FEMA Flood Models: Likelihood and Magnitude
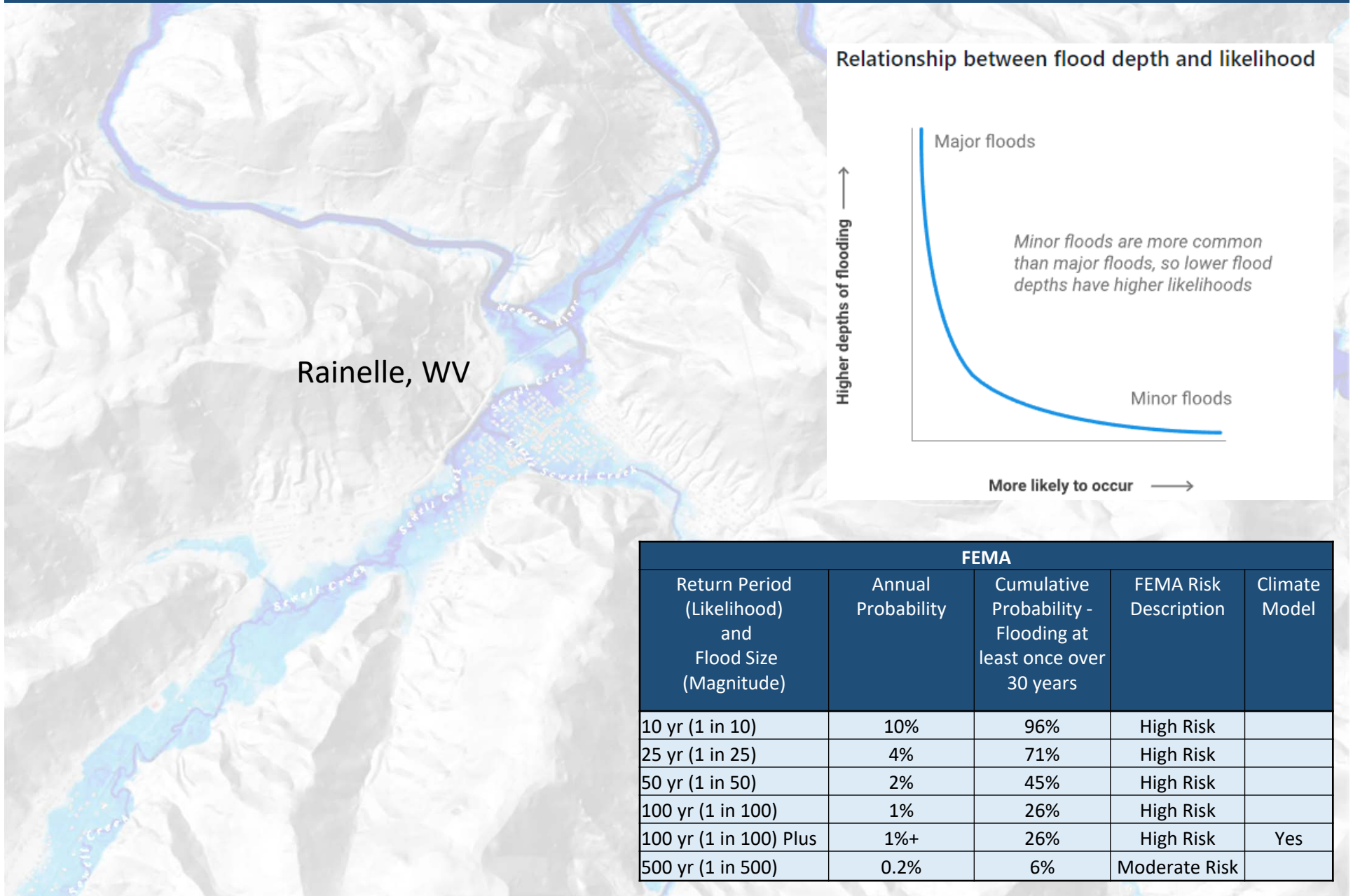
Rainelle, WV

