

GLOSSARY

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3 **Aerenchymous species**

4 Plant species with a tissue consisting of thin-walled cells and large intercellular spaces that allows for plant
5 internal circulation of air and enhances gas exchange between the root layer and the atmosphere. Aerenchymous
6 plants are widespread in wetlands.

7 **Aquic**

8 Condition pertaining to soil layers that are virtually free of dissolved oxygen and have a reducing environment
9 because of saturation with ground water or capillary water (adapted from Table 2.3, Chapter 2, Volume 4 of the
10 *2006 IPCC Guidelines*).

11 **Aquaculture**

12 The organised production of aquatic animals and plants, especially fish, shellfish, and seaweed in marine or
13 freshwater environments. The most important aquacultural practices in coastal wetlands are fish farming and
14 shrimp ponds.

15 **Autotrophic respiration**

16 Respiration of living plants and associated carbon dioxide emissions due to internal metabolism (growth and
17 maintenance) of plants.

18 **Blanket bog**

19 A bog type (see *bog*) that covers the underlying undulating landscape like a blanket.

20 **Bog**

21 Peatland only fed by precipitation and consequently generally nutrient-poor and acid (see also *fen*)

22 **Brackish/saline water**

23 Water generally found in estuaries, deltas of rivers, lagoons, backwaters affected by freshwater discharge and
24 tidal influences, and seawater. The salinity of the water can be variable, but normally contains more than 5 or
25 more parts per thousand (ppt) of dissolved salts, which is roughly equivalent to grams of salt per litre of water.

26 **Brackish/saline wetland**

27 A wetland covered or saturated by brackish/saline water for all or part of the year.

28 **Chamber**

29 Gas-tight enclosure used for measuring greenhouse gas fluxes.

30 **Coastal wetland**

31 *Wetland* at or near the coast that is influenced by *brackish/saline water* and/or astronomic tides.

32 **Constructed wetland for wastewater treatment**

33 *Wetland* designed and constructed to use natural processes to help treat wastewater.

34 **Created wetland**

35 Previously dry land converted to a *wetland* by raising the water table in inland wetlands or removing
36 obstructions to hydrologic flow and/or raising or lowering the soil elevation to appropriate tidal elevation in
37 coastal wetlands.

38 **Dam**

39 A barrier constructed to obstruct the flow of water.

40 **Denitrification**

41 Reduction of nitrate or nitrite to nitrogen gas.

42 **Dissolved Inorganic Carbon (DIC)**

43 Sum of all inorganic carbon species in solution (e.g. carbonate, bicarbonate, carbonic acid, carbon dioxide).

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44 **Dissolved Organic Carbon (DOC)**

45 Organic carbon remaining in solution after filtering the sample, typically using a 0.45 micrometer filter.

46 **Ditch**

47 A long, narrow excavation made in the ground by digging, as for draining or irrigating land.

48 **Drainage/drained**

49 Artificial lowering of the soil water table. In this Supplement 'drainage' is used to describe the act of changing a
50 *wet soil* into a *dry soil*. A *drained* soil is a soil that formerly has been a *wet soil* but as a result of human
51 intervention has become a *dry soil*.

52 **Drainage class**

53 A collection of water table depths sharing a common characteristic. E.g. the class 'shallow-drained' is
54 characterized by having a mean annual water table depth of less than 30 cm below the surface, whereas the class
55 'deep-drained' has a mean annual water table depth of 30 cm and deeper below the surface (Chapter 2). The
56 mean annual water table is the water table averaged over a period of several years.

57 **Dry soil**

58 Every soil that is not a *wet soil*.

59 **Eddy covariance**

60 Micrometeorological method that uses differences in concentration associated with turbulence in the air to
61 quantify net vertical gas exchange.

62 **Eutrophic**

63 Nutrient-rich (see also *oligotrophic*).

64 **Extraction**

65 In this supplement, to remove soil (and associated biomass and dead organic matter).

66 **Fen**

67 Peatland that in addition to precipitation water also receives water that has been in contact with mineral soil or
68 bedrock (see also *bog*).

69 **Fish cages or pens**

70 Types of enclosure at the surface, in mid-water or fixed at the seabed used to hold fish captive within an
71 enclosed space whilst maintaining a free exchange of water.

