

CE36-19 Part I

PART I — IECC: FIGURE C301.1, TABLE C301.1, C301.3, TABLE C301.3(1), TABLE C301.3(2)

PART II — IECC: FIGURE R301.1 (IRC N1101.7), TABLE R301.1 (IRC N1101.7), R301.3 (IRC N1101.7.2), TABLE R301.3(1) [IRC N1101.7.2(1)], TABLE R301.3(2) [IRC N1101.7.2(2)]

Proponent: David Collins, representing SEHPCAC (SEHPCAC@iccsafe.org); David Collins, representing The American Institute of Architects (dcollins@preview-group.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IECC- COMMERCIAL COMMITTEE. PART II WILL BE HEARD BY THE IECC-RESIDENTIAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2018 International Energy Conservation Code

SECTION C301 CLIMATE ZONES

C301.1 General. *Climate zones* from Figure C301.1 or Table C301.1 shall be used for determining the applicable requirements from Chapter 4. Locations not indicated in Table C301.1 shall be assigned a *climate zone* in accordance with Section C301.3.

Revise as follows:

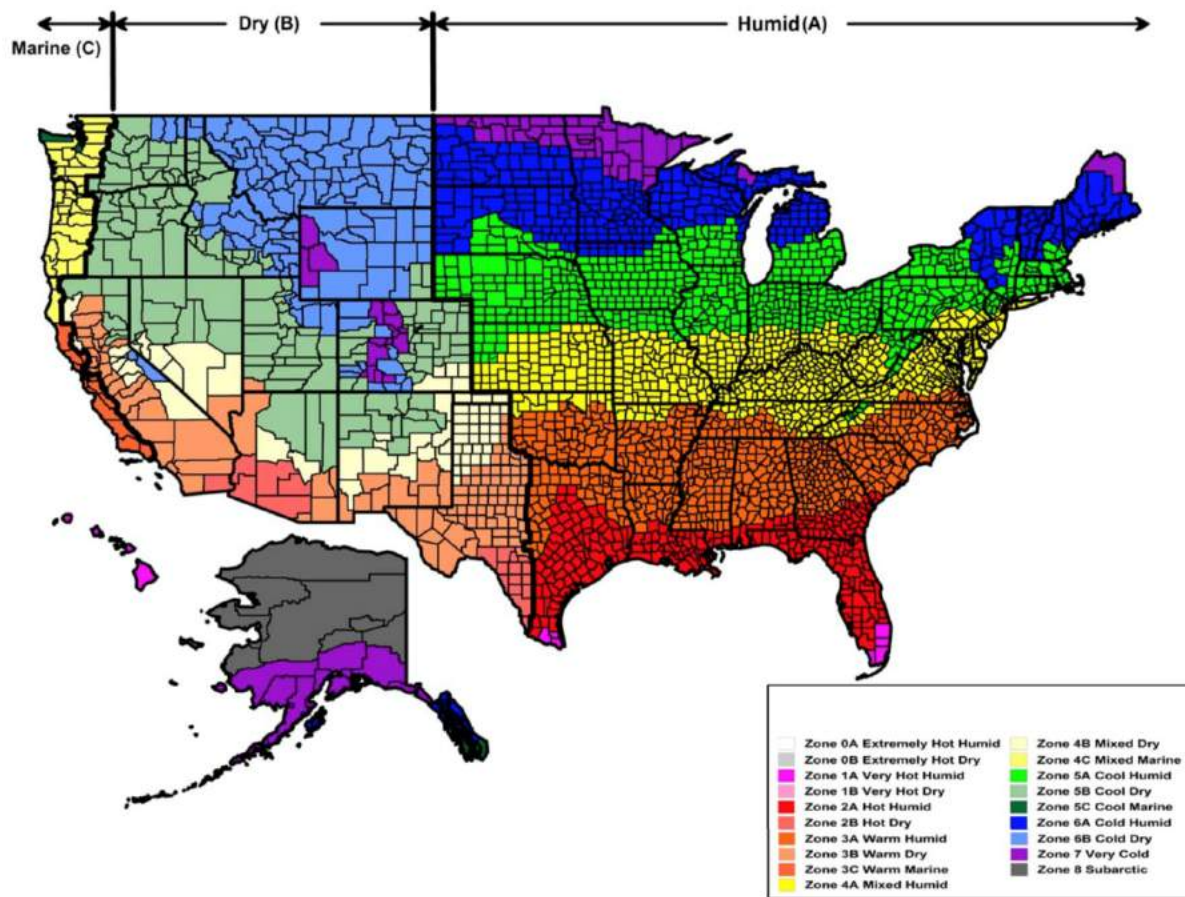
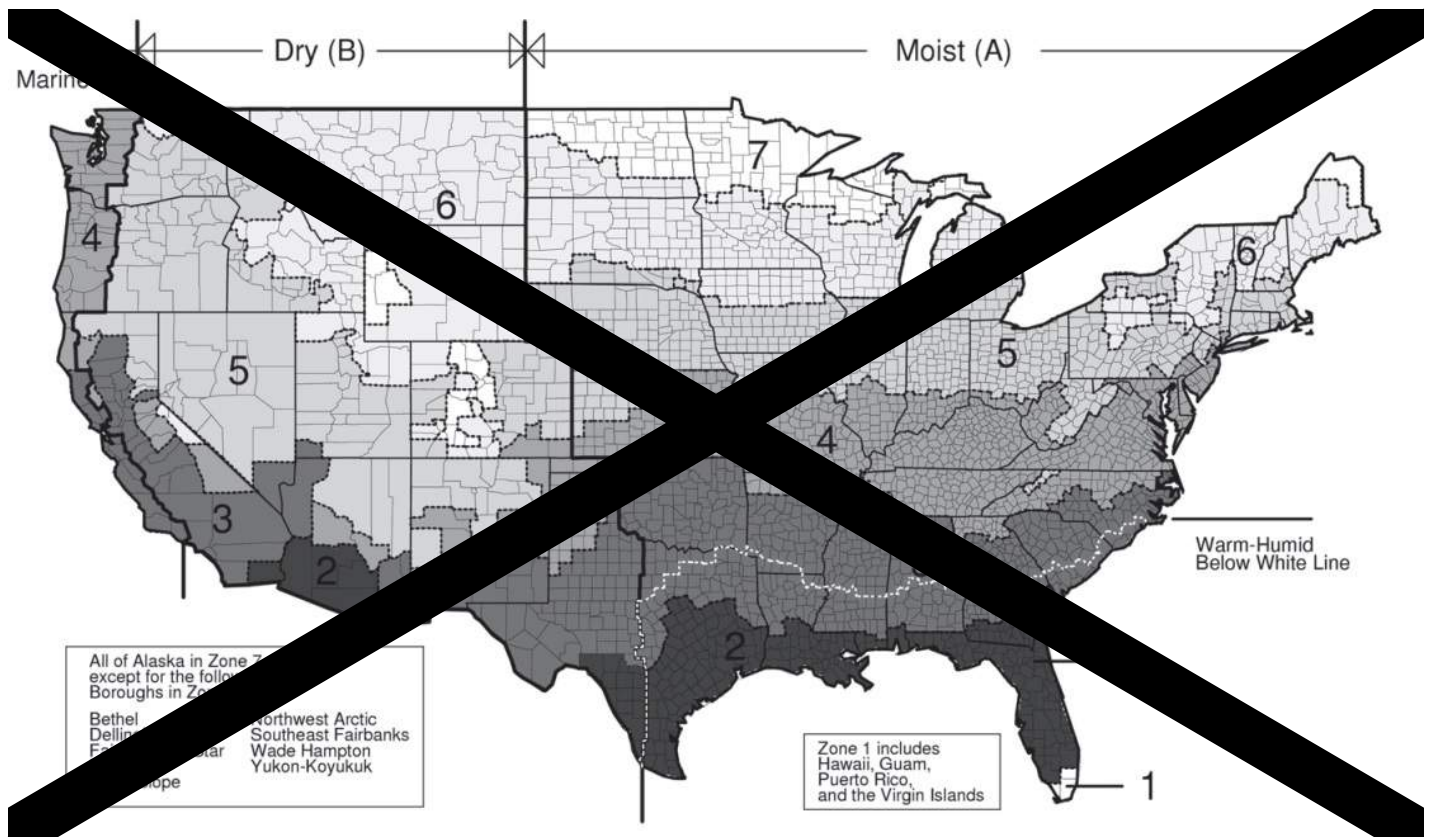


