

Curriculum Vitae for Ken Caldeira

PRESENT POSITION

Senior Scientist
Department of Global Ecology
Carnegie Institution
260 Panama Street
Stanford, CA 94305 USA
kcaldeira@carnegiescience.edu
(650) 704-7212; fax: (650) 462-5968

Professor (by courtesy)
Department of Environmental Earth System Sciences
Stanford University
450 Serra Mall
Stanford, California 94305 USA
kcaldeira@stanford.edu

EDUCATION

Ph.D.,1991, New York University, Atmospheric Sciences, Department of Applied Science M.S.,1988, New York University, Atmospheric Sciences, Department of Applied Science B.A.,1978, Rutgers College, Philosophy

PRIOR RESEARCH EXPERIENCE

Physicist/Environmental Scientist (Lawrence Livermore National Laboratory, 1995 to 2005) Research ocean carbon cycle, atmospheric CO₂, ocean/sea-ice physics, climate, and energy systems
Post-Doctoral Researcher (Lawrence Livermore National Laboratory; 1993 to 1995) Research the ocean carbon cycle, atmospheric CO₂ and climate
NSF Earth Sciences Postdoctoral Fellow (Earth Systems Science Center & Dept. of Geosciences, The Pennsylvania State University; 1991 to 1993) Role of the carbonate-silicate cycle in long-term atmospheric CO₂ content and climate

GENERAL RESEARCH INTERESTS

Ocean acidification; climate/carbon-cycle interactions; numerical simulation of climate and biogeochemistry; marine biogeochemical cycles; global carbon cycle; long-term evolution of climate and geochemical cycles; intentional intervention in the climate system; energy technology and policy

ADVISORY PANELS / DISSERTATION COMMITTEES / ETC

National Academy of Sciences, Geoengineering Climate Panel Member (2014)
IPCC AR5 Report Climate Change 2013: The Physical Science Basis, Contributing Author (2013)
Fellow of the American Geophysical Union (2010)
National Academy of Sciences, America's Climate Choices Panel Member (2009)
UK Royal Society Geoengineering Report Panel Member (2009)
Global Carbon Project, Scientific Steering Committee Member (2009-2013)
European Project on Ocean Acidification (EPOCA), Advisory Board Member (2008-2012)
Intergovernmental Oceanographic Commission, Rep. at International Maritime Union Negotiations (2008, 2009)
UK Royal Society Ocean Acidification Report Panel Member (2007)
IPCC Special Report on CO₂ Capture and Storage, Oceans Chapter, Coordinating Lead Author (2005)
US Delegation to climate-related negotiations leading up to G8 Summit, Technical Support (2005)
UNESCO International Oceanography Commission CO₂ Panel of Experts (2002-2004)
US Global Carbon Cycle Scientific Steering Group (2001-2004)
Dissertation Committees of students at Stanford, MIT, and University of Illinois

PRINCIPAL PUBLICATIONS

Cvijanovic, I., and K. Caldeira (2015) *Atmospheric impacts of sea ice decline in CO₂ induced global warming*. **Climate Dynamics**, 1–14, doi:10.1007/s00382-015-2489-1.
Ricke, K., and K. Caldeira (2014) *Maximum warming occurs about one decade after a carbon dioxide emission*. **Environmental Research Letters**, 9, 124002. doi:10.1088/1748-9326/9/12/124002
Zhang, X., N.P. Myhrvold, and K. Caldeira (2014) *Key factors for assessing climate benefits of natural gas versus coal electricity generation*. **Environmental Research Letters**, 9, 114022. doi:10.1088/1748-9326/9/11/114022
MacMartin, D. G., K. Caldeira, and D. W. Keith (2014) *Solar geoengineering to limit the rate of temperature change*. **Philosophical Transactions of the Royal Society A**, 372, 20140134. doi:10.1098/rsta.2014.0134

- Caro, D., A. LoPresti, S. J. Davis, S. Bastianoni, and K. Caldeira (2014) *CH₄ and N₂O emissions embodied in international trade of meat*. **Environmental Research Letters**, 9, 114005. doi:10.1088/1748-9326/9/11/114005
- Caldeira, K., and I. Cvijanovic (2014) *Estimating the Contribution of Sea Ice Response to Climate Sensitivity in a Climate Model*. **Journal of Climate**, 27, 8597–8607. doi:10.1175/JCLI-D-14-00042.1
- Caro, D., S. J. Davis, S. Bastianoni, and K. Caldeira (2014) *Global and regional trends in greenhouse gas emissions from livestock*. **Climatic Change**, 126, 203–216. doi:10.1007/s10584-014-1197-x
- Davis, S. J., J. A. Burney, J. Pongratz, and K. Caldeira (2014) *Methods for attributing land-use emissions to products*. **Carbon Management**, 5, 233–245. doi:10.1080/17583004.2014.913867
- Intergovernmental Panel on Climate Change (2014) *Clouds and Aerosols in Climate Change 2013 - The Physical Science Basis*, Cambridge University Press, Cambridge, 571–658. doi: CBO9781107415324A024
- Intergovernmental Panel on Climate Change (2014) *Carbon and Other Biogeochemical Cycles in Climate Change 2013 - The Physical Science Basis*, Cambridge University Press, Cambridge, 465–570. doi: CBO9781107415324A023
- Kalidindi, S., G. Bala, A. Modak, and K. Caldeira (2014) *Modeling of solar radiation management: a comparison of simulations using reduced solar constant and stratospheric sulphate aerosols*. **Climate Dynamics**, 1–17, doi:10.1007/s00382-014-2240-3
- Ricke, K. L., and K. Caldeira (2014) *Natural climate variability and future climate policy*. **Nature Climate Change**, 4, 333–338. doi:10.1038/nclimate2186
- Silverman, J., and Coauthors (2014) *Community calcification in Lizard Island, Great Barrier Reef: A 33 year perspective*. **Geochimica et Cosmochimica Acta**. doi:10.1016/j.gca.2014.09.011
- Bala, G., N Devaraju, RK Chaturvedi, K Caldeira, R Nemani (2013) *Nitrogen deposition: how important is it for global terrestrial carbon uptake?* **Biogeosciences Discussions**, 10, 11077-11109. doi: 10.5194/bgd-10-11077-2013
- Bala, G., S Krishna, D Narayanappa, L Cao, K Caldeira, R Nemani (2013) *An estimate of equilibrium sensitivity of global terrestrial carbon cycle using NCAR CCSM4*. **Climate Dynamics**, 1-16. doi: 10.1007/s00382-012-1495-9
- Caldeira, K., KL Ricke (2013) *Prudence on solar climate engineering*. **Nature Climate Change**, 3 (11), 941-941
- Caldeira, K., NP Myhrvold (2013) *Projections of the pace of warming following an abrupt increase in atmospheric carbon dioxide concentration*. **Environmental Research Letters**, 8 (3), 034039
- Caldeira, K., (2013) *Coral Bleaching: Coral refugia amid heating seas*. **Nature Climate Change**, 3, 444-445. doi: 10.1038/nclimate1888
- Caldeira, K., G Bala, L Cao (2013) *The science of geoengineering*. **Annual Review of Earth and Planetary Sciences**, 41. doi: 10.1146/annurev-earth-042711-105548
- Ciais, P., T Gasser, JD Paris, K Caldeira, MR Raupach, JG Canadell, A Patwardhan, P Friedlingstein, SL Piao, V Gitz (2013) *Attributing the increase in atmospheric CO₂ to emitters and absorber*. **Nature Climate Change**. doi: 10.1038/NCLIMATE1942
- Davis, S.J., L Cao, K Caldeira, MI Hoffert (2013) *Rethinking wedges*. **Environmental Research Letters**, 8, 011001. doi: 10.1088/1748-9326/8/1/011001
- Hsieh, W.C., WD Collins, Y Liu, JCH Chiang, CL Shie, K Caldeira, L Cao (2013) *Climate response due to carbonaceous aerosols and aerosol-induced SST effects in NCAR community atmospheric model CAM3.5*. **Atmospheric Chemistry and Physics Discussions**, 13, 7349-7396. doi: 10.5194/acpd-13-7349-2013
- Kravitz, B., K Caldeira, O Boucher, A Robock, PJ Rasch, K Alterskjaer, DB Karam, JNS Cole, CL Curry, JM Haywood, PJ Irvine, D Ji, A Jones, JE Kristjánsson, DJ Lunt, JC Moore, U Niemeier, H Schmidt, M Schulz, B Singh, S Tilmes, S Watanabe, S Yang, JH Yoon (2013) *Climate model response from the Geoengineering Model Intercomparison Project (GeoMIP)*. **Journal of Geophysical Research: Atmospheres**. doi: 10.1002/jgrd.50646
- Mackey, K.R.M., A Paytan, K Caldeira, AR Grossman (2013) *Effect of Temperature on Photosynthesis and Growth in Marine Synechococcus spp*. **Plant physiology**, 163 (2), 815-829
- MacCracken, M.C., HJ Shin, K Caldeira, GA Ban-Weiss (2013) *Climate response to imposed solar radiation reductions in high latitudes*. **Earth System Dynamics**, 4 (2), 301-315
- Ricke, K.L., JB Moreno-Cruz, K Caldeira (2013) *Strategic incentives for climate geoengineering coalitions to exclude broad participation*. **Environmental Research Letters**, 8, 014021. doi: 10.1088/1748-9326/8/1/014021
- Ricke, K.L., JC Orr, K Schneider, K Caldeira (2013) *Risks to coral reefs from ocean carbonate chemistry changes in recent earth system model projections*. **Environmental Research Letters**, 8, 034003. doi: 10.1088/1748-9326/8/3/034003

