**Table S2.** Estimation of air-sea CO2 fluxes reduction by slicks in the western Pacific, North Atlantic and Norwegian Fjords.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | ① | ② | ③ | ④ | Reduction of CO2 fluxes by slicksc |
| Area (km2) | Fraction (%) | CO2 fluxes | % coverage by slicksb |
|   |   | (Tg C year-1) |  ⑤ Tg C year-1 | ⑥ % |
| Pacific oceana | 153.8 x 106 | 100 | -0.46a | 11 | -0.03 | 7 |
| western Pacific  | 3.7 x 106 | 2.4 | -0.01 | 11 | -7.55 x 10-4 | 7 |
| Atlantic oceana | 74.6 x 106 | 100 | -0.58a | 11 | -3.95 x 10-2 | 7 |
| North Atlantic | 0.14 x 106 | 0.2 | -0.001 | 11 | -7.33 x 10-5 | 7 |
| Norwegian Fjords | 1183 | 0.0016 | -9.19 x 10-6 | 30 | -1.71 x 10-6 | 19 |
|   |   |   | ③ = CO2 fluxesa \*②/100 |  | ⑤ = ③ \*(④/100) \*0.62c | ⑥ = ⑤\*100/③ |

a Based on estimated CO2 fluxes (Tg C year-1) (*57*)

b Frequency of ocean coverages by slicks in the coastal (30%) and open ocean (11%) (*6*)

c Based on 62% reduction by slicks from our study