

# Consolidation and Stabilization of Seismic Design Categories

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# Proposed 2021 NEHRP *Provisions*

## Consolidation of SDCs

### ASCE 7-16

Values of $S_{DS}$	Values of $S_{MS}$	Risk Category	
		I or II or III	IV
$S_{DS} < 0.167$	$S_{MS} < 0.25$	A	A
$0.167 \leq S_{DS} < 0.33$	$0.25 \leq S_{MS} < 0.50$	B	C
$0.33 \leq S_{DS} < 0.50$	$0.50 \leq S_{MS} < 0.75$	C	D
$0.50 \leq S_{DS}$	$0.75 \leq S_{MS}$	D	D

### Proposed

Values of $S_{MS}$	SDC
$S_{MS} < 0.37$	Low
$0.37 \leq S_{MS} < 0.75$	Moderate
$0.75 \leq S_{MS}$	High

# Proposed 2021 NEHRP *Provisions*

## Consolidation of SDCs

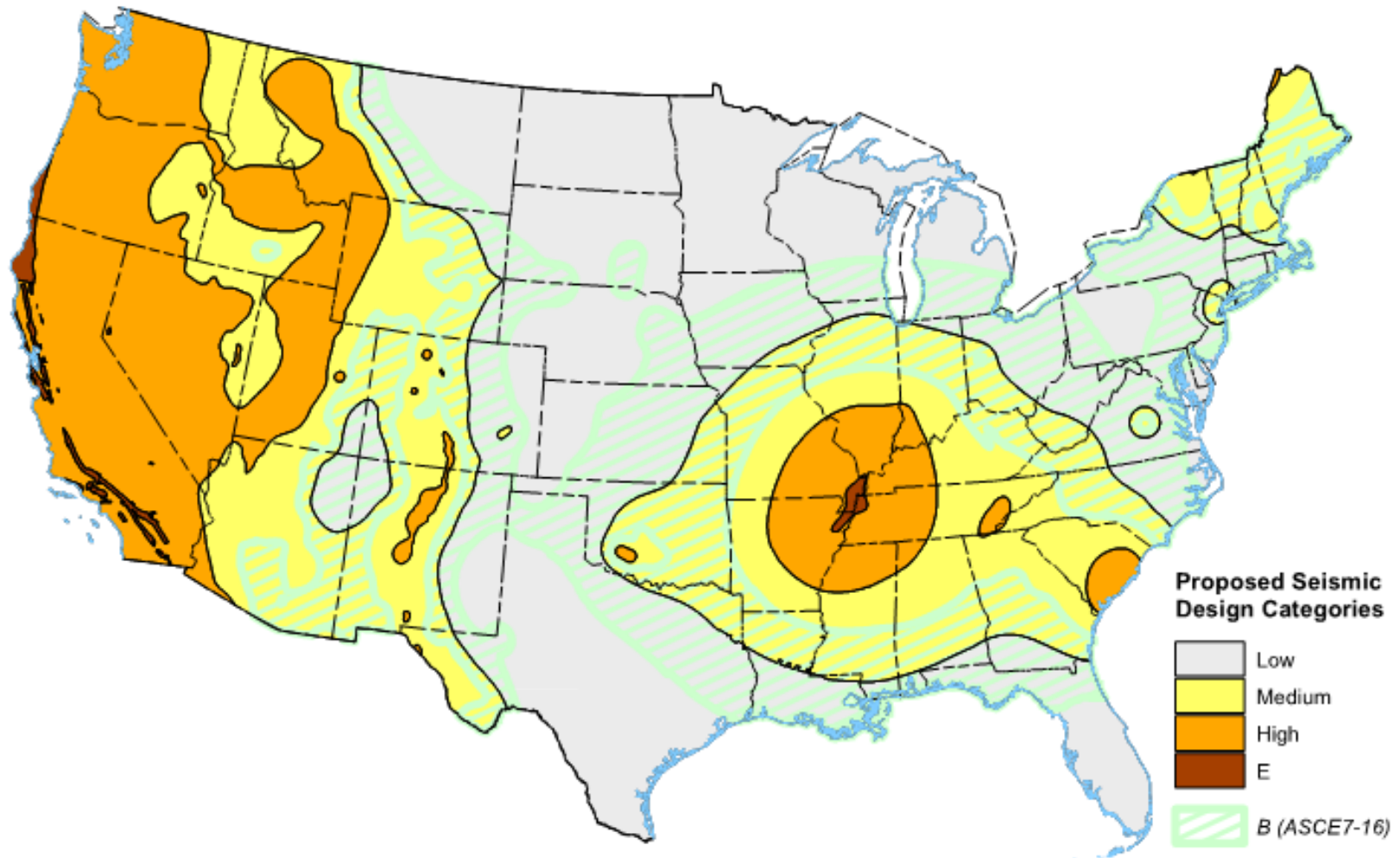
### ASCE 7-16

Values of $S_{D1}$	Values of $S_{M1}$	Risk Category	
		I or II or III	IV
$S_{D1} < 0.067$	$S_{M1} < 0.10$	A	A
$0.067 \leq S_{D1} < 0.133$	$0.10 \leq S_{M1} < 0.20$	B	C
$0.133 \leq S_{D1} < 0.20$	$0.20 \leq S_{M1} < 0.30$	C	D
$0.20 \leq S_{D1}$	$0.30 \leq S_{M1}$	D	D