- Schneider, K., J Silverman, B Kravitz, T Rivlin, A Schneider-Mor, S Barbosa, M Byrne, K Caldeira (2013) *Inorganic carbon turnover caused by digestion of carbonate sands and metabolic activity of holothurians*. **Estuarine, Coastal and Shelf Science**, 133, 217-223
- Ban-Weiss, G.A., L Cao, G Bala, K Caldeira (2012) *Dependence of climate forcing and response on the altitude of black carbon aerosols*. **Climate Dynamics**, 38, 897-911. doi: 10.1007/s00382-011-1052-y
- Caldeira, K., (2012) *Avoiding mangrove destruction by avoiding carbon dioxide emissions*. **Proceedings of the National Academy of Sciences**, 109, 14287-14288. doi: 10.1073/pnas.1211718109
- Caldeira, K., (2012) *The Great Climate Experiment*. **Scientific American**, 307, 78-83. doi: 10.1038/scientificamerican0912-78
- Caldeira, K., NP Myhrvold (2012) *Temperature change vs. cumulative radiative forcing as metrics for evaluating climate consequences of energy system choices*. **Proceedings of the National Academy of Science**, 109, E1813. doi: 10.1073/pnas.1206019109
- Cao, L., G Bala, K Caldeira (2012) *Climate response to changes in atmospheric carbon dioxide and solar irradiance on the time scale of days to weeks*. **Environmental Research Letters**, 7, 034015. doi: 10.1088/1748-9326/7/3/034015
- Kline, D.I., L Teneva, K Schneider, T Miard, A Chai, M Marker, K Headley, B Opdyke, M Nash, M Valetich, JK Caves, BD Russell, SD Connell, BJ Kirkwood, P Brewer, E Peltzer, J Silverman, K Caldeira, RB Dunbar, JR Koseff, SG Monismith, BG Mitchell, S Dove, O Hoegh-Guldberg (2012) *A short-term in situ CO₂ enrichment experiment on Heron Island (GBR)*. **Scientific Reports**, 2. doi: 10.1038/srep00413
- Kravitz, B., DG MacMartin, K Caldeira (2012) *Geoengineering: whiter skies?* **Geophysical Research Letters**, 39.
- MacCracken, M.C., HJ Shin, K Caldeira, GA Ban-Weiss (2012) *Climate response to imposed solar radiation reductions in high latitudes*. **Earth System Dynamics Discussion**, 3, 715-757. doi: 10.5194/esdd-3-715-2012
- MacMartin, D.G., DW Keith, B Kravitz, K Caldeira (2012) *Management of trade-offs in geoengineering through optimal choice of non-uniform radiative forcing*. **Nature Climate Change**. doi: 10.1038/nclimate1722
- Marvel, K., B Kravitz, K Caldeira (2012) *Geophysical limits to global wind power*. **Nature Climate Change**, 3, 118-121. doi: 10.1038/nclimate1683
- Myhrvold, N.P., K Caldeira (2012) *Greenhouse gases, climate change and the transition from coal to low-carbon electricity*. **Environmental Research Letters**, 7, 014019. doi:10.1088/1748-9326/7/1/014019
- Pongratz, J., K Caldeira (2012) *Attribution of atmospheric CO₂ and temperature increases to regions: importance of preindustrial land use change*. **Environmental Research Letters**, 7, 034001. doi:10.1088/1748-9326/7/3/034001
- Pongratz, J., DB Lobell, L Cao, K Caldeira (2012) *Crop yields in a geoengineered climate*. **Nature Climate Change**, 2, 101-105. doi: 10.1038/NCLIMATE1373
- Russell, L. M., PJ Rasch, GM Mace, RB Jackson, J Shepherd, P Liss, M Leinen, D Schimel, NE Vaughan, AC Janetos, PW Boyd, RJ Norby, K Caldeira, J Merikanto, P Artaxo, J Melillo, M G Morgan (2012) *Ecosystem impacts of geoengineering: a review for developing a science plan*. **Ambio**, 41, 350-369. doi: 10.1007/s13280-012-0258-5
- Silverman, J., DI Kline, L Johnson, T Rivlin, K Schneider, J Erez, B Lazar, K Caldeira (2012) *Carbon turnover rates in the One Tree Island reef: A 40-year perspective*. **Journal of Geophysical Research: Biogeosciences** (2005–2012), 117. doi: 10.1029/2012JG001974
- Bala, G., K Caldeira, R Nemani, L Cao, G Ban-Weiss, HJ Shin (2011) *Albedo enhancement of marine clouds to counteract global warming: impacts on the hydrological cycle*. **Climate Dynamics**, 37, 915-931. doi:10.1007/s00382-010-0868-1.
- Ban-Weiss, G.A., Bala, L Cao, J Pongratz, K Caldeira (2011) *Climate forcing and response to idealized changes in surface latent and sensible heat*. **Environmental Research Letters**, 6, 034032. doi: 10.1088/1748-9326/6/3/034032
- Caldeira, K, SJ Davis (2011) *Accounting for carbon dioxide emissions: A matter of time*. **Proceedings of the National Academy of Sciences**, 108, 8533-8534. doi: 10.1073/pnas.1106517108
- Cao, L., G Bala, K Caldeira (2011) *Why is there a short-term increase in global precipitation in response to diminished CO₂ forcing?* **Geophysical Research Letters**, 38.
- Davis, S.J., GP Peters, K Caldeira (2011) *The supply chain of CO₂ emissions*. **Proceedings of the National Academy of Sciences**, 108, 18554-18559. doi: 10.1073/pnas.1107409108108.
- Devaraju, N., L Cao, G Bala, K Caldeira, R Nemani (2011) *A model investigation of vegetation atmosphere interactions on a millennial timescale*. **Biogeosciences Discussions**, 8, 8761. doi: 10.5194/bgd-8-8761-2011
- MacMynowski, D.G., HJ Shin, K Caldeira (2011) *The frequency response of temperature and precipitation in a climate model*. **Geophysical Research Letters**, 38. doi: 10.1029/2011GL048623
- MacMynowski, D.G., DW Keith, K Caldeira, HJ Shin (2011) *Can we test geoengineering?* **Energy & Environmental Science**, 4, 5044-5052. doi: 10.1039/c1ee01256h
- Pongratz, J., K Caldeira, CH Reick, M Claussen (2012) *Coupled climate-carbon simulations indicate minor global effects of wars and epidemics on atmospheric CO₂ between AD 800 and 1850*. **The Holocene**, 21, 843-851. doi: 10.1177/0959683610386981

