Table 1 DOC and δ13CDOC in different water components on QTP

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Water components | Permafrost conditions\* | Sample size | δ13CDOC (‰) | | | DOC (mg/L) | | | References |
| mean | max | min | mean | max | min |
| P–1 | PF | 62 | –29.8 | –27.4 | –36.1 | 9.7 | 24.6 | 5.6 | This study |
| P–2 | PF | 125 | –31.6 | –28.1 | –36.9 | 21.5 | 70.1 | 8.8 | This study |
| ALW | PF | 169 | –30.2 | –26.1 | –36.8 | 6.4 | 11.3 | 3.7 | This study |
| LRW | PF | 21 | –25.6 | –23.2 | –26.9 | 2.3 | 7.1 | 0.2 | 1, 2, 3 |
| SFG | 22 | –25.8 | –25.1 | –26.9 | 1.2 | 2.6 | 0.2 | 2, 3, 4, 5 |
| SSW | PF | 26 | –12.6 | –10.7 | –15.0 | 9.5 | 13.5 | 4.7 | 1, 6, 7, 8 |
| SPW | —— | 26 | –21 | –21 | –21 | 0.6 | 1.3 | 0.2 | 9–12 |
| PW | —— | 11 | –23 | –21 | –25 | 1.0 | 1.3 | 0.7 | 13–14 |
| LLW | SFG | 173 | –25.6 | –22.2 | –28.8 | 2.8 | 8.1 | 0.5 | 4, 15 |
| TLW | PF | 9 | –16.2 | –15.1 | –18.4 | 10.5 | 35.6 | 3.0 | 16 |
| GW | PF | 2 | n.a. | n.a. | n.a. | 11.9 | 15.0 | 8.8 | 2 |
| SFG | 21 | n.a. | n.a. | n.a. | 1.3 | 3.8 | 0.3 | 2 |
| GMW | —— | 263 | n.a. | n.a. | n.a. | 1.2 | 2.2 | 0.2 | 9, 17, 18 |

\*PF: Permafrost; SFG: Seasonal frozen ground

1: Ma et al., 2018; 2: Hu et al., 2019; 3: Qu et al., 2017; 4: Kai et al., 2019; 5: Gao et al., 2019; 6: Liu et al., 2018; 7: Song et al., 2019; 8: Mu et al., 2017; 9: Yan et al., 2016; 10: Gao et al., 2020; 11: Liu et al., 2016; 12: Li et al., 2018a; 13: Li et al., 2017; 14: Li et al., 2018b; 15: Su et al., 2018; 16: Mu et al., 2016; 17: Zhang et al., 2018; 18: Li et al., 2018c

Table 2 Variations in the DOC concentration among different ground ice types

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ice types | Monitor sites | Sample size | Mean DOC (mg/L) | References |
| LI | QTP | 187 | 9.6–21.5 | This study |
| IW | Arctic/Alaska | 94/7 | 9.0/13.6 | 1, 2, 3 |
| NMI | Arctic | 69 | 58.7 | 2 |
| PI | Alaska | 1 | 7.3 | 3 |
| PMW | Greenland | 3 | 12.4 | 4 |
| ALW | QTP/ Greenland | 169/10 | 6.4/15.4 | This study/4 |

1: Fritz et al., 2015; 2: Tanski et al., 2016; 3: Abbott et al., 2014; 4: Leman, 2018