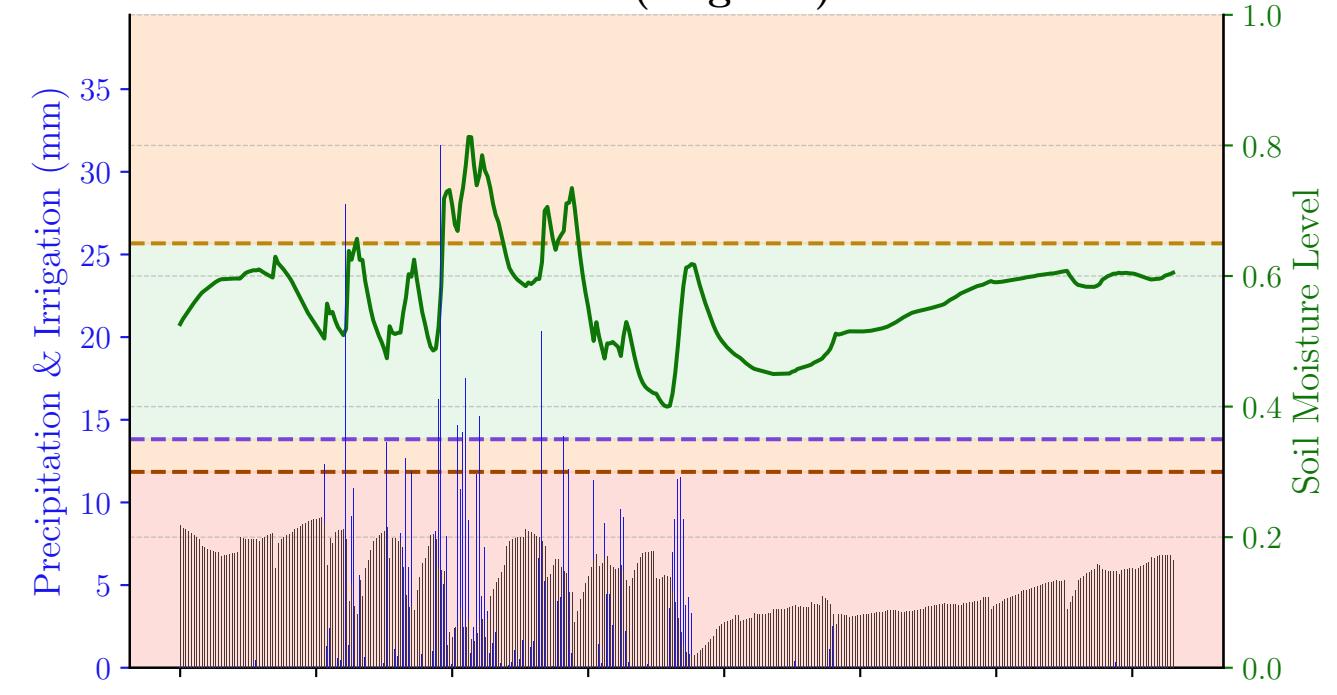


# Model Performance During Evaluation, Seed 59 ( $d = 1$ )

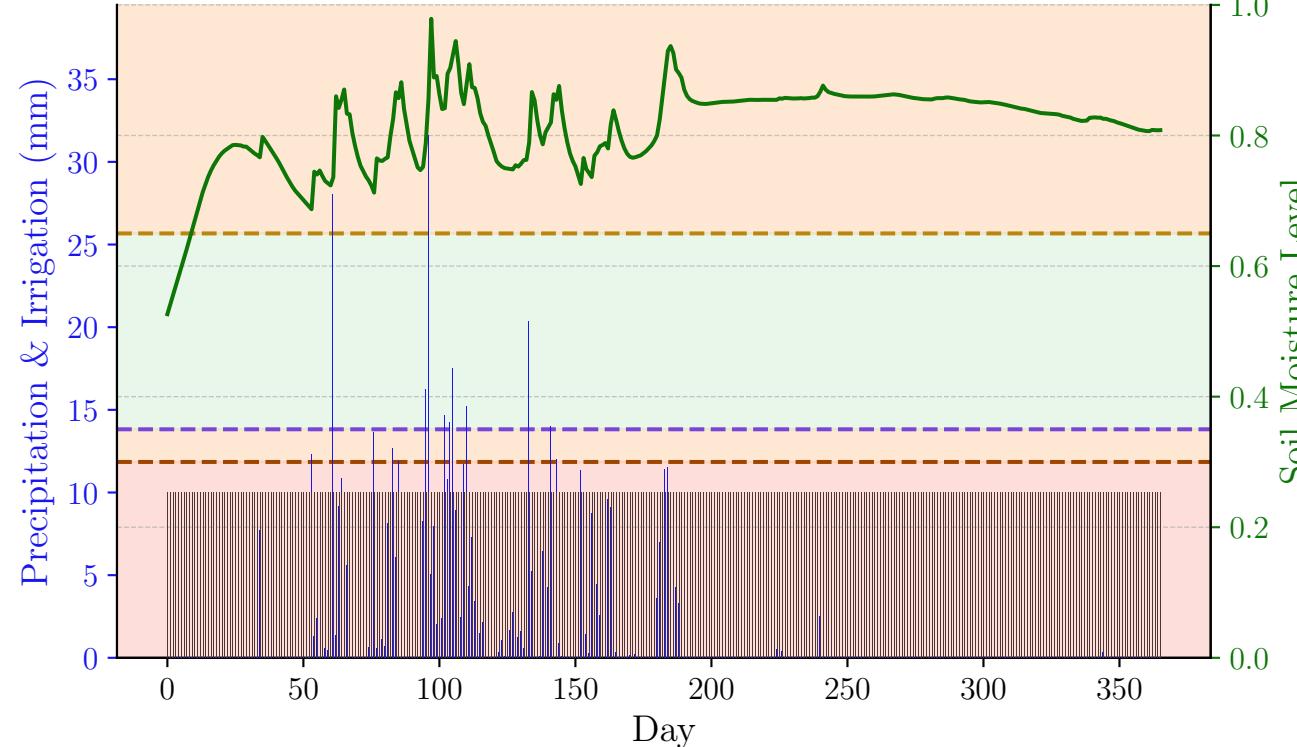
**DDPG (Regular)**



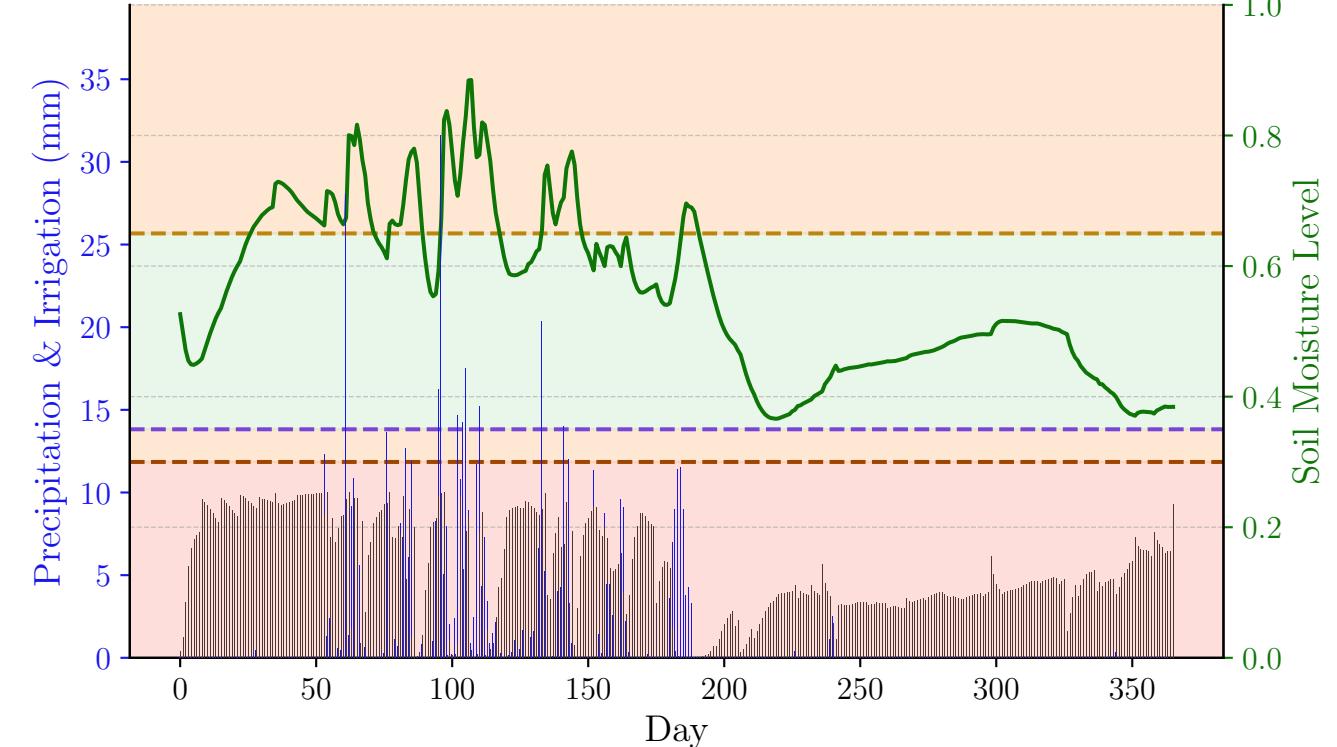
**SAC (Regular)**



**DDPG Lagrangian ( $\alpha = 0.95$ )**



**SAC Lagrangian ( $\alpha = 0.95$ )**



— Soil Moisture

■ Rainfall (mm)

■ Irrigation (mm)

— Field Capacity ( $s_{fc} = 0.65$ )

— Water Stress Point ( $s^* = 0.35$ )

— Permanent Wilting Point ( $s_w = 0.3$ )