### Proposed

Values of $S_{M1}$	SDC
$S_{M1} < 0.15$	Low
$0.15 \leq S_{M1} < 0.30$	Moderate
$0.30 \leq S_{M1}$	High

# Proposed Consolidated SDC Map Based on Default Site Class



# Proposed 2021 NEHRP *Provisions*

## Definition for Default Site Class.

Where the soil properties are not known in sufficient detail to determine the site class, risk-targeted maximum considered earthquake ( $MCE_R$ ) spectral response accelerations shall be based on the more critical spectral response acceleration of Site Class C, Site Class CD and Site Class D subsurface conditions, unless the authority having jurisdiction determines, based on geotechnical data, that Site Class DE, E or F soils are present at the site.

# Proposed Consolidated SDC Map Based on Default Site Class

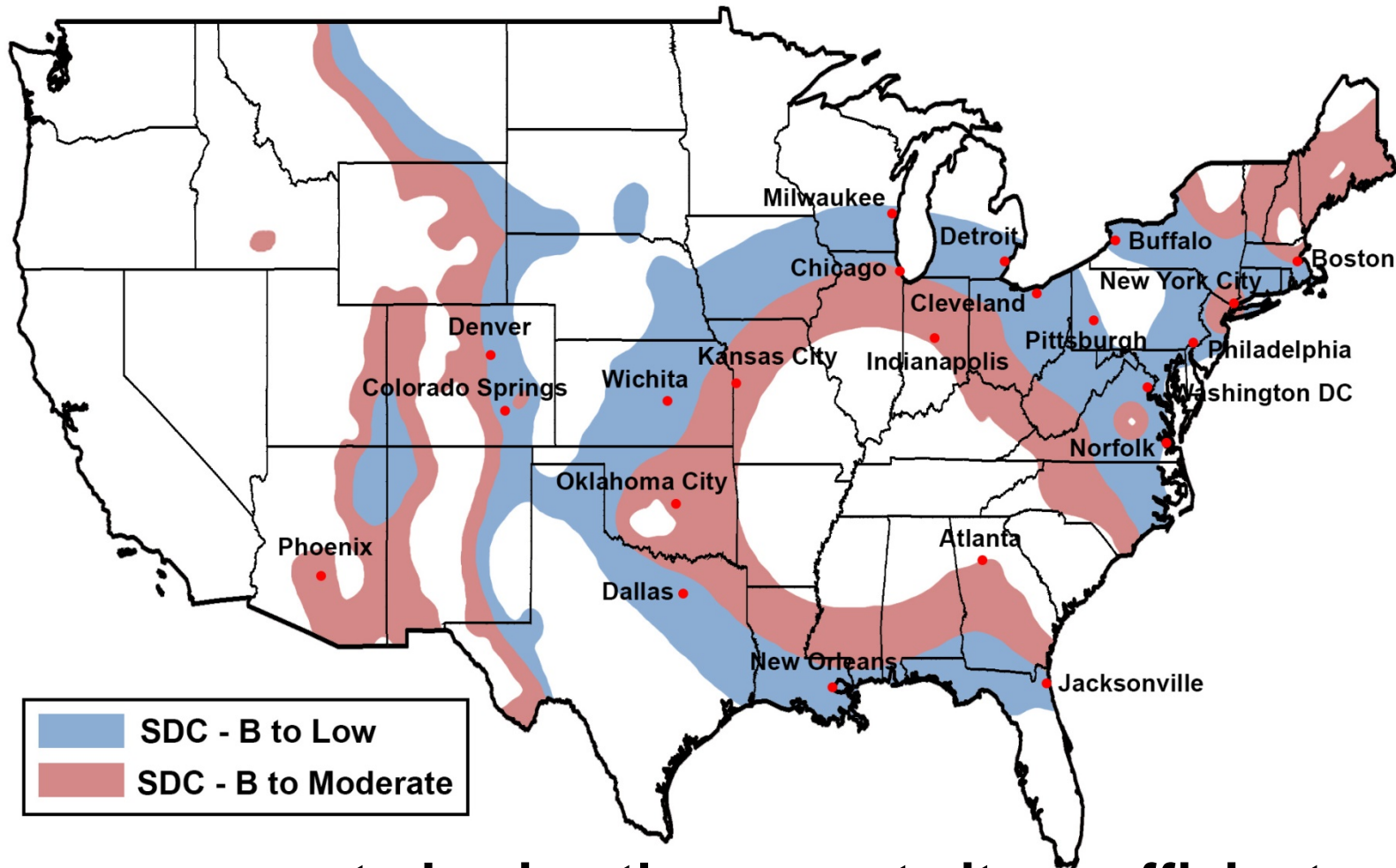


Image was created using the current site coefficients.  
It will change somewhat once the MPRS is in use.

