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Supplement of

Climatology and annual cycle of global ocean dissolved oxygen represented by multiple observational gridded products

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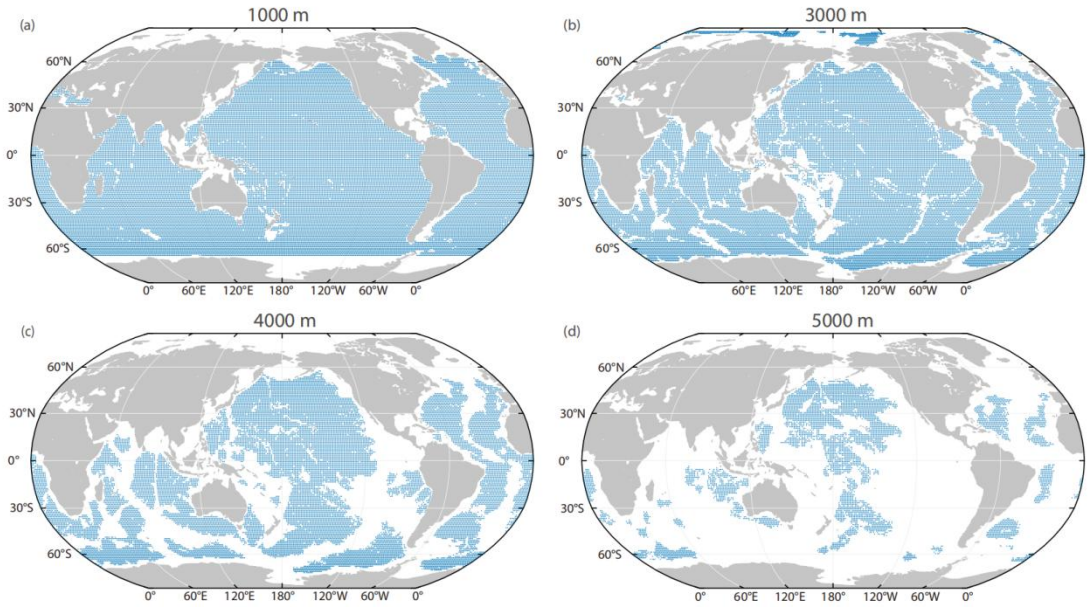

Figure S1 Common land-ocean mask for the depth layers of 1000 m, 3000 m, 4000 m and 5000 m.

