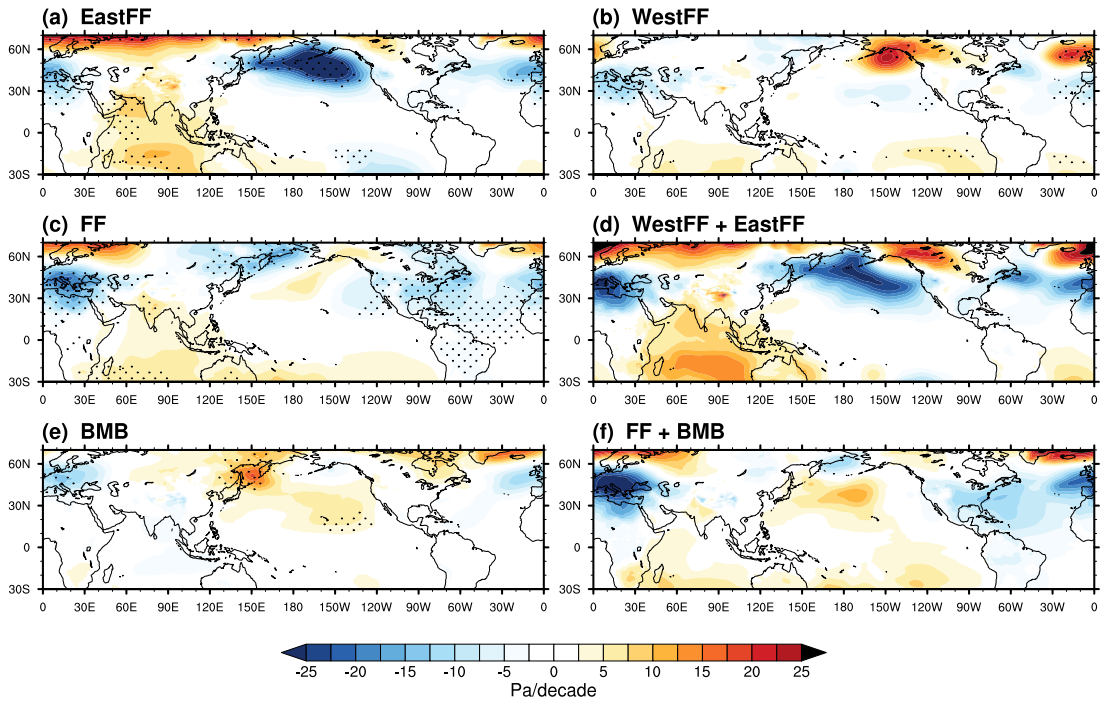

Figure S1: Similar to Figure 2 but showing the results of sea level pressure (SLP)

Decadal changes in sea level pressure (shading; Pa per decade) during 1980–2020 calculated in response to (a) EastFF, (b) WestFF, (c) FF, and (e) BMB. Stippled regions indicate significant values at the 90% confidence level based on a two-sided t-test. (d) shows the decadal changes in sea level pressure calculated from the linear addition of EastFF and WestFF. (f) is similar to (d) but shows the results from the linear addition of FF and BMB.