- Pongratz, J., CH Reick, T Raddatz, K Caldeira, M Claussen (2011) *Past land use decisions have increased mitigation potential of reforestation*. **Geophysical Research Letters**, 38. doi: 10.1029/2011GL047848
- Rau, G.H., KG Knauss, K Caldeira (2011) *Capturing and Sequestering Flue-Gas CO₂ Using a Wet Limestone Scrubber*. Schneider, K., J Silverman, E Woolsey, H Eriksson, M Byrne, K Caldeira (2011) *Potential influence of sea cucumbers on coral reef CaCO₃ budget: A case study at One Tree Reef*. **Journal of Geophysical Research: Biogeosciences**, 116. doi:10.1029/2011JG001755
- Anderson, R.G., JG Canadell, JT Randerson, RB Jackson, BA Hungate, DD Baldocchi, GA Ban-Weiss, GB Bonan, K Caldeira, L Cao, NS Diffenbaugh, KR Gurney, LM Kueppers, BE Law, S Luysaert, TL O'Halloran (2010) *Biophysical considerations in forestry for climate protection*. **Frontiers in Ecology and the Environment**, 9, 174-182. doi: 10.1890/090179
- Bala, G., K Caldeira, R Nemani (2010) *Fast versus slow response in climate change: implications for the global hydrological cycle*. **Climate dynamics**, 35, 423-434. doi: 10.1007/s00382-009-0583-y
- Ban-Weiss, G.A., K Caldeira (2010) *Geoengineering as an optimization problem*. **Environmental Research Letters**, 5, 034009. doi: 10.1088/1748-9326/5/3/034009
- Caldeira, K., DW Keith (2010) *The need for climate engineering research*. **Issues in Science and Technology**, 27, 57-62.
- Cao, L., G Bala, K Caldeira, R Nemani, G Ban-Weiss (2010) *Importance of carbon dioxide physiological forcing to future climate change*. **Proceedings of the National Academy of Sciences**, 107, 9513. doi: 10.1073/pnas.0913000107
- Cao, L., K Caldeira (2010) *Atmospheric carbon dioxide removal: long-term consequences and commitment*. **Environmental Research Letters**, 5, 024011. doi: 10.1088/1748-9326/5/2/024011
- Cao, L., K Caldeira (2010) *Can ocean iron fertilization mitigate ocean acidification?* **Climatic Change**, 99, 303-311. doi: 10.1007/s10584-010-9799-4
- Davis, S.J., K Caldeira (2010) *Consumption-based accounting of CO₂ emissions*. **Proceedings of the National Academy of Sciences**, 107, 5687-5692. doi: 10.1073/pnas.0906974107
- Davis, S.J., K Caldeira, HD Matthews (2010) *Future CO₂ emissions and climate change from existing energy infrastructure*. **Science**, 329, 1330-1333. doi: 10.1126/science.1188566
- Marker, M., DI Kline, WJ Kirkwood, K Headley, PG Brewer, ET Peltzer, T Miard, A Chai, M James, K Schneider, J Silverman, K Caldeira, JR Koseff, S Monismith, B Opdyke, R Dunbar, R White, S Dove, O Hoegh-Guldberg (2010) *The coral proto-free ocean carbon enrichment system (CP-FOCE): Engineering and development*. **OCEANS 2010 IEEE-Sydney**, 1-10. doi: 10.1109/OCEANSSYD.2010.5603603
- Archer, C.L., K Caldeira (2009) *Global assessment of high-altitude wind power*. **Energies** 2, 307-319.
- Archer, D., M Eby, V Brovkin, A Ridgwell, L Cao, U Mikolajewicz, K Caldeira, K Matsumoto, G Munhoven, A Montenegro, K Tokos (2009) *Atmospheric lifetime of fossil fuel carbon dioxide*. **Annual Review of Earth and Planetary Sciences**, 37, 117-134. doi:10.1146/annurev.earth.031208.100206
- Caldeira, K., (2009) *Geoengineering to Shade Earth*. **Worldwatch Institute, State of the World**, 96-8.
- Caldeira, K., (2009) *Ocean acidification: Humanity and the environment in geologic time*. **IOP Conference Series: Earth and Environmental Science**, 6, 462004. doi: 10.1088/1755-1307/6/46/462004
- Cao, L., G Bala, K Caldeira, R Nemani, G Ban-Weiss (2009) *Climate response to physiological forcing of carbon dioxide simulated by the coupled Community Atmosphere Model (CAM3. 1) and Community Land Model (CLM3. 0)*. **Geophysical Research Letters**, 36. doi: 10.3390/en20200307
- Hoegh-Guldberg, O., T Hughes, K Anthony, K Caldeira, M Hatzitolos, J Kleypas (2009) *Coral reefs and rapid climate change: impacts, risks and implications for tropical societies*. **IOP Conference Series: Earth and Environmental Science**, 6, 302004. doi: 10.1088/1755-1307/6/30/302004
- Langer, W.H., CA San Juan, GH Rau, K Caldeira (2009) *Accelerated weathering of limestone for CO₂ mitigation: Opportunities for the stone and cement industries*. **Mining Engineering**, 61, 27
- Orr, J.C., K Caldeira, V Fabry, JP Gattuso, P Haugan, P Lehodey, S Pantoja, HO Pörtner, U Riebesell, T Trull, M Hood, W Broadgate (2009) *Research priorities for understanding ocean acidification: summary from the second symposium on the ocean in a high-CO₂ world*. **Oceanography**, 22, doi: 10.5670/oceanog.2009.107
- Pagani, M., K Caldeira, R Berner, DJ Beerling (2009) *The role of terrestrial plants in limiting atmospheric CO₂ decline over the past 24 million years*. **Nature**, 460, 85-88. doi: 10.1038/nature08133
- Silverman, J., B Lazar, L Cao, K Caldeira, J Erez (2009) *Coral reefs may start dissolving when atmospheric CO₂ doubles*. **Geophysical Research Letters**, 36, L05606.
- Adams, E.E., K Caldeira (2008) *Ocean storage of CO₂*. **Elements**, 4, 319-32. doi: 10.2113/gselements.4.5.319
- Archer, C.L., K Caldeira (2008) *Historical trends in the jet streams*. **Geophysical Research Letters**, 35. doi: 10.1029/2008GL033614