# Proposed Consolidatd SDC Map Based on Site Class C

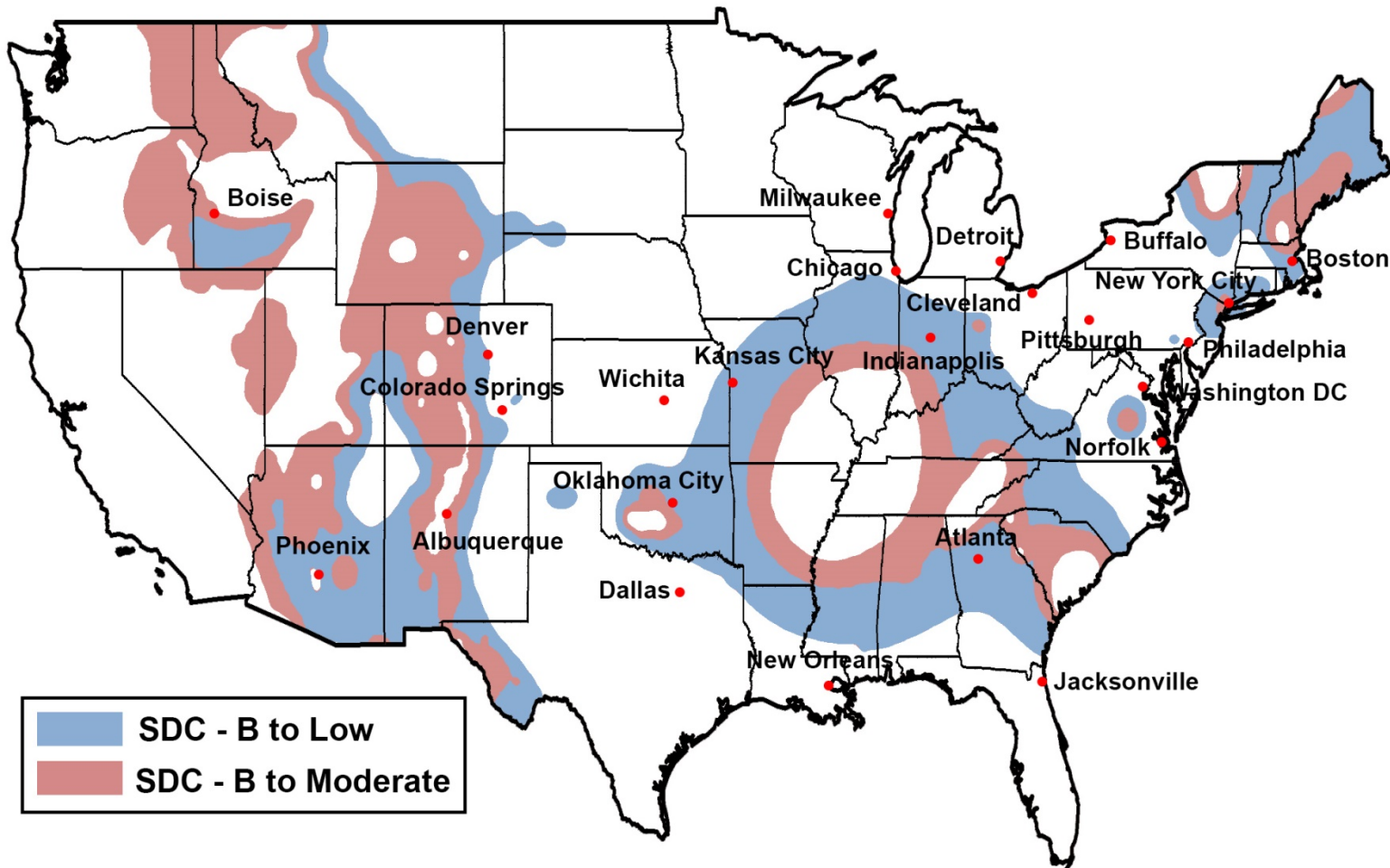
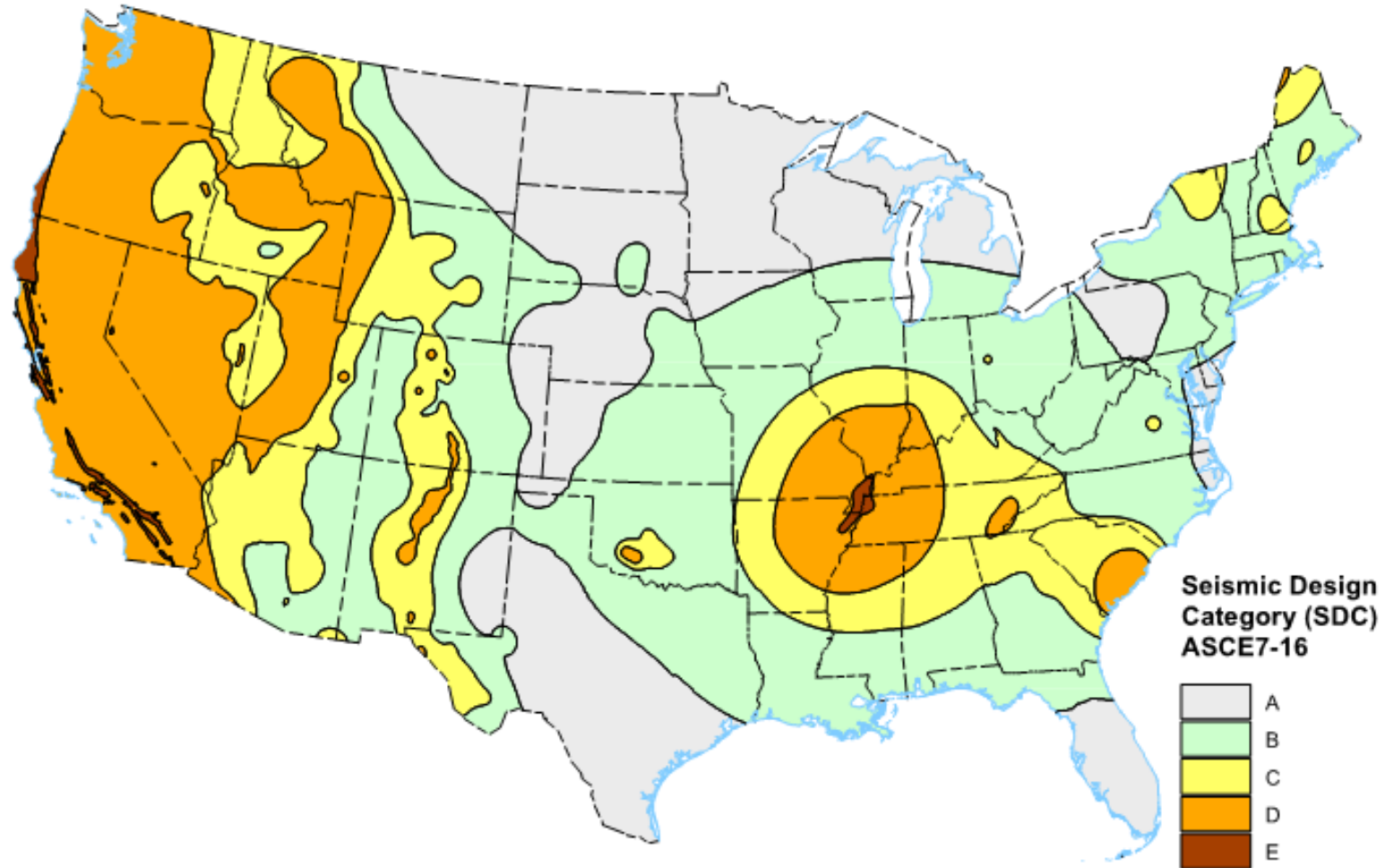