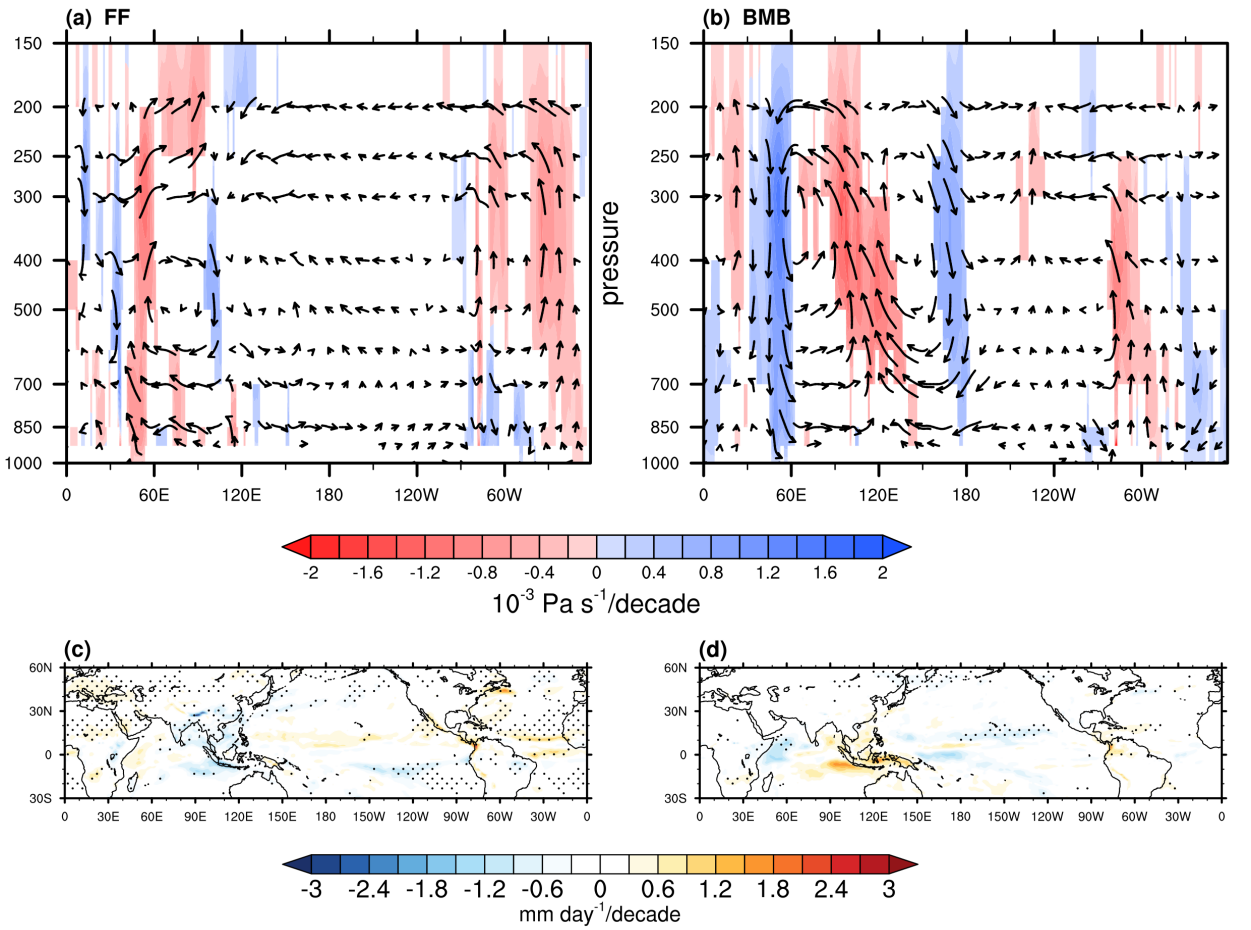

Figure S2: Changes in the tropical circulation (similar to Figure 4 but showing the results from FF and BMB).

(a) Decadal changes in cross-section of winds averaged from 5° S–5° N (vectors; The vertical component of the velocity vectors is scaled by a factor of 300) and vertical motion (shading; Pa s^{-1} in response to FF experiment. Blue shading indicates downward motions; red shading indicates upward motions). Regions that fail to pass the significance test (90% confidence level based on a two-sided t-test) are masked in white. (b) As in panel (a) but for the BMB experiment. (c) Changes in tropical Precipitation (mm day^{-1} per decade) in response to FF. (d) As in (c), but for BMB. Stippled regions in (c) and (d) indicate insignificant values at the 90% confidence level based on a two-sided t-test.

