

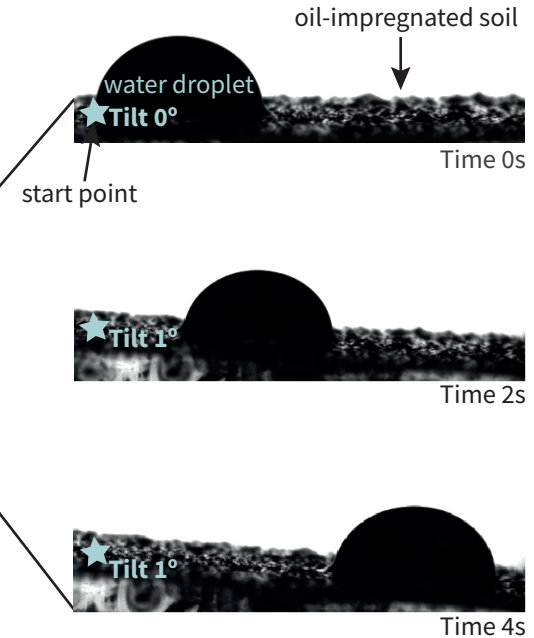
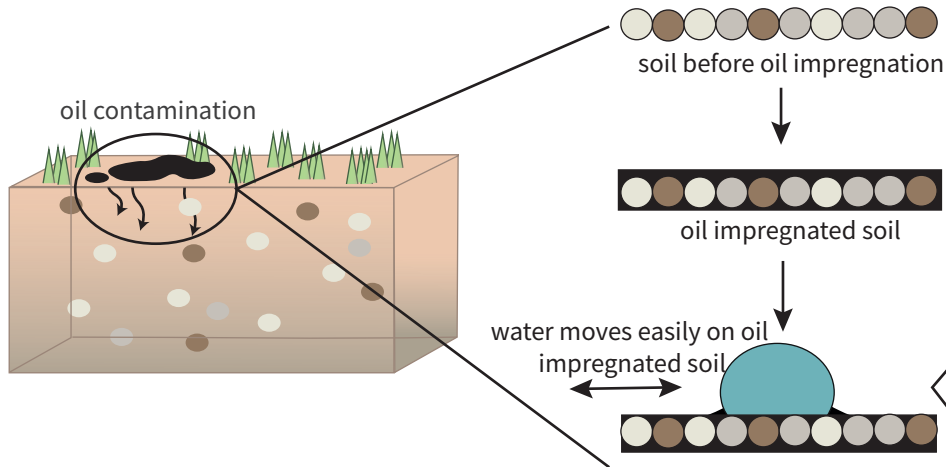
Water Shedding Properties of Oil-Impregnated Hydrophobic Soil

Rebecca McCerery, John Woodward, Glen McHale, Kate Winter

rebecca.mccerery@northumbria.ac.uk [twitter: @Becky_Mccerery](#)



Northumbria
University
NEWCASTLE



HYPOTHESIS: Oil contamination of a soil could create a Slippery Liquid-Infused Porous Surface (SLIPS).

METHODS: We physically model water droplet contact and sliding angles on oil impregnated soils to classify hydrophobicity and water shedding potential.

FINDINGS: Oil impregnation with oil gives soil extreme water shedding abilities. Low sliding angles suggest SLIPS have formed.

IMPLICATIONS: A SLIPS soil would make hydrophobicity and oil spill remediation more difficult and could have wider impacts on soils and sediment systems such as enhancing debris flows.

These photographs show that water droplets move quickly and easily on oil impregnated soils at extremely low tilt angles under laboratory conditions.