Ocean Acidification Data Figure

Atmospheric CO_2 and Global Ocean pH – The graph shows different model scenario based upon population, economic growth, etc. as predicted by the Intergovernmental Panel on Climate Change (IPCC). The top graph in Figure 1 shows projected atmospheric CO_2 levels from 2000 to 2100 and the bottom graph shows projected global ocean pH levels for the same timeframe. The different lines represent the different emission scenarios that went into the model. Figure 2 is a summary of the factors that went into each model.

Figure 1

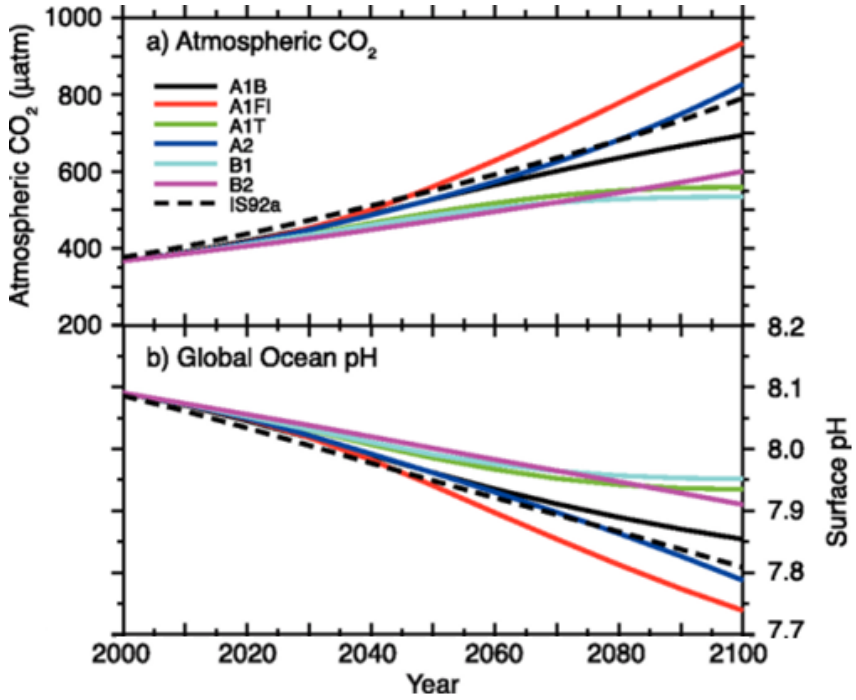


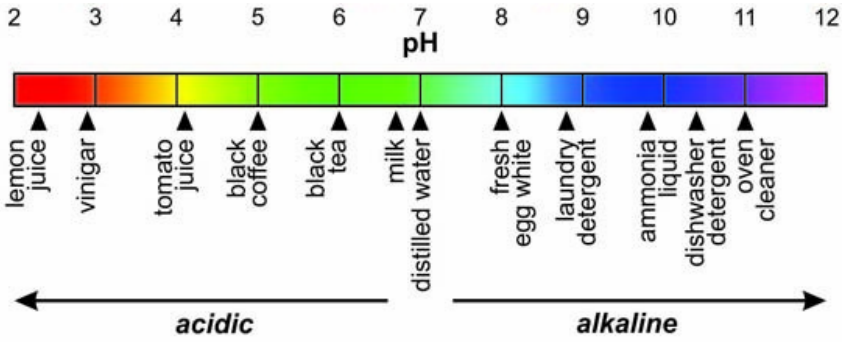
Figure 2

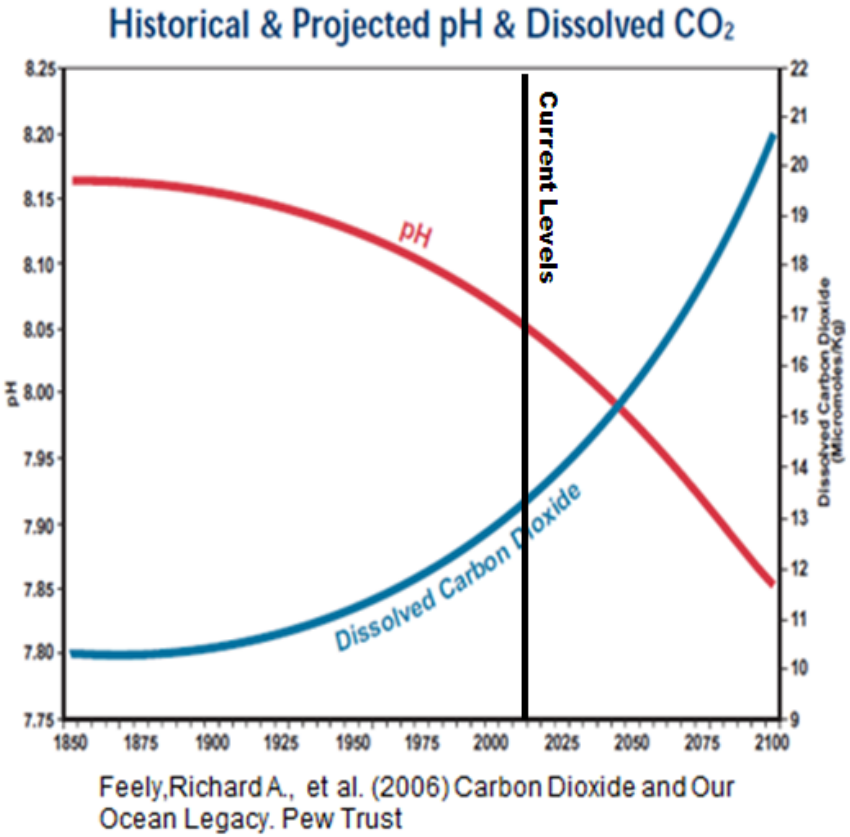
	A1b	A1f	A1t	A2	B1	B2
Population growth	low	low	low	high	low	medium
Economic growth	very high	very high	very high	medium	high	medium
Energy use	very high	very high	high	high	high	medium
Pace of changes in technology	rapid	rapid	rapid	slow	medium	medium
Technological changes favoring	balance of energy options	coal, oil, & gas	non-fossil fuels	varied by region	clean & resource effcient	varied by region
Environmental awareness	low	low	low	varied by region	high	high
Focus on social equality	low	low	low	varied by region	high	high
Scale	global	global	global	local/ regional	global	local/ regional

(Orr, J.C.,V.J. Fabry, O. Aumont, L. Bopp, S.C. Doney, R.A. Feely, A. Gnanadesikan, N. Gruber, A. Ishida, F. Joos, R.M. Key, K. Lindsay, E. Maier-Reimer, R. Matear, P. Monfray, A. Mouchet, R.G. Najjar, G.0K. Plattner, K.B. Rodgers, C. Sabine, J.L. Sarmiento, R. Schlitzer, R.D. Slater, I.J. Totterdell, M.-F. Weirig, Y. Yamanaka, and A. Yool. 2005. Anthropogenic Ocean Acidification over the Twenty-first Century and Its Impact on Calcifying Organisms. Nature 437)

Ocean Acidification Data Figure

pH and Oceanic Dissolved CO_2 – The graph combines historical data with predictions made using models to show changes in pH and oceanic dissolved carbon dioxide over time. For reference, the scale on the left shows the pH of some common liquids.