Image was created using the current site coefficients.  
It will change somewhat once the MPRS is in use.

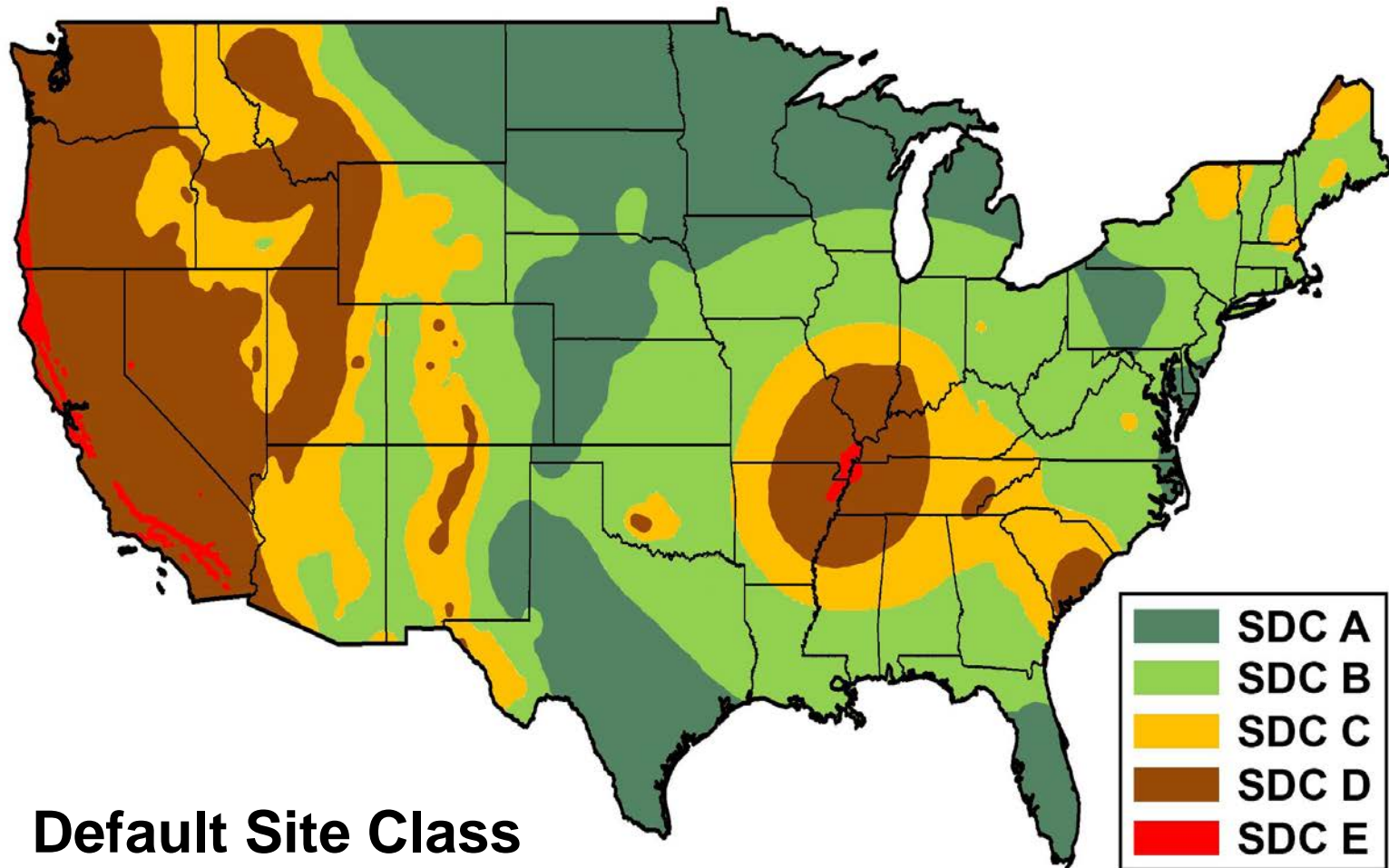


# Proposed SDC Map for RC