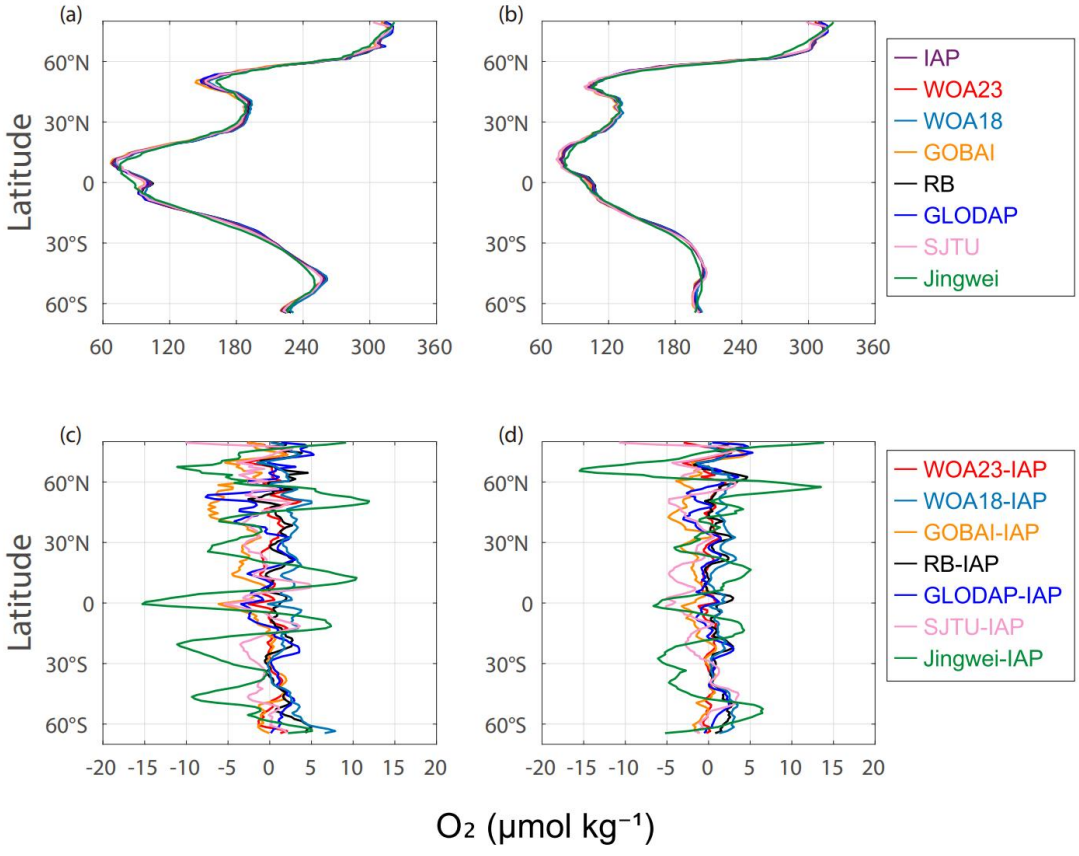

Figure S2 Global zonal mean O_2 concentration and differences for 0-600 m (a, c) and 0-2000 m (b, d) (unit: μmol kg^{-1}).

