

1. Record Nr.	UNINA9910298425703321
Autore	Chen Zhi
Titolo	Spatial Patterns and Mechanisms for Terrestrial Ecosystem Carbon Fluxes in the Northern Hemisphere [[electronic resource] /] / by Zhi Chen
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2018
ISBN	981-10-7703-7
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (151 pages) : illustrations
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	574.5222
Soggetti	Ecosystems Ecology Geobiology Terrestrial Ecology Biogeosciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Data resources and methods -- Characteristics of carbon fluxes -- Distribution patterns of carbon fluxes -- Carbon uptake by subtropical forests -- Influence of climate patterns on carbon fluxes pattern -- Covariation between carbon fluxes -- Mechanisms of carbon fluxes patterns -- Conclusion and prospect.
Sommario/riassunto	This book systematically illustrates the underlying mechanisms of spatial variation in ecosystem carbon fluxes. It presents the regulation of climate pattern, together with its impacts on ecosystem traits, which yields new insights into the terrestrial carbon cycle and offers a theoretic basis for large-scale carbon pattern assessment. By means of integrated analysis, the clear spatial pattern of carbon fluxes (including gross primary production, ecosystem respiration and net ecosystem production) along latitudes is clarified, from regions to the entire Northern Hemisphere. Temperature and precipitation patterns play a vital role in carbon spatial pattern formation, which strongly supports the application of the climate-driven theory to the Northern Hemisphere. With regard to the spatial pattern, the book demonstrates

the covariation between production and respiration, offering new information to promote current respiration model development. Moreover, it reveals the high carbon uptake of subtropical forests across the East Asian monsoon region, which challenges the view that only mid- to high-latitude terrestrial ecosystems are principal carbon sink regions, and improves our understanding of carbon budgets and distribution. .

---