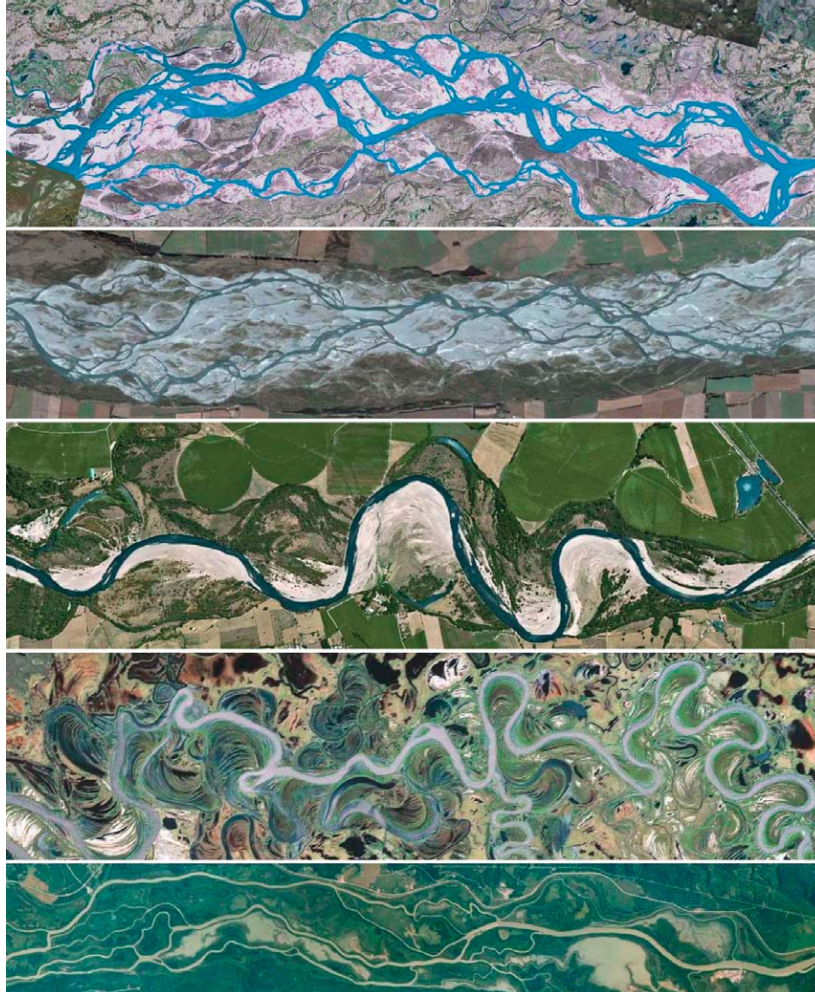


# GEOG 607: Seminar on River Planform

Prof. Pat McDowell, Winter 2011

Mon 2:00-4:50pm, Con 207

Across diverse environments and scales, rivers converge on a limited range of channel patterns. Sinuosity, braiding, and bar forms are features that give planforms their visual poetry. Planform is influenced by, and influences, riparian vegetation. Planform is dynamic, changing over days, years or centuries.



We will examine processes by which river planform is created, maintained and changed, with an emphasis on alluvial rivers. We will explore classic and more recent approaches, such as those listed below.

- Hydraulic controls of channel pattern: Leopold and Wolman 1957; Parker, 1976; Schumm, 1985; Nanson and Croke, 1992; Eaton et al., 2010; Phillips 2010.
- Sediment transport and hydrodynamics: Rhoads and Welford, 1991; Ferguson, 1993
- Channel pattern-vegetation interactions: Hey and Thorne, 1986; Millar, 2000; Hooke 2003; Thorne and Furbish 1995; Tal and Paola, 2010
- Long-term and historical change, climate change and human impacts: Schumm and Lichty, 1963;
- Nonlinear dynamic systems theory: Hooke 2003; Hooke 2004
- River management: Brierley and Fryirs, 2005; Lagasse, P., 2004; Rapp, C., and Abbe, T., 2003

In addition to readings, discussion and in-class presentations, each participant will complete an individual or group research paper. The seminar is designed to support participants in developing a publishable paper or dissertation chapter.