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Nota di contenuto	Title Page; Contents; Preface; Understanding Carbon Cycling in Northern Peatlands: Recent Developments and Future Prospects; Section I: Large-Scale Peatland Dynamics and Carbon Cycling; Nonlinear Dynamics of Peatlands and Potential Feedbacks on the Climate System; Issues Related to Incorporating Northern Peatlands Into Global Climate Models; Upscaling of Peatland-Atmosphere Fluxes of Methane: Small-Scale Heterogeneity in Process Rates and the Pitfalls of "Bucket-and-S; Sensitivity of Northern Peatland Carbon Dynamics to Holocene Climate Change; Direct Human Impacts on the Peatland Carbon Sink Section II: Near-Surface Processes of Peatland Carbon CyclingNorthern Peatland Vegetation and the Carbon Cycle: A Remote Sensing Approach; Plant Litter Decomposition and Nutrient Release in Peatlands; Microbial Community Structure and Carbon Substrate Use in Northern Peatlands; Partitioning Litter Mass Loss Into Carbon Dioxide and Methane in Peatland Ecosystems; Section III: Methane Accumulation in, and Loss From, Peatlands; Methane Accumulation and Release From Deep Peat: Noninvasive Field-Scale Characterization of Gaseous-Phase Methane

Dynamics in Peatlands Using the Ground-Penetrating Radar MethoMethane Dynamics in Peat: Importance of Shallow Peats and a Novel Reduced-Complexity Approach for Modeling Ebullition; The Stable Carbon Isotope Composition of Methane Produced and Emitted From Northern Peatlands; Laboratory Investigations of Methane Buildup in, and Release From, Shallow Peats; Physical Controls on Ebullition Losses of Methane From Peatlands; Section IV: Water and Dissolved Carbon Transfers Within and From Peatlands
Dissolved Organic Carbon Production and Transport in Canadian PeatlandsHydrological Controls on Dissolved Organic Carbon Production and Release From UK Peatlands; The Role of Natural Soil Pipes in Water and Carbon Transfer in and From Peatlands; Improving Conceptual Models of Water and Carbon Transfer Through Peat; Water Relations in Cutover Peatlands; The Influence of Permeable Mineral Lenses on Peatland Hydrology; Index

Sommario/riassunto

Published by the American Geophysical Union as part of the Geophysical Monograph Series, Volume 184.Carbon Cycling in Northern Peatlands examines the role that northern peatlands play in regulating the atmospheric carbon budget. It summarizes current research in four interconnected areas: large-scale peatland dynamics and carbon cycling; plant and microbial dynamics and their effect on carbon fluxes to the atmosphere; methane accumulation in, and loss from, peatlands; and water and dissolved carbon fluxes through peatlands. The volume highlights includeA thorough assessment