Supplementary

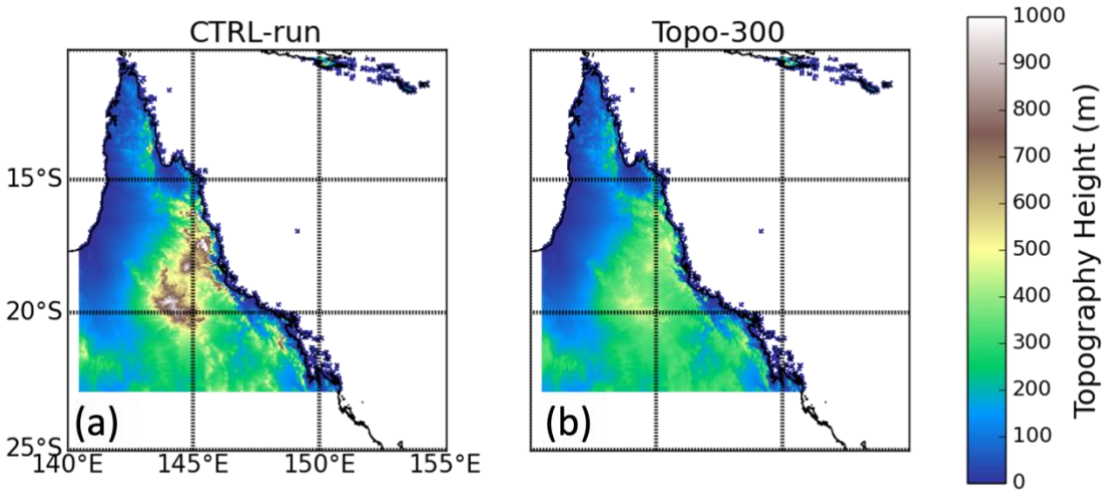

Figure S1: (a) The model topography for CTRL. (b) Modified topography for Topo300 experiment, where the topography above 300m is reduced by 75%.

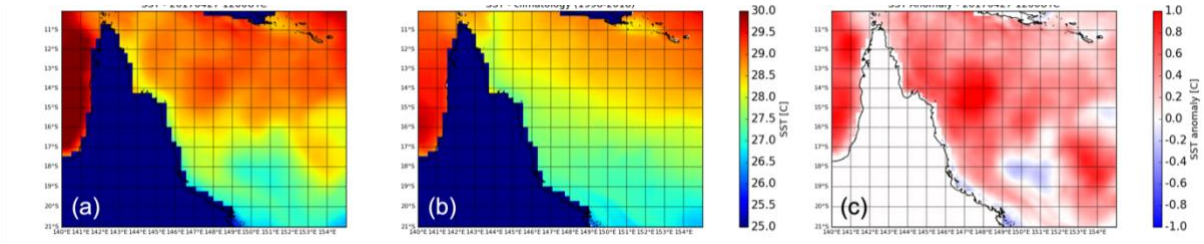

Figure S2: (a) Sea surface temperature (SST) distribution at 1200UTC 27th April 2016, which is used as the initial condition for CRTL-run. (b) Climatological (1998-2018) SST distribution of April, which is the initialization for SST-climatology experiment. (c) SST anomaly distribution between (a) and (b). Note that same color scales are applied to (a) and (b).

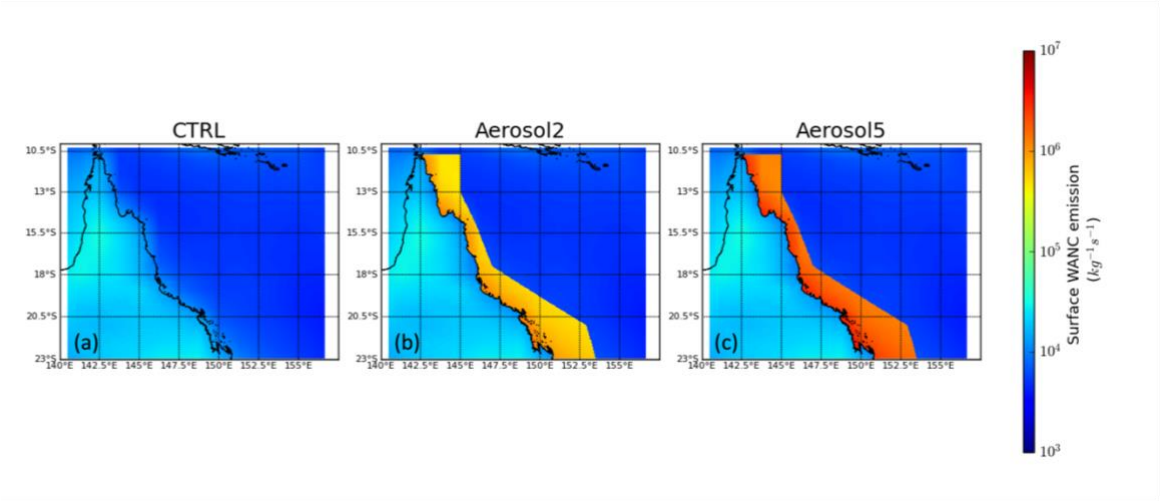

Figure S3: (a) Example of surface water-friendly aerosol number concentration emission (NWFA2D) applied in CTRL. (b) Modified NWFA2D from Aerosol2, where the NWFA2D within GBR is doubled. (c) Same as (b), but for Aerosol5, where a factor of five is applied over the GBR. Note that NWFA2D keeps unchanged throughout the evolution of simulation for all experiments.