1. Record Nr. UNINA9910777933803321

Autore	Gruber Nicolas <1968->
Titolo	Seasonal carbon cycling in the Sargasso Sea near Bermuda / / Nicolas Gruber, Charles D. Keeling
Pubbl/distr/stampa	Berkeley : , : University of California Press, , 1999
ISBN	1-282-35580-5 9786612355806 0-520-91596-8
Descrizione fisica	1 online resource (106 pages) : illustrations
Collana	Bulletin of the Scripps Institution of Oceanography, University of California, San Diego ; ; v. 30
Altri autori (Persone)	KeelingCharles D. <1928-2005.>
Disciplina	551.46/462
Soggetti	Seawater - Analysis Carbon - Analysis Carbon cycle (Biogeochemistry)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Frontmatter -- CONTENTS -- ABSTRACT -- ACKNOWLEDGMENTS -- 1. INTRODUCTION -- 2. PROCESSES CONTROLLING THE CARBON BALANCE IN THE UPPER OCEAN -- 3. CONSTRAINING CARBON BUDGETS BY CONCURRENT MEASUREMENTS OF DIC AND 13 -- 4. SEASONAL OBSERVATIONS -- 5. HARMONIC FITTING -- 6. DESCRIPTION OF THE SEASONAL MODEL -- 7. RESULTS OF THE SEASONAL MODEL -- 8. DISCUSSION -- 9. SUMMARY AND CONCLUSIONS -- REFERENCES -- APPENDIX A: FORMULAS FOR THE SEASONAL MODEL -- APPENDIX B: THREE-DIMENSIONAL GLOBAL OCEAN TRACER TRANSPORT MODEL OF BACASTOW AND MAIER-REIMER (1991) -- APPENDIX C: SENSITIVITY TESTS -- TABLES -- FIGURES
Sommario/riassunto	Each year, the concentration of dissolved inorganic carbon (DIC) in the mixed layer at Station S in the Sargasso Sea decreases from winter to summer by about 30 umol/kg. The authors of this study demonstrate that by simultaneously observing changes in the stable isotopic ration of DIC, it is possible to quantify the contribution of physical and biological processes to this summer-fall drawdown. They find that biology is the dominant contrbutor to the drawdown, but that physical

processes also play an important role.