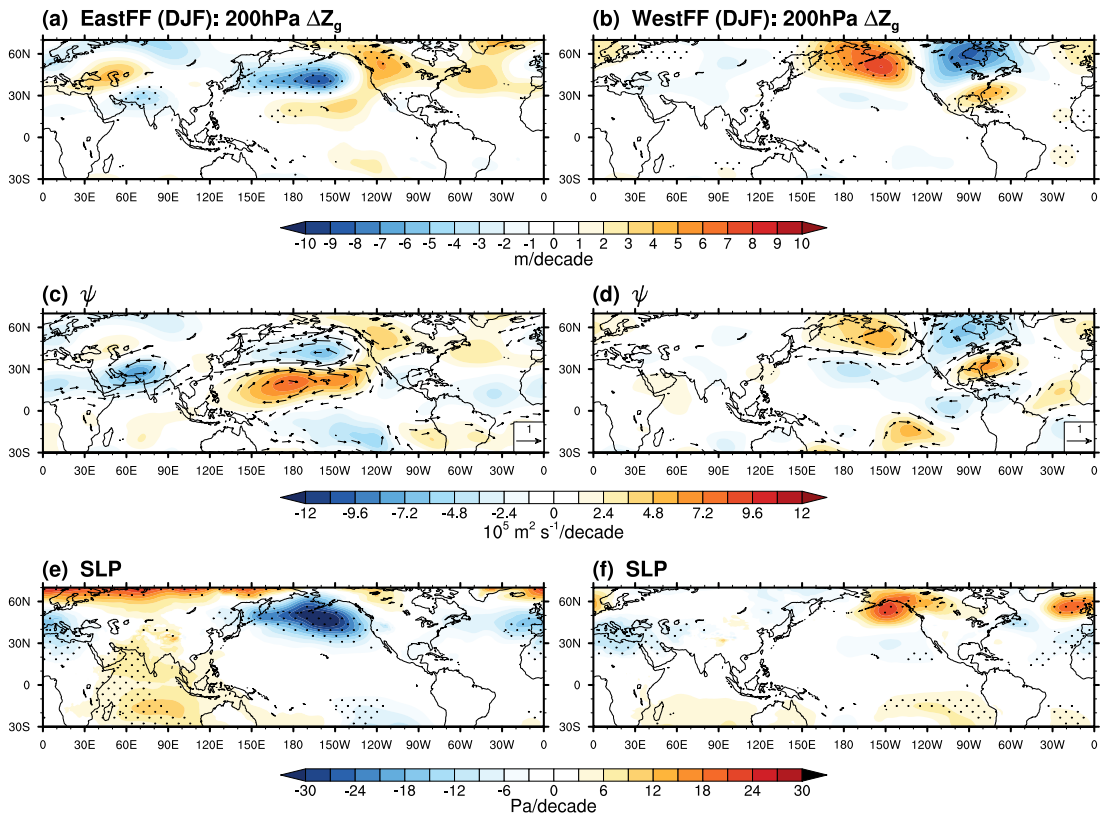

Figure S3: Similar to Figure 5 but showing the results during boreal winter (DJF)

Left panels: EastFF-induced decadal changes of wintertime (a) 200 hPa eddy geopotential height (m per decade), (c) 250 hPa stream function (shading; $m^2\ s^{-1}$ per decade), and wind (vectors; m s^{-1} per decade), and (e) sea level pressure (shading; Pa per decade) and 850 hPa low-level wind (vectors; m s^{-1} per decade). Right panels: same as Left panels, but due to WestFF. Stippled regions indicate significant values at the 90% confidence level based on a two-sided t-test.