I, II, or III Structures (Stabilization)

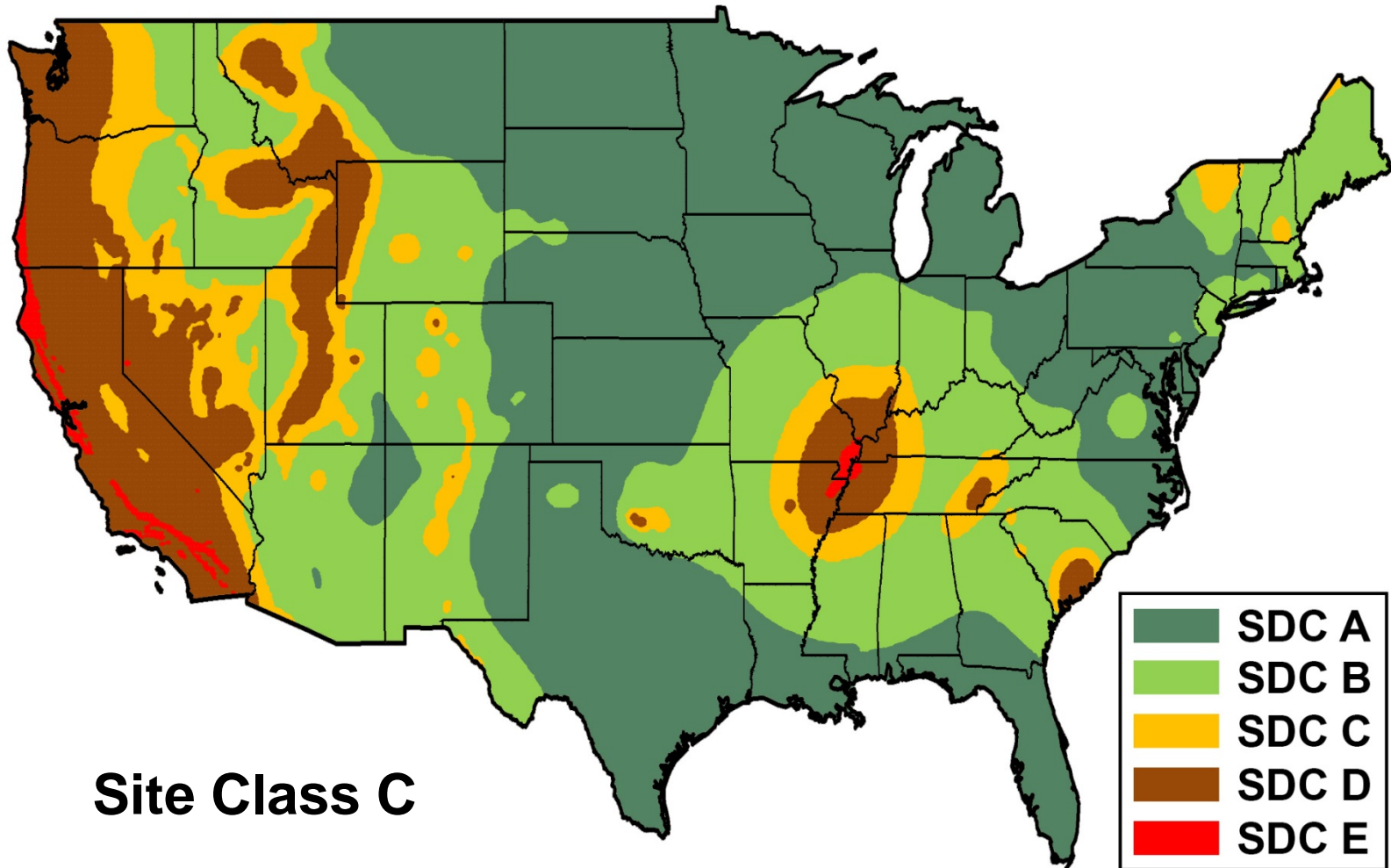




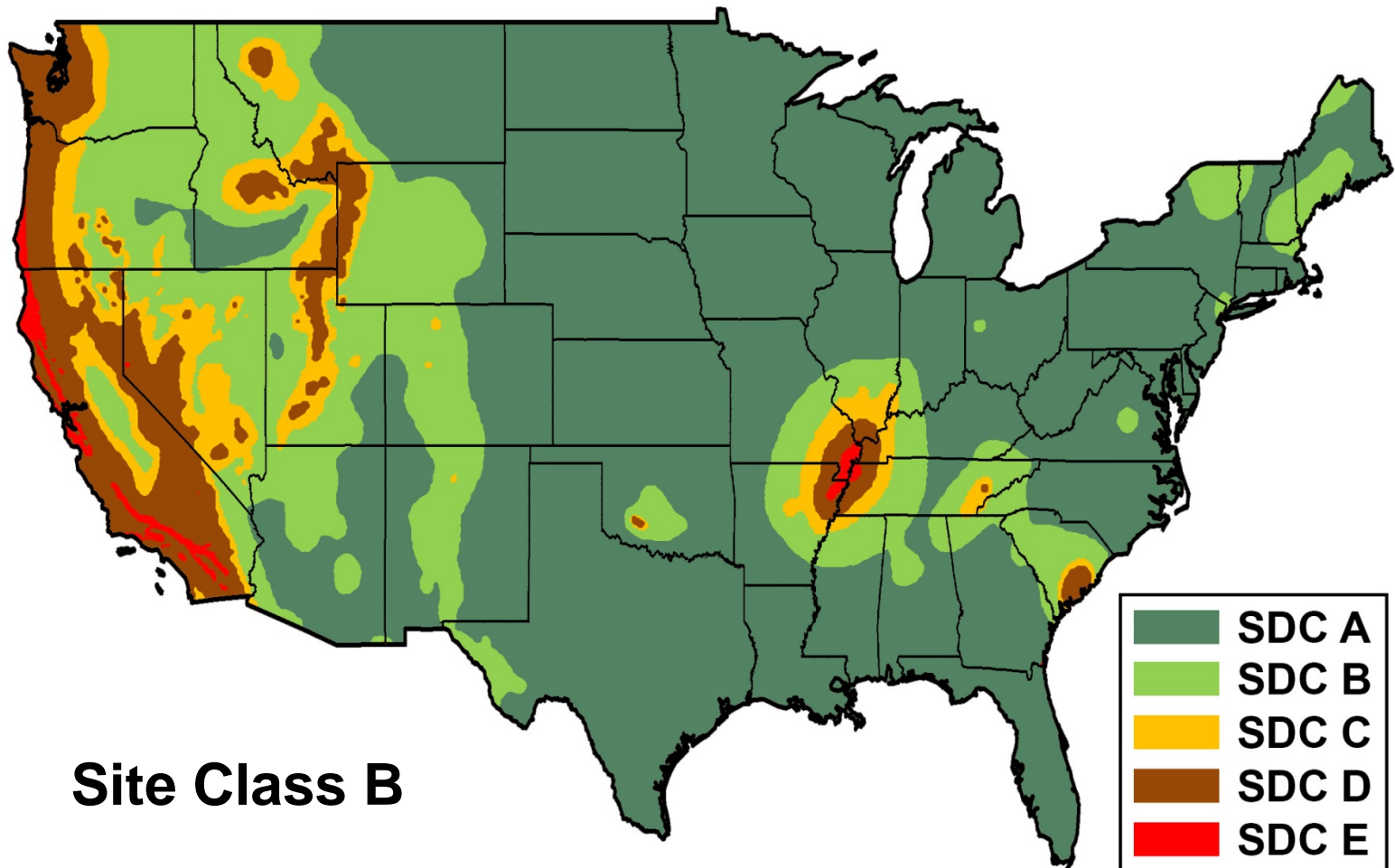
# ASCE 7-16 SDC Map for RC I, II, or III Structures



