

SCHEDI DI RILEVAMENTO GEOMORFOLOGICO DI ALVEI FLUVIALI

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Si propone una serie di schede per il rilevamento geomorfologico di alvei fluviali. Esse sono utilizzate per riportare in maniera sistematica ed organizzata le osservazioni e le misure quantitative da effettuare durante un rilievo geomorfologico sul terreno di un tratto di un corso d'acqua, integrandole con altri dati ed informazioni preesistenti (rilievi topografici esistenti, foto aeree). Tali schede derivano da una semplificazione di quelle proposte da THORNE (1998), integrandole con osservazioni ed informazioni più dettagliate riguardo le variazioni morfologiche passate e le tendenze evolutive attuali.

Il gruppo completo si compone di tre parti: (1) caratteristiche morfologiche attuali; (2) variazioni morfologiche; (3) tendenze attuali. Le tre parti si differenziano tra loro per la scala temporale a cui si fa riferimento nelle osservazioni: (1) le caratteristiche morfologiche attuali si riferiscono alla scala temporale attuale, cioè si riportano le forme ed i processi osservati al momento della compilazione delle schede; (2) le variazioni morfologiche si riferiscono alla scala temporale degli ultimi 100-150 anni; (3) le tendenze attuali si riferiscono alla scala temporale degli ultimi 10-15 anni. Se ne descrivono inizialmente alcune caratteristiche generali, quali i campi di applicazione, la lunghezza del tratto da rilevare, le possibili misure da effettuare per integrare le osservazioni di campo. Successivamente si descrivono brevemente le varie parti di cui si compone ogni scheda. Tali schede, oltre che per una caratterizzazione morfologica generale del tratto, possono essere utilizzate per classificare il corso d'acqua non tanto in funzione delle forme (come generalmente accade nella maggior parte delle classificazioni morfologiche di alvei fluviali), quanto piuttosto in funzione delle variazioni passate e delle tendenze attuali, offrendo in tal modo molte potenziali applicazioni nel campo della gestione dei corsi d'acqua.

ABSTRACT: Rinaldi M., *Geomorphological sheet forms for river channel survey* (IT ISSN 0394-3356, 2008).

During the last years, fluvial geomorphologists have experienced an increasing need to develop schemes to evaluate channel processes, adjustments and trends by a field survey. Stream reconnaissance field survey can be defined as a field procedure for the collection of morphological data and information, possibly using specific record sheets aiming to collect data in a systematic and organised way (DOWNS & THORNE, 1996; THORNE, 1998).

Definition of recent and present channel adjustments is fundamental in studies concerning channel dynamics. While sufficient data is usually available to reconstruct planform changes, more difficulties concern the definition of altimetric adjustments (incision or aggradation) of the channel bed, given that past topographic surveys are often limited or not available.

A set of record sheet forms for field surveys has been developed with the specific aim of facilitating interpretation and classification of channel adjustments. The proposed sheets partly derive from a simplification of previous record sheets proposed by THORNE (1998), and from further developments of record sheet forms used in previous geomorphological projects. They have been adapted to the specific scopes of the PRIN 2005 Project "Present and recent dynamics of river channels in Northern and Central Italy: evolutionary trends, causes and management implications" (MIUR). The main focus of these sheets is therefore the interpretation of channel adjustments, rather than a simple description of channel forms. The forms, although suitable for all types of alluvial river channels, have been developed with particular reference to the river types investigated within the PRIN 2005 Project, that are gravel-bed rivers with wandering or braided morphologies. The complete set of sheets include three distinct parts:

(1) Geomorphological characterization. It consists of a general description of the morphological features and processes, including a morphological sketch of the site, a description of the different geomorphic surfaces, a representative cross-section, channel sizes, sediment properties, river banks, vegetation, and human interventions.

(2) Morphological changes. This sheet refers to the description of the channel changes during a time scale of about 100 - 150 years, with the scope of describing the net changes which occurred in this interval. It is compiled by a combination of available data (aerial photos, topographic surveys) that need to be collected and pre-processed before the survey, and field evidence. Three main sections are distinguished: (a) width changes (narrowed, unchanged, widened); (b) pattern changes; (c) vertical changes (incised, unchanged, aggraded).

(3) Present trends of adjustment. This sheet refers to the time scale of the last 10-15 years, with the specific scope of interpreting ongoing channel adjustments. Similarly to the previous record sheet form, aerial photos and topographic data are used when available. Present adjustments in channel width and pattern are usually identified on the basis of the two most recent aerial photos available, with the support of field evidence. Because topographic data is seldom available, the main focus of this form is on a series of selected diagnostic variables (field evidence) to identify vertical adjustments (incising, equilibrium, aggrading).

The record sheets have been applied to a number of representative rivers (Magra, Panaro, Cecina, Piave, Tagliamento, etc.). These sheet forms can be utilised for a classification of the river channel based on recent channel changes and present trends of adjustments rather than simply on channel form, as generally done in most of the existing morphological stream classifications.

Parole chiave: rilevamento geomorfologico, schede, alvei fluviali

Keywords: stream reconnaissance, sheet forms, channel adjustments