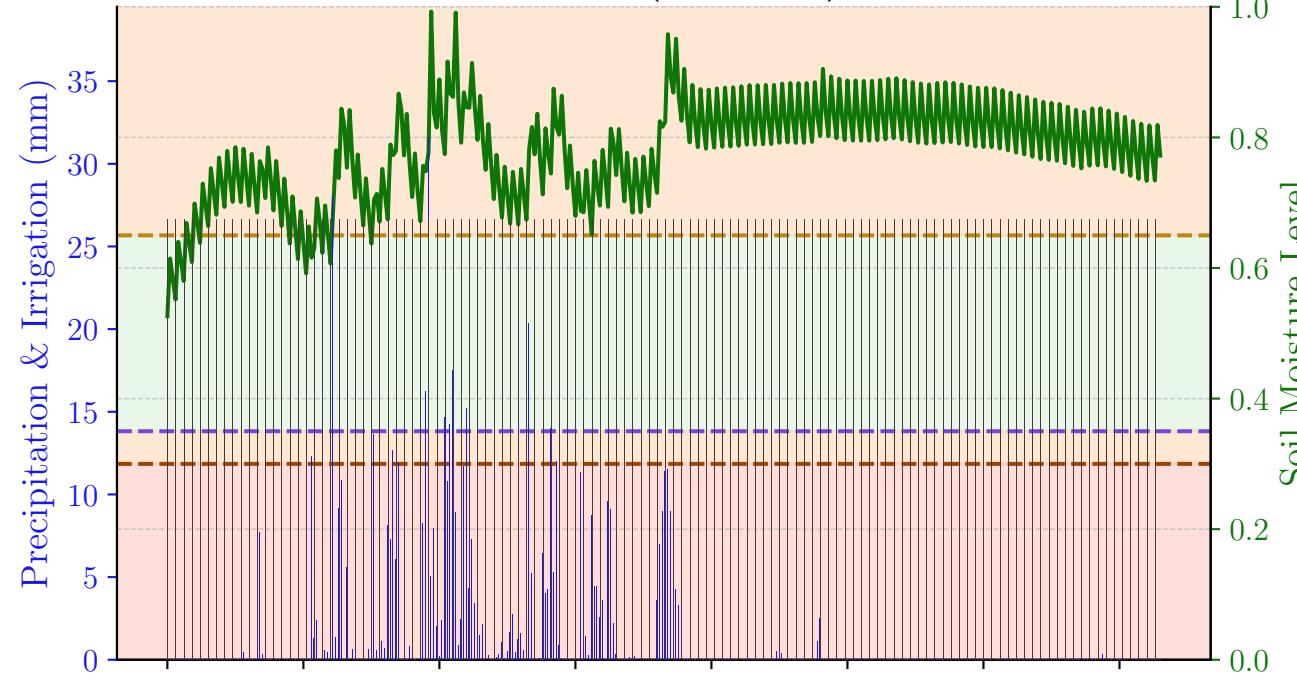
■ Feasible Region

■ Chance-Constrained Region

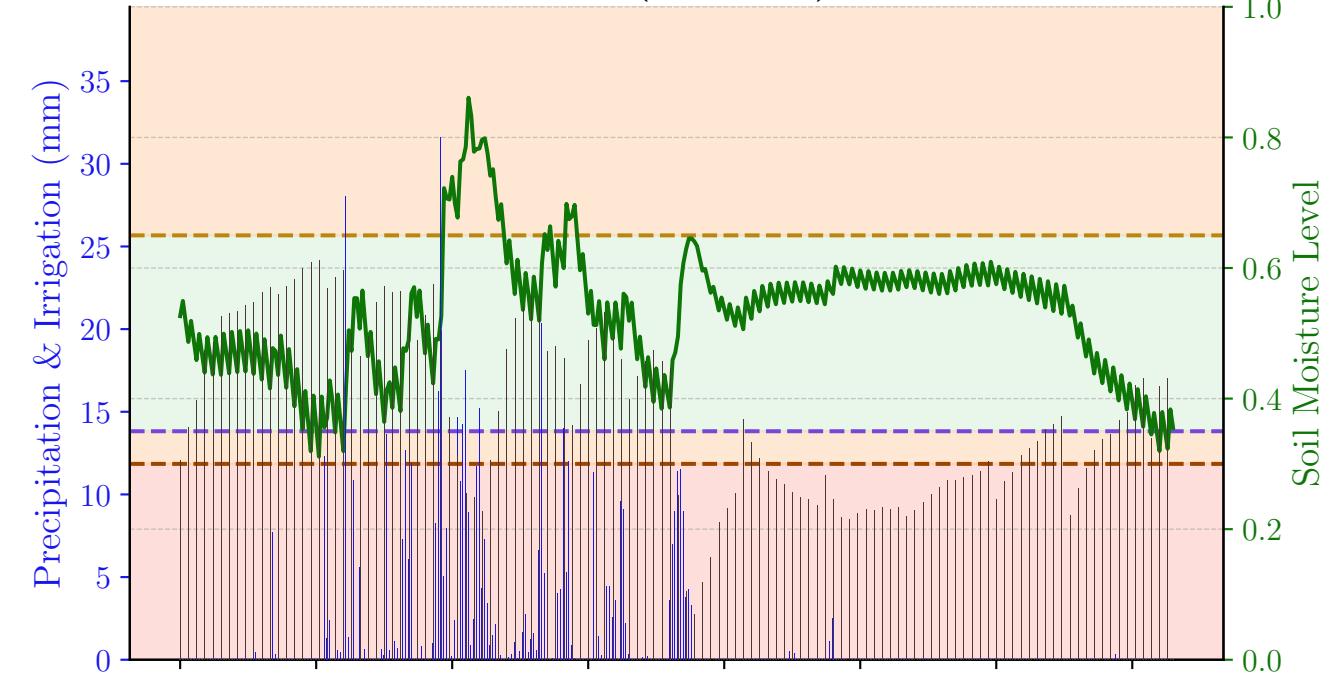
■ Hard-Constrained Region

