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## Plants and river morphodynamics

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Research within the field of fluvial biogeomorphology focuses on the impact of organisms, particularly plants, on physical processes and landform development within river environments. This research field has evolved and matured over 50 years such that strong links between plants and river morphodynamics are now established and are increasingly becoming embedded in river management practices.

In this presentation, I provide a personal perspective on the evolution of fluvial biogeomorphology, emphasising five parallel research themes that were initiated in different decades. Research within these themes continues and combines to underpin our current state of knowledge:

The 1970s Natural vegetation colonises areas according to the degree of river disturbance such that certain plant communities are associated with particular river landforms.

The 1980s Dead wood pieces influence river morphodynamics and support the development of particular assemblages of physical habitats.

The 1990s Some large wood sprouts: dead and living trees drive a geomorphological continuum.

The 2000s River and riparian forest dynamics are linked: field observations, laboratory experiments and numerical models converge.

The 2010s Many riparian and aquatic plant species can act as river engineers: local engineer species reflect the environmental setting.

2020 onwards Increasing integration: understanding how interactions between plants and rivers adjust with changes in the biogeographical setting, plant species pool and river energy.