72 **Fish pond**

73 In this supplement a general term covering ponds constructed in brackish or saline water, designed to retain and
74 culture fish for commercial production (aquaculture).

75 **Flooded Land**

76 In this Wetlands Supplement *Flooded Land* is defined as '*water bodies where human activities have caused*
77 *changes in the amount of surface area covered by water, typically through water level regulation. Examples of*
78 *Flooded Land include reservoirs for the production of hydroelectricity, irrigation, and navigation. Regulated*
79 *lakes and rivers that do not have substantial changes in water area in comparison with the pre-flooded*
80 *ecosystem are not considered as Flooded Lands. Some rice paddies are cultivated through flooding of land, but*
81 *because of the unique characteristics of rice cultivation, rice paddies are addressed in Chapter 5 (Cropland) of*
82 *the Guidelines*' (Chapter 7.3, Volume 4 of the 2006 IPCC Guidelines).

83 **Flooding**

84 Overflowing of water on land normally dry.

85 **Floodplain**

86 Land adjacent to a stream or river that experiences flooding during periods of high discharge.

87 **Freshwater**

88 Water that is not *brackish/saline*.

89 **Freshwater wetland**

90 A *wetland* covered or saturated by *freshwater* for all or part of the year.

91 **CO₂ or CH₄ or N₂O Flux**

92 Rate of flow of molecules of CO₂ or CH₄ or N₂O across a given surface or area and over a certain amount of
93 time.

94 **Heterotrophic respiration**

95 The total of physical and chemical processes in an organism by which oxygen is conveyed to tissues and cells,
96 and the oxidation products CO₂ and water, are given off.

97 **HSSF**

98 A type of constructed wetland with horizontal subsurface flow

99 **Hydroperiod**

100 *Inundation* frequency, differentiated into permanent and intermittent.

101 **Impoundment**

102 Body of water formed by impounding

103 **Inundated/inundation**

104 Covered by water; see also *Flooded Land*

105 **Mangrove**

106 *Coastal wetland* with trees and shrubs along tropical and subtropical coastal areas, that are adapted to grow,
107 generally, below the high-water level of spring tides and thus tidally flooded by brackish/saline waters.

108 **Marsh**

109 A *wetland*, typically treeless, periodically inundated and characterized by grasses, sedges, cattails, and rushes.

110 **Methanogen**

111 Microorganism that produces methane.

112 **Methanotroph**

113 Microorganism that utilizes methane for metabolism.

114 **Mineral soil**

115 Every soil that does not meet the definition of *organic soil* (see Annex 3A.5, Chapter 3, Volume 4 of the 2006
116 *IPCC Guidelines*).

117 **Minerotrophic**

118 (Of peatland): supplied with nutrients from other sources (groundwater, flood water) than the atmosphere (see
119 also ombrotrophic).

120 **Nitrification**

121 The microbial oxidation of NH₄ to NO₃.

122 **Ombrotrophic**

123 Only supplied with nutrients by the atmosphere (see also *minerotrophic*) and consequently often acidic and low
124 in nutrients.

125 **Oligotrophic**

126 Poor to extremely poor in nutrients (see also eutrophic).

127 **Organic soil**

128 In line with the 2006 *IPCC Guidelines* (Annex 3A.5, Chapter 3, Volume 4), soil that satisfies the requirements 1
129 and 2, or 1 and 3 below:

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- 130 1) Thickness of organic horizon greater than or equal to 10 cm. A horizon of less than 20 cm must have 12
131 percent or more organic carbon when mixed to a depth of 20 cm;
- 132 2) Soils that are never saturated with water for more than a few days must contain more than 20 percent
133 organic carbon by weight (i.e., about 35 percent organic matter); and
- 134 3) Soils are subject to water saturation episodes and have either:
- 135 a) At least 12 percent organic carbon by weight (i.e., about 20 percent organic matter) if the soil has no
136 clay; or
- 137 b) At least 18 percent organic carbon by weight (i.e., about 30 percent organic matter) if the soil has 60%
138 or more clay; or
- 139 c) An intermediate proportional amount of organic carbon for intermediate amounts of clay.