- Buesseler, K.O., SC Doney, DM Karl, PW Boyd, K Caldeira, F Chai, KH Coale, HJW de Baar, PG Falkowski, KS Johnson, RS Lampitt, AF Michaels, SWA Naqvi, V Smetacek, S Takeda, AJ Watson (2008) *Ocean iron fertilization—moving forward in a sea of uncertainty*. **Science**, 319, 162. doi: 10.1126/science.1154305
- Caldeira, K., SJ Davis, L Cao (2008) *Will peak oil accelerate carbon dioxide emissions?* **AGU Fall Meeting Abstracts**, 1, 02.
- Caldeira, K., L Wood (2008) *Global and Arctic climate engineering: Numerical model studies* **Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences**, 366, 4039-4056. doi: 10.1098/rsta.2008.0132
- Cao, L., K Caldeira (2008) *Atmospheric CO₂ stabilization and ocean acidification*. **Geophysical Research Letters**, 35.
- Cao, L., M Eby, A Ridgwell, K Caldeira, D Archer, A Ishida, F Joos, K Matsumoto, U Mikolajewicz, A Mouchet, JC Orr, GK Plattner, R Schlitzer, K Tokos, I Totterdell, T Tschumi, Y Yamanaka, A Yool (2008) *The importance of ocean transport in the fate of anthropogenic CO₂*. **Biogeosciences Discussions**, 5, 4521.
- Griffith, E.M., A Paytan, K Caldeira, TD Bullen, E Thomas (2008) *A dynamic marine calcium cycle during the past 28 million years*. **Science** 322, 1671-1674. doi: 10.1126/science.1163614
- Hoegh-Guldberg, O., PJ Mumby, AJ Hooten, RS Steneck, P Greenfield, E Gomez, DR Harvell, PF Sale, AJ Edwards, K Caldeira, N Knowlton, CM Eakin, R Iglesias-Prieto, N Muthiga, RH Bradbury, A Dubi, ME Hatziolos (2008) *Coral adaptation in the face of climate change: Response*. **Science**, 320, 315-316.
- Jackson, R.B., JT Randerson, JG Canadell, RG Anderson, R Avissar, DD Baldocchi, GB Bonan, K Caldeira, NS Diffenbaugh, CB Field, BA Hungate, EG Jobbágy, LM Kueppers, MD Noretto, D Pataki (2008) *Protecting climate with forests*. **Environmental Research Letters**, 3, 044006. doi: 10.1088/1748-9326/3/4/044006
- Matthews, H.D., K Caldeira (2008) *Stabilizing climate requires near-zero emissions*. **Geophysical research letters**, 35. doi: 10.1029/2007GL032388
- Schwartzman, D., K Caldeira, A Pavlov (2008) *Cyanobacterial emergence at 2.8 Gya and greenhouse feedbacks*. **Astrobiology**, 8, 187-203. doi: 10.1089/ast.2006.0074
- Zeebe, R.E., K Caldeira (2008) *Close mass balance of long-term carbon fluxes from ice-core CO₂ and ocean chemistry records*. **Nature Geoscience**, 1, 312-315. doi: 10.1038/ngeo185
- Zeebe, R.E., JC Zachos, K Caldeira, T Tyrrell (2008) *Carbon emissions and acidification*. **SCIENCE-NEW YORK THEN WASHINGTON-**, 321, 51. doi: 10.1126/science.1159124
- Bala, G., K Caldeira, M Wickett, TJ Phillips, DB Lobell, C Delire, A Mirin (2007) *Combined climate and carbon-cycle effects of large-scale deforestation*. *Proceedings of the National Academy of Sciences*, 104, 6550-6555. doi: 10.1073/pnas.0608998104
- Caldeira, K., (2007) *Phanerozoic ocean chemistry and anthropogenic ocean acidification*. **Goldschmidt2007, Cologne, Germany**, 19-24
- Caldeira, K., (2007) *The maximum entropy principle: a critical discussion*. **Climatic Change**, 85, 267-269.
- Caldeira, K., (2007) *What Corals are Dying to Tell Us About CO₂*. **Oceanography**, 20, 188.
- Caldeira, K., D Archer, JP Barry, RGJ Bellerby, PG Brewer, L Cao, AG Dickson, SC Doney, H Elderfield, VJ Fabry, RA Feely, JP Gattuso, PM Haugan, O Hoegh-Guldberg, AK Jain, JA Kleypas, C Langdon, JC Orr, A Ridgwell, CL Sabine, BA Seibel, Y Shirayama, C Turley, AJ Watson, RE Zeebe (2007) *Comment on 'Modern-age buildup of CO₂ and its effects on seawater acidity and salinity' by Hugo A. Loáiciga*. **Geophysical Research Letters**, 38, L18608.
- Cao, L., K Caldeira, AK Jain (2007) *Effects of carbon dioxide and climate change on ocean acidification and carbonate mineral saturation*. **Geophysical Research Letters**, 34, L05607. doi: 10.1029/2006GL028605
- Hoegh-Guldberg, O., PJ Mumby, AJ Hooten, RS Steneck, P Greenfield, E Gomez, CD Harvell, PF Sale, AJ Edwards, K Caldeira, N Knowlton, CM Eakin, R Iglesias-Prieto, N Muthiga, RH Bradbury, A Dubi, ME Hatziolos (2007) *Coral reefs under rapid climate change and ocean acidification*. **Science**, 318, 1737-1742. doi: 10.1126/science.1152509
- Lane, L., K Caldeira, R Chatfield, S Langhoff (2007) *Workshop Report on Managing Solar Radiation*.
- Lutz, M.J., K Caldeira, RB Dunbar, MJ Behrenfeld (2007) *Seasonal rhythms of net primary production and particulate organic carbon flux to depth describe the efficiency of biological pump in the global ocean*. **Journal of Geophysical Research: Oceans (1978–2012)**, 112. doi: 10.1007/s10584-007-9335-3
- Matthews, H.D., K Caldeira (2007) *Transient climate-carbon simulations of planetary geoengineering*. **Proceedings of the National Academy of Sciences**, 104, 9949-9954. doi: 10.1073/pnas.0700419104
- Najjar, R.G., X Jin, F Louanchi, O Aumont, K Caldeira, SC Doney, JC Dutay, M Follows, N Gruber, F Joos, K Lindsay, EM Reimer, RJ Matear, K Matsumoto, P Monfray, A Mouchet, JC Orr, GK Plattner, JL Sarmiento, R Schlitzer, RD Slater, MF Weirig, Y Yamanaka, A Yool (2007) *Impact of circulation on export production, dissolved organic matter, and dissolved oxygen in the ocean: Results from Phase II of the Ocean Carbon-cycle Model Intercomparison Project (OCMIP-2)*. **Global Biogeochemical Cycles**, 21. doi:10.1029/2006GB002857
- Pagani, M., K Caldeira, D Archer, JC Zachos (2007) *An ancient carbon mystery*. **SCIENCE-NEW YORK THEN WASHINGTON-**, 314, 1556. doi:10.1126/science.1136110

