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Supplement of

The potential of ^{230}Th for detection of ocean acidification impacts on pelagic carbonate production

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Supplementary Material:

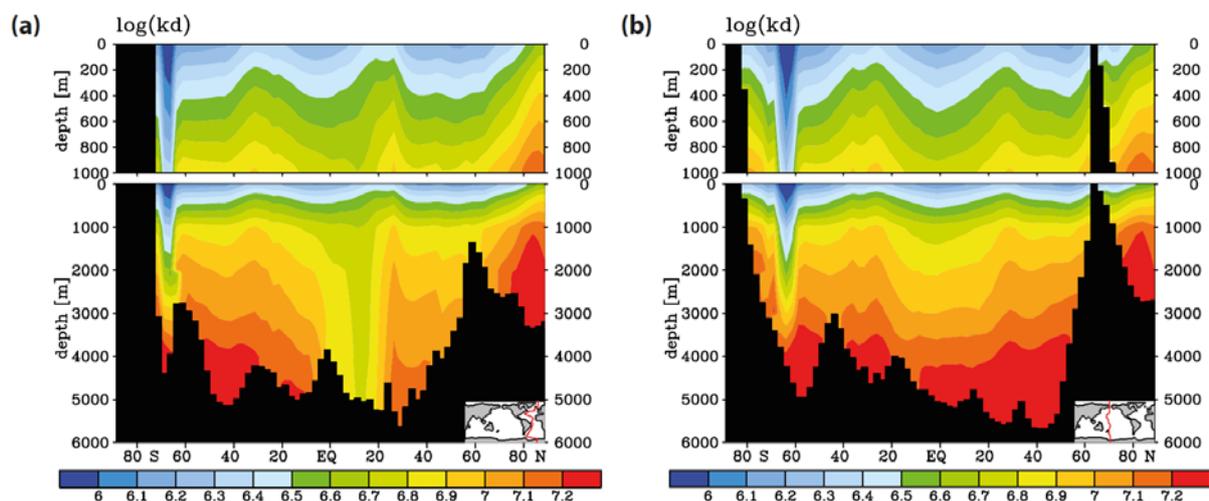


Figure S1: Meridional cross sections of the scavenging equilibrium coefficient k_d as used for the control runs and the standard future scenarios. (a) Atlantic. (b) Pacific.

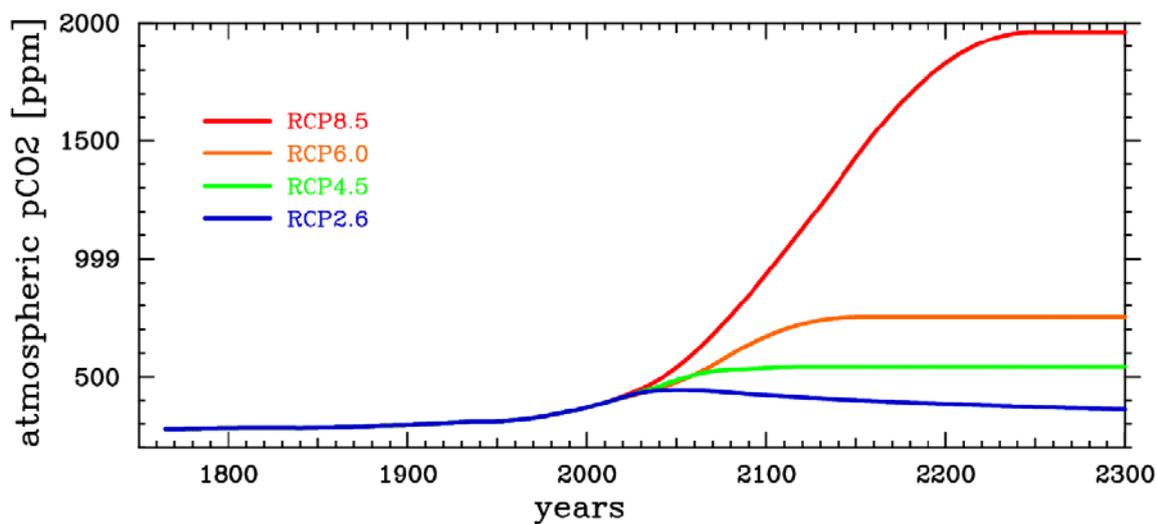


Figure S2: CO_2 concentrations according to the Representative Concentration Pathways (RCPs, van Vuuren et al., 2011) as prescribed in the predictive model runs.