# ASCE 7-16 SDC Map for RC I, II, or III Structures

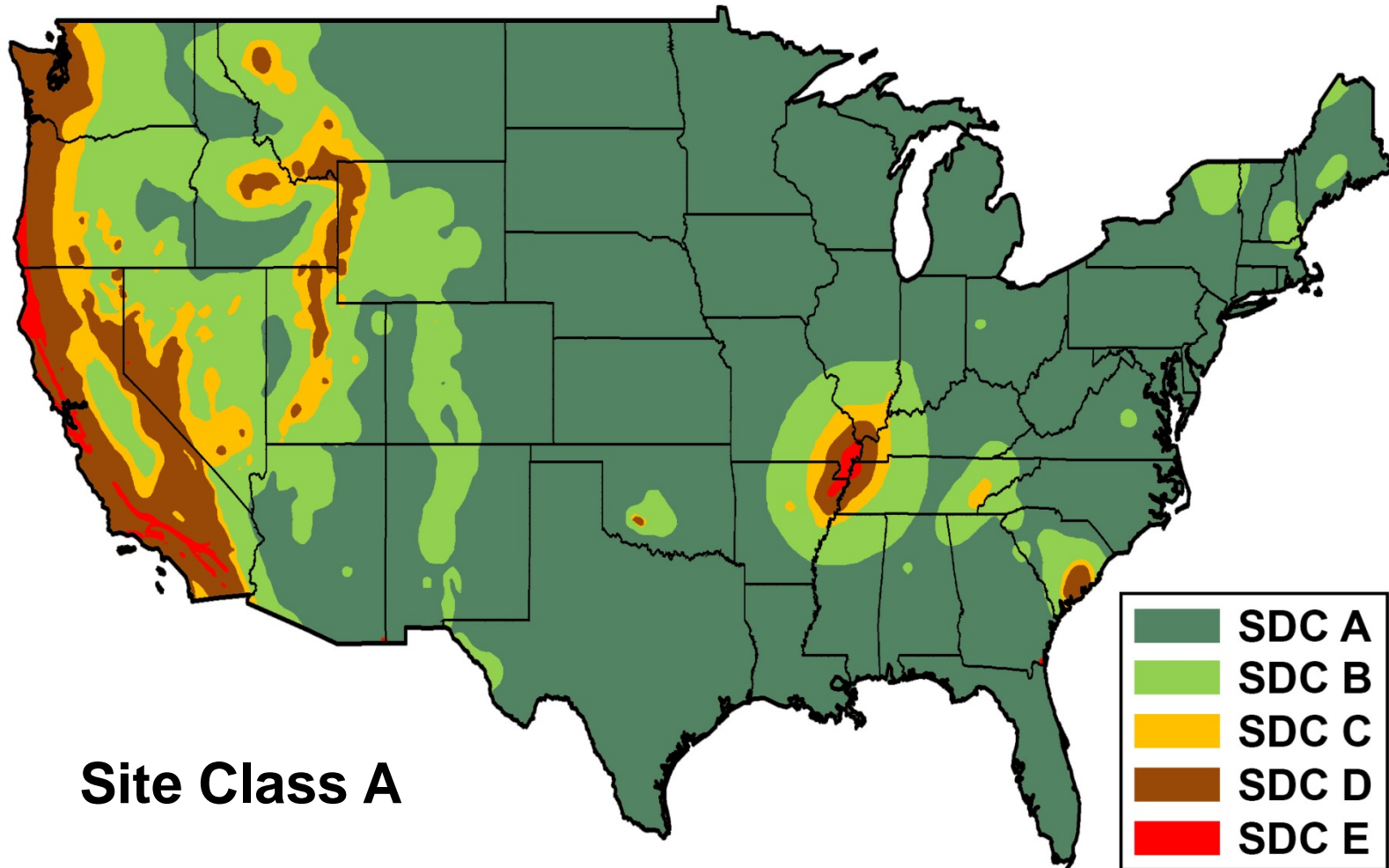


# ASCE 7-16 SDC Map for RC I, II, or III Structures



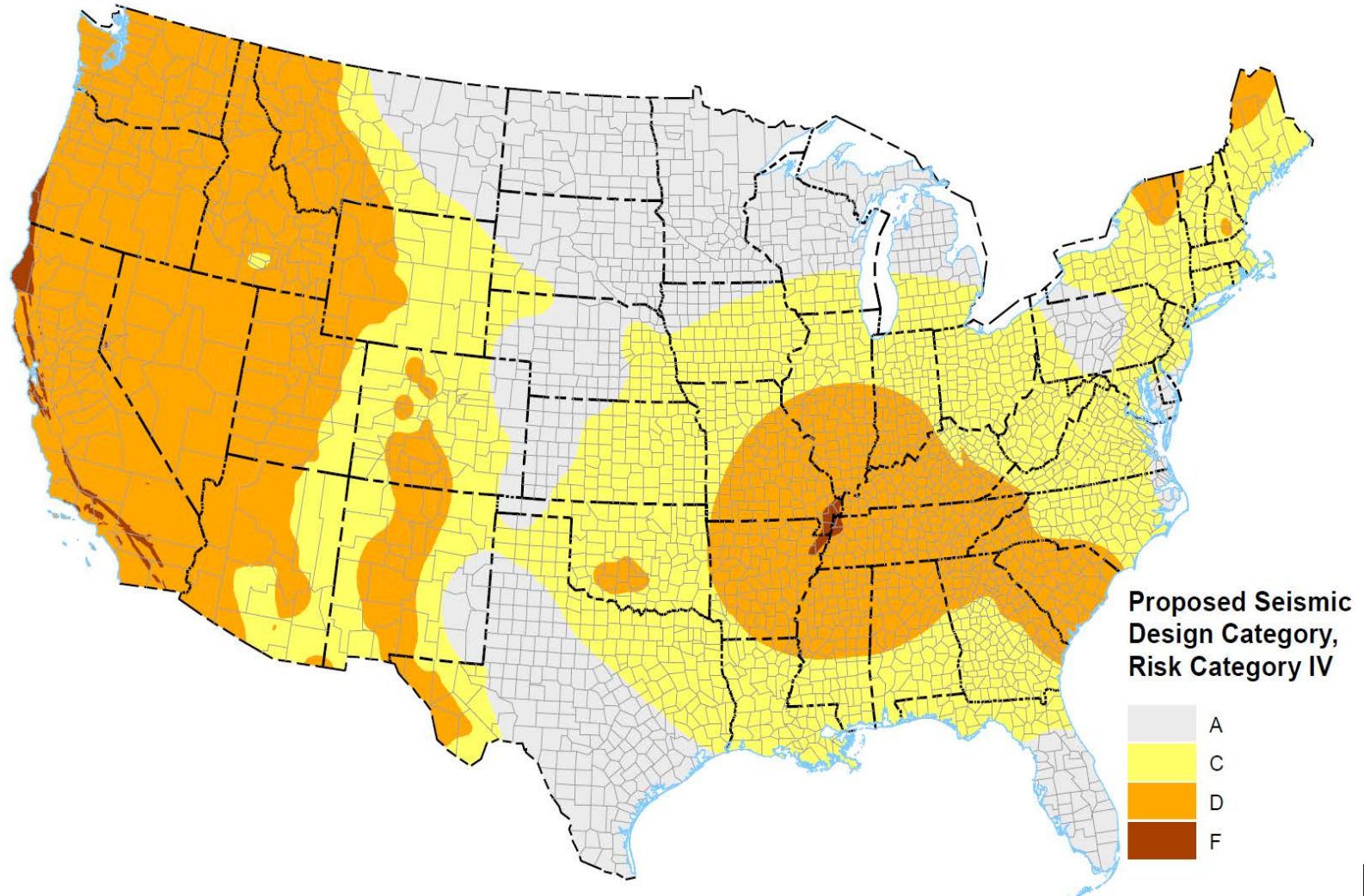
**Site Class B**

# ASCE 7-16 SDC Map for RC I, II, or III