

WebTable 2. A list of disturbances reported in the literature that influence soil blue carbon stocks (soil C_{org}) and rates of C_{org} burial

Disturbance of the living biomass but not the soil
Light reduction due to increased total suspended matter ^{1,2}
Dieback due to wrack accumulation ³
Eutrophication ^{4,5,6}
Toxicity ⁷
Changes in hydrology ^{8,9,10}
Grazing ^{11,12}
Sea-level rise ¹³
Severe storms (eg cyclones, hurricanes, typhoon) ¹⁴
Change in plant species composition ¹⁵
Disturbance of the living biomass and soil
Clearing and reclamation ^{16,17,18,19}
Conversion to aquaculture or agriculture ^{20,21,22,23,24,25}
Moorings and boating ²⁶
Bioturbation and erosion ^{27,28,29,30}
Seismic testing ³¹

Notes: Disturbances are classified as those that affected the vegetation but did not directly affect the soil during the study, and those that caused disturbance to both vegetation and soil. This is not an exhaustive list of potential disturbances to blue carbon ecosystems. For example, studies that consider the effects of severe storms, sea-level rise, or changes in hydrology on organic carbon in both living biomass and soils are not yet available.

¹Marbà *et al.* 2015; ²Samper-Villarreal *et al.* 2016; ³Macreadie *et al.* 2013; ⁴Turner *et al.* 2009; ⁵Schmidt *et al.* 2012; ⁶Macreadie *et al.* 2012; ⁷Trevathan-Tackett *et al.* 2013; ⁸Hicks *et al.* 2003; ⁹Howe *et al.* 2009; ¹⁰Macreadie *et al.* 2015b; ¹¹Atwood *et al.* 2015; ¹²Chiu *et al.* 2013; ¹³Chambers *et al.* 2014; ¹⁴Cahoon *et al.* 2003; ¹⁵Kelleway *et al.* 2016; ¹⁶Lovelock *et al.* 2011; ¹⁷Lang'at *et al.* 2014; ¹⁸Bu *et al.* 2015; ¹⁹Macreadie *et al.* 2014; ²⁰Kauffman *et al.* 2014; ²¹Sidik and Lovelock 2013; ²²Murdiyarso *et al.* 2015; ²³Sigua *et al.* 2009; ²⁴Herbeck *et al.* 2014; ²⁵Rountous *et al.* 2012; ²⁶Serrano *et al.* 2016; ²⁷Andretta *et al.* 2014; ²⁸Pülmanns *et al.* 2014; ²⁹Gutierrez *et al.* 2006; ³⁰Coverdale *et al.* 2014; ³¹Macreadie *et al.* 2015a.

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