

1. Record Nr.	UNISA996213956603316
Titolo	Ocean circulation [[electronic resource]] : mechanisms and impacts : past and future changes of meridional overturning // Andreas Schmittner, John C.H. Chiang, Sidney R. Hemming, editors
Pubbl/distr/stampa	Washington, DC, : American Geophysical Union, c2007
ISBN	1-118-67188-0 1-118-66624-0 1-118-67251-8
Descrizione fisica	1 online resource (401 p.)
Collana	Geophysical monograph series, , 0065-8448 ; ; 173
Altri autori (Persone)	ChiangJohn C. H HemmingSidney R SchmittnerAndreas
Disciplina	551.46/2
Soggetti	Meridional overturning circulation Ocean circulation
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	Title Page; Contents; Preface; Section 1. Introduction; Introduction: The Ocean's Meridional Overturning Circulation; Discovery and Quantification of the Atlantic Meridional Overturning Circulation: The Importance of 25°N; Section 2. Theory and Perspectives; A Simple Theory of the Pycnocline and Overturning Revisited; Buoyancy-Driven Flow and Nature of Vertical Mixing in a Zonally Averaged Model; The Past and Future Ocean Circulation From a Contemporary Perspective; Section 3. Current State and Trend; Present-Day Manifestation of the Nordic Seas Overflows Circulation and Deep Water Export of the Subpolar North Atlantic During the 1990'sStrength and Variability of the Deep Limb of the North Atlantic Meridional Overturning Circulation From Chlorofluorocarbon Inventories; Section 4. Decadal to Centennial Variability; Decadal to Centennial Variability of the Atlantic From Observations and Models; Decadal to Multidecadal Variability of the Atlantic MOC: Mechanisms and Predictability; Section 5. Past States and Millennial Variability; Is the Frequency of Abrupt Climate Change

Modulated by the Orbital Insolation?

¹⁴C Reservoir Ages Show Deglacial Changes in Ocean Currents and Carbon Cycle Phasing of Millennial Climate Events and Northeast Atlantic Deep-Water Temperature Change Since 50 ka BP; Mechanisms for an ~7-kyr Climate and Sea-Level Oscillation During Marine Isotope Stage 3; North Atlantic Intermediate Depth Variability During the Younger Dryas: Evidence From Benthic Foraminiferal Mg/Ca and the GFDL R30 Coupled Climate Model; Section 6. Impact on Climate, Ecosystems, and Biogeochemical Cycles; Musings About the Connection Between Thermohaline Circulation and Climate

Millennial-Scale Interhemispheric Asymmetry of Low-Latitude Precipitation: Speleothem Evidence and Possible High-Latitude Forcing Adjustment of the Global Climate to an Abrupt Slowdown of the Atlantic Meridional Overturning Circulation; Impact of the Ocean's Overturning Circulation on Atmospheric CO₂; Antarctic Stratification, Atmospheric Water Vapor, and Heinrich Events: A Hypothesis for Late Pleistocene Deglaciations; Section 7. Future Projections; Response of the Meridional Overturning Circulation During Differing Pathways Toward Greenhouse Gas Stabilization

Projected Strengthening of the Southern Ocean Winds: Some Implications for the Deep Ocean Circulation Effect of the Greenland Ice-Sheet Melting on the Response and Stability of the AMOC in the Next Centuries

Sommario/riassunto

Published by the American Geophysical Union as part of the Geophysical Monograph Series, Volume 173. The ocean's meridional overturning circulation (MOC) is a key factor in climate change. The Atlantic MOC, in particular, is believed to play an active role in the regional and global climate variability. It is associated with the recent debate on rapid climate change, the Atlantic Multi-Decadal Oscillation (AMO), global warming, and Atlantic hurricanes. This is the first book to deal with all aspects of the ocean's large-scale meridional overturning circulation, and is a coh
