

# JAMES E. CLOERN

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Professional web page <https://profile.usgs.gov/jecloern>

Project web page <http://sfbay.wr.usgs.gov/access/wqdata/index.html>

## EDUCATION

University of Wisconsin-Madison, B.S. 1970, Zoology

University of Wisconsin-Milwaukee, M.S. 1973, Zoology (fisheries biology, limnology)

Washington State University, Ph.D. 1976, Zoology (limnology, ecological modeling)

## RESEARCH AND PROFESSIONAL EXPERIENCE

1999-present Senior Research Scientist, U.S. Geological Survey, Menlo Park, CA

1997-present Consulting Professor, Stanford University, Department of Civil & Env. Engineering

2005 Chercheur Associé, Centre National de la Recherche Scientifique, Brest, France

2005 Instructor, Ecole Doctorale, Université de Bretagne Occidentale, Brest, France

2000 Visiting Scientist, National Environmental Research Institute, Roskilde, Denmark

1976-1999 Research Scientist, U.S. Geological Survey, Menlo Park, CA

1997-1998 Lecturer, University of California-Santa Cruz, Department of Earth Sciences

1996 Visiting Lecturer, Second Institute of Oceanography, Hangzhou, China

1993 Distinguished Visiting Scientist, National Institute of Water and Atmospheric Research, Hamilton, New Zealand

1993-1994 Directeur de Recherche, Université d'Aix-Marseille II, France

## RESEARCH INTERESTS

Ecology and biogeochemistry of estuaries, directed to understand how they respond as ecosystems to climate variability and human disturbance. Research is focused around comparative analyses across coastal ecosystems and long-term (40 year) investigation of San Francisco Bay that has included study of primary production, nutrient cycling, algal and zooplankton dynamics, ecosystem metabolism, food web dynamics, disturbance by introduced species, Bay-Ocean connectivity, ecosystem responses to multidecadal climate oscillations, habitat restoration, and projected responses to climate change.

## AWARDS AND HONORS

Fellow, American Geophysical Union, 2016 <https://eos.org/agu-news/2016-class-of-agu-fellows-announced>

Sustaining Fellow, Association for Advancement of Sciences of Limnology and Oceanography, 2015

<http://aslo.org/announce/fellows2015.html>

Ruth Patrick Award, Association for Advancement of Sciences of Limnology and Oceanography, 2015

<http://www.aslo.org/awards/2015/cloern.html>

Brown-Nichols Achievement Award, Delta Science Program, 2012

<http://scienceconf2016.deltacouncil.ca.gov/content/previous-brown-nichols-science-award-recipients>

Ian Morris Scholar in Residence, Horn Point Laboratory, University of Maryland Center for Environmental Science, 2012 <http://www.umces.edu/hpl/ian-morris-scholar-residence>

B.H. Ketchum Award, Woods Hole Oceanographic Institution, 2010

<http://www.whoi.edu/page.do?pid=7545&tid=3622&cid=72786>

Laura Randall Schweppe Endowed Lecturer, University of Texas Marine Science Institute, 2009

Golden Screen Award, National Association of Government Communicators, 2003

U.S. Department of Interior Distinguished Service Award, 2000

USGS Shoemaker Communications Award, 1998

Fulbright Research Scholar, 1993-94

NATO Collaborative Research Grant Award, 1993  
U.S. Department of Interior Meritorious Service Award, 1991

**POSTDOCTORATES:**

Dr. Linda Huzzey, Professor of Marine Science, U.S. Coast Guard Academy  
Dr. Richard L. Miller, Research Scientist, NASA Stennis Space Center  
Dr. Jane Caffrey, Assistant Professor, Center for Bioremediation and Diagnostics, University of West Florida  
Dr. Joseph Rudek, Senior Scientist, Land, Water and Wildlife Programs, Environmental Defense Fund  
Dr. Elizabeth Canuel, Professor of Marine Science, Virginia Institute of Marine Science  
Dr. Lisa Lucas, Research Engineer, U.S. Geological Survey  
Dr. William Sobczak, Associate Professor of Environmental Studies, College of Holy Cross  
Dr. Jean-Marc Guarini, Professor of Oceanography, Université Pierre et Marie Curie (Paris VI)  
Dr. Laurent Chauvaud, Directeur de Recherche, Institut Universitaire Européen de la Mer, Brest, France  
Dr. Nancy Monsen, Research Associate, Dept. Civil & Environmental Engineering, Stanford University  
Dr. Julien Thébault, Lecturer, Université de Bretagne Occidentale, Brest, France  
Dr. Rochelle Labiosa, Research Scientist, Pacific Northwest National Laboratory, Seattle  
Dr. Mélanie Raimonet, Université Pierre et Marie Curie (Paris VI)

**THESIS/DISSERTATION COMMITTEES:**

Andrea Alpine, San Francisco State University, 1983 (MS)  
Bertrand Millet, Université d'Aix-Marseille II, France, 1992 (Habilitation)  
Anne Lefebvre, Université de Montpellier II, France, 1993 (MS)  
Kedong Yin, University of British Columbia, Canada, 1993(PhD)  
Frederic Jean, Université de Bretagne Occidentale, Brest, France, 1994 (PhD)  
Olivier Ragueneau, Université de Bretagne Occidentale, Brest, France, 1994 (PhD)  
Nabila Mazouni, Université d'Aix-Marseille II, France, 1995 (PhD)  
Jody Edmunds, Moss Landing Marine Laboratories, 1997 (MS)  
Lisa Lucas, Stanford University, 1997 (PhD)  
Laurent Chauvaud, Université de Bretagne Occidentale, Brest, France, 1998 (PhD)  
Anne Lorrain, Université de Bretagne Occidentale, Brest, France, 2002 (PhD)  
Christopher Carter, University of Canterbury, New Zealand, 2004 (PhD)  
Christine May, Stanford University, 2005 (PhD)  
Stephanie Moore, University of New South Wales, Australia, 2005 (PhD)  
Olivier Ragueneau, Université de Bretagne Occidentale, Brest, France, 2005 (Habilitation)  
Christel Pinazo, Université d'Aix-Marseille II, France, 2005 (Habilitation)  
Laurent Chauvaud, Université de Bretagne Occidentale, Brest, France, 2005 (Habilitation)  
Sophie Martin, Université de Bretagne Occidentale, Brest, France, 2005 (PhD)  
Julien Thebault, Université de Bretagne Occidentale, Brest, France, 2005 (PhD)  
Diana Escobedo, Centro Interdisciplinario de Ciencias Marinas, La Paz, Mexico, 2007 (PhD)  
Eric Goberville, Université de Bordeaux I, Bordeaux, France, 2010 (PhD)  
Anthony Malkassian, Université d'Aix-Marseille, France, 2012 (PhD)  
Cristina Perbelini Silva, University of Western Australia, 2013 (PhD)  
Simret Yigzaw, San Jose State University, 2014 (MS)  
Maeve Daugharty, San Francisco State University, 2014 (MS)  
Violette Marchais, Université de Bretagne Occidentale, Brest, France, 2014 (PhD)  
Julian Damashek, Stanford University, 2016 (PhD)