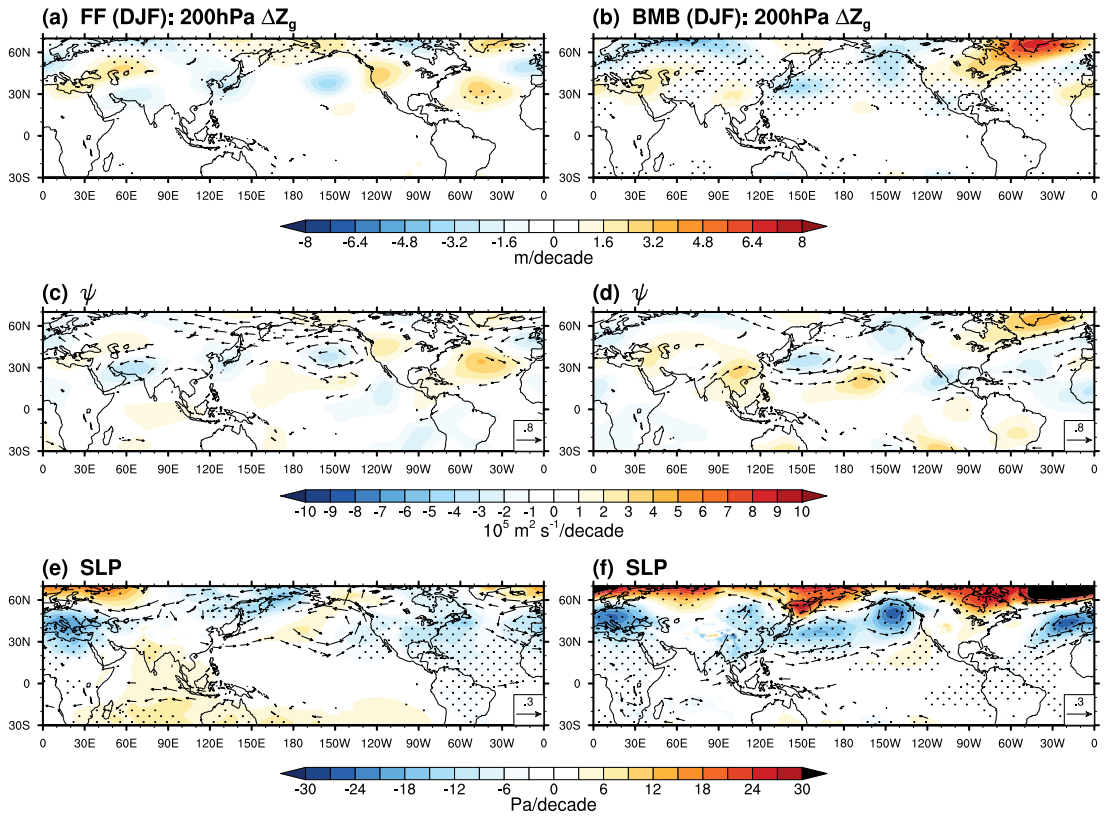

Figure S4: Similar to Figure 6 but showing the results during boreal winter (DJF)

Left panels: EastFF-induced decadal changes of wintertime (a) 200 hPa eddy geopotential height (m per decade), (c) 250 hPa stream function (shading; $m^2\ s^{-1}$ per decade), and wind (vectors; m s^{-1} per decade), and (e) sea level pressure (shading; Pa per decade) and 850 hPa low-level wind (vectors; m s^{-1} per decade). Right panels: same as Left panels, but due to WestFF. Stippled regions indicate significant values at the 90% confidence level based on a two-sided t-test.

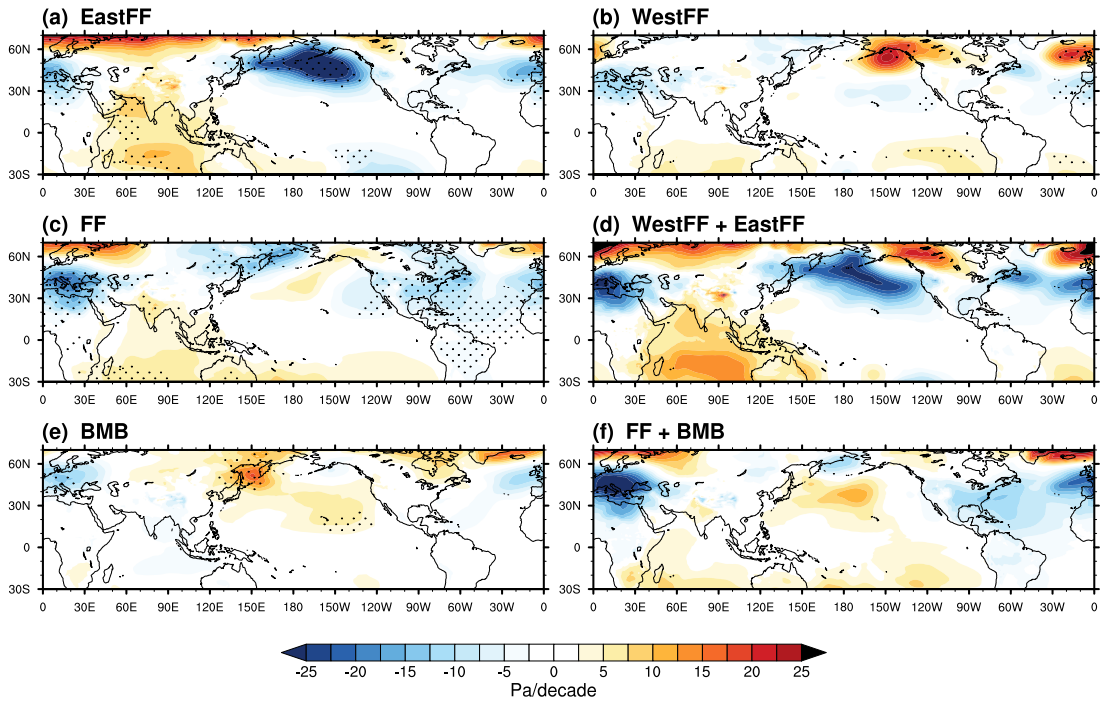

Figure S1: Similar to Figure 2 but showing the results of sea level pressure (SLP)

