiltration rate is the speed at which water infiltrates and can be measured using an infiltrometer.
77. **Infiltration:** Water that moves from the surface of the earth into the soil below.
78. **Inputs:** When water is added to a drainage basin.
79. **Interbasin transfer:** Water that either naturally (due to the alignment of the rock) or with human involvement (pumps and pipes) moves from one drainage basin to another.
80. **Interception:** The capture of raindrops by plant cover
81. **Interception:** When water is caught and held by vegetation or man-made structures like buildings.
82. **Irrigation:** This means artificially watering the land. There are three main types of irrigation; gravity flow, sprinklers and drip systems
83. **Lag time:** The period of time between peak rainfall and peak discharge
84. **Land degradation:** Land that is overused or misused can become degraded. This basically means that the quality of land has been reduced and it is less productive. For more information about land degradation go to: Soil and change.
85. **Land degradation and desertification:** Land that is over cultivated or overgrazed can become degraded (less fertile).
86. **La Nina:** During 2010 and early 2011 Brazil has suffered increased rainfall caused by La Nina. La Nina is an oceanic-atmospheric system that can cause increased rainfall by changing temperatures.
87. **Load:** If the river has large angular load, then it is more likely to erode.
88. **Locks:** An enclosed area with gates at either end, that allow boats to move up or down a dam.
89. **Lower Course:** This is the section closest to the mouth. Here the river is travelling over much flatter land and the load is much smaller and smoother. This is more horizontal erosion here as the river nears its base level. The landforms you find in the lower course include meanders, oxbow lakes, braided rivers, levees and deltas.
90. **Meanders:** Very simply a meander is a bend or a curve in a river. Why a river starts to bend is not fully understood, but one theory believes it is to do with riffles (shallow sections) and pools (deep sections). The river flows through the pools and around the riffles starting a meander.
91. **Middle Course:** This is the section when the river leaves the mountains and enters are more hilly environment. The valley floors starts to widen as you get more horizontal erosion. The landforms that you get in the middle course include alluvial fans and meanders.
92. **Mouth:** The end of a river. A river may end in a lake, but more normally in the sea.
93. **Mudslides:** Although many of the causes of mudslides were human (deforestation, building on marginal land) the mudslides themselves were a secondary hazard of the flood water. The flood water saturated the ground, increasing the stress on the slopes and causing mudslides to happen
94. **Multipurpose scheme:** Dam are often built not just to provide renewable energy, but also to prevent flooding and to create a store of water.
95. **Navigation:** The process of plotting a route up a river, across a sea, etc.
96. **Non-porous:** Rock with no pore spaces or cracks in it.
97. **Outputs:** When water leaves a drainage system.
98. **Oxbow Lake:** An oxbow lake is a meander that has become cut off from the main river channel. If you have the outside of two meanders near each other they will eventually connect. They connect because erosion is at its maximum on the outside of the meander. When they eventually connect the thalweg (fastest flow) will no longer go around the old meander, but actually go in a straight line. This means that the outside of the river channel now has a slower flow so deposition takes place cutting off the old
99. **Peak discharge:** The highest discharge as a result of a storm event.
100. **Peak rainfall:** The highest rainfall (usually measured in mm) during a storm.
101. **Percolation:** Water that travels from unsaturated into saturated ground.
102. **Permafrost:** Ground that is permanently frozen. For permafrost to exist the ground temperature must be below freezing for the whole year, Permafrost contains large amounts of methane which is released when it melts.
103. **Permeable:** Surfaces that allow water to pass through them.
104. **pH:** If water is more acidic it is obviously going to increase the rate of erosion (corrosion).
105. **Phreatic zone:** The area of ground that is permanently saturated.
106. **Physical water Scarcity:** This is when the demand for water exceeds the supply of water. Arid areas don't necessarily have a physical water scarcity if the demands are low.
107. **Pipeflow:** Water that travels through holes left by root systems and animals burrows.
108. **Pollution:** Transport, industry and housing all create pollution which works its way into the water system. Areas that don't have proper sewers and water treatment tend to be effected more.
109. **Pores:** Gaps between soil and gravel that water can fill
110. **Porous:** Rock with pore spaces and cracks in it.
111. **Precipitation:** Any moisture that falls from the atmosphere. The main types of precipitation are rain, snow, sleet, hail, fog and dew.
112. **Precipitation:** the transfer of moisture to the earth's surface from the atmosphere

113. **Ramsar Convention:** The Ramsar Convention is an international treaty for the conservation and sustainable utilisation of wetlands, i.e. to stem the progressive encroachment on and loss of wetlands now and in the future.
114. **Recharge:** When precipitation exceeds evapotranspiration and groundwater depleted in drier months can be refilled.
115. **Recycling of contaminated garbage:** By recycling products like mobile phones and using rechargeable batteries less dangerous waste is going to be left in landfills.
116. **Reservoir:** The artificial store (lake) that develops behind a dam.
117. **Response time:** The time between the first rain falling and the first change in discharge.
118. **Rising limb:** The period of time that the river is experiencing an increase in discharge.
119. **Rising sea levels:** Some of the earth's most fertile agricultural areas are floodplains and deltas. As world sea levels (eustatic changes) increase much of this fertile land is lost.
120. **River Cliff:** A river cliff is found on the outside of a meander where the flow is fastest and erosion takes place.
121. **River discharge via channel flow:** Water entering the sea and leaving a drainage basin. A very small amount of water also enters the sea via throughflow and groundwater flow (baseflow).