**ADVISORY SERVICE (examples):**

Member, Florida Bay Science Oversight Panel, 1996-1998

Advisor, Swan River Science Program, Perth, Australia, 1998  
 Committee of International Experts, Programme Rade de Brest, France, 1998-2000  
 Panelist, NSF Cooperative Activities in Environmental Research between the National Science Foundation and the European Commission, 2003  
 Evaluator, Heinz Center's *State of the Nation's Ecosystems*, 2002-2003  
 Advisor, USEPA STAR Grant Program, 2004  
 Panelist, NOAA Coastal Ocean Research, Ecological Forecasting, 2004  
 Advisor, USGS Tampa Bay Studies Program, 2004-2005  
 Advisor, USEPA National Nutrient Criteria Program, 2005-2006  
 Chesapeake Bay Program, Scientific Advisory Committee Workshop, 2007  
 Gulf of the Farallones and Cordell Bank National Marine Sanctuaries *Climate Change Site Scenario Workshop* 2008  
 Maryland Sea Grant Workshop *Thresholds in the Recovery of Eutrophic Coastal Ecosystems*, Baltimore 2008  
 ARC-NZ Network for Vegetation Function Workshop *Reconstructing Past Estuarine Conditions: Linking Contemporary Indicators of Estuarine Health to Sediment Proxies*, Sydney, Australia 2008  
 Work Group Member, National Center for Ecological Analysis and Synthesis, 2008-2010  
 Full Member, Scientific Committee for Ocean Research Working Group 137 *Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time Series Observations* 2009-2015  
 External Review Panel, Stazione Zoologica Anton Dohrn, Naples, Italy, 2009  
 Member, USGS Science Strategy Planning Team for Ecosystems, 2010-2012  
 Panelist, National Science Foundation, Long Term Ecosystem Research Program, 2012  
 Briefing on flow standards for San Francisco Bay, California Water Resources Control Board, 2012  
 International Scientific Advisory Committee, LabexMER (Marine Excellence Research), Brest, France, 2012-2015  
 Science Advisory Committee, Point Reyes Bird Observatory Conservation Science, 2012  
 Science Advisor to Bay Area Ecosystems Climate Change Consortium, 2012-2013  
 Science Advisor, Resilient Landscapes Program, San Francisco Estuary Institute, 2012-2016  
 Member, *International Group for Marine Ecological Time Series* of the Intergovernmental Oceanographic Commission, 2013-2015  
 Member, Advisory Group to the California State Water Resource Control Board's Estuarine Nutrient Numeric Endpoint Project, 2013-present  
 Center for Ocean Solutions and California Ocean Science Trust Workshop *Modeling Effects of Anthropogenic Nutrients on Coastal Hypoxia and Acidification in the California Current Ecosystem*, 2014  
 Member, Science Steering Committee, Delta Science Program, 2014-present  
 Member, *International Group for Marine Ecological Time Series* of the Intergovernmental Oceanographic Commission, 2014-present  
 Member, Water Center Research Advisory Group, Public Policy Institute of California, 2014-present  
 Panelist, National Science Foundation, Biological Oceanography Program, 2015  
 Panelist, National Science Foundation, Coastal SEES Program, 2016  
 Chair, external committee to evaluate the program Écosystèmes Insulaires Océaniens, Tahiti, for the French High Council for the Evaluation of Research and Higher Education, 2016  
 Member, *Working Group to Investigate Climate Change and Global Trends of Phytoplankton in the Oceans*, Intergovernmental Oceanographic Commission, 2016-  
 Panelist, National Science Foundation Long Term Ecosystem Research Program, 2016

**SCIENTIFIC SOCIETIES (examples):**

Editorial Board, *Limnology and Oceanography*, 1989-1992  
 Editorial Board, *Estuaries*, 1989-1994  
 Program Chair, Estuarine Research Federation Meeting, 1991, San Francisco

Steering Committee, American Society of Limnology and Oceanography, 1997 Aquatic Sciences Meeting  
Outstanding Reviewer, *Limnology and Oceanography*, 2004  
Session Organizer, 2004 ASLO/TOS Ocean Research Conference, Honolulu  
Associate Editor, *Limnology and Oceanography*, 2004-2005  
Scientific Program Committee, 8<sup>th</sup> International Conference on Shellfish Restoration, Brest, France, 2005  
Co-Editor in Chief, *Estuaries and Coasts*, 2007-2012  
Convener and Organizer, AGU Chapman Conference on phytoplankton time series, Rovinj, Croatia, 2007  
Session Organizer, 2009 Coastal and Estuarine Research Federation Meeting, Portland  
Session Organizer, 2013 Coastal and Estuarine Research Federation Meeting, San Diego  
Review Editor, *Frontiers in Marine Science*, 2013-present  
Co-Editor, special issue of *Estuarine Coastal and Shelf Science*: "Global Patterns of Phytoplankton Variability", 2014-2015  
Senior Editor, *Limnology and Oceanography Letters*, 2016-present  
ASLO Ruth Patrick Award selection committee, 2016 & 2017

**KEYNOTE TALKS (examples):**

University of Connecticut, Dedication of the Marine Sciences Building, 2001  
Forum Québécois en Sciences de la Mer, Québec, Canada, 2002  
CALFED Science Conference 2003 and 2008  
National Water Quality Monitoring Council 2005  
State of the San Francisco Estuary Conference 2009 and 2013  
Brazilian Congress of Oceanography, Rio Grande, Brazil 2010  
International Symposium on Research and Management of Eutrophication in Coastal Ecosystems, Nyborg, Denmark 2010  
California Water Environment Association 2011  
International Council for Exploration of the Sea, Annual Science Conference, Gdansk, Poland 2011  
Phenology 2015 Conference, Kusadasi, Turkey

**OTHER INVITED TALKS (examples):**

Marine Biological Laboratory, Woods Hole MA, Distinguished Scientist Seminar 2006  
Estuarine Research Federation Meeting, Providence RI, 2007  
AGU Meeting, San Francisco CA, 2008  
CSIRO Marine and Atmospheric Research, Hobart, Australia 2008  
ASLO Ocean Sciences Meeting, Nice, France, 2009  
AAAS Pacific Division Symposium, San Francisco CA, 2009  
National Environmental Research Institute, Roskilde, Denmark 2010  
Centro Interdisciplinario de Ciencias Marinas, La Paz, Mexico 2010  
Scientific Committee for Ocean Research, WG 137 workshop, Hangzhou, China, 2010  
Ketchum Award acceptance lecture, Woods Hole Oceanographic Institution, 2010  
NRC Committee on Sustainable Water and Environmental Management in the California Bay-Delta, Sacramento CA, 2010  
Scientific Committee for Ocean Research, WG 137 workshop, Sorrento, Italy, 2011  
Stazione Zoologica Anton Dohrn, Naples, Italy, 2011  
Coastal and Estuarine Research Federation Meeting, Daytona FL, 2011  
California Coastal Commission *Workshop on Projecting Climate Change Effects on San Francisco Bay*, 2011  
North American Congress for Conservation Biology, 2012  
IMBIZOIII, International Conference on Marine Biogeochemistry, Goa, India, 2013  
*Workshop Ecological Design of Dams: The Diquis and Savegre Hydroelectric Projects in Costa Rica*, Stanford University, 2013  
Coastal and Estuarine Research Federation Conference, San Diego, 2013 (session to honor Scott Nixon)

San Francisco Exploratorium Summer Institute for Teachers, 2014  
 Chesapeake Research Consortium Scientific and Technical Advisory Committee Workshop *Enhancing Approaches to Explain Management Effects on Water Quality Trends* 2014  
 University of California-Davis and Delta Stewardship Council Science Seminar *New Approaches for Responding to Climate Change in the San Francisco Bay-Delta*, 2015  
 Delta Science Program *Delta Challenges Workshop*, 2015  
 San Francisco Exploratorium Evening Lecture Series *Living Liquid: Celebrating the Power and Beauty of Microscopic Plankton*, 2015  
 Aquatic Sciences Meeting, Granada Spain, acceptance lecture for Ruth Patrick Award, 2015  
 Annual Meeting of the Central and Northern California Ocean Observing System, session *Observing San Francisco Bay* 2016  
 University Lectures (examples): Ecole Doctorale, Université de Bretagne Occidentale, Brest, France; Université de Rennes, France; Université de la Méditerranée, Marseille, France; College of Holy Cross; University of Washington; University of North Carolina; University of Wisconsin; University of Texas at Austin; University of California - Santa Cruz, Davis, Berkeley; State University of New York – Stony Brook; Stanford University; Scripps Institute of Oceanography; Griffith University-Gold Coast, Australia; University of Georgia; University of British Columbia; Griffith University, Brisbane, Australia; McQuarie University, Sydney, Australia; Virginia Institute of Marine Science; University of Aarhus, Denmark; University of Texas – Austin; Chesapeake Biological Laboratory; Horn Point Laboratory; University of California-Davis, Bodega Bay Marine Lab  
 invited talk in “The Ecosystems of California Symposium”, California Academy of Sciences, 2016

