Turbidity currents and turbidites

Turbidity Currents ***E or D P F 60 min***

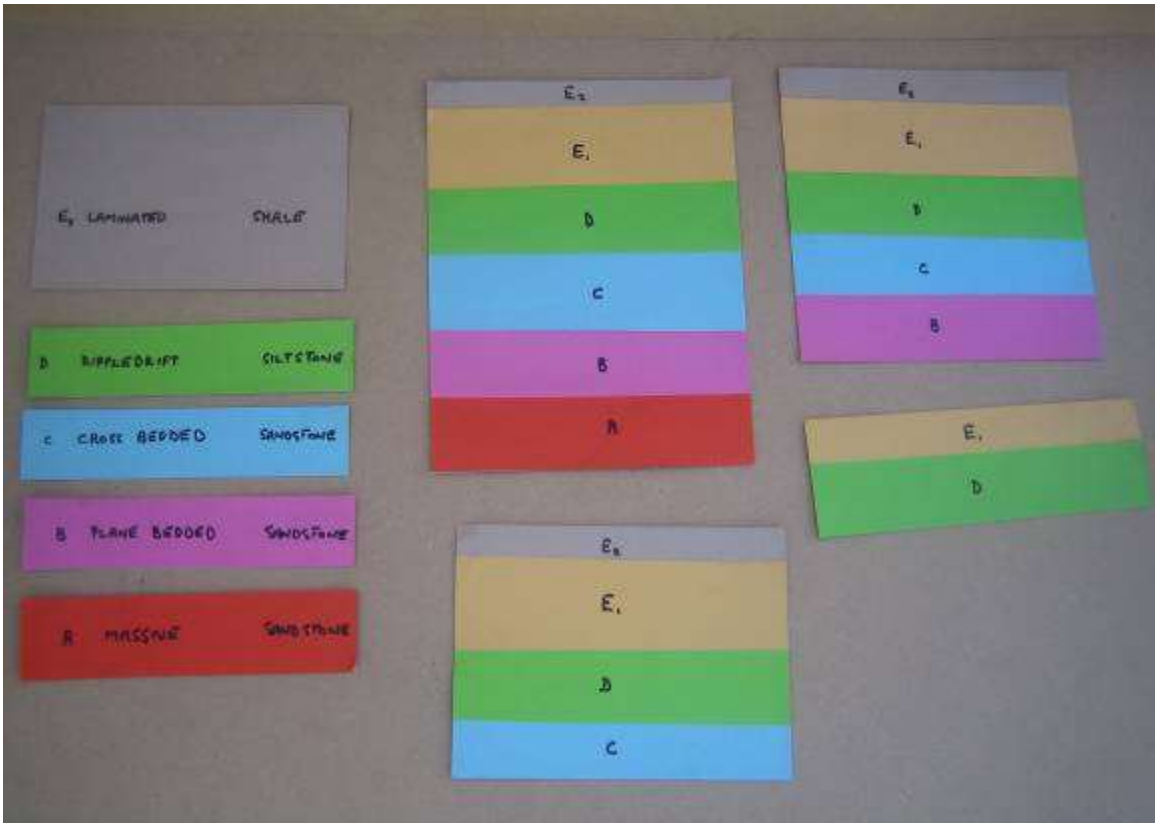
Salty water coloured with food dye is poured into a 2m long glass tank to demonstrate the movement of a turbidity current. Using this method you can also measure the effect of varying the density and volume on the speed of the current.

Arial view of a turbidity current ***D***

Pour muddy water (or milk or salty dyed water) down a 10cm length of guttering placed in one corner of a 60cm by 60cm shallow tray. It spreads out evenly over the entire tray as a thin sheet under the clear water.

Magnetic Bouma sequence ***D***

Make coloured cards for each of the Bouma units. Place on the board as you describe each unit. Then you can erode the top units and start again with unit A. Or you can have a weaker current which does less or no erosion and start with unit B or C. In this way you can show how incomplete Bouma sequences form.



Paper Bouma sequences ***A P F 10 min***

Students are each given 10 complete Bouma sequences on slips of paper. These are stuck onto paper above each other but only the bottom part of the slip is glued. Erosion is shown by cutting the top units off. Weaker currents are shown by cutting the bottom units off before sticking down. In this way students build up a sequence such as ABCABCABFABFEFEC. They can be given the sequence they must make or the teacher can call out the strength of the current and the amount of erosion. This can be done to illustrate both distal and proximal turbidite sequences.

Bouma sequences using a computer programme ***A P 5min***

Students type in the strength of current, and the length of time between currents and the computer plots the resulting sequence.