



# The Efficacy of the Conduit-Concealment on Ice Grades in Yellow River

YuanHang<sup>1,\*</sup>, YuiaDoang<sup>2</sup>

<sup>1</sup>*Beijing University, Faculty of Health Sciences,  
100101 Beijing, China*

<sup>2</sup>*Xinjiang University, Faculty of Chemistry and Chemical Technology,  
10049 Xinjiang, China*

Received: 08 September 2014; Accepted: 19 November 2014

## Abstract

A system for making long- and short-term predictions regarding ice jam formation and breakup based on the heat exchange principle has been devised at the University of Clarkson. This method requires some knowledge of the system in question, including the initial temperature at an upstream station and forecasts of the temperature, average river flow rate, and water temperature. It is established a numerical relationship between the average daily air temperature and ice formation in which it is assumed that the heat exchange between the air and the surface is proportional to the difference in their temperatures. It then applied this relationship to forecasting ice formation on rivers and lakes.

*Keywords:* conduit- concealment; ice grades; flow rate; heat exchange