

1. Record Nr.	UNINA9910141564403321
Titolo	Lagrangian modeling of the atmosphere [[electronic resource] /] / John Lin ...[et. al.] editors
Pubbl/distr/stampa	Washington, DC, : American Geophysical Union, c2012
ISBN	1-118-70457-6 1-118-70439-8 1-118-70440-1
Descrizione fisica	1 online resource (358 p.)
Collana	Geophysical monograph, , 0065-8448 ; ; 200
Altri autori (Persone)	LinJohn <1975->
Disciplina	531
Soggetti	Atmosphere - Mathematical models Lagrangian functions
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 and index.
Nota di contenuto	COVER; Title Page; Contents; Preface; Lagrangian Modeling of the Atmosphere: An Introduction; Section I Turbulent Dispersion: Theory and Parameterization; Turbulent Dispersion: Theory and Parameterization-Overview; History of Lagrangian Stochastic Models for Turbulent Dispersion; Lagrangian Particle Modeling of Dispersion in Light Winds; "Rogue Velocities" in a Lagrangian Stochastic Model for Idealized Inhomogeneous Turbulence; How Can We Satisfy the Well-Mixed Criterion in Highly Inhomogeneous Flows? A Practical Approach; Section II Transport in Geophysical Fluids Transport in Geophysical Fluids-Overview Out of Flatland: Three-Dimensional Aspects of Lagrangian Transport in Geophysical Fluids; A Lagrangian Method for Simulating Geophysical Fluids; Entropy-Based and Static Stability-Based Lagrangian Model Grids; Moisture Sources and Large-Scale Dynamics Associated With a Flash Flood Event; The Association Between the North Atlantic Oscillation and the Interannual Variability of the Tropospheric Transport Pathways in Western Europe; Section III Applications of Lagrangian Modeling: Greenhouse Gases Applications of Lagrangian Modeling: Greenhouse Gases-Overview Estimating Surface-Air Gas Fluxes by Inverse Dispersion Using a Backward Lagrangian Stochastic Trajectory Model; Linking Carbon Dioxide Variability at Hateruma Station to East Asia Emissions by

Bayesian Inversion; The Use of a High-Resolution Emission Data Set in a Global Eulerian-Lagrangian Coupled Model; Toward Assimilation of Observation-Derived Mixing Heights to Improve Atmospheric Tracer Transport Models
Estimating European Halocarbon Emissions Using Lagrangian Backward Transport Modeling and in Situ Measurements at the Jungfraujo High-Alpine Site
Section IV Atmospheric Chemistry; Atmospheric Chemistry in Lagrangian Models-Overview; Global-Scale Tropospheric Lagrangian Particle Models With Linear Chemistry; Quantitative Attribution of Processes Affecting Atmospheric Chemical Concentrations by Combining a Time-Reversed Lagrangian Particle Dispersion Model and a Regression Approach; Section V Operational/Emergency Modeling; Operational Emergency Preparedness Modeling-Overview
Operational Volcanic Ash Cloud Modeling: Discussion on Model Inputs, Products, and the Application of Real-Time Probabilistic Forecasting
A Bayesian Method to Rank Different Model Forecasts of the Same Volcanic Ash Cloud; Review and Validation of MicroSpray, a Lagrangian Particle Model of Turbulent Dispersion; Lagrangian Models for Nuclear Studies: Examples and Applications; AGU Category Index

Sommario/riassunto

Published by the American Geophysical Union as part of the Geophysical Monograph Series, Volume 200. Trajectory-based ("Lagrangian") atmospheric transport and dispersion modeling has gained in popularity and sophistication over the previous several decades. It is common practice now for researchers around the world to apply Lagrangian models to a wide spectrum of issues. Lagrangian Modeling of the Atmosphere is a comprehensive volume that includes sections on Lagrangian modeling theory, model applications, and tests against observations. Published by