#### **OUTREACH, COMMUNICATION and SERVICE (examples)**

Organizer and Instructor, International Summer School: *Facing Climate Change*, Brest, France 2010  
 R package wq0.2-2: *Exploring water quality monitoring data* <http://cran.r-project.org/web/packages/wq/vignettes/wq-package.pdf>  
 Briefings on the value of long term monitoring for staff members to the US Senate Committee on Environment and Public Works, Office of Management and Budget, House Science Committee, and Congressional Research Service, Washington DC, May 2012  
<http://www.compassonline.org/policy/May15/ScienceBriefing>  
 Tutorial on Scientific Writing and Publishing (for graduate students): Estuarine Research Federation Meetings 2007, 2009, 2013, 2015; Woods Hole Oceanographic Institution 2010; Horn Point Laboratory 2012; National Institute of Oceanography, Goa, India 2013; Coastal and Estuarine Research Federation webinar 2015  
 Public Lectures: USGS 2004 <mms://video.wr.usgs.gov/science/may04.wmv> ; University of Texas Marine Science Institute 2009; USGS 2011 <http://online.wr.usgs.gov/calendar/2011/jul11.html>; Horn Point Laboratory 2012; DC Science Café, Washington DC 2012 <http://www.dcswa.org/dc-science-cafe-11---two-bays>  
 Briefings sponsored by Compass on restoration of the nation’s large ecosystems for: Council on Environmental Quality; Office of Management and Budget; Congressional Research Service; House Natural Resources Committee. Washington DC, October 2012  
 San Francisco’s Exploratorium developed exhibits about plankton based on our work <http://www.exploratorium.edu/visit/east-gallery/plankton-population>  
 Co-author, Public Policy Institute of California briefing about the Sacramento-San Joaquin Delta, targeted to policymakers <http://www.ppic.org/main/publication.asp?i=1130>  
 An e-book describes our long-term research as a component of the San Francisco Bay Regional Monitoring Program <http://ebooks.sfei.org/update2014/#page/26>  
 Our research has been featured in the San Francisco Estuary Partnership’s quarterly *Estuary News* multiple times

<http://www.sfestuary.org/PDF/newsletters/October2011ESTUARYNEWS.pdf>

<http://www.sfestuary.org/wp-content/uploads/2015/03/Estuary-MAR2015-v8a-finalWEB.pdf>

<http://www.sfestuary.org/wp-content/uploads/2016/03/Est-Mar2016-v6web.pdf>

USGS issued a Press Release about our 2011 Plos One paper that projects responses of the San Francisco Bay Delta to a century of global warming <http://www.usgs.gov/newsroom/article.asp?ID=3022#.T8JX-1ORA4> . Numerous radio, television and press interviews (e.g., KQED and KRCB radio, PBS.org, Sacramento Bee, San Jose Mercury News, The Tribune, The Telegraph, ClimateWire, The Sun Herald, The Miami Herald, Scientific American, Central Valley Business Times, Kansas City Star, McClatchy-Tribune News Service)

Front-page story about trends of algal increase in San Francisco Bay published in the Oakland Tribune and San Jose Mercury News, 1 December 2013 [http://www.mercurynews.com/bay-area-news/ci\\_24630366/san-francisco-bay-waters-are-becoming-clearer-but#](http://www.mercurynews.com/bay-area-news/ci_24630366/san-francisco-bay-waters-are-becoming-clearer-but#) and picked up in the Huffington Post [http://www.huffingtonpost.com/2013/12/03/san-francisco-bay-algae\\_n\\_4380186.html](http://www.huffingtonpost.com/2013/12/03/san-francisco-bay-algae_n_4380186.html)

Featured in a Public Policy Institute of California blog about nutrient pollution of California's waters [http://www.ppic.org/main/blog\\_detail.asp?i=1897&utm\\_source=The+PPIC+Blog&utm\\_campaign=547d0cec58-RSS\\_EMAIL\\_CAMPAIGN\\_Water&utm\\_medium=email&utm\\_term=0\\_1d97666088-547d0cec58-129328941](http://www.ppic.org/main/blog_detail.asp?i=1897&utm_source=The+PPIC+Blog&utm_campaign=547d0cec58-RSS_EMAIL_CAMPAIGN_Water&utm_medium=email&utm_term=0_1d97666088-547d0cec58-129328941)

## BIBLIOGRAPHY – JAMES E. CLOERN

- 1 Cloern, J.E., 1976. The survival of coho salmon (*Oncorhynchus kisutch*) eggs in two Wisconsin tributaries of Lake Michigan: *American Midland Naturalist*, 96:451-461.
- 2 Cloern, J.E., 1976. Recent limnological changes in southern Kootenay Lake, British Columbia: *Canadian Journal of Zoology*, 54:1571-1578.
- 3 Cloern, J.E., 1977. Effects of light and temperature on the growth and nutrient-uptake kinetics of *Cryptomonas ovata*: *Journal of Phycology*, 13:389-395.
- 4 Cloern, J.E., 1978. Simulation model of *Cryptomonas ovata* population dynamics in southern Kootenay Lake, British Columbia: *Ecological Modeling*, 4:133-149.
- 5 Cloern, J.E., 1978. Empirical model of *Skeletonema costatum* photosynthetic rate, with applications in the San Francisco Bay estuary: *Advances in Water Resources*, 1:267-274.
- 6 Cloern, J.E., and Nichols, F.H., 1979. A von Bertalanffy growth model with a seasonally varying coefficient: *Journal of the Fisheries Research Board of Canada*, 35:1479-1482.
- 7 Cloern, J.E., 1979. Phytoplankton ecology of San Francisco Bay: The status of our current understanding, in Conomos, T.J., ed., *San Francisco Bay: The Urbanized Estuary*: Pacific Division, AAAS, San Francisco, page 247-264.  
Cloern, J.E., and Cole, B.E., 1979. Water quality of South San Francisco Bay and Coyote Creek after failure of the San Jose-Santa Clara Water Pollution Control Plant. I. 17 September-10 October 1979: U.S. Geological Survey Open- File Report 79-16000. 25 p.
- 8 Cloern, J.E., and Cheng, R.T., 1981. Simulation model of *Skeletonema costatum* population dynamics in northern San Francisco Bay: *Estuarine and Coastal Shelf Science*, 12:83-100.  
Alpine, A.E., Cloern, J.E., and Cole, B.E., 1981, Plankton studies in San Francisco Bay. I. Chlorophyll distributions and hydrographic properties of the San Francisco Bay estuary, July 1977-December 1979: U.S. Geological Survey Open- File Report 81-213.150 p.  
Wong, R.L.J., and Cloern, J.E., 1981. Plankton Studies in San Francisco Bay. II. Phytoplankton abundance and species composition, July 1977 - December 1979: U.S. Geological Survey Open-File Report 81-214, 103 p.
- 9 Cloern, J.E., 1982. Does the benthos control phytoplankton biomass in South San Francisco Bay (USA)?: *Marine Ecology-Progress Series*, 9:191-202.
- 10 Luoma, S.N., and Cloern, J.E., 1982. The impacts of waste water discharge on biological communities in San Francisco Bay, in Kockelman, W.J., Conomos, T.J., and Leviton, A.E., eds., *San Francisco Bay: Use and Protection*: Pacific Division, AAAS, San Francisco, page 137-161.  
Wong, R.L.J., and Cloern, J.E., 1982. Plankton studies in San Francisco Bay. IV. Phytoplankton abundance and species composition, January 1980 -February 1981: U.S. Geological Survey Open-File Report 82-443, 152 p.
- 11 Cloern, J.E., Cole, B.E., and Oremland, R.S., 1983. Chemistry and microbiology of a sewage spill in South San Francisco Bay: *Estuaries*, 6:399-406.
- 12 Cloern, J.E., Alpine, A.E., Cole, B.E., Wong, R.L.J., Arthur, J.F., and Ball, M.D., 1983. River discharge controls phytoplankton dynamics in the northern San Francisco Bay estuary: *Estuarine, Coastal and Shelf Science*, 16:415- 429.
- 13 Cloern, J.E., Cole, B.E., and Oremland, R.S., 1983. Autotrophic processes in meromictic Big Soda Lake, Nevada: *Limnology and Oceanography*, 28:1049- 1061.
- 14 Cloern, J.E., Cole, B.E., and Oremland, R.S., 1983. Seasonal changes in the chemical and biological nature of a meromictic lake (Big Soda Lake, Nevada, USA): *Hydrobiologia*, 105:195-206.
- 15 Cloern, J.E., 1984. Temporal dynamics and ecological significance of salinity stratification in an estuary: *Oceanologica Acta*, 7:137-141.
- 16 Cole, B.E., and Cloern, J.E., 1984. Significance of biomass and light availability to phytoplankton productivity in San Francisco Bay: *Marine Ecology- Progress Series*, 15:15-24.

