The Hamamori distribution revisited

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The Hamamori distribution is frequently used to describe the variability in bedload transport rates in bedform-dominated environments. However, the original derivation contains several incorrect steps. Here, a corrected and generalized derivation is presented. It is shown that Hamamori's original distribution function arises if the underlying assumptions are adapted slightly. Two formalisms are presented to obtain probability distributions of instantaneous bedload transport rates from growth functions of ripples and from the distribution of ripple heights.