And After the Fire...

USING THE INFILTROMETER TO ASSESS EROSION RISK

Flagstaff, Arizona is typically a dry place. In August 2010, Flagstaff's residents experienced severe floods. Video footage shows churning rivers flowing down roadways and around and through homes. August's monsoon rains contributed the water, but the floods were actually caused by the 15,000 acre Shultz fire that raged around Flagstaff from April to July.

X After a fire, soil commonly becomes water repellent, just one factor in increased runoff.

Floods Follow Fires

To Forest Service research engineer Dr. Peter Robichaud, the setup is classic. Robichaud, who studies post-fire erosion processes, says that after a fire, soil commonly becomes water repellent. That, together with loss of forest floor matter and ash clogging soil pores, creates a dramatic increase in runoff. "It's not just a 100% increase," he says. "It's orders of magnitude."

[2010's Shultz Fire burned 15,000 acres of Arizona forest land.

Read the full article about Dr. Robichaud's research at www.decagon.com/robichaud oraccess his online Erosion Risk Management Tool at forest.moscowfsl.wsu.edu

Modeling to Improve Response

Robichaud's work in modeling post-fire erosion is used by many practitioners to assess the impacts of a fire, predict erosion, and make plans to manage and reduce the associated risks. Robichaud uses the Mini Disk Infiltrometer as a tool to characterize changes in the soil after a fire. "It's a practical instrument for fire assessment teams to use. It provides the information they need to help them determine the changes in infiltration characteristics."

X Residents of Flagstaff experienced significant flooding. "When you have steep slopes and high velocities, things can converge rather quickly," Dr. Robichaud says.