**Time-series BATS:** The longest continuous ocean time-series of seawater carbon dioxide levels and the impact of ocean acidification on seawater pH and aragonite (calcium carbonate) saturation states

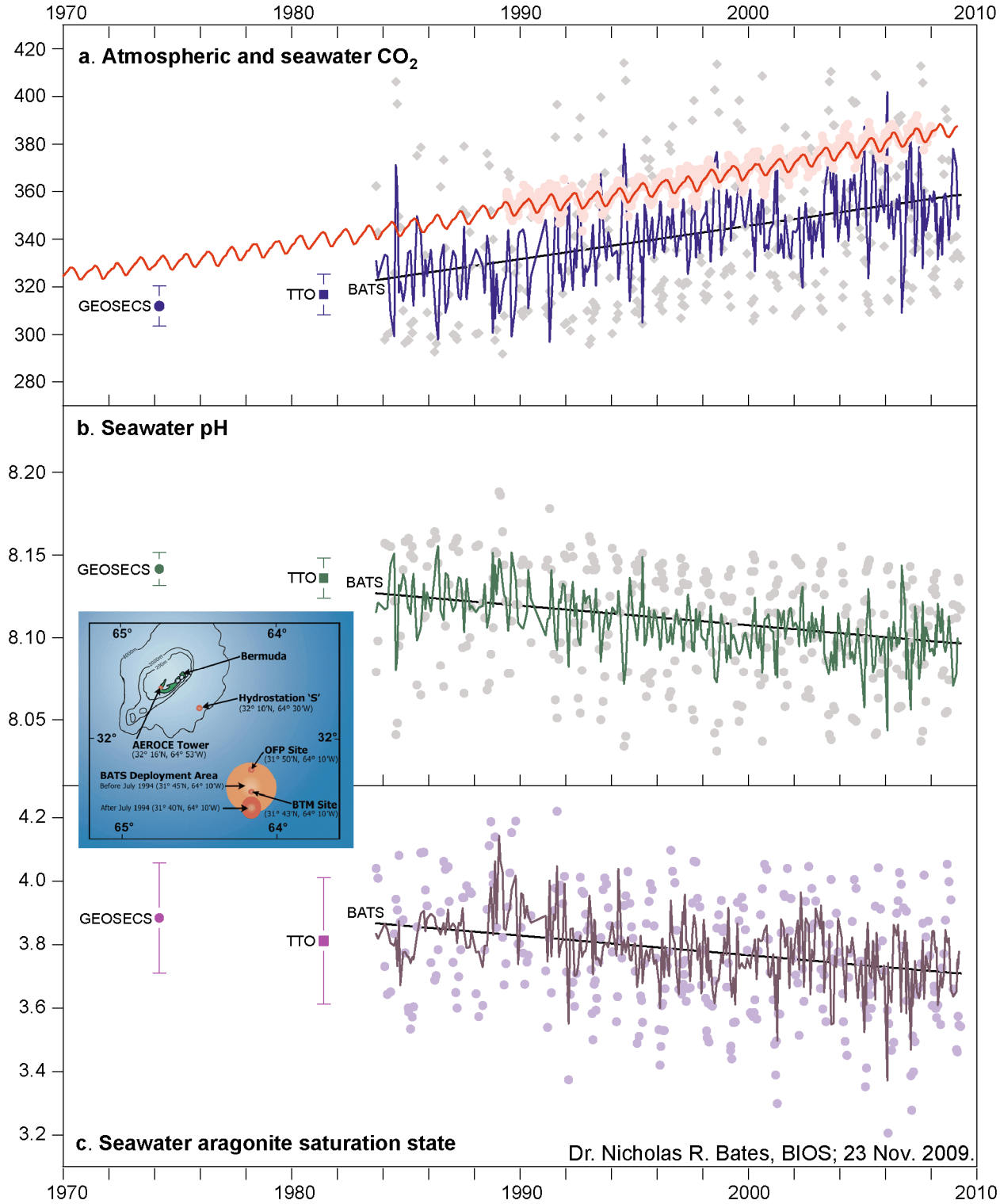


**Figure 1.** Time-series of atmospheric and ocean carbon dioxide, pH and aragonite saturation states. **a**. time-series of atmospheric carbon dioxide (in parts per million) from Mauna Loa, Hawaii (*red line*), and Bermuda (*pink symbol*), and surface ocean seawater carbon dioxide (µatm) at the Bermuda Atlantic Time-series Study (BATS) site off -Bermuda. Observed (*grey*) and seasonally detrended (*blue line*) surface ocean seawater carbon dioxide levels are shown. Earlier seawater data from the GEOSECS and TTO expeditions in the North Atlantic Ocean are also shown in this and following panels. **b**. time-series of surface ocean seawater pH at the BATS site off Bermuda. Observed (*grey*) and seasonally detrended (*green line*) seawater pH are shown. **c**. time-series of surface ocean aragonite saturation state (Ω) for calcium carbonate at the BATS site off Bermuda. Observed (*purple*) and seasonally detrended (*purple line*) seawater aragonite saturation state (Ω) are shown. Statistical and seasonal detrending methods follow Bates (2007), Bates and Peters (2007), and Bindoff et al. (2007).

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