FIGURE C301.1

CLIMATE ZONES

TABLE C301.1

CLIMATE ZONES, MOISTURE REGIMES, AND WARM-HUMID DESIGNATIONS BY STATE, COUNTY AND TERRITORY

Portions of table not shown remain unchanged.

ALABAMA	<u>5A6A</u> Webster	<u>3A4A</u> Vance	<u>2A3A</u> Tarrant*
<u>2A3A</u> Coffee*	<u>5A6A</u> Winneshiek	<u>3A4A</u> Wake	<u>1A2A</u> Willacy*
<u>2A3A</u> Covington*	<u>5A6A</u> Wright	<u>3A4A</u> Warren	UTAH
<u>2A3A</u> Dale*	KANSAS	<u>5A4A</u> Wilkes	<u>5B6B</u> Box Elder
<u>2A3A</u> Escambia*	<u>4A5A</u> Cloud	NORTH DAKOTA	<u>5B6B</u> Cache
<u>2A3A</u> Geneva*	<u>4A5A</u> Ellis	<u>6A7</u> Barnes	<u>5B6B</u> Carbon
<u>2A3A</u> Henry*	<u>4A5A</u> Graham	<u>6A7</u> Cass	VERMONT
<u>2A3A</u> Houston*	<u>4A5A</u> Hamilton	<u>6A7</u> Eddy	VIRGINIA
ALASKA	<u>4A5A</u> Lane	<u>6A7</u> Foster	4A (all <u>except</u> as follows:)
<u>78</u> Bethel	<u>4A5A</u> Mitchell	<u>6A7</u> Griggs	<u>5A</u> Alleghany
<u>87</u> Denali	<u>4A5A</u> Ness	<u>6A7</u> Kidder	<u>5A</u> Bath
<u>78</u> Dillingham	<u>4A5A</u> Osborne	<u>6A7</u> McLean	<u>3A</u> Brunswick
<u>6A7</u> Haines	<u>4A5A</u> Rooks	<u>6A7</u> Mountrail	<u>3A</u> Chesapeake city
<u>6A7</u> Juneau	<u>4A5A</u> Trego	<u>6A7</u> Sheridan	<u>5A</u> Clifton Forge city
<u>5C7</u> Ketchikan Gateway	KENTUCKY	<u>6A7</u> Steele	<u>5A</u> Covington city
<u>6A7</u> Kodiak Island	LOUISIANA	<u>6A7</u> Stutsman	<u>3A</u> Emporia city
<u>5C7</u> Prince of Wales Outer Ketchikan	MAINE	<u>6A7</u> Traill	<u>3A</u> Franklin city
<u>5C7</u> Sitka	MARYLAND	<u>6A7</u> Wells	<u>3A</u> Greensville
<u>6A7</u> Skagway-Hoonah-Angoon	<u>5A4A</u> Allegany	<u>6A7</u> Williams	<u>3A</u> Halifax
<u>6A7</u> Wrangell-Petersburg	MASSACHSETTS	OHIO	<u>3A</u> Hampton city
ARIZONA	MICHIGAN	<u>4A5A</u> Athens	<u>5A</u> Highland
ARKANSAS	<u>6A7</u> Baraga	<u>4A5A</u> Butler	<u>3A</u> Isle of Wight
CALIFORNIA	<u>6A7</u> Chippewa	<u>4A5A</u> Clinton	<u>3A</u> Mecklenburg
COLORADO	<u>6A7</u> Gogebic	<u>4A5A</u> Fayette	<u>3A</u> Newport News city
<u>4B5B</u> Bent	<u>6A7</u> Houghton	<u>4A5A</u> Franklin	<u>3A</u> Norfolk city
<u>5B6B</u> Custer	<u>5A6A</u> Huron	<u>4A5A</u> Greene	<u>3A</u> Pittsylvania
<u>4B5B</u> Prowers	<u>6A7</u> Iron	<u>4A5A</u> Highland	<u>3A</u> Portsmouth city
CONNECTICUT	<u>6A7</u> Luce	<u>4A5A</u> Hocking	<u>3A</u> South Boston
DELAWARE	<u>6A7</u> Mackinac	<u>4A5A</u> Jackson	<u>3A</u> Southampton
DISTRICT OF COLUMBIA	<u>76A</u> Marquette	<u>4A5A</u> Madison	<u>3A</u> Suffolk city
FLORIDA	<u>6A7</u> Ontonagon	<u>4A5A</u> Meigs	<u>3A</u> Surry
<u>1A2A</u> Palm Beach*	<u>5A6A</u> Sanilac	<u>4A5A</u> Pickaway	<u>3A</u> Sussex
GEORGIA	<u>6A7</u> Schoolcraft	<u>4A5A</u> Ross	<u>3A</u> Virginia Beach city
<u>3A4A</u> Banks	MINNESOTA	<u>4A5A</u> Vinton	WASHINGTON