Relationship between flood depth and likelihood

Higher depths of flooding →

Major floods

Minor floods are more common than major floods, so lower flood depths have higher likelihoods

Minor floods

More likely to occur ⟶
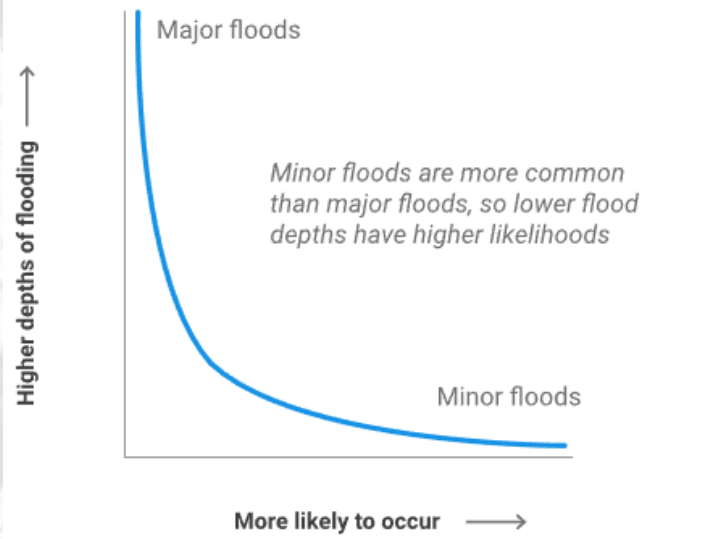
FEMA				
Return Period (Likelihood) and Flood Size (Magnitude)	Annual Probability	Cumulative Probability - Flooding at least once over 30 years	FEMA Risk Description	Climate Model
10 yr (1 in 10)	10%	96%	High Risk	
25 yr (1 in 25)	4%	71%	High Risk	
50 yr (1 in 50)	2%	45%	High Risk	
100 yr (1 in 100)	1%	26%	High Risk	
100 yr (1 in 100) Plus	1%+	26%	High Risk	Yes
500 yr (1 in 500)	0.2%	6%	Moderate Risk	

FEMA 10% Annual Chance (10-year) — Rainelle, WV

0 ft.

FLOOD DEPTH

35 ft.

Meadow River

Sewell Creek

Little Sewell Creek

Sewell Creek

96% **probability** of flooding at least once over 30 years

Non-Residential
Residential

FEMA   4% Annual Chance (25-year)   Rainelle, WV

0 ft.

FLOOD DEPTH

35 ft.

Meadow River

Sewell Creek

Little Sewell Creek

Sewell Creek

71% probability of flooding at least once over 30 years

Non-Residential
Residential

FEMA 2% Annual Chance (50-year) — Rainelle, WV

0 ft.

FLOOD DEPTH

35 ft.

Meadow River

Sewell Creek

Little Sewell Creek

Sewell Creek

45% **probability** of flooding at least once over 30 years

Non-Residential
Residential

FEMA   1% Annual Chance (100-year)   Rainelle, WV

0 ft.

FLOOD
DEPTH

35 ft.

Meadow River

Sewell Creek

Little Sewell Creek

Sewell Creek

26% **probability** of flooding at least once over 30 years

Non-Residential
Residential

FEMA 10% Annual Chance (10-year)   Rainelle, WV

FEMA   2% Annual Chance (50-year)   Rainelle, WV

FEMA   1% Annual Chance (100-year)   Rainelle, WV

Meadow River

Sewell Creek

Little Sewell Creek

Sewell Creek

FEMA 0.2% Annual Chance (500-year)   Rainelle, WV

Meadow River

Sewell Creek

Little Sewell Creek

Sewell Creek

FEMA 10% Annual Chance (10-year) — Rainelle, WV

FEMA   1% Annual Chance (100-year)   Rainelle, WV

FEMA 0.2% Annual Chance (500-year)   Rainelle, WV

Meadow River

Sewell Creek

Little Sewell Creek

Sewell Creek