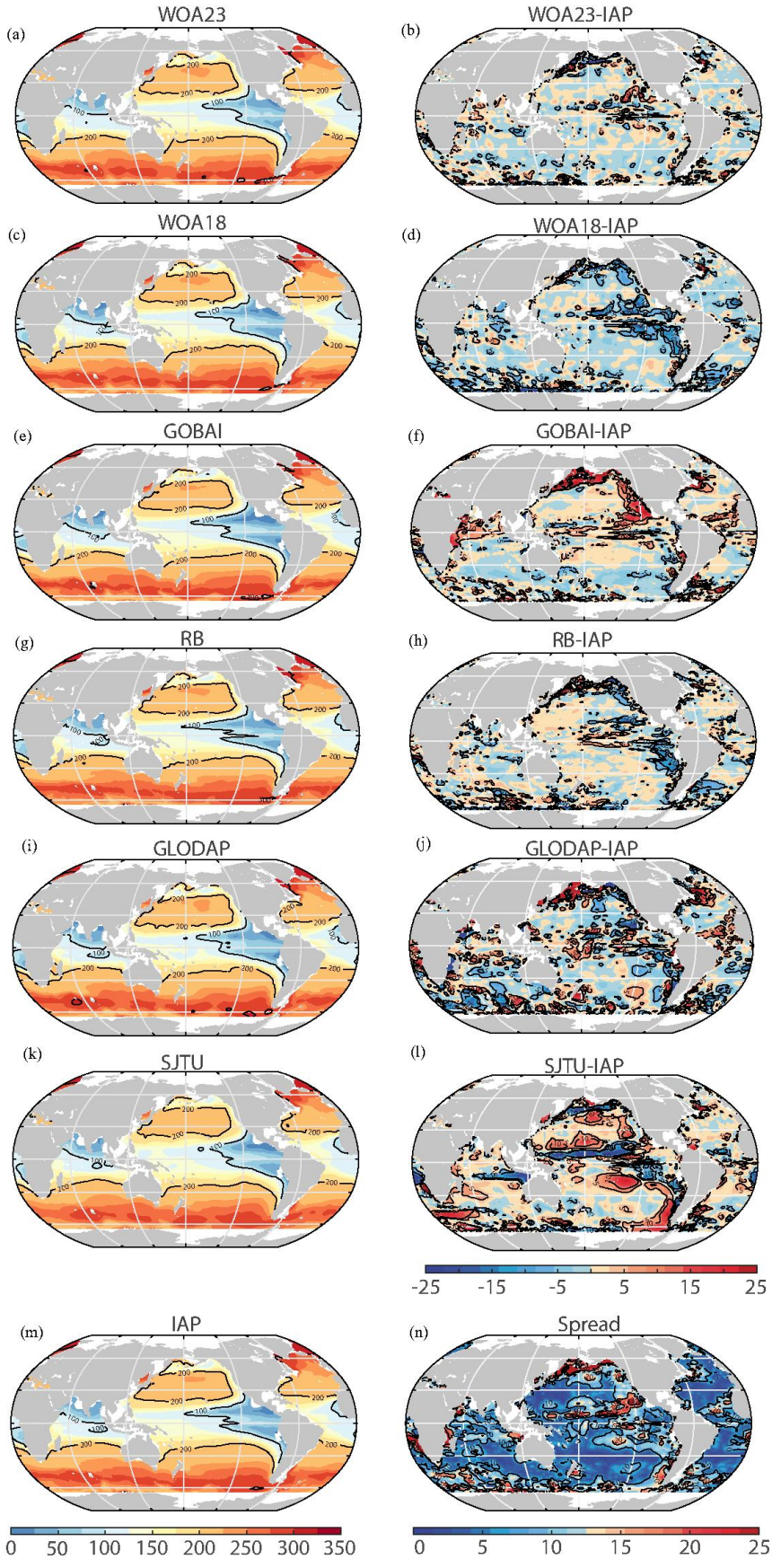
(a)
WOA23
(b)
WOA23-IAP
(c)
WOA18
(d)
WOA18-IAP
(e)
GOBAI
(f)
GOBAI-IAP
(g)
RB
(h)
RB-IAP
(i)
GLODAP
(j)
GLODAP-IAP
(k)
SJTU
(l)
SJTU-IAP
-25 -15 -5 5 15 25
(m)
IAP
(n)
Spread
0 50 100 150 200 250 300 350
0 5 10 15 20 25
O2 (μmol kg−1)

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Figure S3 The spatial patterns of the upper 300m climatological mean O_2 concentration (unit: μmol kg^{-1}). (a) WOA23, (b) WOA23-IAP, (c) WOA18, (d) WOA18-IAP, (e) GOBAI, (f) GOBAI-IAP, (g) RB, (h) RB-IAP, (i) GLODAP, (j) GLODAP-IAP, (k) SJTU, (l) SJTU-IAP, (m) IAP, (n) Spread is calculated as the difference of the upper 300m climatological mean O_2 among the datasets.

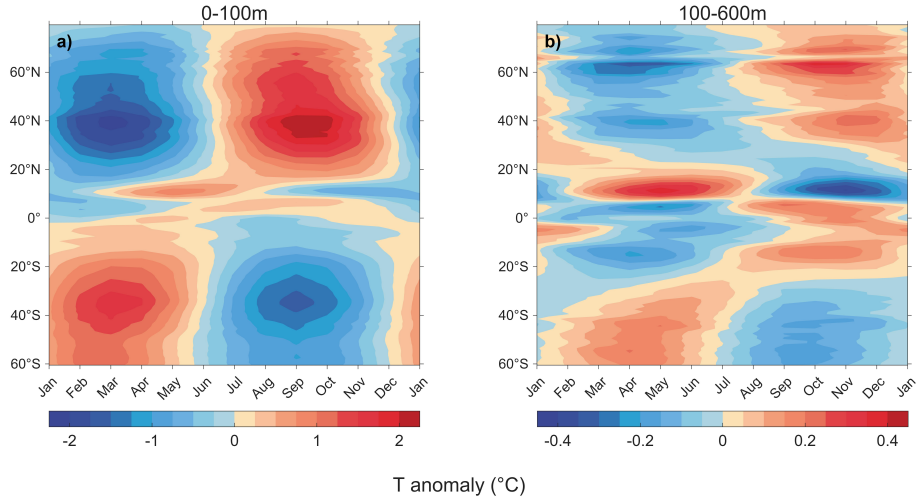

Figure S4 Zonal mean annual cycles of temperature for 0-100 m (a) and 100-600 m (b) for IAP temperature data product (unit:°C).