<u>2A3A</u> Calhoun*	<u>6A7</u> Becker	<u>4A5A</u> Warren	<u>5C4G</u> Clallam
<u>3A4A</u> Catoosa	<u>6A7</u> Clay	OKLAHOMA	<u>5C4G</u> Island
<u>3A4A</u> Chattooga	<u>5A6A</u> Fillmore	<u>4A3A</u> Alfalfa	<u>5C4G</u> Kitsap
<u>2A3A</u> Coffee*	<u>6A7</u> Grant	<u>4A3A</u> Craig	<u>5B6B</u> Okanogan
<u>3A4A</u> Dade	<u>5A6A</u> Houston	<u>4A3A</u> Delaware	<u>5C4G</u> San Juan
<u>3A4A</u> Dawson	<u>6A7</u> Kanabec	<u>4A3A</u> Ellis	WEST VIRGINIA
<u>2A3A</u> Dougherty*	<u>6A7</u> Mille Lacs	<u>4A3A</u> Garfield	<u>4A5A</u> Doddridge
<u>2A3A</u> Early*	<u>6A7</u> Otter Tail	<u>4A3A</u> Grant	<u>4A5A</u> Fayette
<u>3A4A</u> Fannin	<u>6A7</u> Wilkin	<u>4A3A</u> Harper	<u>4A5A</u> Greenbrier
<u>3A4A</u> Floyd	<u>5A6A</u> Winona	<u>4A3A</u> Kay	<u>4A5A</u> Lewis
<u>3A4A</u> Franklin	MISSISSIPPI	<u>4A3A</u> Major	<u>4A5A</u> Nicholas
<u>3A4A</u> Gilmer	<u>2A3A</u> George*	<u>4A3A</u> Nowata	<u>4A5A</u> Raleigh
<u>3A4A</u> Gordon	MISSOURI	<u>4A3A</u> Osage	<u>4A5A</u> Summers
<u>3A4A</u> Habersham	<u>4A5A</u> Buchanan	<u>4A3A</u> Ottawa	<u>4A5A</u> Upshur
<u>3A4A</u> Hall	<u>4A5A</u> Caldwell	<u>4A3A</u> Washington	<u>4A5A</u> Webster
<u>3A4A</u> Lumpkin	<u>4A5A</u> Chariton	<u>4A3A</u> Woods	WISCONSIN
<u>3A4A</u> Murray	<u>4A5A</u> Clinton	<u>4A3A</u> Woodward	<u>5A6A</u> Adams
<u>3A4A</u> Pickens	<u>3A4A</u> Dunklin	OREGON	<u>6A7</u> Ashland
<u>3A4A</u> Rabun	<u>3A4A</u> Pemiscot	PENNSYLVANIA	<u>6A7</u> Bayfield
<u>3A4A</u> Stephens	MONTANA	<u>4A5A</u> Adams	<u>6A7</u> Burnett
<u>2A3A</u> Tift*	NEBRASKA	<u>4A5A</u> Berks	<u>5A6A</u> Calumet
<u>3A4A</u> Towns	NEVADA	<u>5A6A</u> Cameron	<u>5A6A</u> Columbia
<u>3A4A</u> Union	<u>4B5B</u> Carson City (city)	<u>5A6A</u> Clearfield	<u>5A6A</u> Crawford
<u>3A4A</u> Walker	<u>4B5B</u> Douglas	<u>4A5A</u> Cumberland	<u>5A6A</u> Dane
<u>3A4A</u> White	<u>4B5B</u> Esmeralda	<u>4A5A</u> Dauphin	<u>5A6A</u> Dodge
<u>3A4A</u> Whitfield	<u>4B5B</u> Lincoln	<u>5A6A</u> Elk	<u>6A7</u> Douglas
<u>2A3A</u> Worth*	<u>4B5B</u> Lyon	<u>4A5A</u> Franklin	<u>6A7</u> Florence
HAWAII	<u>4B5B</u> Mineral	<u>4A5A</u> Lancaster	<u>5A6A</u> Fond du Lac
IDAHO	<u>4B5B</u> Nye	<u>4A5A</u> Lebanon	<u>6A7</u> Forest
ILLINOIS	NEW HAMPSHIRE	<u>5A6A</u> McKean	<u>5A6A</u> Grant
<u>4A5A</u> Calhoun	<u>5A6A</u> Merrimack	<u>4A5A</u> Perry	<u>5A6A</u> Green
<u>4A5A</u> Clark	NEW JERSEY	<u>5A6A</u> Potter	<u>5A6A</u> Green Lake
<u>4A5A</u> Coles	<u>4A5A</u> Mercer	<u>5A6A</u> Susquehanna	<u>5A6A</u> Iowa
<u>4A5A</u> Cumberland	NEW MEXICO	<u>5A6A</u> Tioga	<u>6A7</u> Iron
<u>4A5A</u> Greene	<u>4B5B</u> Catron	<u>5A6A</u> Wayne	<u>5A6A</u> Jefferson
<u>4A5A</u> Jersey	<u>3B4B</u> Sierra	RHODE ISLAND	<u>5A6A</u> Juneau
INDIANA	<u>5A6A</u> Allegany	SOUTH CAROLINA	<u>5A6A</u> Kenosha
<u>4A5A</u> Bartholomew	<u>5A6A</u> Broome	<u>2A3A</u> Beaufort*	<u>5A6A</u> La Crosse

