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HEADLINE: Canyon channels toxic soil far out to sea

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EVEN deep-sea creatures aren't safe from the notorious pesticide DDT. Large amounts of DDT-laden soil are moving through an underwater canyon and out into the open sea off California.

Although DDT was banned by the US and other industrialised nations in the 1970s, it is long-lived and is still found in soils and sediments as well as human and animal tissues around the world. But Charlie Paull and his team at the Monterey Bay Aquarium Research Institute in Moss Landing found that it had penetrated further than anyone realised. They found high levels of DDT in sediment 3200 metres below the ocean surface on the floor of Monterey Canyon, which extends over 80 kilometres off the coast of Monterey.

DDT was first used in nearby farmlands as an agricultural pesticide in 1945, so the soil at the bottom of the canyon must have been running off farmers' fields and into rivers and streams for the past 57 years, say the researchers. They took core samples throughout the canyon, and saw a clear pattern of contaminated sediment starting at the canyon's head and moving through it.

"We think of things going on in agricultural lands as irrelevant [to the deep sea], but this data suggests that the timescale is fast enough for these effects to be played out over a human lifetime," says Paull.

The scientists aren't exactly sure how long the soil takes to move through the canyon, but suggest it could come from a turbidity flow, a kind of underwater landslide that lasts only minutes.

The scientists have submitted their results to *Geo-Marine Letters*, and are planning tests to determine how far the DDT-laden sediment is moving along the ocean floor. But figuring out how much of it is getting into the tissues of deep-sea animals is a much harder project. "It's going to be dicey," says Paull.

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