- 17 Catts, G., Khorram, S., Cloern, J.E., Knight, A.W., and DeGloria, S.D., 1985. Remote sensing of tidal chlorophyll a variations in estuaries: *International Journal of Remote Sensing*, 6:1685-1706.
- 18 Alpine, A.E., and Cloern, J.E., 1985. Differences in in-vivo fluorescence yield between three phytoplankton size classes: *Journal of Plankton Research*, 7:381-390.
- 19 Ambler, J.W., Cloern, J.E., and Hutchinson, A., 1985. Seasonal cycles of zooplankton from San Francisco Bay: *Hydrobiologia*, 129:177-197.
- 20 Cloern, J.E., Cole, B.E., Wong, R.L.J., and Alpine, A.E., 1985. Temporal dynamics of estuarine phytoplankton: A case study of San Francisco Bay: *Hydrobiologia*, 129:153-176.
- 21 Cloern, J.E., and Nichols, F.H., 1985. Time scales and mechanisms of estuarine variability - a synthesis from studies of San Francisco Bay: *Hydrobiologia*, 129:229-237.
- 22 Cloern, J.E., and Nichols, F.H., eds., 1985. *Temporal dynamics of an estuary - San Francisco Bay: Developments in Hydrobiology* No. 30, Kluwer Academic Publishers, Dordrecht, 237 pages.
- Alpine, A.E., Wienke, S.M., Cloern, J.E., and Cole, B.E., 1985. Plankton studies in San Francisco Bay. VIII. Chlorophyll distributions and hydrographic properties in South San Francisco Bay, 1983: U.S. Geological Survey Open-File Report 82-443, 152 p.
- 23 Nichols, F.H., Cloern, J.E., Luoma, S.N., and Peterson, D.H., 1986. Modification of an estuary: *Science*, 231:567-573.
- 24 Cole, B.E., Cloern, J.E., and Alpine, A.E., 1986. Biomass and productivity of three phytoplankton size classes in San Francisco Bay: *Estuaries*, 9:117-126.
- 25 Powell, T.M., Cloern, J.E., and Walters, R.A., 1986. Phytoplankton spatial distribution in South San Francisco Bay -- mesoscale and small-scale variability, in D.A. Wolfe, ed., *Estuarine Variability*: Academic Press, N.Y., page 369-383.
- 26 Cole, B.E., and Cloern, J.E., 1987. An empirical model of phytoplankton productivity in estuaries: *Marine Ecology Progress Series*, 36:299-305.
- 27 Wienke, S.M., and Cloern, J.E., 1987. The phytoplankton component of seston in San Francisco Bay: *Netherlands Journal of Sea Research*, 21:25-33.
- 28 Khorram, S., Catts, G.P., Cloern, J.E., and Knight, A.W., 1987. Modeling of chlorophyll a from an airborne scanner: *IEEE Transactions on GeoScience and Remote Sensing*, v. GE-25, page 662-669.
- Cloern, J.E., 1987. Review of the book "Synthesis and Modeling of Intermittent Estuaries", by W.R. Cuff and M. Tomczak, Jr.: *Marine Geology*, 76:332-333.
- 29 Zehr, J.P., Harvey, R.W., Oremland, R.S., Cloern, J.E., George, L., and Lane, J.L., 1987. Big Soda Lake (Nevada). 1. Pelagic bacterial heterotrophy and biomass: *Limnology and Oceanography*, 32:781-793.
- 30 Cloern, J.E., Cole, B.E., and Wienke, S.M., 1987. Big Soda Lake (Nevada). 4. Vertical fluxes of particulate matter - seasonality and variations across the chemocline: *Limnology and Oceanography*, 32:815-824.
- 31 Cloern, J.E., 1987. Turbidity as a control on phytoplankton biomass and productivity in estuaries: *Continental Shelf Research*, 7:1367-1381.
- 32 Powell, T.M., Willmot, S., Murray, J.D., Manoranjan, V.S., and Cloern, J.E., 1988. Transient spatial patterns in plankton communities: blooms and traveling waves of phytoplankton in estuaries, in Hallam, T.G., Gross, L.J. and Levin, S.A., eds., 1986 *Proceedings of Trieste Research Conference on Mathematical Ecology*: World Scientific Publishing, page 236-267.
- 33 Alpine, A.E., and Cloern, J.E., 1988. Phytoplankton growth rates in a light- limited environment, San Francisco Bay. *Marine Ecology Progress Series*, 44:167-173.
- 34 Oremland, R.S., Cloern, J.E., Sofer, Z., Smith, R.L., Culbertson, C.W., Zehr, J., Miller, L., Cole, B.E., Harvey, R., Iversen, N., Klug, M., Des Marais, D.J., and Rau, G., 1988. Microbial and biogeochemical processes in Big Soda Lake, Nevada, in A.J. Fleet, K. Kelts, and M.R. Talbot, eds., *Lacustrine Petroleum Source Rocks*: Geological Society Special Publication no. 40, page 59-75.
- Alpine, A.E., Wienke, S.M., Cloern, J.E., and Cole, B.E., 1988. Plankton studies in San Francisco Bay. IX. Chlorophyll distributions and hydrographic properties in South San Francisco Bay, 1984-1986: U.S. Geological Survey Open-File Report 88-319, 86 p.