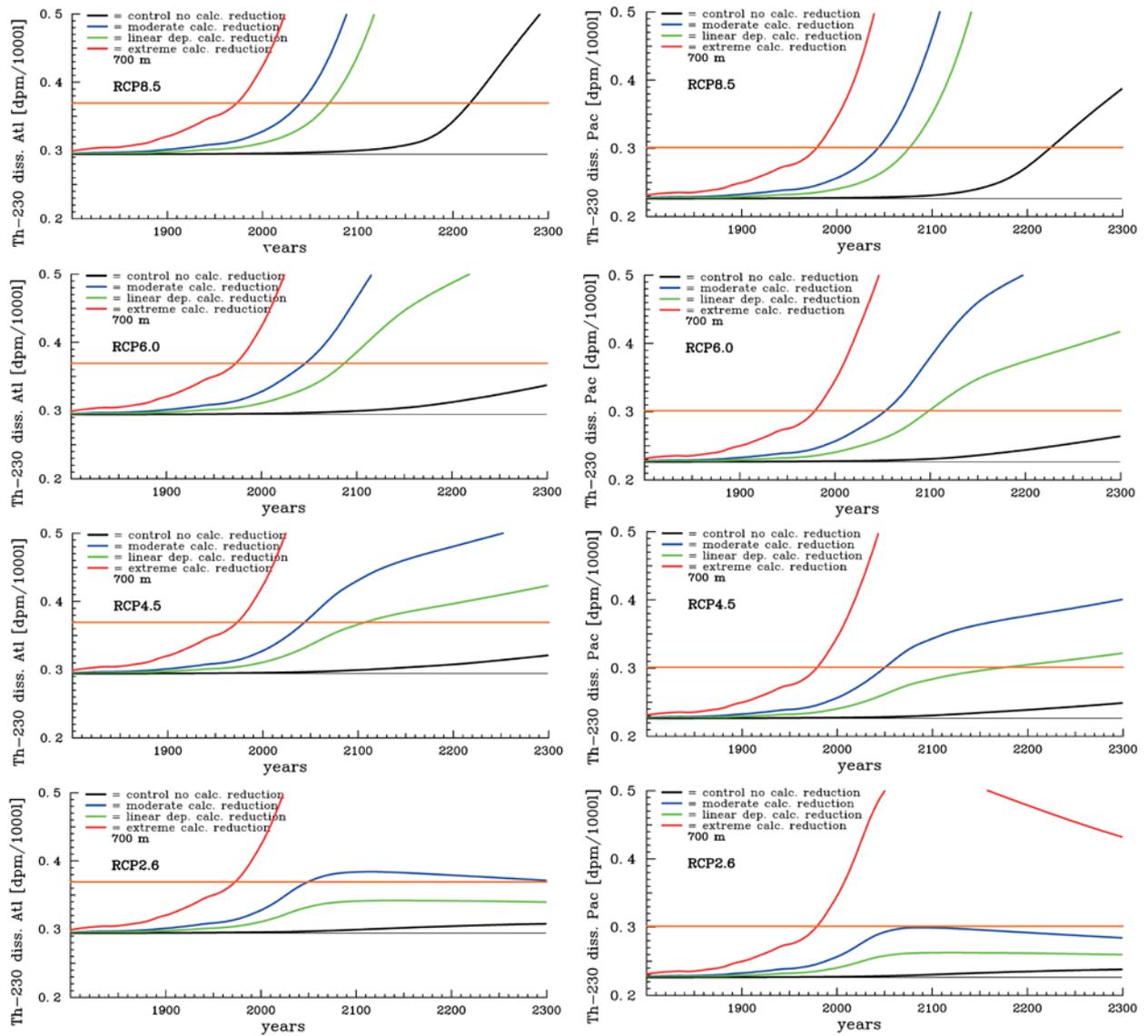


Figure S3: Time series for the evolution of mean Atlantic (left column) and Pacific (right column) dissolved ^{230}Th concentrations at 700 m under the different scenarios for reduction of calcification under high CO_2 (unit: dpm/1000l). From top to bottom for greenhouse gas scenarios RCP8.5, RCP 6.0, RCP4.5, and RCP2.6. The orange line indicates the theoretical detection limit for changes with respect with respect to the pre-industrial.