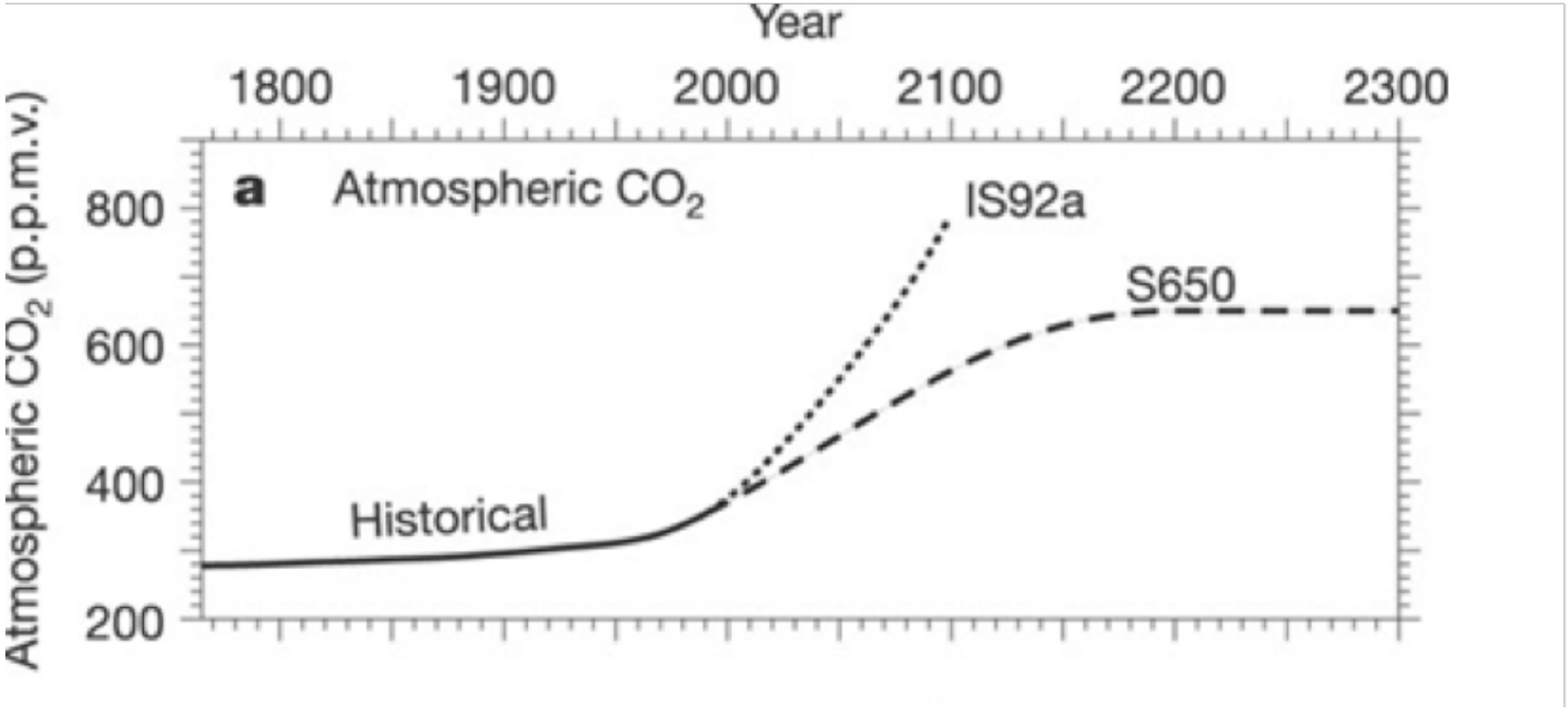




(Feely, R.A., C.L Sabine, and V.J. Fabry. 2006. Carbon Dioxide and Our Ocean Legacy. Pew Trust)

Ocean Acidification Data Figure

Atmospheric CO_2 Over Time – The graph shows atmospheric carbon dioxide levels from the 1800s to predicted levels in 2300. Two different Intergovernmental Panel on Climate Change (IPCC) models are used in this figure. IS92a uses carbon concentrations that increase at 1% per year after 1990 and carbon dioxide emissions that continue at today's rate. S650 uses carbon dioxide emissions that decrease and eventually stabilize (a stabilization scenario).



(Orr, J.C.,V.J. Fabry, O. Aumont, L. Bopp, S.C. Doney, R.A. Feely, A. Gnanadesikan, N. Gruber, A. Ishida, F. Joos, R.M. Key, K. Lindsay, E. Maier-Reimer, R. Matear, P. Monfray, A. Mouchet, R.G. Najjar, G.0K. Plattner, K.B. Rodgers, C. Sabine, J.L. Sarmiento, R. Schlitzer, R.D. Slater, I.J. Totterdell, M.-F. Weirig, Y. Yamanaka, and A. Yool. 2005. Anthropogenic Ocean Acidification over the Twenty-first Century and Its Impact on Calcifying Organisms. Nature 437)