- Rau, G.H., K Caldeira (2007) *Coal's future: clearing the air*. **Science**, 316, 691. doi: 10.1126/science.316.5825.691a
- Rau, G.H., KG Knauss, WH Langer, K Caldeira (2007) *Reducing energy-related CO₂ emissions using accelerated weathering of limestone*. **Energy**, 32, 1471-1477.
- Roberts, B.W., DH Shepard, K Caldeira, ME Cannon, DG Eccles, AJ Grenier, JF Freidin (2007) *Harnessing high-altitude wind power*. **IEEE Transactions on Energy Conversion**, 22, 136-144. doi: 10.1109/TEC.2006.889603
- Schekman, R., TY Hou, SM Colman, CR Sanders, A Radhakrishnan, Y Ikeda, HJ Kwon, MS Brown, JL Goldstein, LP Sun, J Seemann, J Battin, MW Wiley, MH Ruckelshaus, RN Palmer, E Korb, KK Bartz, H Imaki, OH Hald, P Stinis, S Pigolotti, S Krishna, MH Jensen, AD Hughes, EV Anslyn, PH Carter, RQin Liu, WR Foster, JA Tamasi, AJ Tebben, M Favata, A Staal, ME Cvijic, MH French, V Dell, D Apanovitch, M Lei, Q Zhao, M Cunningham, CP Decicco, JM Trzaskos, JHM Feyen, C Oze, DK Bird, S Fendorf, G Bala, K Caldeira, M Wickett, TJ Phillips, DB Lobell, C Delire, A Mirin, AE Carlson, PU Clark, BA Haley, GP Klinkhammer, K Simmons, EJ Brook, KJ Meissner, D Sornette, AB Davis, K Ide, KR Vixie, V Pisarenko, JR Kamm, Mary ED Pohl, Dolores R Piperno, KO Pope, JG Jones, Y Rak, A Ginzburg, E Geffen, H Shang, H Tong, S Zhang, F Chen, E Trinkaus, Ö Sahin, C Løbke, U Korf, H Appelhans, H Sülmann, A Poustka, S Wiemann, D Arlt, S Hafenstein, LM Palermo, VA Kostyuchenko, C Xiao, MC Morais, CDS Nelson, VD Bowman, AJ Battisti, PR Chipman, CR Parrish, MG Rossmann, P Chien, BS Perchuk, MT Laub, RT Sauer (2007) *Introducing feature articles in PNAS*. **Proceedings of the National Academy of Sciences**, 104, 6495. doi: 10.1073/pnas.0702818104
- Alendal, G., PM Haugan, R Gangsto, K Caldeira, E Adams, P Brewer, E Peltzer, G Rehder, T Sato, BX Chen (2006) *Comment on " Fate of rising CO₂ droplets in seawater"*. **Environmental Science and Technology**, 40, 3653-3654.
- Bala, G., K Caldeira, A Mirin, M Wickett, C Delire, TJ Phillips (2006) *Biogeophysical effects of CO₂ fertilization on global climate*. **Tellus B**, 58, 620-627.
- Caldeira, K. (2006) *Forests, climate, and silicate rock weathering*. **Journal of Geochemical Exploration**, 88, 419-422. doi: 10.1016/j.gexplo.2005.08.089
- Caldeira, K., M Akai, P Brewer, B Chen, P Haugan, T Iwama, P Johnston, H Khesghi, Q Li, T Ohsumi, HO Pörtner, C Sabine, Y Shirayama, J Thomson, J Barry, L Hansen (2006) *Ocean Storage*. **IPCC special report on carbon dioxide capture and storage**, 277-317.
- Caldeira, K., G Bala, ME Wickett, TJ Phillips, D Lobell (2006) *Carbon, Biophysics, and Climate: Where do Forests Warm? Where do Forests Cool?* **AGU Fall Meeting Abstracts**, 1, 0431.
- Rau, G.H., KG Knauss, K Caldeira, J Friedmann (2006) *Opportunities for Low-Cost CO₂ Mitigation in Electricity, Oil, and Cement Production*. **Proc. Greenhouse Gas Control Technologies**, 8.
- Bala, G., K Caldeira, A Mirin, M Wickett, C Delire (2005) *Multicentury changes to the global climate and carbon cycle: Results from a coupled climate and carbon cycle model*. **Journal of Climate**, 18, 4531-4544. doi: 10.1175/JCLI3542.1
- Bala, G., S Thompson, A Mirin, M Wickett, K Caldeira, C Delire (2005) *Increase of carbon cycle feedback with climate sensitivity: results from a coupled climate and carbon cycle model*. **Tellus B**, 57, 153-163. doi: 10.1111/j.1600-0889.2005.00135.x
- Barry, J.P., EE Adams, R Bleck, K Caldeira, K Carman, D Erickson, JP Kennett, JL Sarmiento, C Tsouris (2005) *Ecosystem and Societal Consequences of Ocean versus Atmosphere Carbon Storage*. **AGU Fall Meeting Abstracts**, 1, 01
- Caldeira, K., (2005) *Long-term consequences of continued carbon dioxide emission to the atmosphere*. **Ken Caldeira. Department of Global Ecology, Carnegie Institution. In: Seventh Carbon Dioxide Conference–Boulder, Colorado, EUA. Setembro**, 25-30
- Caldeira, K., ME Wickett (2005) *Ocean model predictions of chemistry changes from carbon dioxide emissions to the atmosphere and ocean*. **Journal of Geophysical Research**, 110, C09S04. doi: 10.1029/2004JC002671
- Gibbard, S., K Caldeira, G Bala, TJ Phillips, M Wickett (2005) *Climate effects of global land cover change*. **Geophysical Research Letters**, 32. doi: 10.1029/2005GL024550
- Rampino, M.R., K Caldeira (2005) *Major perturbation of ocean chemistry and a 'Strangelove Ocean' after the end-Permian mass extinction*. **Terra Nova**, 17, 554-559.
- Raven, J., K Caldeira, H Elderfield, O Hoegh-Guldberg, P Liss, U Riebesell, J Shepherd, C Turley, A Watson (2005) *Ocean acidification due to increasing atmospheric carbon dioxide*. **The Royal Society**.
- Caldeira, K., MG Morgan, D Baldocchi, PG Brewer, CTA Chen, G Nabuurs, N Nakicenovic, GP Robertson (2004) *A Portfolio of Carbon Management*. **The Global Carbon Cycle: Integrating Humans, Climate, and the Natural World**, 62, 103.
- Caldeira, K.G., E Szaghmary (2004) *What Does History Teach Us about the Major Transitions and Role of Disturbances in the Evolution of Life and of the Earth System?* **Earth System Analysis for Sustainability**, 29.