4A5A Clay	5A6A Cattaraugus	2A3A Jasper*	5A6A Lafayette
4A5A Decatur	5A6A Schoharie	SOUTH DAKOTA	6A7 Langlade
4A5A Fayette	5A6A Schuyler	5A6A Brule	6A7 Lincoln
4A5A Franklin	5A6A Steuben	5A6A Haakon	5A6A Milwaukee
4A5A Hendricks	5A6A Tompkins	5A6A Jones	5A6A Monroe
4A5A Johnson	5A6A Wyoming	5A6A Lyman	6A7 Oneida
4A5A Marion	NORTH CAROLINA	5A6A Stanley	5A6A Outagamie
4A5A Morgan	3A4A Alamance	TENNESSEE	5A6A Ozaukee
4A5A Owen	3A4A Alexander	3A4A Bedford	6A7 Price
4A5A Putnam	3A4A Bertie	3A4A Coffee	5A6A Racine
4A5A Rush	3A4A Caswell	3A4A Davidson	5A6A Richland
4A5A Shelby	3A4A Catawba	3A4A Decatur	5A6A Rock
4A5A Union	3A4A Chatham	3A4A Franklin	5A6A Sauk
4A5A Vigo	3A4A Cherokee	3A4A Gibson	6A7 Sawyer
IOWA	3A4A Clay	3A4A Giles	6A7 Taylor
5A6A Allamakee	3A4A Cleveland	3A4A Grundy	5A6A Vernon
5A6A Bremer	3A4A Davie	3A4A Hamilton	6A7 Vilas
5A6A Buchanan	3A4A Durham	3A4A Hickman	5A6A Walworth
5A6A Buena Vista	3A4A Forsyth	4A3A Lake	6A7 Washburn
5A6A Butler	3A4A Franklin	3A4A Lawrence	5A6A Washington
5A6A Calhoun	3A4A Gates	3A4A Lewis	5A6A Waukesha
5A6A Cherokee	3A4A Granville	3A4A Lincoln	5A6A Waushara
5A6A Chickasaw	3A4A Guilford	3A4A Marion	5A6A Winnebago
5A6A Clayton	3A4A Halifax	3A4A Marshall	WYOMING
5A6A Delaware	3A4A Harnett	3A4A Maury	5B6B Laramie
5A6A Fayette	3A4A Hertford	3A4A Moore	US TERRITORIES
5A6A Floyd	3A4A Iredell	3A4A Perry	AMERICAN SAMOA
5A6A Franklin	3A4A Lee	3A4A Rutherford	GUAM
5A6A Grundy	3A4A Lincoln	3A4A Wayne	NORTHERN MARIANA ISLANDS
5A6A Hamilton	4A5A Mitchell	3A4A Williamson	PUERTO RICO
5A6A Hardin	3A4A Nash	TEXAS	1A (all except as follows:)*
5A6A Howard	3A4A Northampton	1A2A Cameron*	2B Barraquitas
5A6A Humboldt	3A4A Orange	2A3A Dallas*	2B Cayey
5A6A Ida	3A4A Person	2A3A Ellis*	VIRGIN ISLANDS
5A6A Plymouth	3A4A Polk	1A2A Hidalgo*	
5A6A Pocahontas	3A4A Rockingham	2A3A Johnson*	
5A6A Sac	3A4A Rutherford	2A3A Navarro*	

C301.3 International climate zones. Climate Zone Definitions The *climate zone* for any location outside the

United States shall be determined by applying Table C301.3(1) and then Table C301.3(2).

To determine the climate zones for locations not listed in this code, use the following information to determine climatezone numbers and letters.

Determine the thermal climate zone, 0–8, from Table C301.3(1) using the heating and cooling degree-days for the location. Determine the moisture zone (Marine, Dry or Humid):

a. If monthly average temperature and precipitation data are available, use the Marine, Dry, and Humid definitions below to determine the moisture zone (C, B, or A).

b. If annual average temperature information (including degree-days) and annual precipitation (i.e. annual mean) are available, use the following to determine the moisture zone:

1. If thermal climate zone is 3 and $CDD_{50^{\circ}F} \leq 4500$ ($CDD_{10^{\circ}C} \leq 2500$), climate zone is Marine (3C).

2. If thermal climate zone is 4 and $CDD_{50^{\circ}F} \leq 2700$ ($CDD_{10^{\circ}C} \leq 1500$), climate zone is Marine (4C).

3. If thermal climate zone is 5 and $CDD_{50^{\circ}F} \leq 1800$ ($CDD_{10^{\circ}C} \leq 1000$), climate zone is Marine (5C).

Use the third criteria below for determining the Dry/Humid threshold if not Marine (C).

c. If only degree-day information is available, use the following to determine the moisture zone:

1. If thermal climate zone is 3 and $CDD_{50^{\circ}F} \leq 4500$ ($CDD_{10^{\circ}C} \leq 2500$), climate zone is Marine (3C).

2. If thermal climate zone is 4 and $CDD_{50^{\circ}F} \leq 2700$ ($CDD_{10^{\circ}C} \leq 1500$), climate zone is Marine (4C).

3. If thermal climate zone is 5 and $CDD_{50^{\circ}F} \leq 1800$ ($CDD_{10^{\circ}C} \leq 1000$), climate zone is Marine (5C).