- 35 Kuwabara, J.S., Chang, C.C.Y., Cloern, J.E., Fries, T.L., Davis, J.A., and Luoma, S.N., 1989. Trace metal associations in the water column of South San Francisco Bay, California: *Estuarine, Coastal and Shelf Science*, 28:307- 325.
- Cloern, J.E., 1989. Phytoplankton, in Britton, L.J. and Greeson, P.E., eds., *Methods for collection and analysis of aquatic biological and microbiological samples: Techniques of Water Resources Investigations of the U.S. Geological Survey*, Chapter A-4, p. 99-115.
- 36 Powell, T.M., Cloern, J.E., and Huzzey, L.M., 1989. Spatial and temporal variability in South San Francisco Bay. I. Horizontal distributions of salinity, suspended sediments, and phytoplankton biomass and productivity: *Estuarine, Coastal and Shelf Science*, 28:583-597.
- 37 Cloern, J.E., Powell, T.M., and Huzzey, L.M., 1989. Spatial and temporal variability in South San Francisco Bay. II. Temporal changes in salinity, suspended sediments, and phytoplankton biomass and productivity over tidal time scales: *Estuarine, Coastal and Shelf Science*, 28:599-613.
- 38 Huzzey, L.M., Cloern, J.E., and Powell, T.M., 1990. Episodic changes in lateral transport and phytoplankton distribution in South San Francisco Bay: *Limnology and Oceanography*, 35:472-478.
- Wienke, S.M., Alpine, A.E., Cloern, J.E., and Cole, B.E., 1990. Plankton studies in San Francisco Bay. X. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1987: U.S. Geological Survey Open-File Report 90- 145, 50 p.
- Wienke, S.M., Cloern, J.E., and Cole, B.E., 1990. Plankton studies in San Francisco Bay. XI. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1988-1989: U.S. Geological Survey Open-File Report 90-562, 212 p.
- 39 Cloern, J.E., 1991. Annual variations in river flow and primary production in the South San Francisco Bay Estuary, in Elliott, M. and Ducrottoy, D., eds., *Estuaries and Coasts: Spatial and Temporal Intercomparisons*: Olsen and Olsen Publishers, Denmark, p. 91-96.
- 40 Cloern, J.E., 1991. Tidal stirring and phytoplankton bloom dynamics in an estuary: *Journal of Marine Research*, 49:203-221.
- Wienke, S.M., Cole, B.E., Cloern, J.E., and Alpine, A.E., 1991. Plankton studies in San Francisco Bay. XII. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1990: U.S. Geological Survey Open-File Report 91-476, 85 p.
- 41 Alpine, A.E., and Cloern, J.E., 1992. Trophic interactions and direct physical effects control phytoplankton biomass and production in an estuary: *Limnology and Oceanography*, 37:946-955.
- 42 Cole, B.E., Thompson, J.K., and Cloern, J.E., 1992. Measurement of filtration rates by infaunal bivalves in a recirculating flume: *Marine Biology*, 113:219-225.
- 43 Cloern, J.E., Alpine, A.E., Cole, B.E., and Heller, T., 1992. Seasonal changes in the spatial distribution of phytoplankton in small, temperate-zone lakes: *Journal of Plankton Research*, 14:1017-1024.
- Wienke, S.M., Cole, B.E., Cloern, J.E., and Alpine, A.E., 1992. Plankton studies in San Francisco Bay. XIII. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1991: U.S. Geological Survey Open-File Report 92-158, 116 p.
- 44 Jassby, A.D., Cloern, J.E., and Powell, T.M., 1993. Organic carbon sources and sinks in San Francisco Bay: variability induced by river flow . *Marine Ecology Progress Series*, 95:39-54.
- McBride, G.B., Vant, W.N., Cloern, J.E., and Liley, J.B., 1993. Development of a model of phytoplankton blooms in Manukau Harbour: NIWA Ecosystems Publication No. 3, Hamilton, New Zealand, 52 pp..
- 45 Koseff, J.R., Holen, J.K., Monismith, S.G., and Cloern, J.E., 1993. Effects of vertical mixing and benthic grazing on phytoplankton populations in shallow, turbid estuaries: *Journal of Marine Research*, 51:843-868.
- Cloern, J.E., Canuel, E.A., and Wienke, S.M., 1993. Particulate organic matter in the San Francisco Bay estuary, California: chemical indicators of its origin and assimilation into the benthic food web: U.S. Geological Survey Open-File Report 93-146, 42 p.
- Wienke, S.M., Cole, B.E., and Cloern, J.E., 1993. Plankton studies in San Francisco Bay. XIV. Chlorophyll distributions and hydrographic properties in San Francisco Bay, 1992: U.S. Geological Survey Open-File Report 93-423, 175 p.

- 46 Cloern, J.E., Cole, B.E. and Hager, S.W. 1994. Notes on a *Mesodinium rubrum* Red Tide in South San Francisco Bay (USA): *Journal of Plankton Research*, 16:1269-1276.
- Jassby, A., Cloern, J.E., Caffrey, J., Cole, B., and Rudek, J., 1994, San Francisco Bay/Delta Regional Monitoring Program plankton and water quality pilot study, 1993, *in* 1993 Annual Report. San Francisco Estuary Regional Monitoring Program for Trace Substances. San Francisco Estuary Institute, p. 117-128
- Caffrey, J.M., Cole, B.E., Cloern, J.E., Rudek, J.R., Tyler, A.C., and Jassby, A.D., 1994, Studies of the plankton and its environment in the San Francisco Bay Estuary, California. Regional Monitoring Results, 1993: U.S. Geological Survey Open-File Report 94-82, 411 p.
- 47 Cloern, J.E. and Jassby, A.D., 1995, Year-to-year fluctuation of the spring phytoplankton bloom in South San Francisco Bay: An example of ecological variability at the land-sea interface, *in* Steele, J.H, Powell, T.M., and Levin, S., eds., *Ecological Time Series*, Chapman Hall, p. 139-149.
- 48 Canuel, E.A., Cloern, J.E., Ringelberg, D., Guckert, J., and Rau, G., 1995, Molecular and isotopic tracers used to understand sources of organic matter and trophic relationships in the San Francisco Bay estuary: *Limnology and Oceanography*, 40:67-81.
- Cloern, J.E., 1995, Ecosystem responses to phytoplankton blooms -- examples from South San Francisco Bay: Newsletter, Interagency Ecological Program for the Sacramento-San Joaquin Estuary, Spring 1995, p. 10-14.
- Cloern, J.E., Luoma, S.N., and Nichols, F.H., 1995, The United States Geological Survey San Francisco Bay Program: Lessons Learned for Managing Coastal Water Resources: U.S. Geological Survey, Fact Sheet FS-053-95
- 49 Jassby, A.D., Kimmerer, W.J., Monismith, S., Armor, C., Cloern, J.E., Powell, T.M., Schubel, J.R., and Vendliniski, T. 1995, Isohaline position as a habitat indicator for estuarine resources: San Francisco Bay-Delta, California, U.S.A.: *Ecological Applications*, 5:272-289..
- Jassby, A.D., Cloern, J.E., Cole, B.E., and Caffrey, J.M., 1995, Choosing optimum station configurations for summarizing water quality characteristics, *in* 1994 Annual Report, San Francisco Estuary Regional Monitoring Program for Trace Substances: San Francisco Estuary Institute, p. 157-169.
- 50 Cloern, J.E., Grenz, C., and Vidergar-Lucas, L., 1995. An empirical model of the phytoplankton chlorophyll/carbon ratio -- the conversion factor between productivity and growth rate: *Limnology and Oceanography*, 40:1313-1321.
- Edmunds, J.L., Cole, B.E., Cloern, J.E., Caffrey, J.M., and Jassby, A.D., 1995, Studies of the San Francisco Bay, California, Estuarine Ecosystem. Pilot Regional Monitoring Program Results, 1994: U.S. Geological Survey Open-File Report 95-378, 436 p.
- 51 Canuel, E.A., and Cloern, J.E., 1996, Regional differences in the origins of organic matter in the San Francisco Bay ecosystem. Evidence from lipid biomarkers, *in* J.T. Hollibaugh, editor, *San Francisco Bay: The Ecosystem*, Pacific Division, AAAS, San Francisco, p. 305-324.
- 52 Rudek, J., and Cloern, J.E., 1996, Planktonic respiration rates in San Francisco Bay, *in* J.T. Hollibaugh, editor, *San Francisco Bay: The Ecosystem*, Pacific Division, AAAS, San Francisco, p. 289-304.
- 53 Cloern, J.E., 1996. Phytoplankton bloom dynamics in coastal ecosystems: A review with some general lessons from sustained investigation of San Francisco Bay, California: *Reviews of Geophysics*, 34:127-168.
- Cole, B.E., Cloern, J.E., and Alpine, A.E., 1997, The photosynthetic response of phytoplankton in Shingobee Lake and Williams Lake: USGS Water-Resources Investigations Report 96-4215, pages 105-110.
- Cloern, J.E., Alpine, A.E., and Cole, B.E., 1997, Seasonal comparisons of seston abundance and sedimentation rate in a closed-basin lake (Williams) and an open-basin lake (Shingobee): USGS Water-Resources Investigations Report 96-4215, pages 111-117.
- 54 Jassby, A.D., Cole, B.E., and Cloern, J.E., 1997. The design of sampling transects for characterizing water quality in estuaries: *Estuarine, Coastal and Shelf Science*, 45: 285-302.
- Cloern, J.E., Cole, B.E., and Edmunds, J.L., 1997, Seasonal fluctuations of water quality in San Francisco Bay during the first three years of the Regional Monitoring Program 1993-1995, *in* 1995 Annual Report, San Francisco Estuary Regional Monitoring Program for Trace Substances: San Francisco Estuary Institute, pages 5.1.2 to 5.1.15.