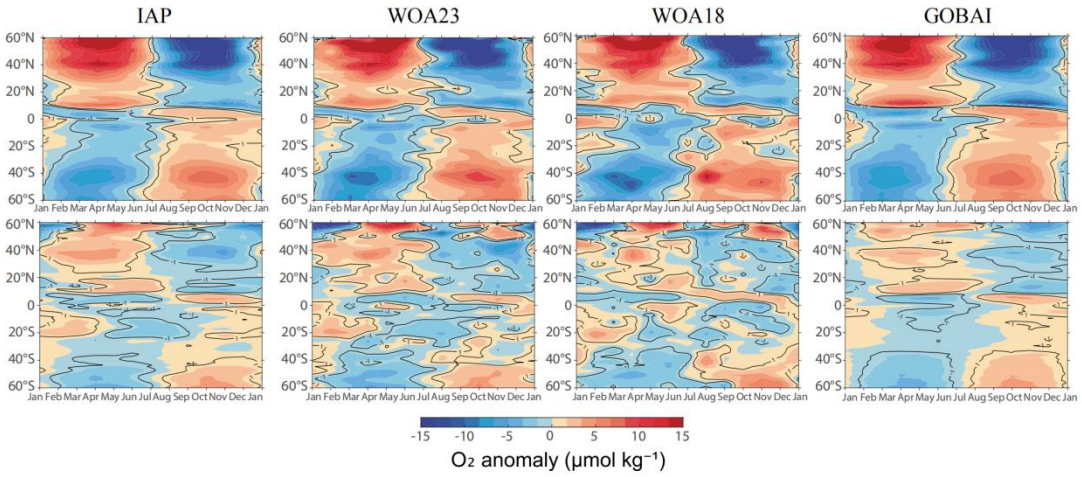

Figure S5 Zonal mean annual cycles of Pacific Ocean for 0-100 m (upper) and 100-600 m (lower) for different data products (unit: μmol kg^{-1}).

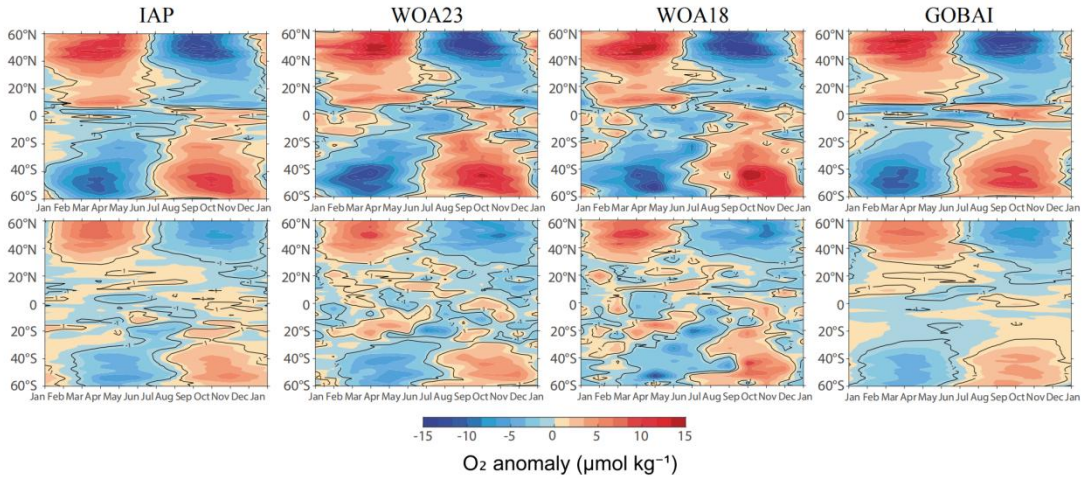

Figure S6 Zonal mean annual cycles of Atlantic Ocean for 0-100 m (upper) and 100-600 m (lower) for different data products (unit: μmol kg^{-1}).

