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Nota di contenuto	Hydrologic Science Priorities for the U.S. Global Change Research Program -- Copyright -- Preface -- Contents -- Executive Summary -- 1-Setting Priorities -- 2-Science Foundations and Basic Processes -- PREDICTABILITY AND VARIABILITY OF REGIONAL AND GLOBAL WATER CYCLES -- Predictable Patterns of Seasonal-to-Interannual Variability -- Sources of Long-Term Variability -- Linking Measurements and Understanding across Scales -- COUPLING OF HYDROLOGIC SYSTEMS AND ECOSYSTEMS THROUGH CHEMICAL CYCLES -- Characterization of Water and Chemical Pathways -- Interactions between Hydrologic Systems and Ecosystems -- Human Disturbances of Hydrologic Systems and Ecosystems -- 3-Measurement and Data Strategies -- MAINTAINING AND UPGRADING GROUND-BASED NETWORKS --

INTEGRATION OF REMOTE SENSING WITH GROUND-BASED MEASUREMENTS -- DATA INTERPRETATION: SYNERGY IN MODELING AND MEASUREMENT -- SUPPORTING LONG-TERM EXPERIMENTAL SITES -- DATA ACCESSIBILITY AND QUALITY CONTROL -- 4-Applications and Knowledge Transfer -- APPLICATIONS AND USER INTEGRATION -- EDUCATION AND KNOWLEDGE TRANSFER -- 5-Conclusions and Recommendations -- References -- Appendix Biographical Sketches of Committee on Hydrologic Science.

Sommario/riassunto

The availability of fresh water is potentially one of the most pervasive crises of the coming century. Water-related decisions will determine the future of major ecosystems, the health of regional economies, and the political stability of nations. A vigorous program of research in hydrologic sciences can provide the basis for sound water management at local, regional, national, and international levels. The Committee on Hydrologic Science was established by the National Research Council in 1999 to identify priorities for hydrologic science that will ensure its vitality as a scientific discipline in service of societal needs. This charge will be performed principally through a series of studies that provide scientific advice on the hydrologic aspects of national program and U.S. hydrologic contributions to international programs. This first report contains a preliminary assessment of the hydrologic science content of the U.S. Global Change Research Program (USGCRP). Because this is a short and focused report, little effort is spent to reaffirm the established and successful elements of the USGCRP. In fact, the Committee generally endorses the findings of the National Research Council (NRC) report Global Environmental Change: Research Pathways for the Next Decade (NRC, 1998a; the so-called Pathways report) in this respect. Instead the attention here is directed toward the most critical missing hydrologic science elements in the FY2000 USGCRP. This brings the focus to the terrestrial component of the water cycle. The integrative nature of terrestrial hydrology could significantly strengthen the USGCRP.