It is not possible to assign Dry/Humid splits in this case. Marine (C) Zone Definition—Locations meeting all four of the following criteria:

a. Mean temperature of coldest month between $27^{\circ}F$ ($-3^{\circ}C$) and $65^{\circ}F$ ($18^{\circ}C$)

b. Warmest month mean $< 72^{\circ}F$ ($22^{\circ}C$)

c. At least four months with mean temperatures over $50^{\circ}F$ ($10^{\circ}C$)

d. Dry season in summer. The month with the heaviest precipitation in the cold season has at least three times as much precipitation as the month with the least precipitation in the rest of the year. The cold season is October through March in the Northern Hemisphere and April through September in the Southern Hemisphere.

Dry (B) Definition—Locations meeting the following criteria:

a. Not Marine (C)

b. If 70% or more of the precipitation, P, occurs during the high sun period, then the dry/humid threshold is: $P < 0.44 \times (T - 7)$ (I-P) $P < 20.0 \times (T + 14)$ (SI)

c. If between 30% and 70% of the precipitation, P, occurs during the high sun period, then the dry/humid threshold is: $P < 0.44 \times (T - 19.5)$ (I-P) $P < 20.0 \times (T + 7)$ (SI)

d. If 30% or less of the precipitation, P, occurs during the high sun period, then the dry/humid threshold is: $P < 0.44 \times (T - 32)$ (I-P) $P < 20 \times T$ (SI) where: P = annual precipitation, in. (mm). T = annual mean temperature, °F (°C). Summer or = April through September in the high sun Northern Hemisphere and October period through March in the Southern Hemisphere. Winter or = October through March in the Northern cold season Hemisphere and April through September in the Southern Hemisphere. Humid (A) Definition—Locations that are not Marine (C) and not Dry (B)

Delete without substitution:

TABLE C301.3(1)
INTERNATIONAL CLIMATE ZONE DEFINITIONS

MAJOR CLIMATE TYPE DEFINITIONS	
<p>Marine (C) Definition—Locations meeting all four criteria:</p> <ol style="list-style-type: none"> 1. Mean temperature of coldest month between -3°C (27°F) and 18°C (65°F). 2. Warmest month mean $< 22^{\circ}\text{C}$ (72°F). 3. At least four months with mean temperatures over 10°C (50°F). 4. Dry season in summer. The month with the heaviest precipitation in the cold season has at least three times as much precipitation as the month with the least precipitation in the rest of the year. The cold season is October through March in the Northern Hemisphere and April through September in the Southern Hemisphere. 	
<p>Dry (B) Definition—Locations meeting the following criteria: Not marine and $P_{inf} < 0.44 \times (TF - 19.5)$ [$P_{em} < 2.0 \times (TC + 7)$ in SI units]</p> <p>where:</p> <p>P_{inf} = Annual precipitation in inches (cm) T = Annual mean temperature in °F (°C)</p>	
<p>Moist (A) Definition—Locations that are not marine and not dry.</p>	
<p>Warm-humid Definition—Moist (A) locations where either of the following wet-bulb temperature conditions shall occur during the warmest six consecutive months of the year:</p> <ol style="list-style-type: none"> 1. 67°F (19.4°C) or higher for 3,000 or more hours; or 2. 73°F (22.8°C) or higher for 1,500 or more hours. 	

For SI: $^{\circ}\text{C} = [(^{\circ}\text{F}) - 32] / 1.8$, 1 inch = 2.54 cm.

TABLE C301.3(2 1)
INTERNATIONAL CLIMATE ZONE DEFINITIONS

ZONE NUMBER	THERMAL CRITERIA	
	IP Units	SI Units
0	$10,800 < \text{CDD}50^{\circ}\text{F}$	$6000 < \text{CDD}10^{\circ}\text{C}$
1	$9000 < \text{CDD}50^{\circ}\text{F} < 10,800$	$5000 < \text{CDD}10^{\circ}\text{C} < 6000$

2	6300 < CDD50°F ≤ 9000	3500 < CDD10°C ≤ 5000
3A and 3B	4500 < CDD50°F ≤ 6300 AND HDD65°F ≤ 3600 5400	2500 < CDD10°C ≤ 3500 AND HDD18°C ≤ 2000 3000
4A and 4B	CDD50°F ≤ 4500 <u>6300</u> AND <u>3600 <</u> HDD65°F ≤ 5400	CDD10°C ≤ 3500 <u>2500</u> AND HDD18°C ≤ 3000
3G	HDD65°F ≤ 3600	HDD18°C ≤ 2000
4G	3600 < HDD65°F ≤ 5400	2000 < HDD18°C ≤ 3000
5	<u>CDD50°F < 6300 and 5400 < HDD65°F ≤ 7200</u>	<u>CDD10°C < 3500 and 3000 < HDD18°C ≤ 4000</u>
6	7200 < HDD65°F ≤ 9000	4000 < HDD18°C ≤ 5000
7	9000 < HDD65°F ≤ 12600	5000 < HDD18°C ≤ 7000
8	12600 < HDD65°F	7000 < HDD18°C

For SI: °C = [(°F)-32]/1.8.

C301.4 Tropical climate zone. The tropical *climate zone* shall be defined as:

1. Hawaii, Puerto Rico, Guam, American Samoa, U.S. Virgin Islands, Commonwealth of Northern Mariana Islands; and
2. Islands in the area between the Tropic of Cancer and the Tropic of Capricorn.