Decadal changes in sea level pressure (shading; Pa per decade) during 1980–2020 calculated in response to (a) EastFF, (b) WestFF, (c) FF, and (e) BMB. Stippled regions indicate significant values at the 90% confidence level based on a two-sided t-test. (d) shows the decadal changes in sea level pressure calculated from the linear addition of EastFF and WestFF. (f) is similar to (d) but shows the results from the linear addition of FF and BMB.

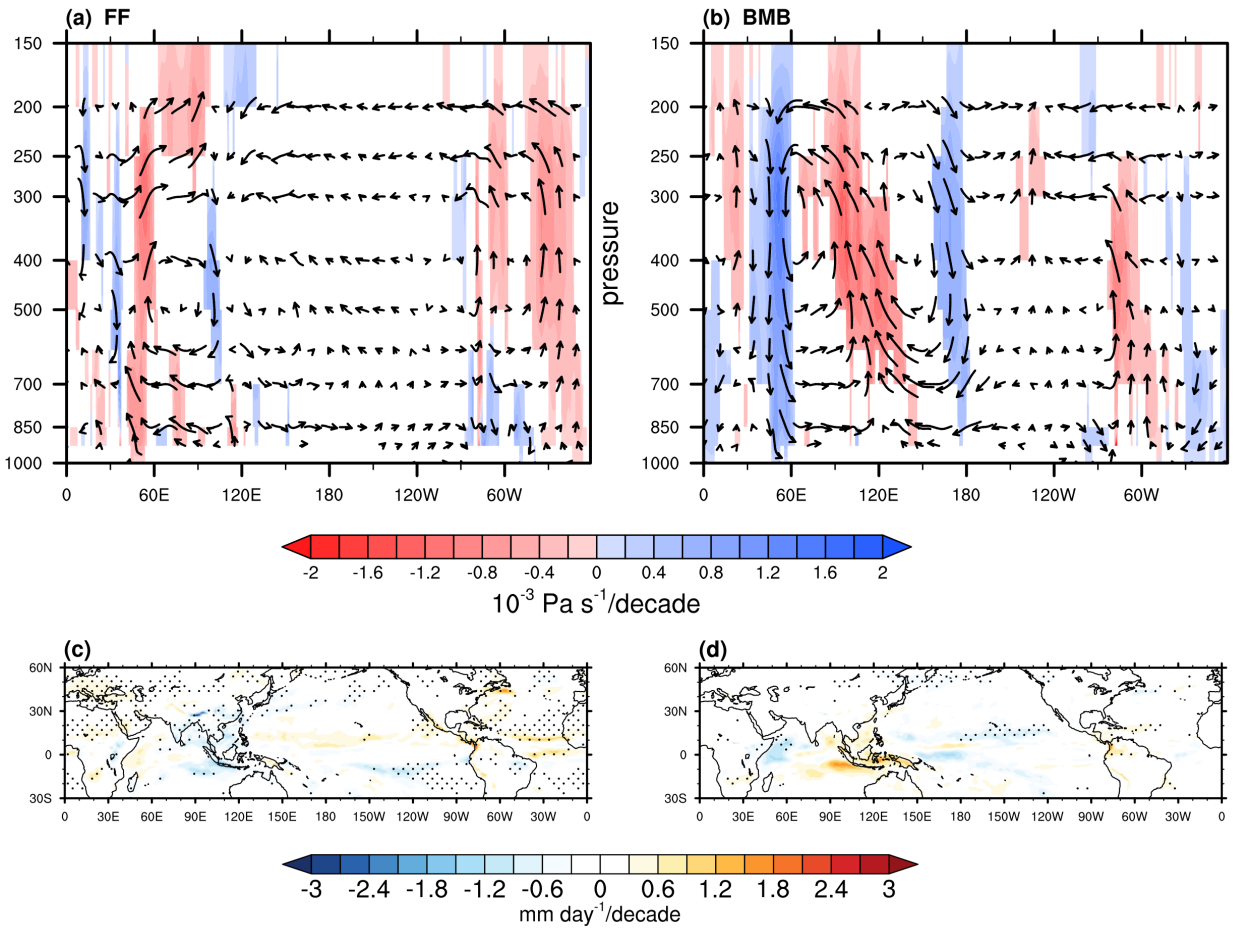

Figure S2: Changes in the tropical circulation (similar to Figure 4 but showing the results from FF and BMB).