Structures

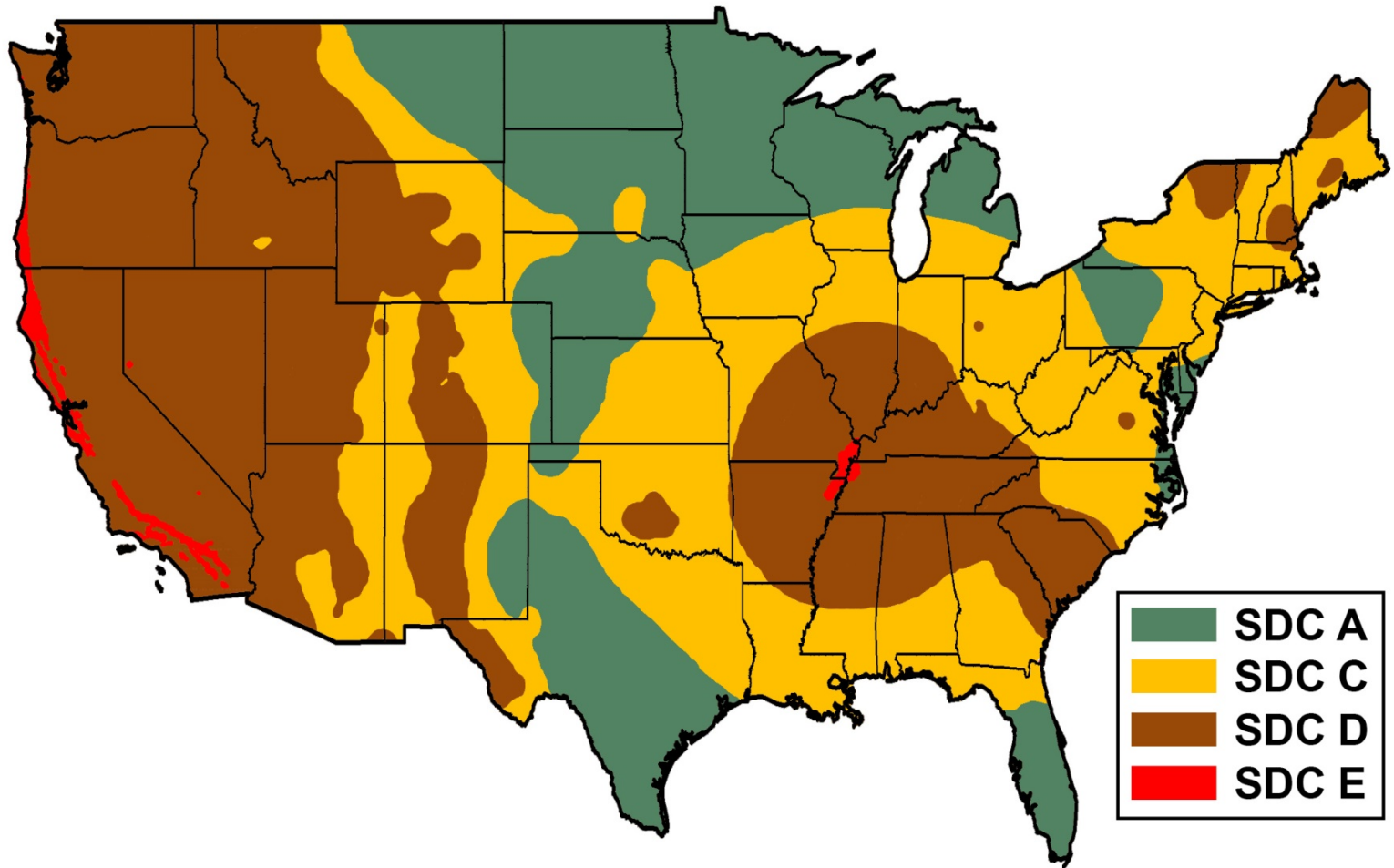




# Proposed SDC Map for RC IV Structures (Stabilization)



# ASCE 7-16 SDC Map for RC IV Structures



# Thank You!!

For more information...

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