Proposal # 4881

CE36-19 Part I

CE36-19 Part II

IECC: FIGURE R301.1 (IRC N1101.7), TABLE R301.1 (IRC N1101.7), R301.3 (IRC N1101.7.2), TABLE R301.3(1) [IRC N1101.7.2(1)], TABLE R301.3(2) [IRC N1101.7.2(2)]

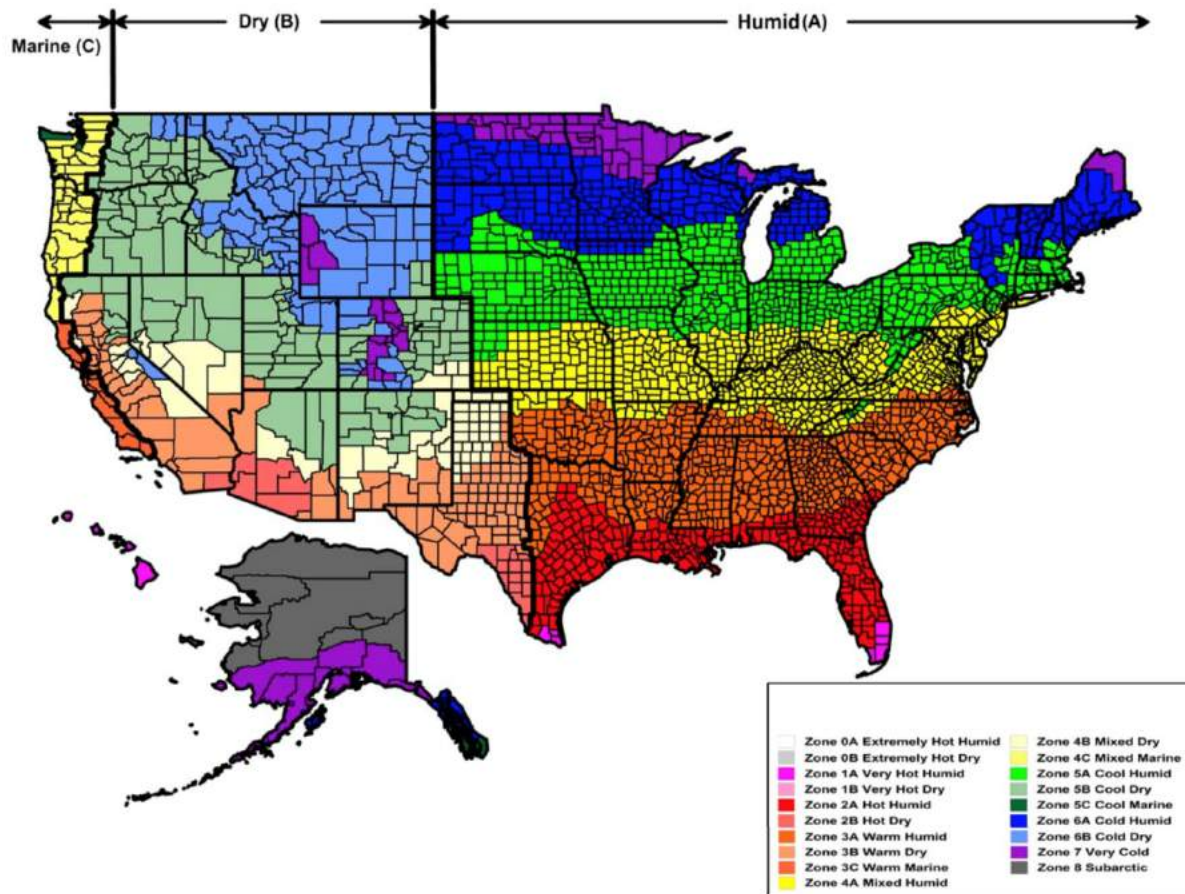
Proponent: David Collins, representing SEHPCAC (SEHPCAC@iccsafe.org); David Collins, representing The American Institute of Architects (dcollins@preview-group.com)

2018 International Energy Conservation Code

SECTION R301 CLIMATE ZONES

R301.1 (IRC N1101.7) General. *Climate zones* from Figure R301.1 or Table R301.1 shall be used for determining the applicable requirements from Chapter 4. Locations not indicated in Table R301.1 shall be assigned a *climate zone* in accordance with Section R301.3.

Revise as follows:



**FIGURE R301.1 (IRC N1101.7)
CLIMATE ZONES**

**TABLE R301.1 (IRC N1101.7)
CLIMATE ZONES, MOISTURE REGIMES, AND WARM-HUMID DESIGNATIONS BY STATE, COUNTY AND TERRITORY**

Portions of table not shown remain unchanged.

ALABAMA	<u>5A6A</u> Webster	<u>3A4A</u> Vance	<u>2A3A</u> Tarrant*
<u>2A3A</u> Coffee*	<u>5A6A</u> Winneshiek	<u>3A4A</u> Wake	<u>1A2A</u> Willacy*
<u>2A3A</u> Covington*	<u>5A6A</u> Wright	<u>3A4A</u> Warren	UTAH
<u>2A3A</u> Dale*	KANSAS	<u>5A4A</u> Wilkes	<u>5B6B</u> Box Elder
<u>2A3A</u> Escambia*	<u>4A5A</u> Cloud	NORTH DAKOTA	<u>5B6B</u> Cache
<u>2A3A</u> Geneva*	<u>4A5A</u> Ellis	<u>6A7</u> Barnes	<u>5B6B</u> Carbon
<u>2A3A</u> Henry*	<u>4A5A</u> Graham	<u>6A7</u> Cass	VERMONT
<u>2A3A</u> Houston*	<u>4A5A</u> Hamilton	<u>6A7</u> Eddy	VIRGINIA
ALASKA	<u>4A5A</u> Lane	<u>6A7</u> Foster	4A (all <u>except</u> as follows:)
<u>78</u> Bethel	<u>4A5A</u> Mitchell	<u>6A7</u> Griggs	<u>5A</u> Alleghany
<u>87</u> Denali	<u>4A5A</u> Ness	<u>6A7</u> Kidder	<u>5A</u> Bath
<u>78</u> Dillingham	<u>4A5A</u> Osborne	<u>6A7</u> McLean	<u>3A</u> Brunswick
<u>6A7</u> Haines	<u>4A5A</u> Rooks	<u>6A7</u> Mountrail	<u>3A</u> Chesapeake city