122. **River Valley:** A long depression following the course of a river. It is made by the erosive power of the river. In a river's upper course a valley tends to be quite narrow, but very deep and often formed in a v-shape. In the lower course valleys tend to be much wider, but less deep. The outer limit of a river valley is basically its watershed.
123. **Runoff:** precipitation that does not soak into the ground but flows over it
124. **Salinisation:** The increased concentration of water, increasing its levels of salinity (saltiness).
125. **Saltation:** Load that is bounced along the bed of the river.
126. **Saltwater intrusion:** If aquifers near coastal areas are depleted enough, they may fill back up with saltwater.
127. **Saturated:** Ground where the pores are full and can contain no more water.
128. **Sea ice:** Frozen sea water. Seas like the Baltic Sea freeze during winter.
129. **Sewer Systems:** Generally sewer systems create artificial channels, which often reduces a river's lag time and can lead to increased flooding downstream.
130. **Shared Resources:** Many countries share rivers and lakes. As the demand for water increases and the supply decreases, countries are going to come increasingly into conflict about who the resources belong to. One of the best examples of this growing conflict is the River Nile.
131. **Sinuuous:** This means bend, if a river is sinuous then it is very bendy.
132. **Slip-off Slope (point bar):** A slip-off slope is found on the inside of a meander. This is where the flow is slowest and deposition takes place.
133. **Soil moisture deficit:** When there is a shortage of soil moisture stores and deeper groundwater reserves and surface reservoirs need to be used.
134. **Soil moisture drawdown (usage or utilisation):** When precipitation reduces and soil moisture stores begin to be used.
135. **Soil moisture excess:** When soil moisture and groundwater is replenished. The excess may lead to saturation and increased surface run-off
136. **Soil moisture recharge:** When precipitation increases and soil moisture stores fill, high infiltration and little surface run-off.
137. **Soil moisture store:** When water is held in unsaturated soil.
138. **Solution:** Load that is dissolved by a river and then transported by it.
139. **Source:** The beginning of a river. A river may have multiple sources. The source of a river is normally found in upland mountainous areas.
140. **Stem flow:** When intercepted water runs down the trunks and stems of vegetation.
141. **Storage of organic matter:** Wetlands support large areas of organic matter that can hold large stores of methane (greenhouse gas).
142. **Stores:** When water is stationary and not moving in a drainage basin.
143. **Strand line:** A line of load (usually sticks and litter) that is deposited at the limit of a flood.
144. **Surface store:** When water is held in the surface of the earth. This may be a puddle, a lake or a garden pond.
145. **Suspension:** Load that is transported in a river's flow (current).
146. **Sustainable yield:** The maximum extraction of water that can be maintained indefinitely.
147. **Thalweg:** Simply the fastest section of a river. Normally the section with least friction.
148. **Throughfall:** Precipitation that falls directly through vegetation.
149. **Throughflow:** Water that travels through unsaturated ground.
150. **Tourism and Leisure:** Some wetlands, like the everglades in Florida or the fens in East England become tourist attractions. They also become popular locations to bird watch, fish and hunt.
151. **Traction:** Load that is rolled along the bed of the river.
152. **Transfers (flows):** When water is moving within a drainage basin.
153. **Transpiration:** The evaporation of water from vegetation.
154. **Transportation:** When a river has surplus energy it may carry some of the material that it has eroded.
155. **Transport Network:** Wetland provide many natural waterways that people can move around on easily.

156. **Tributary:** A small river that flows into a larger river.
157. **Unsaturated:** Ground where there is still space between the pores.
158. **Upper Course:** This is the section of the river nearest the source. This is where load is biggest and most erosion is vertical. Most landforms are made by erosion and include; waterfalls, gorges, rapids, v-shaped valleys and interlocking spurs.
159. **Urbanisation:** Urbanisation tends to cause deforestation reducing interception and transpiration. Sewers also reduce surface stores and therefore evaporation. Urban areas usually create large impermeable surfaces which can lead to greater surface run-off.
160. **Urbanization:** As urban areas grow they eat into greenfield sites in rural areas, reducing the amount of agricultural land.
161. **Valley gradient:** If the valley sides are steep precipitation is less likely to infiltrate, but instead more like to run-off into streams and rivers. If valley sides are more gentle, then there will be more infiltration (if the ground is not saturated) and slower surface run-off.
162. **Velocity:** This is the speed that the water in a river is travelling at. The unit of measurement is normally metres a second (m/s).
163. **Velocity and Discharge:** The faster the river is travelling and the greater its discharge the more likely the river is to erode.
164. **Water purification:** The soils, geology and vegetation of wetlands can help clean and purify water.
165. **Water Security Risk Index:** The Water Security Index is produced by the firm Maplecroft. Maplecroft are a company that monitor political, social, economic and environmental risk. They create over 100 indexes, the water security index being one of them. They look at four variables, when making their index: access to improved drinking water and sanitation, the availability of renewable water and the reliance on external supplies, the relationship between available water and supply demands, and the water dependency of each country's economy.
166. **Watershed:** The border between two drainage basins.
167. **Water Stress:** This is when there is a shortage of water for economic reasons, physical reasons or both. If there is water stress then wetlands, ecosystems, agricultural land, industrial production and ultimately humans can all be affected.
168. **Water table:** The boundary between saturated and unsaturated ground. The water table can move up or down.
169. **Water table:** The border between saturated and unsaturated ground. The water table may go up or down.
170. **Water treatment:** Treating all water, by removing solid and chemical waste.
171. **Wetted Perimeter:** The total length of the bed and the banks in contact with the river.
172. **World food prices:** With growing demand and reducing supply, world food prices are at a high.