Rodgers, K.M., Garrison, D.L., and Cloern, J.E., 1997, Toxic phytoplankton in San Francisco Bay, *in* 1995 Annual Report, San Francisco Estuary Regional Monitoring Program for Trace Substances: San Francisco Estuary Institute, pages 7.4.1 to 7.4.15.

Edmunds, J.L., Cole, B.E., Cloern, J.E., and Dufford, R.G., 1997, Studies of the San Francisco Bay, California, Estuarine Ecosystem. Pilot Regional Monitoring Program Results, 1995: U.S. Geological Survey Open-File Report 97-15, 380 p.

Baylosis, J.I., Edmunds, J.L., Cole, B.E., and Cloern, J.E., 1997, Studies of the San Francisco Bay, California, Estuarine Ecosystem. Pilot Regional Monitoring Program Results, 1996: U.S. Geological Survey Open-File Report 97-598, 218 p.

Cloern, J.E., B.E. Cole, J.L. Edmunds, and J.I. Baylosis. 1997. Water-quality variability in San Francisco Bay, some general lessons from 1996 sampling, *in* 1996 Annual Report, San Francisco Estuary Regional Monitoring Program for Trace Substances: San Francisco Estuary Institute, 46-60.

55 Luoma, S.N., van Geen, A., Lee, B.-G., and Cloern, J.E., 1998, Metal uptake by phytoplankton during a bloom in South San Francisco Bay: Implications for metal cycling in estuaries: *Limnology and Oceanography*, 43:1007-1016.

56 Lucas, L, J.E. Cloern, J.R. Koseff, S.G. Monismith, and J.K. Thompson, 1998, Does the Sverdrup Critical Depth Model explain bloom dynamics in estuaries? *Journal of Marine Research*, 56:1-41.

Cloern, J.E. 1998. Book Review: "Eutrophication in Coastal Marine Ecosystems", Jørgensen, B.B. and K. Richardson [Eds.]. *Limnology and Oceanography*, 43:1018-1019.

Baylosis, J.I., Cole, B.E., and Cloern, J.E., 1998, Studies of the San Francisco Bay, California, Estuarine Ecosystem. Pilot Regional Monitoring Program Results, 1997: U.S. Geological Survey Open-File Report 98-168,

57 Caffrey, J.M., C. Grenz, and J.E. Cloern, 1998. Changes in production and respiration during a spring phytoplankton bloom in San Francisco Bay, California: implications for net ecosystem metabolism. *Marine Ecology Progress Series* 172:1-12.

58 Cloern, J.E. 1999. The Relative Importance of Light and Nutrient Limitation of Phytoplankton Growth: A Simple Index of Coastal Ecosystem Sensitivity to Nutrient Enrichment: *Aquatic Ecology* 33: 3-15.

59 Lucas, L.V., J.R. Koseff, J.E. Cloern, S.G. Monismith and J.K. Thompson. 1999. Processes governing phytoplankton blooms in estuaries. Part I. The local production-loss balance. *Marine Ecology Progress Series* 187:1-15.

60 Lucas, L.V., J.R. Koseff, J.E. Cloern, S.G. Monismith and J.K. Thompson. 1999. Processes governing phytoplankton blooms in estuaries. Part II. The role of transport in global dynamics. *Marine Ecology Progress Series* 187: 17-30.

Cloern, J.E., Cole, B.E., Edmunds, J.L., and J.I. Baylosis. 1999. Water-quality variability in San Francisco Bay: general patterns of change during 1997. *in* 1997 Annual Report, San Francisco Estuary Regional Monitoring Program for Trace Substances: San Francisco Estuary Institute, pp. 67-81.

Edmunds, J.L., Kuivila, K.M., Cole, B.E., and J.E. Cloern. 1999. Do Herbicides Impair Phytoplankton Primary Production in the Sacramento-San Joaquin River Delta? *in* Morganwalp, D.W., and Buxton, H.T., eds., U.S. Geological Survey Toxic Substances Hydrology Program--Proceedings of the Technical Meeting, Charleston, South Carolina, March 8-12, 1999--Volume 2 of 3--Contamination of Hydrologic Systems and Related Ecosystems: U.S. Geological Survey Water-Resources Investigations Report 99-4018B, pp. 81-88.

61 Grenz C., Cloern J.E., Hager S.W., Cole B.E. 2000. Dynamics of nutrient cycling and related benthic nutrient and oxygen fluxes during a spring phytoplankton bloom in South San Francisco Bay (USA). *Marine Ecology Progress Series* 197: 67-80

62 Ning, X., Cloern, J.E., and Cole, B.E. 2000. Spatial and temporal variability of picocyanobacteria *Synechococcus* sp. in San Francisco Bay. *Limnology and Oceanography* 45: 695-702.

63 Jassby, A.D. and J.E. Cloern. 2000. Organic matter sources and rehabilitation of the Sacramento-San Joaquin Delta (California, USA). *Aquatic Conservation: Marine and Freshwater Ecosystems* 10: 323-352.

64 Howarth, R., D. Anderson, J. Cloern, C. Hopkinson, B. LaPointe, T. Malone, N. Marcus, K. McGlathery, and A. Sharpley. 2000. Nutrient Pollution of Coastal Rivers, Bays, and Seas. *Issues in Ecology* 7:1-15.

- 65 Cloern, J.E. 2001. Our evolving conceptual model of the coastal eutrophication problem. *Marine Ecology Progress Series* 211: 223-253.
- 66 Cloern, J.E., E.A. Canuel, D. Harris. 2002. Stable carbon and nitrogen isotope composition of aquatic and terrestrial plants of the San Francisco Bay estuarine system. *Limnology and Oceanography* 47: 713-729.
- 67 Jassby, A.D., J.E. Cloern, B.E. Cole. 2002. Annual primary production: patterns and mechanisms of change in a nutrient-rich tidal ecosystem. *Limnology and Oceanography* 47: 698-712.
- 68 Guarini, J.-M., J.E. Cloern, J. Edmunds, P. Gros. 2002. Microphytobenthic potential productivity estimated in three tidal embayments of the San Francisco Bay: A comparative study. *Estuaries* 25: 409-417.
- 69 Lucas, L.V., J.E. Cloern, J.K. Thompson, N.E. Mosen. 2002. Functional variability of habitats within the Sacramento-San Joaquin Delta: restoration implications. *Ecological Applications* 12: 1528-1547.
- 70 Lucas, L.V. and J.E. Cloern. 2002. Effects of tidal shallowing and deepening on phytoplankton production dynamics: a modeling study. *Estuaries* 25: 497-507.
- 71 Sobczak, W.S., Cloern, J.E., Jassby, A.D and Mueller-Solger, A. 2002. Bioavailability of organic matter in a highly disturbed estuary. The role of detrital and algal resources. *Proceedings of the National Academy of Sciences* 99: 8101-8105.
- 72 Mosen, N.E., Cloern, J.E., Lucas, L.V., and Monismith, S.G. 2002. A comment on the use of flushing rate, residence time and age as transport time scales. *Limnology and Oceanography* 47: 1545-1553.
- 73 Chauvaud, L., Thompson, J.K., Cloern, J.E. and Thouzeau, G. 2003. Clams as CO<sub>2</sub> generators: The *Potamocorbula amurensis* example in San Francisco Bay. *Limnology and Oceanography* 48: 2086-2092.
- 74 Jassby, A.D., J.E. Cloern, A. Mueller-Solger. 2003. Phytoplankton fuels the food web in Delta waterways. *California Agriculture* 57:104-109.
- 75 May, C.L., J.R. Koseff, L.V. Lucas, J.E. Cloern, and D.H. Schoellhamer. 2003. Effects of spatial and temporal variability of turbidity on phytoplankton blooms. *Marine Ecology Progress Series* 254: 111-128.
- Cloern, J.E., T.S. Schraga, C.B. Lopez, R. Labiosa. 2003. Lessons from monitoring water quality in San Francisco Bay. In 2003 Pulse of the Estuary, San Francisco Estuary Institute, pp. 15-20.
- 76 Cloern, J.E., R. Dufford. 2005. Phytoplankton community ecology: principles applied in San Francisco Bay. *Marine Ecology Progress Series*, 285:11-28.
- 77 Sobczak, W.V., J.E. Cloern, A.D. Jassby, B.E. Cole, T.S. Schraga, and A. Arnsberg. 2005. Detritus fuels ecosystem metabolism but not metazoan food webs in San Francisco Estuary's freshwater Delta. *Estuaries* 28(1):122-135.
- 78 Cloern, J.E., T.S. Schraga and C. Burns Lopez. 2005. Heat wave brings a red tide to San Francisco Bay. *Eos Transactions of the American Geophysical Union* 86(7):66
- 79 Cloern, J.E., T.S. Schraga, C.B. Lopez, N. Knowles, R.G. Labiosa, and R. Dugdale. 2005. Climate anomalies generate an exceptional dinoflagellate bloom in San Francisco Bay. *Geophysical Research Letters* 32, L14608.
- 80 Bachman, R.W., J.E. Cloern, R.E. Hecky and D.W. Schindler (editors). 2006. Eutrophication of Freshwater and Marine Ecosystems. *Limnology and Oceanography*, Special Issue 51: 351-800.
- 81 Lopez, C.B., J.E. Cloern, T.S. Schraga, A.J. Little, L.V. Lucas, J.K. Thompson and J.R. Burau. 2006. Ecological values of shallow-water habitats: implications for restoration of a highly disturbed ecosystem. *Ecosystems* 9:422-440.
- Cloern, J.E., A.D. Jassby, T.S. Schraga and K.L. Dallas. 2006. What is causing the phytoplankton increase in San Francisco Bay? 2006 Pulse of the Estuary. San Francisco Estuary Institute, Oakland. Available online: <http://www.sfei.org/rmp/pulse/2006/index.html>
- Cloern, James (Lead Author) 2006. "Eutrophication." In: Encyclopedia of Earth. Eds. Cutler J. Cleveland (Washington, D.C.: Environmental Information Coalition, National Council for Science and the Environment) <http://www.eoearth.org/article/Eutrophication>
- 82 Cloern, J.E. 2007. Habitat Connectivity and Ecosystem Productivity: Implications from a Simple Model. *The American Naturalist* 169:E21-E33, <http://www.journals.uchicago.edu/AN/journal/issues/v169n1/41465/41465.web.pdf>