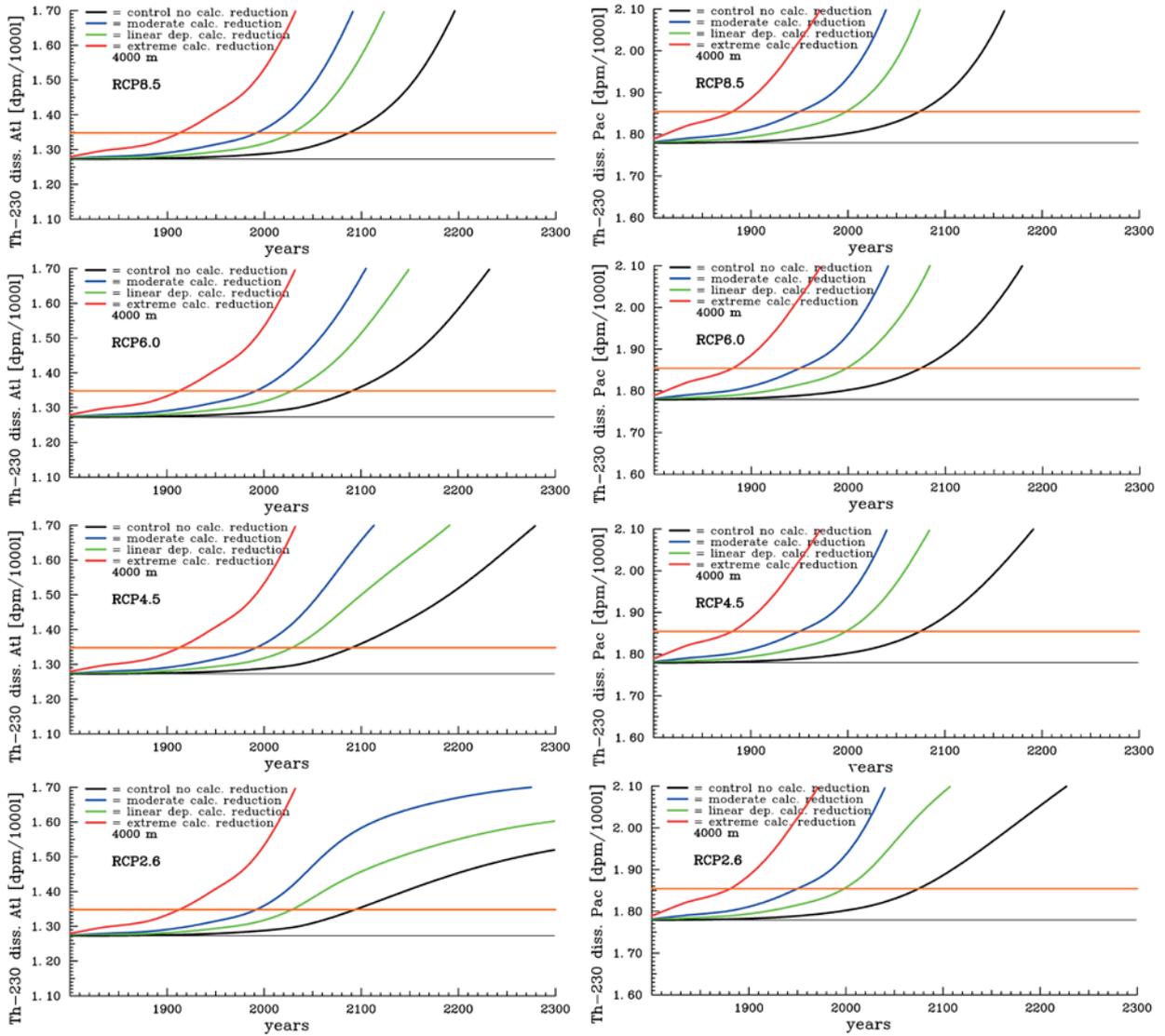


Figure S4: Time series for the evolution of mean Atlantic (left column) and Pacific (right column) dissolved ^{230}Th concentrations at 4000 m under the different scenarios for reduction of calcification under high CO_2 (unit: dpm/1000l). From top to bottom for greenhouse gas scenarios RCP8.5, RCP 6.0, RCP4.5, and RCP2.6. The orange line indicates the theoretical detection limit for changes with respect with respect to the pre-industrial.