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Sommario/riassunto

River discharge is a fundamental hydrologic quantity that summarizes how a watershed transforms the input of precipitation into output as channelized streamflow. Accurate discharge measurements are critical for a range of applications including water supply, navigation, recreation, management of in-stream habitat, and the prediction and monitoring of floods and droughts. However, the traditional stream gage networks that provide such data are sparse and declining. Remote sensing represents an appealing alternative for obtaining streamflow information. Potential advantages include greater efficiency, expanded coverage, increased measurement frequency, lower cost and reduced risk to field personnel. In addition, remote sensing provides opportunities to examine long river segments with continuous coverage and high spatial resolution. To realize these benefits, research must focus on the remote measurement of flow velocity, channel geometry and their product: river discharge. This Special Issue fostered the development of novel methods for retrieving discharge and its components, and thus stimulated progress toward an operational capacity for streamflow monitoring. The papers herein address all aspects of the remote measurement of streamflow—estimation of flow velocity, bathymetry (water depth), and discharge—from various types of remotely sensed data acquired from a range of platforms: manned and unmanned aircraft, satellites, and ground-based non-contact

sensors.