- 83 Monsen, N.E., J.E. Cloern, J.R. Burau. 2007. Effects of flow diversions on water and habitat quality: examples from the highly manipulated Sacramento-San Joaquin Delta (California). *San Francisco Estuary and Watershed Science*, Vol. 5, Issue 3, <http://repositories.cdlib.org/jmie/sfews/vol5/iss3/art2>
- 84 Cloern, J.E., A.D. Jassby, J.K. Thompson, K. Hieb. 2007. A cold phase of the East Pacific triggers new phytoplankton blooms in San Francisco Bay. *Proceedings of the National Academy of Sciences of the United States of America* 104(47):18561-18656, Open Access <http://www.pnas.org/cgi/reprint/104/47/18561> [highlighted in 07 December 2007 SCIENCE Magazine as an Editor's Choice Paper: <http://www.sciencemag.org/content/vol318/issue5856/twil.dtl#318/5856/1525d> ] [recommended by Faculty1000 Biology Faculty of 1000 Biology: evaluations for Cloern JE et al *Proc Natl Acad Sci U S A* 2007 Nov 20 104 (47) :18561-5 <http://www.f1000biology.com/article/id/1098465/evaluation>]
- 85 Smetacek, V. and J.E. Cloern. 2008. Perspective: On phytoplankton trends. *Science* 319:1346-1348.
- 86 Thébault, J., T.S. Schraga, J.E. Cloern, E.G. Dunlavy. 2008. Primary production and carrying capacity of former salt ponds after reconnection to San Francisco Bay. *Wetlands* 28(3):841-851.
- 87 Cloern, J.E. and A.D. Jassby. 2008. Complex seasonal patterns of primary producers at the land-sea interface. *Ecology Letters*, 11:1294-1303.
- 88 Cloern, J.E. and A.D. Jassby. 2009. Patterns and scales of phytoplankton variability in estuarine-coastal ecosystems. *Estuaries and Coasts* DOI: 10.1007/s12237-009-9195-3 <http://www.springerlink.com/content/e52651606gg83868/fulltext.pdf> (this paper was highlighted in Coastal & Estuarine Science News, <http://www.erf.org/cesn/november-2009#article3> )
- 89 Winder, M. and J.E. Cloern. 2010. The annual cycles of phytoplankton biomass. *Philosophical Transactions of the Royal Society B*, **365**, 3215-3226 doi: 10.1098/rstb.2010.0125, <http://rstb.royalsocietypublishing.org/content/365/1555/3215.full.pdf?ijkey=zqBcAp7H4HlIoml&keytype=finite>  
Jassby, A.D. and J.E. Cloern. 2010. **R** package **wq0.3-3**: *Exploring water quality monitoring data*. (<http://cran.r-project.org/web/packages/wq/index.html>).
- 90 Cloern, J. E., et al. 2010. Biological communities in San Francisco Bay track large-scale climate forcing over the North Pacific, *Geophys. Res. Lett.*, **37**, L21602, doi:10.1029/2010GL044774.  
Cloern, J.E. and R. Dugdale. 2010. San Francisco Bay, pp. 117-126 in Glibert, P.M. et al. (eds), *Nutrients in Estuaries: A Summary Report of the national Estuarine Experts Workgroup 2005-2007*.
- 91 Guarini J.-M., L. Chauvaud, J. Cloern, J. Clavier, J. Coston-Guarini, Y. Patry. 2011. Seasonal variations in ectotherm growth rates: quantifying growth as an intermittent non steady state compensatory process. *Journal of Sea Research*, doi:10.1016/j.seares.2011.02.001  
Paerl, H., K. Yin, and J. Cloern. 2011. Meeting Report, Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time Series Observations, *SCOR Working Group 137 Meeting; Hangzhou, China, 17-21 October 2010*. *Eos*, 92(10):85
- 92 Cloern JE, Knowles N, Brown LR, Cayan D, Dettinger MD, Morgan, TL, Schoellhamer, DH, Stacey, MT, van der Wegen, M, Wagner, RW, Jassby, AD. 2011. Projected Evolution of California's San Francisco Bay-Delta-River System in a Century of Climate Change. *PLoS ONE* 6(9): <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0024465>
- 93 Cloern, J.E. et al. 2012. Perils of correlating CUSUM-transformed variables to infer ecological relationships (Breton et al. 2006, Glibert 2010). *Limnology and Oceanography*, 57(2): 665-668. [http://www.aslo.org/lo/toc/vol\\_57/issue\\_2/0665.pdf](http://www.aslo.org/lo/toc/vol_57/issue_2/0665.pdf)
- 94 Cloern, J.E. and A.D. Jassby. 2012. Drivers of change in estuarine-coastal ecosystems: discoveries from four decades of study in San Francisco Bay. *Reviews of Geophysics*, 50, doi:10.1029/2012RG000397 <http://onlinelibrary.wiley.com/doi/10.1029/2012RG000397/full>
- 95 Williams, B.K., Wingard, G.L., Brewer, Gary, Cloern, J.E., Gelfenbaum, Guy, Jacobson, R.B., Kershner, J.L., McGuire, A.D., Nichols, J.D., Shapiro, C.D., van Riper III, Charles, and White, R.P., 2013, U.S. Geological Survey Ecosystems Science Strategy—Advancing discovery and application through collaboration: U.S. Geological Survey Circular 1383–C, 43 p. Available at <http://pubs.usgs.gov/circ/1383c/>
- 96 Cloern, J.E. 2013. Changing Perspectives on How Scientists Should Allocate our Most Precious Resource – Time. Invited AGU blogpost <http://blogs.agu.org/sciencecommunication/2013/05/01/changing-perspectives->