- Doney, S.C., R Anderson, J Bishop, K Caldeira, C Carlson, ME Carr, R Feely, M Hood, C Hopkinson MBL, R Jahnke, D Karl, J Kleypas, C Lee, R Letelier OSU, C McClain, C Sabine, J Sarmiento, B Stephens, R Weller (2004) *Ocean carbon and climate change (OCCC): An implementation strategy for US ocean carbon research*. **University Corporation for Atmospheric Research**.
- Doney, S.C., K Lindsay, K Caldeira, JM Campin, H Drange, JC Dutay, M Follows, Y Gao, A Gnanadesikan, N Gruber, A Ishida, Fortunat Joos, Gurvan Madec, E Maier-Reimer, JC Marshall, RJ Matear, P Monfray, A Mouchet, R Najjar, JC Orr, G-K Plattner, J Sarmiento, R Schlitzer, R Slater, IJ Totterdell, M-F Weirig, Y Yamanaka, A Yool (2004) *Evaluating global ocean carbon models: The importance of realistic physics*. **Global Biogeochemical Cycles**, 18. doi: 10.1029/2003GB002150
- Hoffert, M.I., K Caldeira (2004) *Climate Change and Energy, Overview*. **Encyclopedia of Energy**, 1, 359-380. doi: 10.1016/B0-12-176480-X/00396-X
- Lenton, T.M., KG Caldeira, SA Franck, G Horneck, A Jolly, E Rabbow, HJ Schellnhuber, E SzÁthmary, F Westall, GA Zavarzin, H Zimmermann-Timm (2004) *Long-term geosphere-biosphere coevolution and astrobiology*. **Earth system analysis for sustainability**, 111-139.
- Matsumoto, K., JL Sarmiento, RM Key, O Aumont, JL Bullister, K Caldeira, JM Campin, SC Doney, H Drange, J-C Dutay, M Follows, Y Gao, A Gnanadesikan, N Gruber, A Ishida, F Joos, K Lindsay, E Maier-Reimer, JC Marshall, RJ Matear, P Monfray, A Mouchet, R Najjar, G-K Plattner, R Schlitzer, R Slater, PS Swathi, IJ Totterdell, M-F Weirig, Y Yamanaka, A Yool, JC Orr (2004) *Evaluation of ocean carbon cycle models with data-based metrics*. **Geophysical Research Letters**, 31. doi: 10.1029/2003GL018970
- Mueller, K., L Cao, K Caldeira, A Jain (2004) *Differing methods of accounting ocean carbon sequestration efficiency*. **Journal of Geophysical Research**, 109, C12018. doi: 10.1029/2003JC002252
- Orr, J.C., O Aumont, A Yool, GK Plattner, F Joos, E Maier-Reimer, MF Weirig, R Schlitzer, K Caldeira, M Wickett, RJ Matear, B Mignone, J Sarmiento (2004) *Narrowing the uncertainty for deep-ocean injection efficiency*. doi: 10.1016/B978-008044704-9/50168-3
- Orr, J.C., VJ Fabry, O Aumont, L Bopp, K Caldeira, ME Wickett, SC Doney, RA Feely, CL Sabine, M Follows, N Gruber, G Plattner, A Ishida, Y Yamanaka, F Joos, A Gnanadesikan, RM Key, JL Sarmiento, RD Slater, K Lindsay, E Maier-Reimer, R Matear, P Monfray, Anne Mouchet, RG Najjar, R Schlitzer, M Weirig, A Yool, I Totterdell (2004) *Aragonite Undersaturation in the High-Latitude Surface Ocean Within the 21st Century*. **AGU Fall Meeting Abstracts**, 1, 08
- Thompson, S.L., G Bala, A Mirin, K Caldeira, C Delire, J Milovich, M Wickett, D Erickson (2004) *Quantifying the effects of CO₂-fertilized vegetation on future global climate and carbon dynamics*. **Geophysical Research Letters**, 31, L23211. doi: 10.1029/2004GL021239
- Baba, Y., VA Rakov (2003) *On the transmission line model for lightning return stroke representation*. **Geophysical Research Letters**, 30. doi: 10.1029/2003GL018407
- Bala, G., K Caldeira, PB Duffy (2003) *Geoengineering Earth's radiation balance to mitigate climate change from a quadrupling of CO₂*. **Global and Planetary Change**, 37, 157-168.
- Caldeira, K., AK Jain, MI Hoffert (2003) *Climate sensitivity uncertainty and the need for energy without CO₂ emission*. **Science**, 299, 2052-2054.
- Caldeira, K., ME Wickett (2003) *Oceanography: anthropogenic carbon and ocean pH*. **Nature**, 425, 365-365. doi: 10.1038/425365a
- Fallon, S. J., TP Guilderson, K Caldeira (2003) *Carbon isotope constraints on vertical mixing and air-sea CO₂ exchange*. **Geophysical research letters**, 30
- Fallon, S.J., TP Guilderson, K Caldeira (2003) *Oceans-OCE 9. Carbon isotope constraints on vertical mixing and air-sea CO₂ exchange*. **Geophysical Research Letters**, 30. doi: 10.1029/2003GL018049
- Grumet, N.S., ME Wickett, PB Duffy, K Caldeira, RB Dunbar (2003) *Intrabasin Comparison of Surface Radiocarbon Levels in the Indian Ocean Between Coral Records and Three-Dimension Global Ocean Models*. **AGU Fall Meeting Abstracts**, 1, 0807.
- Herzog, H., K Caldeira, J Reilly (2003) *An issue of permanence: Assessing the effectiveness of temporary carbon storage*. **Climatic Change**, 59, 293-310.
- Hoffert, M., K Caldeira, G Benford (2003) *Fourteen Grand Challenges*. **Mechanical Engineering**, 125, 1-14.
- Holtvoeth, J., T Wagner, CJ Schubert (2003) *Organic matter in river-influenced continental margin sediments: The land-ocean and climate linkage at the Late Quaternary Congo fan (ODP Site 1075)*. **Geochemistry, Geophysics, Geosystems**, 4. doi: 10.1029/2003GC000590
- Johns, W.E., F Yao, DB Olson, SA Josey, JP Grist, DA Smeed (2003) *Observations of seasonal exchange through the straits of Hormuz and the inferred heat and freshwater budgets of the Persian Gulf*. **Journal of Geophysical Research: Oceans (1978-2012)**, 108. doi: 10.1029/2003JC001881
- Jones, I.S.F., K Caldeira (2003) *Long-term ocean carbon sequestration with macronutrient addition*. **Proc of this conference**.

