

# Long-term study of uranium release could improve remediation strategies

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Uranium poses a serious risk of groundwater contamination at the Hanford Site. But most previous experimental studies addressing this important issue were performed over short-time periods, focusing on the uranium that is quickly released from sediments to groundwater. This study combines modeling and laboratory experiments to assess uranium release under flow conditions over a time period long enough to evaluate the transport behavior of all of the uranium in sediment samples collected from the Hanford Site.

The study reveals fundamental processes and parameters controlling long-term uranium transport and shows that release of this contaminant slows down with time, suggesting that remediation strategies should take into account both short-term and long-term migration behavior. The findings will enable scientists to construct more accurate models for assessing the risk of [groundwater contamination](#) by uranium at the Hanford Site.

Researchers from Pacific Northwest National Laboratory conducted a long-term study of uranium desorption—the release of uranium from sediments to [groundwater](#)—under flow conditions using sediments collected from the Hanford Site in southeastern Washington state. The experiments lasted more than four months, which was long enough to deplete all or most of the uranium in the sediments. The researchers evaluated two models using data collected from two columns that were first packed with sediments containing either small (

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