# Model Performance During Evaluation, Seed 59 ( $d = 3$ )

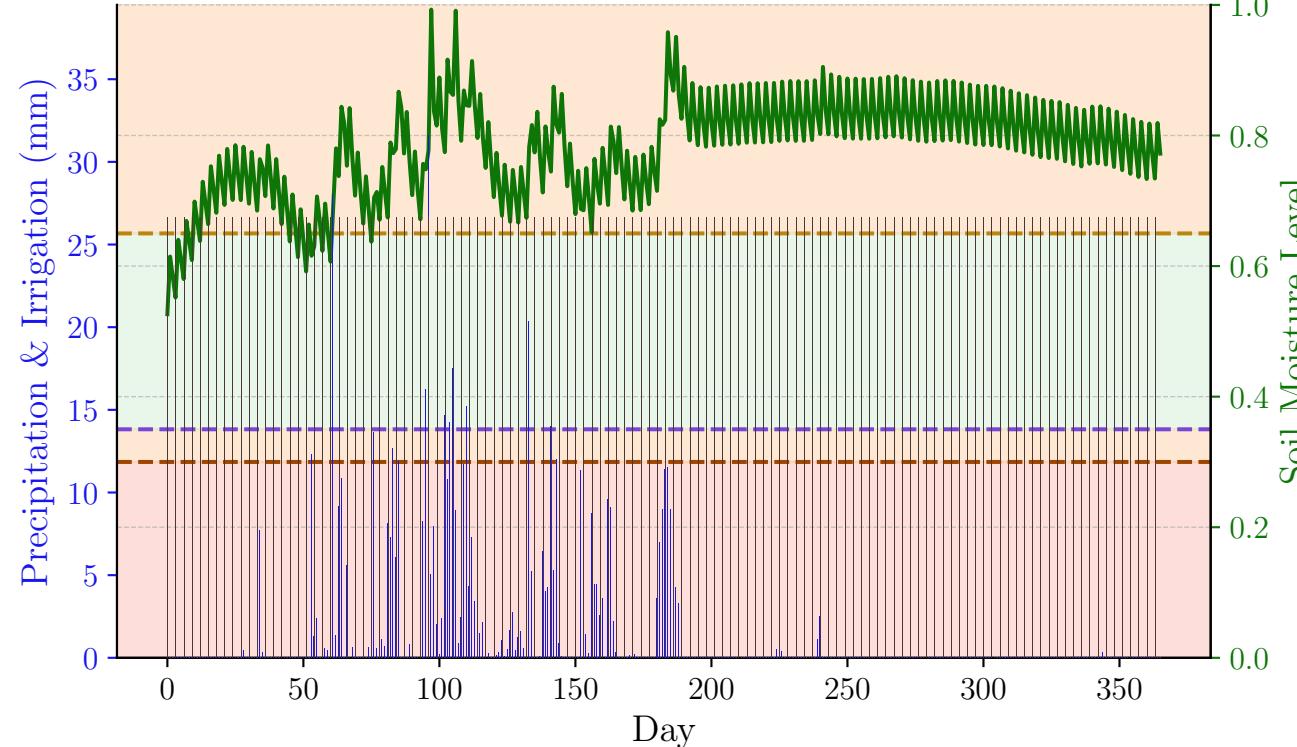
**DDPG (Regular)**



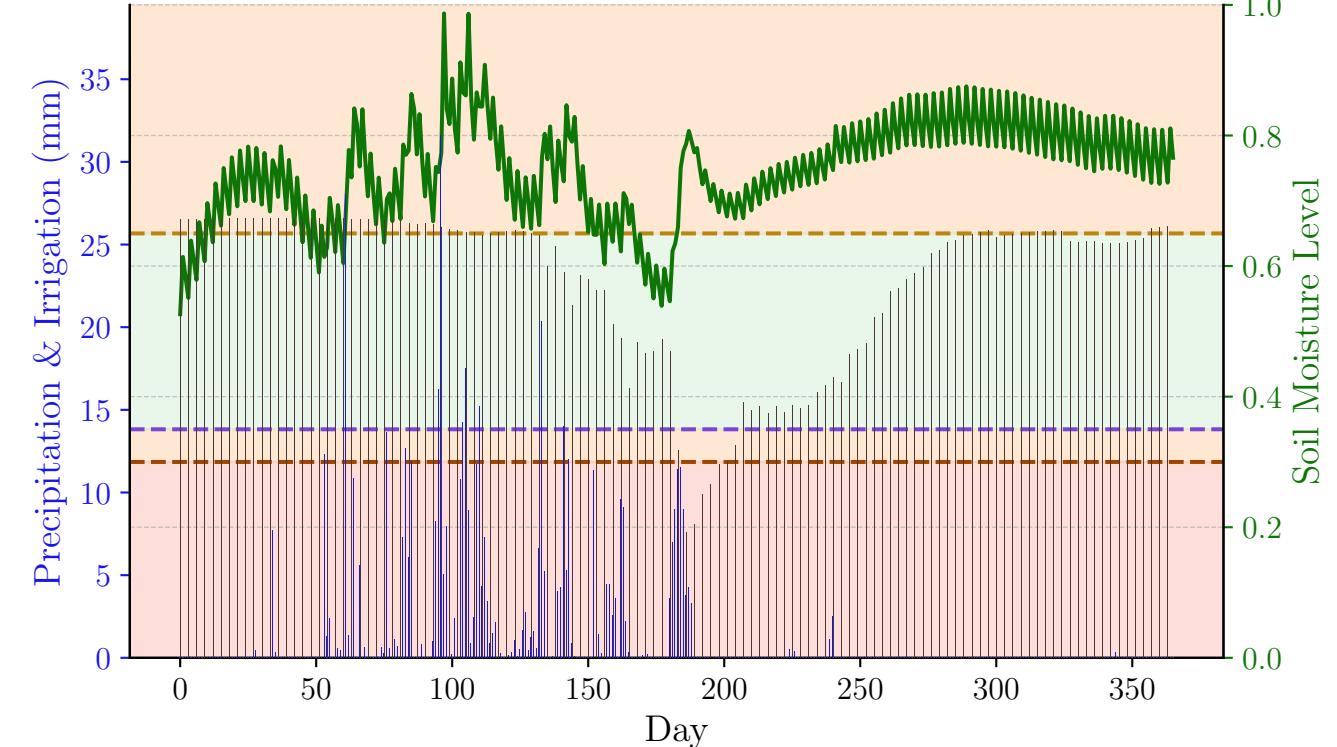
**SAC (Regular)**



**DDPG Lagrangian ( $\alpha = 0.95$ )**



**SAC Lagrangian ( $\alpha = 0.95$ )**



— Soil Moisture

■ Rainfall (mm)