- Kerrick, D.M., JAD Connolly, K Caldeira (2003) *Arc paleo-CO₂ degassing revisited*. **EGS-AGU-EUG Joint Assembly**, 1,14253.
- Orr, J.C., O Aumont, A Yool, GK Plattner, F Joos, E Maier-Reimer, MF Weirig, R Schlitzer, Ken Caldeira, Michael Wickett, Richard Matear, Bryan Mignone, Jorge Sarmiento, John Davison (2003) *The GOSAC project to predict the efficiency of ocean CO₂ sequestration using 3-D ocean models*. **Greenhouse Gas Control Technologies--6th International Conference**. doi: 10.1016/B978-008044276-1/50277-4
- Ridgwell, A.J., MJ Kennedy, K Caldeira (2003) *Carbonate deposition, climate stability, and Neoproterozoic ice ages*. **Science**, 302, 859-862. Doi: 10.1126/science.1088342
- Wickett, M.E., K Caldeira, PB Duffy (2003) *Effect of horizontal grid resolution on simulations of oceanic CFC-11 uptake and direct injection of anthropogenic CO₂*. **Journal of Geophysical Research: Oceans (1978–2012)**, 108. doi:10.1029/2001JC001130
- Zeng, T., Y Wang, K Chance, EV Browell, BA Ridley, EL Atlas (2003) *Widespread persistent near-surface ozone depletion at northern high latitudes in spring*. **Geophysical research letters**, 30. Doi: 10.1029/2003GL018587
- Bala, G., S Thompson, PB Duffy, K Caldeira, C Delire (2002) *Impact of geoengineering schemes on the terrestrial biosphere*. **Geophysical Research Letters**, 29, 2061. doi: 10.1029/2002GL015911
- Berner, R.A., K Caldeira (2002) *The geologic carbon cycle and the evolution of atmospheric carbon dioxide*. **AGU Fall Meeting Abstracts**, 1, 02.
- Caldeira, K. (2002) *Monitoring of ocean storage projects*. **Proc. Workshop on Carbon Dioxide Capture and Storage**. Caldeira, K. (2002) *Simulating Ocean Fertilization: Effectiveness and Unintended Consequences*. **Proceedings, Complements to Kyoto**, 23-24.
- Caldeira, K. (2002) *What has posterity done for us? It's not the point*. **Nature**, 420, 605. doi: 10.1038/420605c
- Caldeira, K., ME Wickett, PB Duffy (2002) *Depth, radiocarbon, and the effectiveness of direct CO₂ injection as an ocean carbon sequestration strategy*. **Geophysical Research Letters**, 29, 13-1-13-4.
- Duffy, P.B., ME Wickett, K Caldeira (2002) *Effect of horizontal grid resolution on the near-equilibrium solution of a global ocean–sea ice model*. **Journal of geophysical research**, 107, 3075. doi: 10.1029/2000JC000658
- Dutay, J.C., JL Bullister, SC Doney, JC Orr, R Najjar, K Caldeira, JM Campin, H Drange, M Follows, Y Gao, N Gruber, MW Hecht, A Ishida, F Joos, K Lindsay, G Madec, E Maier-Reimer, JC Marshall, RJ Matear, P Monfray, A Mouchet, GK Plattner, J Sarmiento, R Schlitzer, R Slater, IJ Totterdell, MF Weirig, Y Yamanaka, A Yool (2002) *Evaluation of ocean model ventilation with CFC-11: Comparison of 13 global ocean models*. **Ocean Modelling**, 4, 89-120. doi: 10.1016/S1463-5003(01)00013-0
- Herzog, H.J., K Caldeira, JM Reilly (2002) *An issue of permanence: Assessing the effectiveness of temporary carbon storage*.
- Hoffert, M.I., K Caldeira, G Benford, DR Criswell, C Green, H Herzog, AK Jain, HS Kheshgi, KS Lackner, JS Lewis, HD Lightfoot, W Manheimer, JC Mankins, ME Mauel, LJ Perkins, ME Schlesinger, T Volk, TML Wigley (2002) *Advanced technology paths to global climate stability: Energy for a greenhouse planet science*. **Science**, 298, 981-987. Lutz, M., R Dunbar, K Caldeira (2002) *Regional variability in the vertical flux of particulate organic carbon in the ocean interior*. **Global Biogeochemical Cycles**, 16, 11-1-11-18. Doi: 10.1029/2000GB001383
- Pagani, M., KH Freeman, N Ohkouchi, K Caldeira (2002) *Comparison of water column [CO₂aq] with sedimentary alkenone-based estimates: A test of the alkenone-CO₂ proxy*. **Paleoceanography** 17, 1069
- Randerson, J.T., IG Enting, EAG Schuur, K Caldeira, IY Fung (2002) *Seasonal and latitudinal variability of troposphere $\Delta^{14}C$: Post bomb contributions from fossil fuels, oceans, the stratosphere, and the terrestrial biosphere*. **Global Biogeochemical Cycles**, 16, 1112. doi: 10.1029/2002GB001876
- Aumont, O., J Orr, A Yool, K Plattner, F Joos, E Maier-Rainer, MF Weirig, R Schlitzer, K Caldeira, ME Wickett, R Matea (2001) *Efficiency of purposeful CO₂ injection in the deep ocean: Comparison of seven ocean models*. **IGBP: Open Science Conference 2001**.
- Bala, G., PB Duffy, K Caldeira (2001) *Land use changes and Northern Hemisphere cooling*. **Geophysical Research Letters**. 28, 291-294. doi: 10.1029/2000GL006121
- Caldeira, K., HJ Herzog, ME Wickett (2001) *Predicting and evaluating the effectiveness of ocean carbon sequestration by direct injection*. **Proceedings of First National Conference on Carbon Sequestration, Washington, DC**, 14-17.
- Herzog, H., K Caldeira, E Adams (2001) *Carbon sequestration via direct injection*. **Encyclopedia of Ocean Sciences-**, 1, 408-414. doi: 10.1006/rwos.2001.0041

- Prentice, I.C., GD Farquhar, MJR Fasham, ML Goulden, M Heimann, HS Kheshi, L Quere, RJ Scholes, DWR Wallace, D Archer, MR Ashmore, O Aumont, D Baker, M Battle, M Bender, LP Bopp, P Bousquet, K Caldeira, P Ciais, W Cramer, F Dentener, IG Enting, CB Field, EA Holland, RA Houghton, JI House, A Ishida, AK Jain, Ivan Janssens, F Joos, T Kaminski, CD Keeling, DW Kicklighter, KE Kohfeld, W Knorr, R Law, T Lenton, K Lindsay, E Maier-Reimer, A Manning, RJ Matear, AD McGuire, JM Melillo, R Meyer, M Mund, JC Orr, S Piper, K Plattner, PJ Rayner, S Sitch, R Slater, S Taguchi, PP Tans, HQ Tian, MF Weirig, T Whorf, A Yool (2001) *The carbon cycle and atmospheric carbon dioxide*. **Cambridge**.
- Rau, G.H., K Caldeira, KG Knauss, B Downs, H Sarv (2001) *Enhanced carbonate dissolution as a means of capturing and sequestering carbon dioxide*. **First National Conference on Carbon Sequestration, Washington, DC**, 14-17.
- Bala, G., K Caldeira (2000) *Geoengineering Earth's radiation balance to mitigate CO₂-induced climate change*. **Geophysical Research Letters**, 27, 2141-2144. doi: 10.1029/1999GL006086
- Caldeira, K., PB Duffy (2000) *The role of the Southern Ocean in uptake and storage of anthropogenic carbon dioxide*. **Science**, 287, 620-622. doi: 10.1126/science.287.5453.620
- Caldeira, K., MI Hoffert, A Jain (2000) *Simple ocean carbon cycle models*. **The Carbon Cycle**, 199-211. doi: 10.1017/CBO9780511573095.018
- Caldeira, K., GH Rau (2000) *Accelerating carbonate dissolution to sequester carbon dioxide in the ocean: Geochemical implications*. **Geophysical Research Letters**, 27, 225-228. doi: 10.1029/1999GL002364
- Bickle, M.J., K Caldeira, RA Berner (1999) *The need for mass balance and feedback in the geochemical carbon cycle: Comment and Reply*. **Geology**, 26, 477-478. doi: 10.1130/0091-7613(1998)026<0477:TNFMBA>2.3.CO;2
- Caldeira, K., R Berner (1999) *Seawater pH and atmospheric carbon dioxide*. **Science**, 286, 2043-2043. doi: 10.1126/science.286.5447.2043a
- Duffy, P.B., KG Caldeira (1999) *Sensitivity of simulated salinities in a three-dimensional ocean general circulation model to vertical mixing of destabilizing surface fluxes*. **Climate dynamics**, 15, 81-88. doi: 10.1007/s003820050269
- Hoffert, M.I., K Caldeira, C Covey, PB Duffy, BD Santer (1999) *Global warming: Solar variability and the Earth's climate*. **Nature**, 401, 764.
- Hoffert, M.I., S Nozette, K Caldeira (1999) *Evolutionary paths to 'orbital power and light'*. **IAF, International Astronautical Congress, 50 th, Amsterdam, Netherlands**.
- Kerrick, D.M., K Caldeira (1999) *Was the Himalayan orogen a climatically significant coupled source and sink for atmospheric CO₂ during the Cenozoic?* **Earth and Planetary Science Letters**, 173, 195-203.
- Rau, G.H., K Caldeira (1999) *Enhanced carbonate dissolution: a means of sequestering waste CO₂ as ocean bicarbonate*. **Energy Conversion and Management**, 40, 1803-1813.
- Teller, E., K Caldeira, G Canavan, G Bala, A Grossman, R Hyde, M Shikawa, A Ledebuhr, C Leith, C Molenkamp, J Nuckolls, L Wood (1999) *Long-range weather prediction and prevention of climate catastrophes: A status report*. **Publ. UCRL-JC 135414**, 44.
- Caldeira, K., RA Berner (1998) Reply-The need for mass balance and feedback in the geochemical carbon cycle. *Geology-1-Paper Edition*, 26, 477-478.
- Caldeira, K., PB Duffy (1998) *Sensitivity of simulated CFC-11 distributions in a global ocean model to the treatment of salt rejected during sea-ice formation*. **Geophysical Research Letters**, 25, 1003-1006. doi: 10.1029/98GL00336
- Caldeira, K., GH Rau, PB Duffy (1998) *Predicted net efflux of radiocarbon from the ocean and increase in atmospheric radiocarbon content*. **Geophysical Research Letters**, 25, 3811-3814. doi: 10.1029/1998GL900010
- Hoffert, M.I., K Caldeira, AK Jain, EF Haites, LDD Harvey, SD Potter, ME Schlesinger, SH Schneider, RG Watts, TML Wigley, DJ Wuebbles (1998) *Energy implications of future stabilization of atmospheric CO₂ content*. **Nature**, 395, 881-884
- Kerrick, D.M., K Caldeira (1998) *Metamorphic CO₂ degassing from orogenic belts*. **Chemical Geology**, 145, 213-232.
- Longhurst, A., K Caldeira (1998) *Too intelligent for our own good*. **Nature**, 395, 9-9.
- Stephens, B.B., RF Keeling, M Heimann, KD Six, R Murnane, K Caldeira (1998) *Testing global ocean carbon cycle models using measurements of atmospheric O₂ and CO₂ concentration*. **Global Biogeochemical Cycles**, 12, 213-230.
- Berner, R.A., K Caldeira (1997) *The need for mass balance and feedback in the geochemical carbon cycle*. **Geology**, 25, 955-956.
- Duffy, P.B., K Caldeira, J Selvaggi, MI Hoffert (1997) *Effects of subgrid-scale mixing parameterizations on simulated distributions of natural ¹⁴C, temperature, and salinity in a three-dimensional ocean general circulation model*. **Journal of Physical Oceanography**, 27, 498-523.

