

# Hanford System Assessment

## The Problem

Deterministic models do not allow for real world variability.

It is necessary to stochastically model the cumulative impact of contaminant releases from Hanford into the environment and the Columbia River.

## The Approach

- Use legacy codes for inventory, release, transport, uptake, and impact
- Develop data translators between process models that preserve correlative behaviors
- Develop central processor (ESP) to do simulations and create process model files

## The Accomplishments

- Created stochastic framework for simulation of complex, multi-module systems using distributed computing
- Cut run-time from 10 years to 30 days
- Matched simulated results with known Hanford contaminant patterns