(a) Decadal changes in cross-section of winds averaged from 5° S–5° N (vectors; The vertical component of the velocity vectors is scaled by a factor of 300) and vertical motion (shading; Pa s^{-1} in response to FF experiment. Blue shading indicates downward motions; red shading indicates upward motions). Regions that fail to pass the significance test (90% confidence level based on a two-sided t-test) are masked in white. (b) As in panel (a) but for the BMB experiment. (c) Changes in tropical Precipitation (mm day^{-1} per decade) in response to FF. (d) As in (c), but for BMB. Stippled regions in (c) and (d) indicate ~~insignificant~~significant values at the 90% confidence level based on a two-sided t-test.

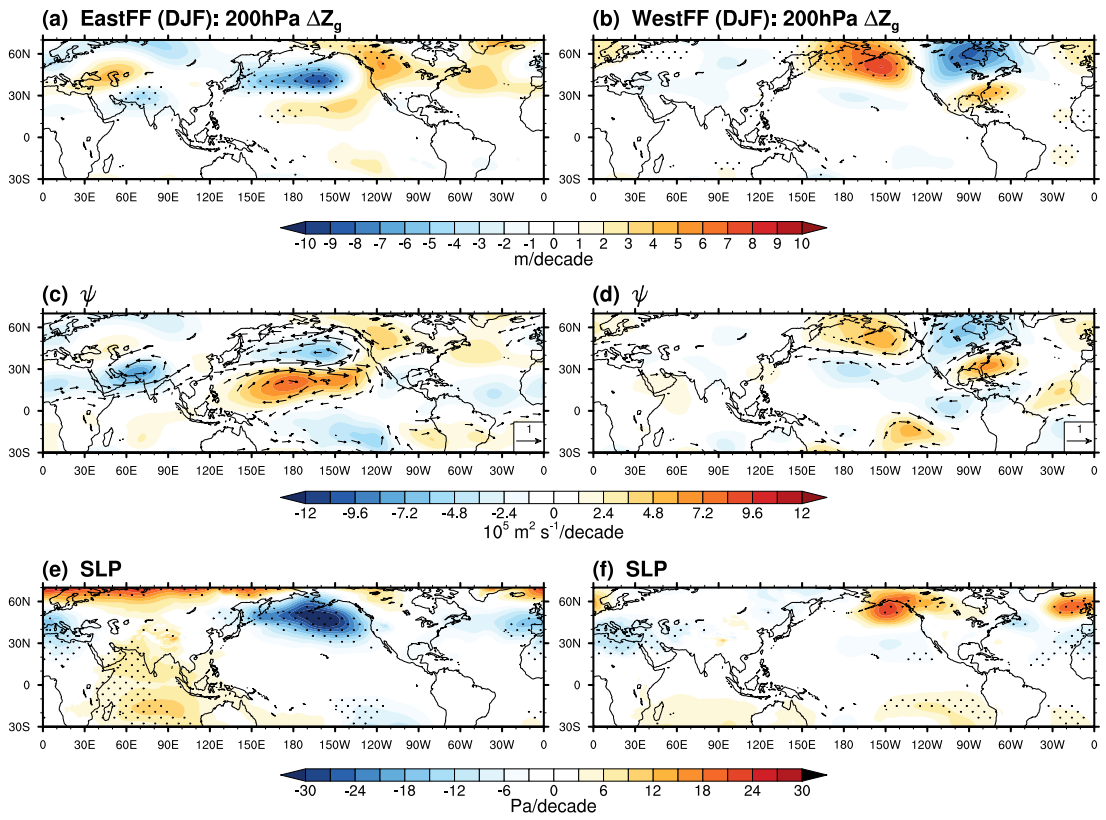

Figure ~~S2~~S3: Similar to Figure 5 but showing the results during boreal winter (DJF)

Left panels: EastFF-induced decadal changes of wintertime (a) 200 hPa eddy geopotential height (m per decade), (c) 250 hPa stream function (shading; $m^2\ s^{-1}$ per decade), and wind (vectors; m s^{-1} per decade), and (e) sea level pressure (shading; Pa per decade) and 850 hPa low-level wind (vectors; m s^{-1} per decade). Right panels: same as Left panels, but due to WestFF. Stippled regions indicate ~~insignificant~~significant values at the 90% confidence level based on a two-sided t-test.