<u>6A7</u> Juneau	<u>4A5A</u> Trego	<u>6A7</u> Sheridan	<u>5A</u> Clifton Forge city
<u>5C7</u> Ketchikan Gateway	KENTUCKY	<u>6A7</u> Steele	<u>5A</u> Covington city
<u>6A7</u> Kodiak Island	LOUISIANA	<u>6A7</u> Stutsman	<u>3A</u> Emporia city
<u>5C7</u> Prince of Wales Outer Ketchikan	MAINE	<u>6A7</u> Traill	<u>3A</u> Franklin city
<u>5C7</u> Sitka	MARYLAND	<u>6A7</u> Wells	<u>3A</u> Greenville
<u>6A7</u> Skagway-Hoonah-Angoon	<u>5A4A</u> Allegany	<u>6A7</u> Williams	<u>3A</u> Halifax
<u>6A7</u> Wrangell-Petersburg	MASSACHUSETTS	OHIO	<u>3A</u> Hampton city
ARIZONA	MICHIGAN	<u>4A5A</u> Athens	<u>5A</u> Highland
ARKANSAS	<u>6A7</u> Baraga	<u>4A5A</u> Butler	<u>3A</u> Isle of Wight
CALIFORNIA	<u>6A7</u> Chippewa	<u>4A5A</u> Clinton	<u>3A</u> Mecklenburg
COLORADO	<u>6A7</u> Gogebic	<u>4A5A</u> Fayette	<u>3A</u> Newport News city
<u>4B5B</u> Bent	<u>6A7</u> Houghton	<u>4A5A</u> Franklin	<u>3A</u> Norfolk city
<u>5B6B</u> Custer	<u>5A6A</u> Huron	<u>4A5A</u> Greene	<u>3A</u> Pittsylvania
<u>4B5B</u> Prowers	<u>6A7</u> Iron	<u>4A5A</u> Highland	<u>3A</u> Portsmouth city
CONNECTICUT	<u>6A7</u> Luce	<u>4A5A</u> Hocking	<u>3A</u> South Boston
DELAWARE	<u>6A7</u> Mackinac	<u>4A5A</u> Jackson	<u>3A</u> Southampton
DISTRICT OF COLUMBIA	<u>76A</u> Marquette	<u>4A5A</u> Madison	<u>3A</u> Suffolk city
FLORIDA	<u>6A7</u> Ontonagon	<u>4A5A</u> Meigs	<u>3A</u> Surry
<u>1A2A</u> Palm Beach*	<u>5A6A</u> Sanilac	<u>4A5A</u> Pickaway	<u>3A</u> Sussex
GEORGIA	<u>6A7</u> Schoolcraft	<u>4A5A</u> Ross	<u>3A</u> Virginia Beach city
<u>3A4A</u> Banks	MINNESOTA	<u>4A5A</u> Vinton	WASHINGTON
<u>2A3A</u> Calhoun*	<u>6A7</u> Becker	<u>4A5A</u> Warren	<u>5C4G</u> Clallam
<u>3A4A</u> Catoosa	<u>6A7</u> Clay	OKLAHOMA	<u>5C4G</u> Island
<u>3A4A</u> Chattooga	<u>5A6A</u> Fillmore	<u>4A3A</u> Alfalfa	<u>5C4G</u> Kitsap
<u>2A3A</u> Coffee*	<u>6A7</u> Grant	<u>4A3A</u> Craig	<u>5B6B</u> Okanogan
<u>3A4A</u> Dade	<u>5A6A</u> Houston	<u>4A3A</u> Delaware	<u>5C4G</u> San Juan
<u>3A4A</u> Dawson	<u>6A7</u> Kanabec	<u>4A3A</u> Ellis	WEST VIRGINIA
<u>2A3A</u> Dougherty*	<u>6A7</u> Mille Lacs	<u>4A3A</u> Garfield	<u>4A5A</u> Doddridge
<u>2A3A</u> Early*	<u>6A7</u> Otter Tail	<u>4A3A</u> Grant	<u>4A5A</u> Fayette
<u>3A4A</u> Fannin	<u>6A7</u> Wilkin	<u>4A3A</u> Harper	<u>4A5A</u> Greenbrier
<u>3A4A</u> Floyd	<u>5A6A</u> Winona	<u>4A3A</u> Kay	<u>4A5A</u> Lewis
<u>3A4A</u> Franklin	MISSISSIPPI	<u>4A3A</u> Major	<u>4A5A</u> Nicholas
<u>3A4A</u> Gilmer	<u>2A3A</u> George*	<u>4A3A</u> Nowata	<u>4A5A</u> Raleigh
<u>3A4A</u> Gordon	MISSOURI	<u>4A3A</u> Osage	<u>4A5A</u> Summers
<u>3A4A</u> Habersham	<u>4A5A</u> Buchanan	<u>4A3A</u> Ottawa	<u>4A5A</u> Upshur
<u>3A4A</u> Hall	<u>4A5A</u> Caldwell	<u>4A3A</u> Washington	<u>4A5A</u> Webster
<u>3A4A</u> Lumpkin	<u>4A5A</u> Chariton	<u>4A3A</u> Woods	WISCONSIN
<u>3A4A</u> Murray	<u>4A5A</u> Clinton	<u>4A3A</u> Woodward	<u>5A6A</u> Adams
<u>3A4A</u> Pickens	<u>3A4A</u> Dunklin	OREGON	<u>6A7</u> Ashland