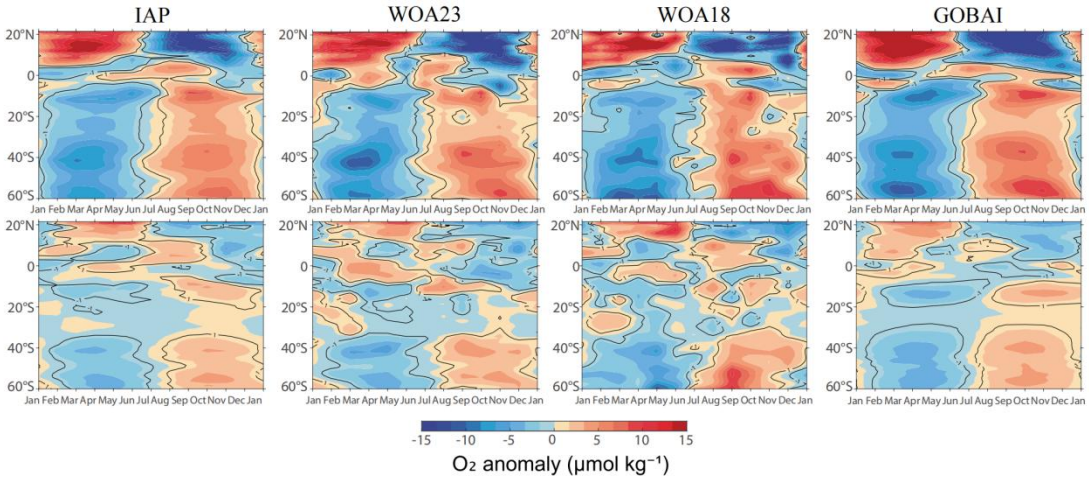

Figure S7 Zonal mean annual cycles of Indian Ocean for 0-100 m (upper) and 100-600 m (lower) for different data products (unit: μmol kg^{-1}).

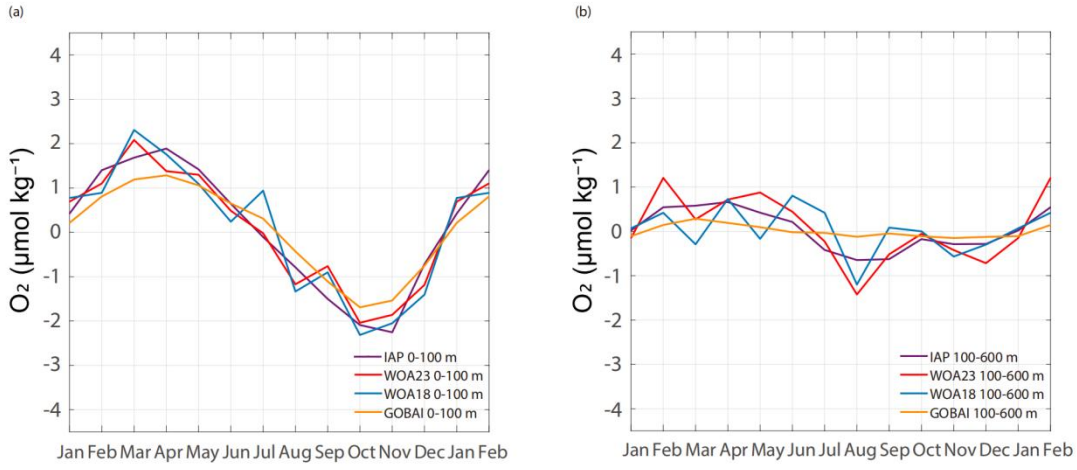

Figure S8 Annual variation for the Pacific Ocean of the (a) 0-100 m and (b) 100-600 m mean O_2 for IAP, WOA23, WOA18, and GOBAI datasets (unit: μmol kg^{-1}).