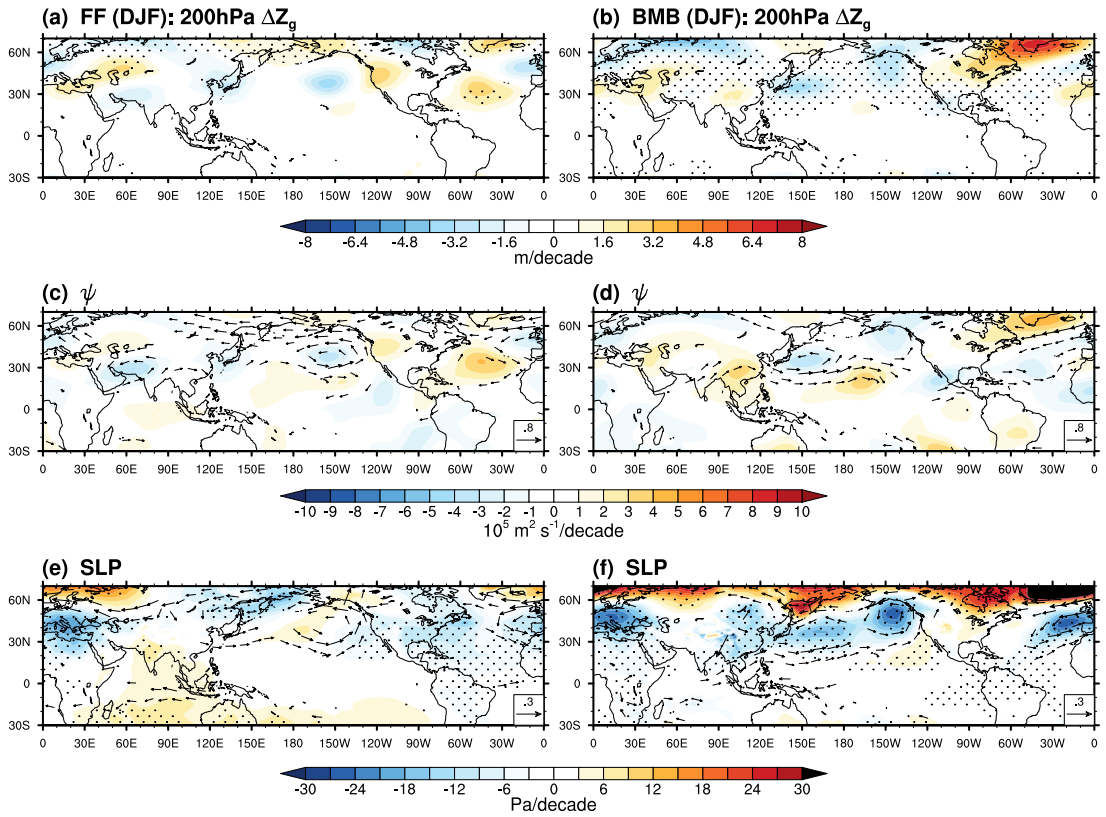

Figure ~~S3~~S4: Similar to Figure 6 but showing the results during boreal winter (DJF)

Left panels: EastFF-induced decadal changes of wintertime (a) 200 hPa eddy geopotential height (m per decade), (c) 250 hPa stream function (shading; $m^2\ s^{-1}$ per decade), and wind (vectors; m s^{-1} per decade), and (e) sea level pressure (shading; Pa per decade) and 850 hPa low-level wind (vectors; m s^{-1} per decade). Right panels: same as Left panels, but due to WestFF. Stippled regions indicate ~~insignificant~~significant values at the 90% confidence level based on a two-sided t-test.