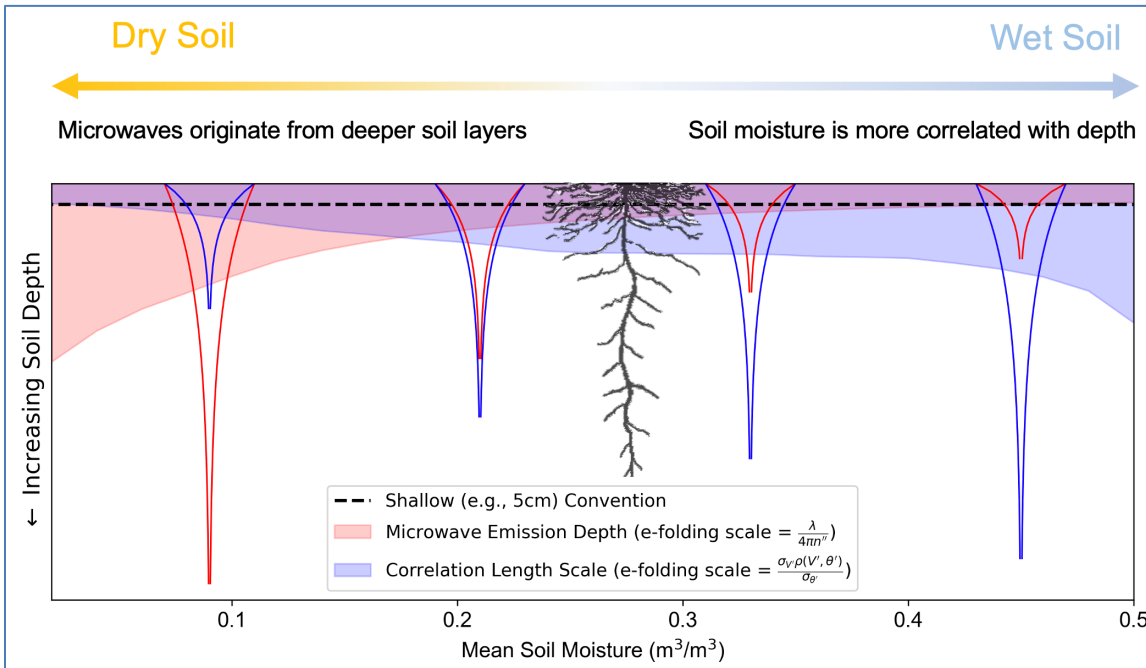


Remotely Sensed Soil Moisture Can Capture Dynamics Relevant to Plant Water Uptake



Problem: Commonly stated that satellite soil moisture observes only a skin soil layer (<5cm) that is largely not relevant for plants because they have deep roots



Finding:

Evidence from field and statistical experiments show satellite (L-band) soil moisture representation extends below 5 cm because:

- Dry soil microwave emission origins from deeper layers
- Wet soils have strong vertical correlation

Also, isotopic tracers show many cases of shallow plant water use

Impact: Satellite soil moisture is more useful than currently suggested and can have wider application for grassland, cropland, and lightly wooded savanna surfaces