- Duffy, P.B., K Caldeira (1997) *Sensitivity of simulated salinity in a three-dimensional ocean model to upper ocean transport of salt from sea-ice formation*. **Geophysical Research Letters**, 24, 1323-1326.
- Caldeira, K., (1996) *IPCC report, chapter and verse*. **Nature**, 383, 214. doi: 10.1038/383214b0
- Martin, R.E., GJ Vermeij, D Dorrity, K Caldeira, MR Rampino, AH Knoll, RK Bambach, D Canfield, JP Grotzinger, PB Wignall, RJ Twitchett (1996) *Late Permian extinctions*. *Science*, 274, 1549-1552.
- Williams, D.M., JF Kasting, K Caldeira (1996) *Chaotic obliquity variations and planetary habitability*. **Circumstellar Habitable Zones**, 1, 43.
- Caldeira, K., (1995) *Long-term control of atmospheric carbon dioxide; low-temperature seafloor alteration or terrestrial silicate-rock weathering?* **American Journal of Science**, 295, 1077-1114. doi: 10.2475/ajs.295.9.1077
- Duffy, P.B., K Caldeira (1995) *Three-dimensional model calculation of ocean uptake of bomb ¹⁴C and implications for the global budget of bomb ¹⁴C*. **Global Biogeochemical Cycles**, 9, 373-375.
- Duffy, P.B., P Eltgroth, AJ Bourgeois, K Caldeira (1995) *Effect of improved subgrid scale transport of tracers on uptake of bomb radiocarbon in the GFDL ocean general circulation model*. **Geophysical Research Letters**, 22, 1065-1068. doi: 10.1029/95GL00807
- Kerrick, D.M., MA McKibben, TM Seward, K Caldeira (1995) *Convective hydrothermal CO₂ emission from high heat flow regions*. **Chemical Geology**, 121, 285-293.
- Caldeira, K., JF Kasting (1994) *Insensitivity of global warming potentials to carbon dioxide emission scenarios*. **Nature**, 366, 251. doi: 10.1038/366251a0
- Caldeira, K., MR Rampino (1994) *Aftermath of the end-Cretaceous mass extinction: Possible biogeochemical stabilization of the carbon cycle and climate*. **Paleoceanography**, 8, 515-525. doi: 10.1029/93PA01163
- Kerrick, D.M., K Caldeira (1994) *Metamorphic CO₂ degassing and early Cenozoic paleoclimate*. **GSA Today**, 4, 62-65.
- Kerrick, D.M., K Caldeira (1994) *Paleoatmospheric consequences of CO₂ released during early Cenozoic regional metamorphism in the Tethyan orogeny*. **Chemical Geology**, 108, 201-230.
- Kerrick, D., K Caldeira, J Selverstone, DS Gutzler (1994) *Post-125 Ma carbon storage associated with continent-continent collision: Comment and Reply*. **Geology**, 22, 381-383. doi: 10.1130/0091-613(1994)022<0381:PMCSAW>2.3.CO;2
- Rampino, M.R., K Caldeira (1994) *Major episodes of geologic change: correlations, time structure and possible causes*. **Earth and Planetary Science Letters**, 114, 215-227. doi: 10.1016/0012-821X(93)90026-6
- Rampino, M.R., K Caldeira (1994) *The Goldilocks problem: climatic evolution and long-term habitability of terrestrial planets*. **Annual Review of Astronomy and Astrophysics**, 32, 83-114. doi: 10.1146/annurev.astro.32.1.83
- Caldeira, K., (1992) *Enhanced Cenozoic chemical weathering and the subduction of pelagic carbonate*. *Nature Publishing Group*, 357, 578-581. doi: 10.1038/357578a0
- Caldeira, K., JF Kasting (1992) *Susceptibility of the early Earth to irreversible glaciation caused by carbon dioxide clouds*. **Nature**, 359, 226-228. doi: 10.1038/359226a0
- Caldeira, K., JF Kasting (1992) *The life span of the biosphere revisited*. **Nature**, 360, 721-723. doi: 10.1038/360721a0
- Caldeira, K., MR Rampino (1992) *Mount Etna CO₂ may affect climate*. **Nature**, 355, 401-402
- Rampino, M.R., K Caldeira (1992) *Antipodal hotspot pairs on the Earth*. **Geophysical Research Letters**, 19, 2011-2014. doi: 10.1029/92GL01984
- Rampino, M.R., K Caldeira (1992) *Episodes of terrestrial geologic activity during the past 260 million years: A quantitative approach*. **Dynamics and Evolution of Minor Bodies with Galactic and Geological Implications**. doi: 10.1007/978-94-011-2743-1_10
- Caldeira, K. (1991) *Continental-pelagic carbonate partitioning and the global carbonate-silicate cycle*. **Geology**, 19, 204-206. doi: 10.1130/0091-7613(1991)019<0204:CPCPAT>2.3.CO;2
- Caldeira, K., MR Rampino (1991) *The Mid-Cretaceous Super Plume, carbon dioxide, and global warming*. **Geophysical Research Letters**, 18, 987-990. doi: 10.1029/91GL01237
- Caldeira, K., MR Rampino (1990) *Carbon dioxide emissions from Deccan volcanism and a K/T boundary greenhouse effect*. **Geophysical Research Letters**, 17, 1299-1302. doi: 10.1029/GL017i009p01299
- Caldeira, K., MR Rampino, T Volk, JC Zachos (1990) *Biogeochemical modeling at mass extinction boundaries: Atmospheric carbon dioxide and ocean alkalinity at the K/T boundary*. **Extinction Events in Earth History**. doi:10.1007/BFb0011156
- Caldeira, K (1989) *Evolutionary pressures on planktonic production of atmospheric sulphur*. *Nature Publishing Group*, 337, 732-734. doi: 10.1038/337732a0