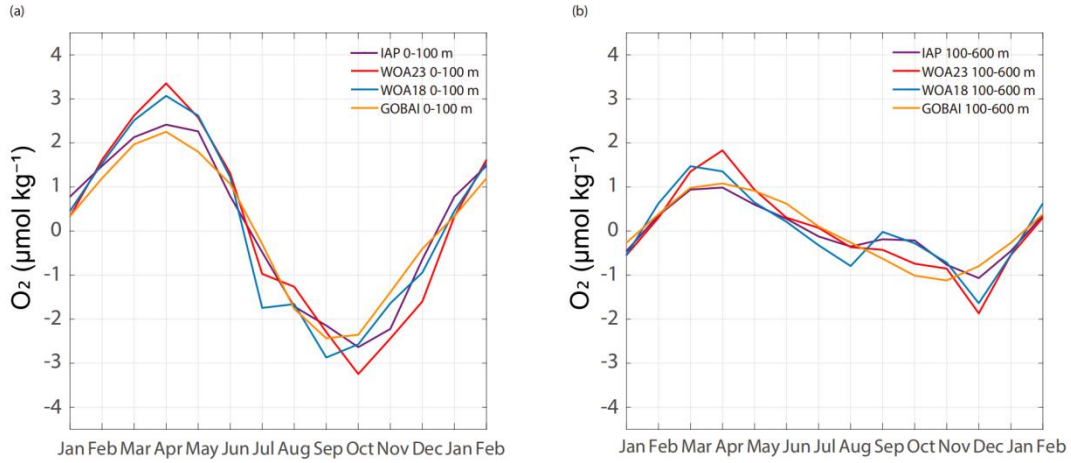

Figure S9 Annual variation for the Atlantic Ocean of the (a) 0-100 m and (b) 100-600 m mean O_2 for IAP, WOA23, WOA18, and GOBAI datasets (unit: μmol kg^{-1}).

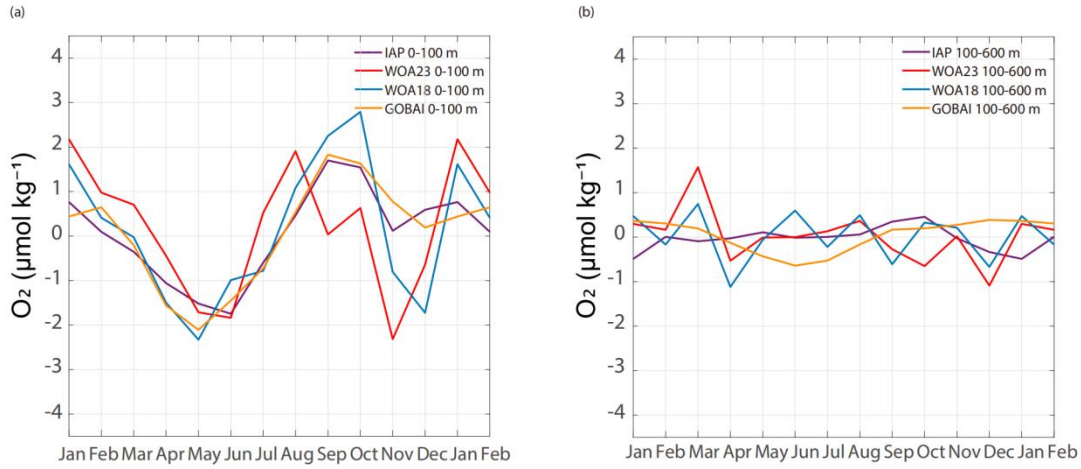

Figure S10 Annual variation for the Indian Ocean of the (a) 0-100 m and (b) 100-600 m mean O_2 for IAP, WOA23, WOA18, and GOBAI datasets (unit: μmol kg^{-1}).