■ Irrigation (mm)

— Field Capacity ( $s_{fc} = 0.65$ )

— Water Stress Point ( $s^* = 0.35$ )

— Permanent Wilting Point ( $s_w = 0.3$ )

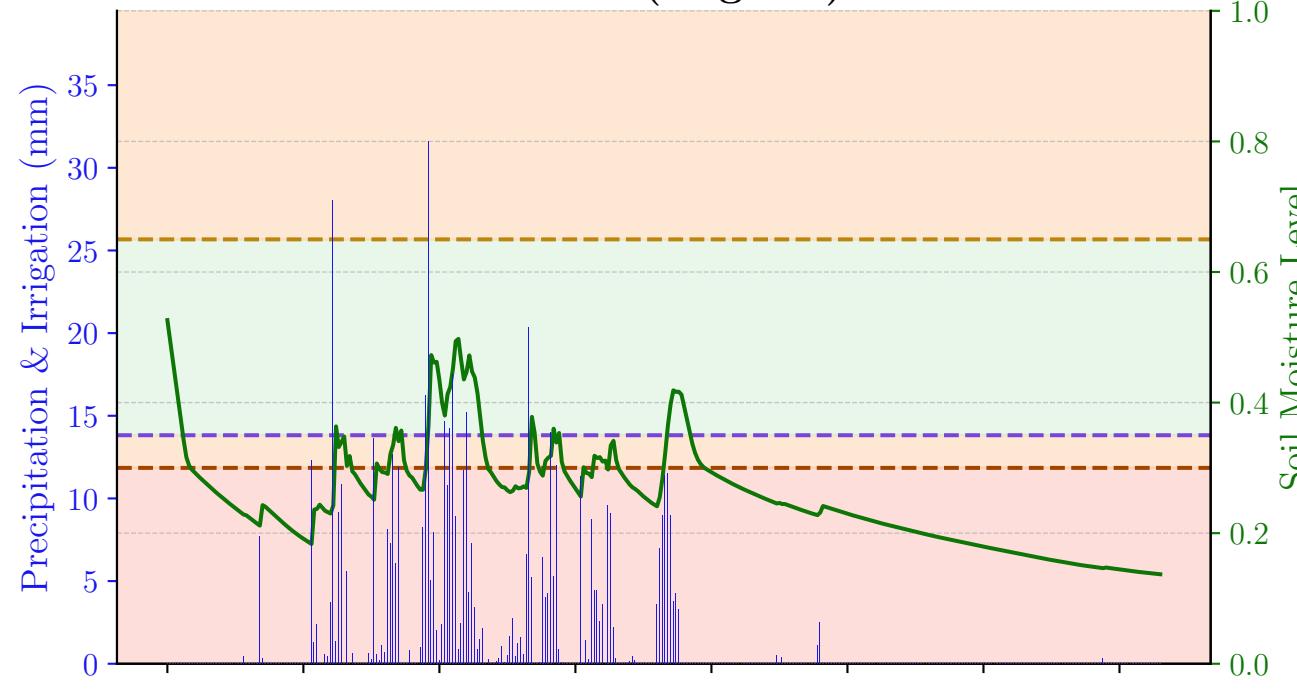
■ Feasible Region

■ Chance-Constrained Region

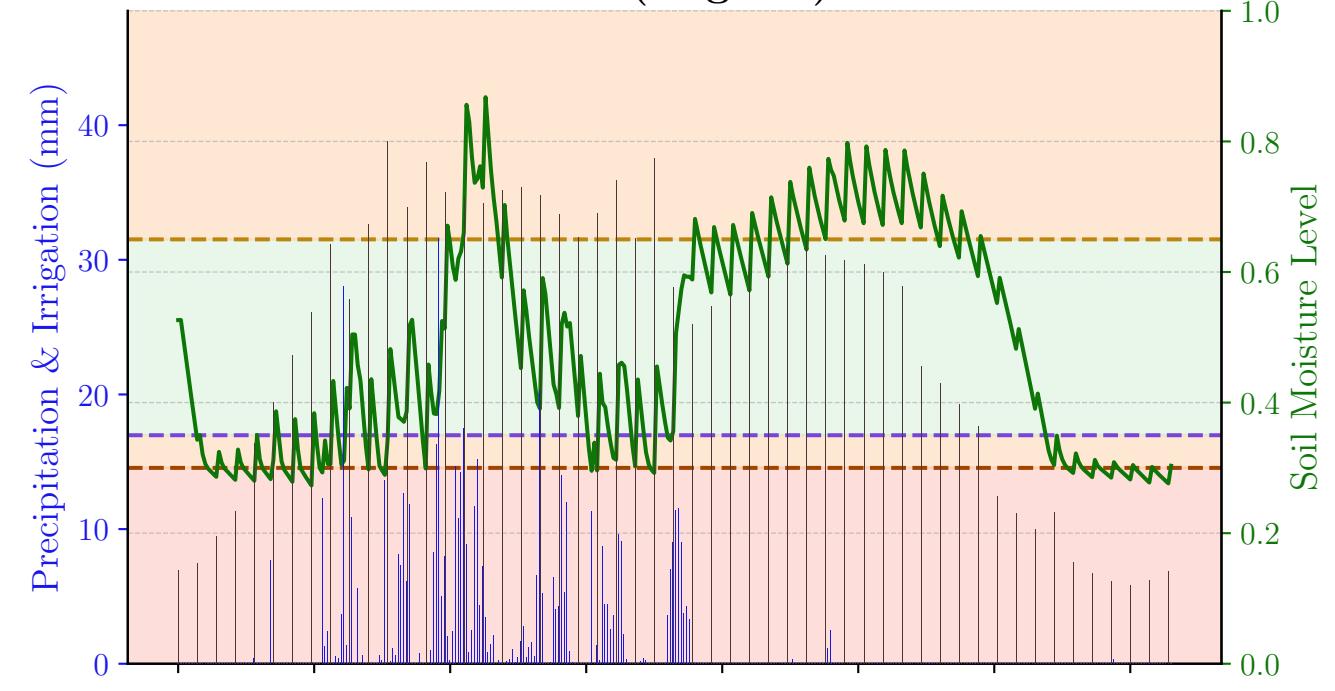