[on-how-scientists-should-allocate-our-most-scarce-resource-time/](#)

- 97 Cloern, J.E. and E. Hanak. 2013. It's time for bold new approaches to link Delta science and policymaking. Invited essay for publication in *San Francisco Estuary and Watershed Science* 11(3). Available at: <http://escholarship.org/uc/item/4px547r2#page-1>
- 98 Cloern, J.E. 2014. Comment: Allocating a Scientist's Scarcest Resource – Time. *Earth Magazine*, February 2014: 8-9
- 99 Lisa Levin, Kon-Kee Liu; Kay-Christian Emeis; Denise L Breitburg; James Cloern; Curtis Deutsch; Michele Giani; Anne Goffart; Eileen E Hofmann; Zouhair Lachkar; Karin Limburg; Su-Mei Liu; Enrique Montes; Wajih Naqvi; Olivier Ragueneau; Christophe Rabouille; Santosh Sarkar; Dennis Swaney; Paul F Wassman; Karen Wishner. 2014. Biogeochemistry-ecosystem-human interactions on dynamic continental margins. *Journal of Marine Systems*, DOI: 10.1016/j.jmarsys.2014.04.016
- 100 Cloern, J.E., Foster, S.Q., Kleckner, A.E. 2014. Phytoplankton primary production in the world's estuarine-coastal ecosystems. *Biogeosciences*, 11:2477-2501. <http://www.biogeosciences.net/11/2477/2014/bg-11-2477-2014.pdf>
- Cloern, J.E. 2014. A Personal Tribute to SETAC Founders Award Winner Sam Luoma, *SETAC Globe*, 15 (2) <http://globe.setac.org/2014/february/luoma-tribute.html>
- 101 Charles van Riper III, James D. Nichols, G. Lynn Wingard, Jeffrey L. Kershner, James Cloern, Robert B. Jacobson, Robin P. White, Anthony D. McGuire, Byron K. Williams, Guy Gelfenbaum, and Carl D. Shapiro. 2014 USGS Ecosystem Research for the Next Decade: Advancing Discovery and Application in Parks and Protected Areas through Collaboration. *The George Wright Forum*, 31:129-136.
- Cloern, J.E., A. Malkasian, R. Kudela, E. Novick, M. Peacock, T. Schraga, D. Senn. 2015. The Suisun Bay Problem: Food Quality or Food Quantity?, *Interagency Ecological Program Newsletter*, 2:15-23 [http://www.water.ca.gov/iep/docs/IEP\\_Vol27\\_1.pdf](http://www.water.ca.gov/iep/docs/IEP_Vol27_1.pdf)
- 102 Carstensen, J., R. Klais, J.E. Cloern. 2015. Phytoplankton Blooms in Estuarine-Coastal Waters: Seasonal Patterns and Key Species. *Estuarine and Coastal Marine Science*, 162:98-109. doi:10.1016/j.ecss.2015.05.005 <http://www.sciencedirect.com/science/article/pii/S0272771415001547>
- 103 Feyrer, F., J.E. Cloern, L.R. Brown, M.A. Fish, K.A. Hieb, R. Baxter. 2015. Estuarine Fish Communities Respond to Climate Variability over both River and Ocean Basins. *Global Change Biology*, 21:3608-3619, doi: 10.1111/gcb.12969. <http://onlinelibrary.wiley.com/doi/10.1111/gcb.12969/epdf>
- 104 Klais, R., J.E. Cloern, P.R Harrison. 2015. Resolving variability of phytoplankton species composition and blooms in coastal ecosystems, *Estuarine, Coastal and Shelf Science*, 162:4-6. <http://www.sciencedirect.com/science/article/pii/S0272771415002334>
- 105 Klais, R., J. Carstensen, J.E. Cloern, editors, 2015. Global Phytoplankton Patterns, special issue of *Estuarine, Coastal and Shelf Science*, 162:1-160. <http://www.sciencedirect.com/science/journal/02727714/162>
- 106 Cloern, James E., Paulo C. Abreu, Jacob Carstensen, Laurent Chauvaud, Ragnar Elmgren, Jacques Grall, Holly Greening, J.O. Roger Johansson III, Mati Kahru, E.T. Sherwood, Jie Xu, Kedong Yin. 2016. Human Activities and Climate Variability Drive Fast-Paced Change across the World's Estuarine-Coastal Ecosystems. *Global Change Biology*, 22:513-529, doi: 10.1111/gcb.13059, pages 1-17. <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13059/full>
- 107 Lisa V. Lucas, James E. Cloern, Janet K. Thompson, Mark T. Stacey, Jeffrey R. Koseff. 2016. Bivalve grazing can shape phytoplankton communities. *Frontiers in Marine Science*. Volume3, Article 14. <http://dx.doi.org/10.3389/fmars.2016.00014>
- 108 Cloern, J.E., P.L. Barnard, E. Beller, J.C. Callaway, J.L. Grenier, E.D. Grosholz, R. Grossinger, K. Hieb, J.T. Hollibaugh, N. Knowles, M. Sutula, S. Veloz, K. Wasson, A. Whipple. 2016. Life on the Edge – California's Estuaries, in *Ecosystems of California: A Source Book*, edited by Harold Mooney and Erika Zavaleta, University of California Press, 359-387.
- Jassby, A.D. and Cloern, J.E. 2016. wq: Some tools for exploring water quality monitoring data. R package version 0.4.8. <http://cran.r-project.org/package=wq>
- Robinson A, Richey A, Cloern JE, Boyer KE, Burau, J, Canuel E, DeGeorge J, Drexler JZ, Grenier L, Howe ER, Kneib R, Naiman RJ, Mueller-Solger A, Pinckney JL, Schoellhamer D, Simenstad C. 2016. Primary Production

in the Sacramento-San Joaquin Delta – A Science Strategy to Quantify Change and Identify Future Potential. A Report of SFEI-ASC's Resilient Landscapes Program, Publication #781, San Francisco Estuary Institute-Aquatic Science Center, Richmond, CA.

<http://www.sfei.org/news/delta-primary-production-workshop>.

109 James E. Cloern, April Robinson, Amy Richey, Letitia Grenier, Robin Grossinger, Katharyn E. Boyer, Jon Burau, Elizabeth Canuel, John F. DeGeorge, Judith Z. Drexler, Chris Enright, Emily R. Howe, Ronald Kneib, Anke Mueller-Solger, Robert J. Naiman, James L. Pinckney, David Schoellhamer, Charles Simenstad. 2016. Primary Production in the Delta, Then and Now. *San Francisco Estuary and Watershed Science*, 14(3):1-9.

110 Raimonet, M. and J.E. Cloern. 2016. Estuary-Ocean Connectivity: Fast Physics, Slow Biology. *Global Change Biology*, doi:10.1111/gcb.13546

#### **Submitted or In Preparation**

Sutula, Martha, Raphael Kudela, James Hagy, Mine Berg, Suzanne Bricker, James E. Cloern, Lawrence W. Harding, Jr., David Senn, Beck, Marcus. Novel Analyses of Long-Term Data Provide a Scientific Basis for Chlorophyll-a Thresholds to Indicate Ecosystem Status of San Francisco Bay. *Estuarine Coastal and Shelf Science*, in revision.

Cloern, J.E. and A.D. Jassby, 2017. Ecosystem Variability along the Estuarine Salinity Gradient: Examples from Long-term Study of San Francisco Bay. *Limnology and Oceanography*, in review

Monika Winder, Jacob Carstensen, Aaron W. E. Galloway, Hans Jakobsen, James E. Cloern. The Land-Sea Interface: a source of high-quality phytoplankton to support secondary production. *Limnology and Oceanography*, in review

Peacock, M.B., R.M. Kudela, D.B. Senn, J.E. Cloern. Investigating food quality and phytoplankton community composition in San Francisco Bay using chemotaxonomy and microscopy, in prep.