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global sea-level rise.

Hydrological Research Letters Vol. 7 (2013) No. 3 p. 73-78 Dol	Previous Article	Language: English
http://dx.doi.org/10.3178/hrl.7.73		
DN/JST.JSTAGE/hrl/7.73		
<ul> <li>A monitoring system for mountain glaciers and ice Kazunari Nakanon, Yong Zhangn, Yoshihiro Shibuoa, Hirono 1) Institute of Engineering Innovation, School of Engineering, the University of Tokyo 3) Japan Agency for Marine-earth Scier</li> <li>              Released on J-STAGE 2013/09/20             Received 2013/05/29 Accepted 2013/08/13      </li> </ul>	caps using 30 meter resolution satellite data rri Yabukia, Yukiko Hirabayashia he University of Tokyo 2) Earth Observation Data Integration & Fusion R nce and Technology	esearch Institute, School of Engineering,
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Abstracts		
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Supplementary materials(1)		
We developed a monitoring system for deri (MG&IC) at a 30 m horizontal resolution fro Enhanced Thematic Mapper plus (ETM+). was obtained using a band ratio (TM4/TM5 pixel average filter. The total area and num respectively. The glacier outlines were simi different regions. Although the derived glac regional scales, it was overestimated in sor images are limited and only snowy season	iving outlines of mountain glaciers and ice caps im Landsat Thematic Mapper (TM) and Landsat Location and area information at 30 m resolution i) and a threshold value of TM3 with a 9 by 9 ber of MG&IC were 449482 km <sup>2</sup> and 414258, ilar to previous satellite-derived products for cier area was similar to previous estimates at me parts of Scandinavia where available satellite images can be used, and was underestimated in	

the western Himalayas and Caucasus where the glacier outlines are derived with difficulty from satellite images because of the effect of debris cover. Our system to monitor MG&IC has potential application in global hydrological and land-surface models and estimates of

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