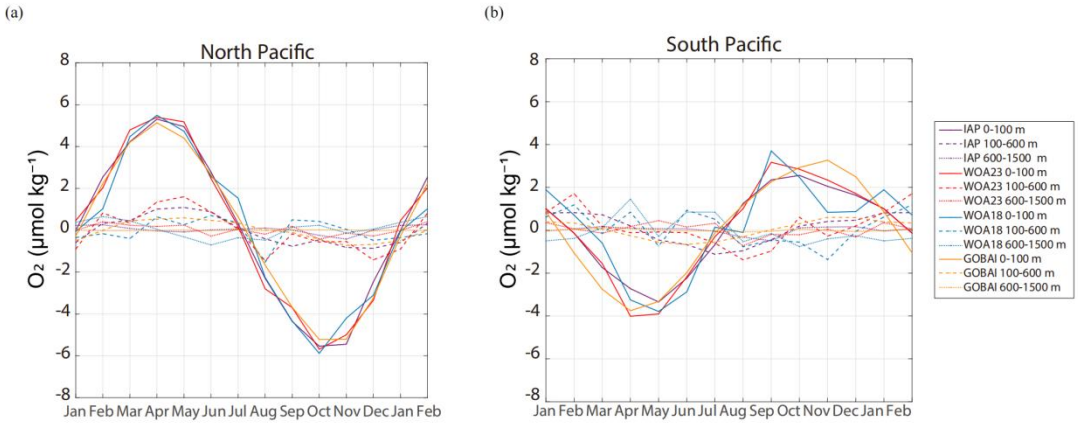

Figure S11 Annual variation of the (a) North Pacific and (b) South Pacific mean O_2 for IAP, WOA23, WOA18, and GOBAI datasets (unit: μmol kg^{-1}).

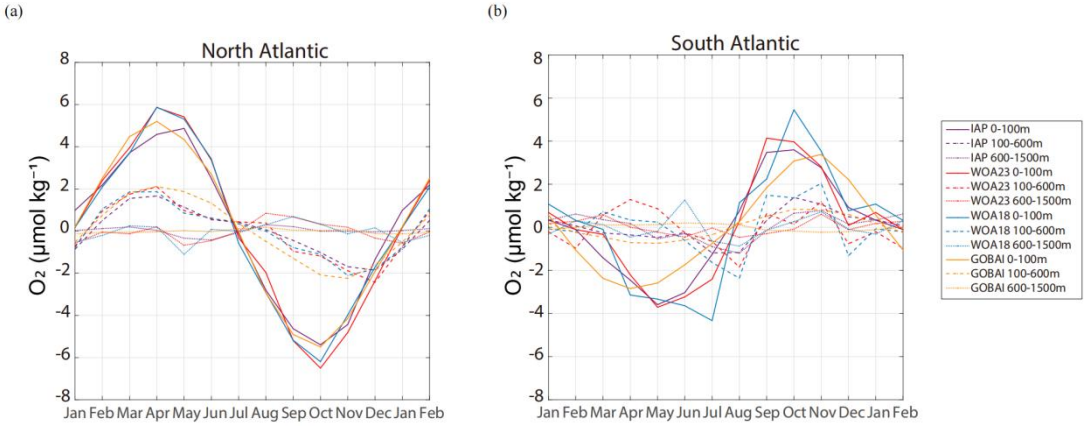

Figure S12 Annual variation of the (a) North Atlantic and (b) South Atlantic mean O_2 for IAP, WOA23, WOA18, and GOBAI datasets (unit: μmol kg^{-1}).