Record Nr. UNINA9910145040503321 Climate and hydrology in mountain areas [[electronic resource] /] / **Titolo** editors, Carmen de Jong, David Collins, Roberto Ranzi Pubbl/distr/stampa Hoboken, NJ,: Wiley, c2005 **ISBN** 1-280-27646-0 9786610276462 0-470-85824-9 0-470-85823-0 Descrizione fisica 1 online resource (351 p.) Altri autori (Persone) De JongCarmen CollinsDavid (David N.) RanziRoberto Disciplina 551.432 551.69143 Soggetti Mountain climate Hydrologic cycle Clima de muntanya Cicle de l'aigua Electronic books. Llibres electrònics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Climate and Hydrology in Mountain Areas; Contents; List of contributors: List of symbols: Abbreviations: Introduction: Climate and Hydrology in Mountain Areas; 1 Alpine Climate Change and Cryospheric Responses: An Introduction; PART I SNOW AND ICE MELT; 2 Use of Positive Degree-Day Methods for Calculating Snow and Ice Melting and Discharge in Glacierized Basins in the Langtang Valley, Central Nepal; 3 Surface Energy Balance of High Altitude Glaciers in the Central Andes: The Effect of Snow Penitentes 4 Using Subgrid Parameterisation and a Forest Canopy Climate Model

> for Improving Forecasts of Snowmelt Runoff5 Assessment of Snowcovered Areas Using Air Temperatures During Melt in a Mountainous

Basin; PART II SOIL WATER AND PERMAFROST; 6 Permafrost Monitoring in High Mountain Areas Using a Coupled Geophysical and Meteorological Approach; 7 Effects of Frozen Soil on the Groundwater Recharge in Alpine Areas; 8 Water Balance in Surface Soil: Analytical Solutions of Flow Equations and Measurements in the Alpine Toce Valley

9 Saturated Hydraulic Conductivity and Water Retention Relationships for Alpine Mountain SoilsPART III EVAPOTRANSPIRATION AND WATER BALANCE; 10 Water Balance Modeling with Fuzzy Parameterizations: Application to an Alpine Catchment; 11 Water Relations of an Oldgrowth Douglas Fir Stand; 12 Comparison of Evapotranspiration and Condensation Measurements between the Giant Mountains and the Alps; 13 Climatologic and Hydrologic Coupling in the Ecology of Norwegian High Mountain Catchments; PART IV COUPLING METEOROLOGY AND HYDROLOGY; 14 Runoff and Floods in the Alps: An Overview

15 The Use of Coupled Meteorological and Hydrological Models for Flash Flood Simulation16 Operational Weather Radar Assessment of Convective Precipitation as an Input to Flood Modelling in Mountainous Basins; 17 Geomorphological Zoning: An Improvement to Coupling Alpine Hydrology and Meteorology?; PART V CLIMATE CHANGE IMPACT AND MOUNTAIN HYDROLOGY; 18 The Influence of Glacier Retreat on Water Yield from High Mountain Areas: Comparison of Alps and Central Asia; 19 Snowmelt Under Different Temperature Increase Scenarios in the Swiss Alps

20 Climate Variability, Water Resources, and Hydrologic Extremes - Modeling the Water and Energy BudgetsIndex

Sommario/riassunto

A comprehensive overview of interaction of the major hydrological and meteorological processes in mountain areas ie Cryosphere and Climatic Change, Snow Melt and Soil Water, Run-off and Floods, Water fluxes and Water Balance, Hydro-meteorological Coupling and Modelling. Each section will review recent research in the field and illustrate key interactions with case studies from mountainous regions in Europe, The Americas and Central Asia.