140 Except for the 10 cm criterion mentioned under 1) the *2006 IPCC Guidelines* do not define a minimum thickness
141 for the organic horizon to allow for country-specific definitions of organic soil.

142 Paludiculture

143 Agriculture and forestry on wet (undrained, rewetted) organic soil.

144 Particulate Organic Carbon (POC)

145 Organic carbon that is filtered out when filtering the sample, typically using a 0.45 micrometer filter (see also
146 *Dissolved Organic Carbon*).

147 Peat compaction

148 Volume reduction of peat in the aerated zone above the water table, resulting in increased bulk density.

149 Peat consolidation

150 Volume reduction of peat in the saturated zone below the water table owing to increased loading (downward

151 Peat decomposition/oxidation

152 Microbial mineralization of peat resulting in products such as CO₂, DOC and DIC.

153 Peat subsidence

154 The loss in peat elevation resulting from *peat compaction*, *peat consolidation* and *peat oxidation*.

155 Prairie

156 An extensive area of flat or rolling, predominantly treeless grassland; often considered to be part of the
157 temperate grasslands, savannas, and shrublands biome.

158 Refractory carbon

159 Soil carbon that does not oxidize within the time scale of the inventory.

160 Rehabilitation

161 The re-establishment, on formerly drained sites, of some but not necessarily all the hydrological,
162 biogeochemical and ecological processes and functions that characterized pre-drainage conditions.

163 Restoration

164 The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. In case of
165 drained former wetlands, restoration always has to include 'rewetting'.

166 Rewetted soil

167 A soil that formerly has been *drained* but as a result of human intervention has once more become a *wet soil*.

168 Rewetting

169 The deliberate action of changing a *drained soil* into a *wet soil*, e.g. by blocking drainage ditches, disabling
170 pumping facilities or breaching obstructions.

171 Riparian

172 Interface between land and a river/stream.

173 Saline inland wetland

174 *Wetland* that accumulates salts in its soil typically as a result of semi-arid to arid conditions.

175 Salt production

176 The production of salt by evaporating tidal water, which commonly occurs in, or displaces coastal wetlands.

177 Seagrass meadow

178 *Coastal wetland* vegetated by seagrass species (rooted, flowering plants), permanently or tidally covered by
179 brackish/saline water.

180 Sediment

181 Deposit of inorganic or organic material that has been carried and deposited by wind, water, or ice.

182 Semi-natural treatment wetland

183 Natural *wetland* that has been modified for wastewater treatment, e.g. by increasing the volume reserved (i.e.
184 dams) and constructing channels for targeting the influent and effluent.

185 SF

186 Type of constructed wetland with surface flow (SF).

187 Swamp

188 Wetland dominated by trees or woody species.

189 Tidal freshwater wetland

190 Wetland covered or saturated for all or part of the year by tidal freshwater; the boundary is recognized as the
191 landward extent of tidal inundation.

192 Tidal marsh

193 Marsh covered or saturated for all or part of the year by tidal freshwater or brackish/saline water; the boundary is
194 recognized as the landward extent of tidal inundation.

195 TOC (total organic carbon)

196 All carbon in organic matter.

197 VSSF

198 Type of constructed wetland with vertical subsurface flow.

199 Wastewater treatment plant

200 A facility designed to receive wastewater and to remove materials that damage water quality and threaten public
201 health and safety when discharged into receiving streams or bodies of water.

202 Waterborne carbon

203 *DOC* or *POC* contained in or conveyed by water.

204 Wetland

205 In this supplement, the term ‘wetland’ is used to refer to land with a *wet soil*.

206 Wetland mineral soil

207 A mineral soil that is classified as an ‘aquic soil’ or a ‘gleysol’ according to the default mineral soil classification
208 in Annex 3A.5, Figures 3A.5.3 and 3A.5.4, Chapter 3, Volume 4 of the *2006 IPCC Guidelines*.

209 Wet soil

210 A soil that is inundated or saturated by water for all or part of the year to the extent that biota, particularly soil
211 microbes and rooted plants, adapted to anaerobic conditions control the net annual greenhouse gas emissions and
212 removals.