■ Hard-Constrained Region

# Model Performance During Evaluation, Seed 59 ( $d = 7$ )

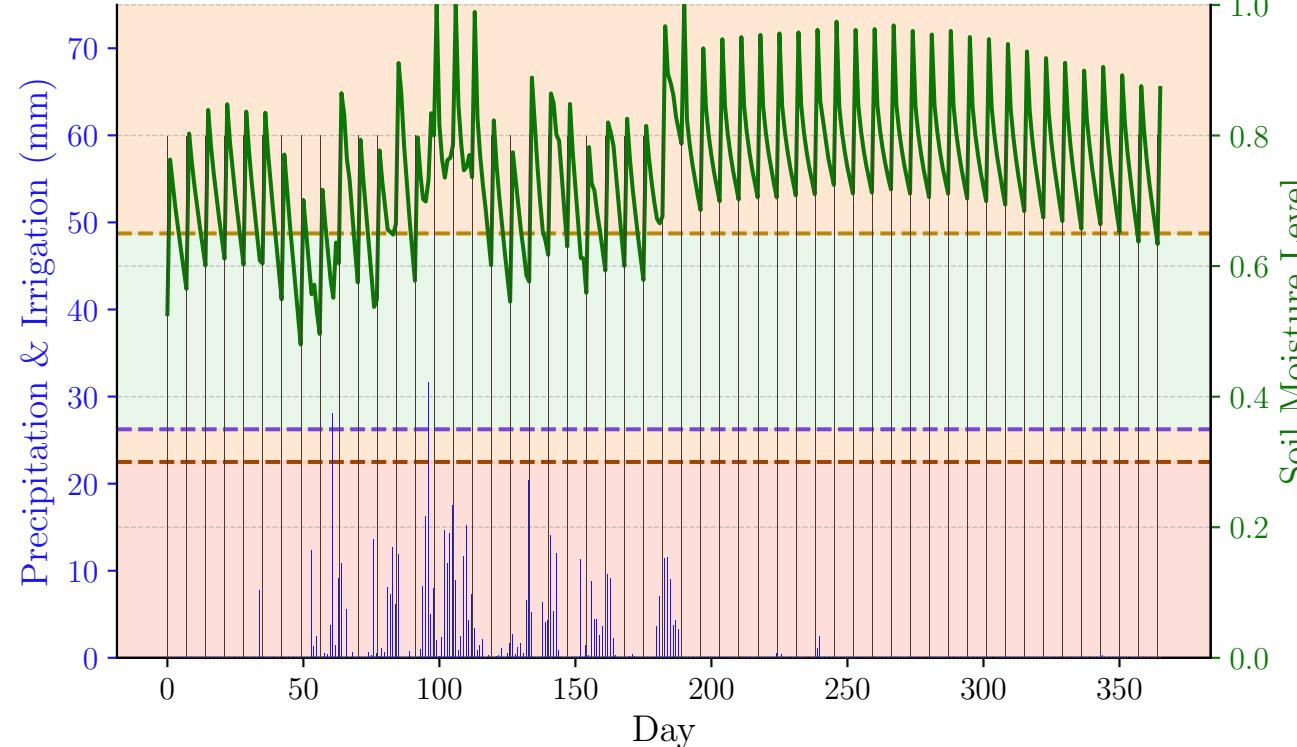
**DDPG (Regular)**



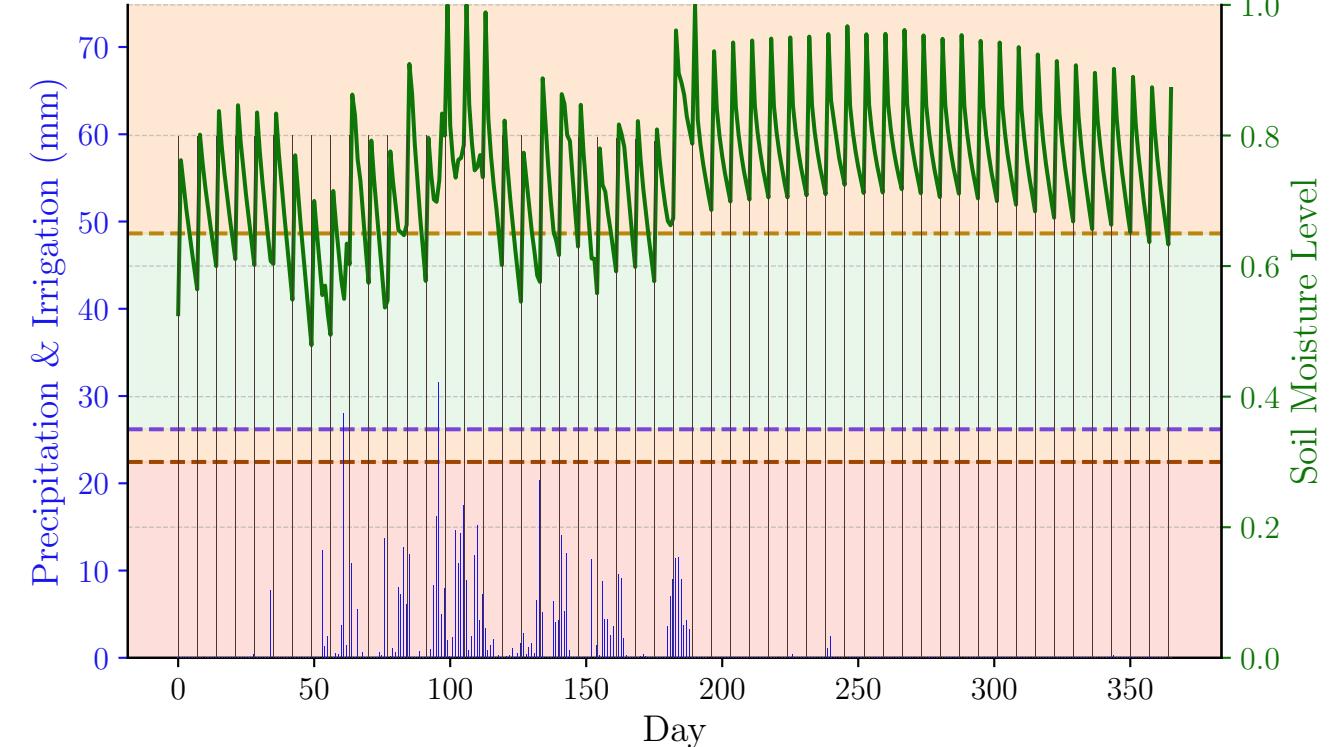
**SAC (Regular)**



**DDPG Lagrangian ( $\alpha = 0.95$ )**



**SAC Lagrangian ( $\alpha = 0.95$ )**



— Soil Moisture

■ Rainfall (mm)

■ Irrigation (mm)

— Field Capacity ( $s_{fc} = 0.65$ )

— Water Stress Point ( $s^* = 0.35$ )

— Permanent Wilting Point ( $s_w = 0.3$ )

■ Feasible Region

■ Chance-Constrained Region

■ Hard-Constrained Region