<u>3A4A</u> Rabun	<u>3A4A</u> Pemiscot	PENNSYLVANIA	<u>6A7</u> Bayfield
<u>3A4A</u> Stephens	MONTANA	<u>4A5A</u> Adams	<u>6A7</u> Burnett
<u>2A3A</u> Tift*	NEBRASKA	<u>4A5A</u> Berks	<u>5A6A</u> Calumet
<u>3A4A</u> Towns	NEVADA	<u>5A6A</u> Cameron	<u>5A6A</u> Columbia
<u>3A4A</u> Union	<u>4B5B</u> Carson City (city)	<u>5A6A</u> Clearfield	<u>5A6A</u> Crawford
<u>3A4A</u> Walker	<u>4B5B</u> Douglas	<u>4A5A</u> Cumberland	<u>5A6A</u> Dane
<u>3A4A</u> White	<u>4B5B</u> Esmeralda	<u>4A5A</u> Dauphin	<u>5A6A</u> Dodge
<u>3A4A</u> Whitfield	<u>4B5B</u> Lincoln	<u>5A6A</u> Elk	<u>6A7</u> Douglas
<u>2A3A</u> Worth*	<u>4B5B</u> Lyon	<u>4A5A</u> Franklin	<u>6A7</u> Florence
HAWAII	<u>4B5B</u> Mineral	<u>4A5A</u> Lancaster	<u>5A6A</u> Fond du Lac
IDAHO	<u>4B5B</u> Nye	<u>4A5A</u> Lebanon	<u>6A7</u> Forest
ILLINOIS	NEW HAMPSHIRE	<u>5A6A</u> McKean	<u>5A6A</u> Grant
<u>4A5A</u> Calhoun	<u>5A6A</u> Merrimack	<u>4A5A</u> Perry	<u>5A6A</u> Green
<u>4A5A</u> Clark	NEW JERSEY	<u>5A6A</u> Potter	<u>5A6A</u> Green Lake
<u>4A5A</u> Coles	<u>4A5A</u> Mercer	<u>5A6A</u> Susquehanna	<u>5A6A</u> Iowa
<u>4A5A</u> Cumberland	NEW MEXICO	<u>5A6A</u> Tioga	<u>6A7</u> Iron
<u>4A5A</u> Greene	<u>4B5B</u> Catron	<u>5A6A</u> Wayne	<u>5A6A</u> Jefferson
<u>4A5A</u> Jersey	<u>3B4B</u> Sierra	RHODE ISLAND	<u>5A6A</u> Juneau
INDIANA	<u>5A6A</u> Allegany	SOUTH CAROLINA	<u>5A6A</u> Kenosha
<u>4A5A</u> Bartholomew	<u>5A6A</u> Broome	<u>2A3A</u> Beaufort*	<u>5A6A</u> La Crosse
<u>4A5A</u> Clay	<u>5A6A</u> Cattaraugus	<u>2A3A</u> Jasper*	<u>5A6A</u> Lafayette
<u>4A5A</u> Decatur	<u>5A6A</u> Schoharie	SOUTH DAKOTA	<u>6A7</u> Langlade
<u>4A5A</u> Fayette	<u>5A6A</u> Schuyler	<u>5A6A</u> Brule	<u>6A7</u> Lincoln
<u>4A5A</u> Franklin	<u>5A6A</u> Steuben	<u>5A6A</u> Haakon	<u>5A6A</u> Milwaukee
<u>4A5A</u> Hendricks	<u>5A6A</u> Tompkins	<u>5A6A</u> Jones	<u>5A6A</u> Monroe
<u>4A5A</u> Johnson	<u>5A6A</u> Wyoming	<u>5A6A</u> Lyman	<u>6A7</u> Oneida
<u>4A5A</u> Marion	NORTH CAROLINA	<u>5A6A</u> Stanley	<u>5A6A</u> Outagamie
<u>4A5A</u> Morgan	<u>3A4A</u> Alamance	TENNESSEE	<u>5A6A</u> Ozaukee
<u>4A5A</u> Owen	<u>3A4A</u> Alexander	<u>3A4A</u> Bedford	<u>6A7</u> Price
<u>4A5A</u> Putnam	<u>3A4A</u> Bertie	<u>3A4A</u> Coffee	<u>5A6A</u> Racine
<u>4A5A</u> Rush	<u>3A4A</u> Caswell	<u>3A4A</u> Davidson	<u>5A6A</u> Richland
<u>4A5A</u> Shelby	<u>3A4A</u> Catawba	<u>3A4A</u> Decatur	<u>5A6A</u> Rock
<u>4A5A</u> Union	<u>3A4A</u> Chatham	<u>3A4A</u> Franklin	<u>5A6A</u> Sauk
<u>4A5A</u> Vigo	<u>3A4A</u> Cherokee	<u>3A4A</u> Gibson	<u>6A7</u> Sawyer
IOWA	<u>3A4A</u> Clay	<u>3A4A</u> Giles	<u>6A7</u> Taylor
<u>5A6A</u> Allamakee	<u>3A4A</u> Cleveland	<u>3A4A</u> Grundy	<u>5A6A</u> Vernon
<u>5A6A</u> Bremer	<u>3A4A</u> Davie	<u>3A4A</u> Hamilton	<u>6A7</u> Vilas
<u>5A6A</u> Buchanan	<u>3A4A</u> Durham	<u>3A4A</u> Hickman	<u>5A6A</u> Walworth

5A6A Buena Vista	3A4A Forsyth	4A3A Lake	6A7 Washburn
5A6A Butler	3A4A Franklin	3A4A Lawrence	5A6A Washington
5A6A Calhoun	3A4A Gates	3A4A Lewis	5A6A Waukesha
5A6A Cherokee	3A4A Granville	3A4A Lincoln	5A6A Waushara
5A6A Chickasaw	3A4A Guilford	3A4A Marion	5A6A Winnebago
5A6A Clayton	3A4A Halifax	3A4A Marshall	WYOMING
5A6A Delaware	3A4A Harnett	3A4A Maury	5B6B Laramie
5A6A Fayette	3A4A Hertford	3A4A Moore	US TERRITORIES
5A6A Floyd	3A4A Iredell	3A4A Perry	AMERICAN SAMOA
5A6A Franklin	3A4A Lee	3A4A Rutherford	GUAM
5A6A Grundy	3A4A Lincoln	3A4A Wayne	NORTHERN MARIANA ISLANDS
5A6A Hamilton	4A5A Mitchell	3A4A Williamson	PUERTO RICO
5A6A Hardin	3A4A Nash	TEXAS	1A (all <u>except as follows:</u>)*
5A6A Howard	3A4A Northampton	1A2A Cameron*	2B Barraquitas
5A6A Humboldt	3A4A Orange	2A3A Dallas*	2B Cayey
5A6A Ida	3A4A Person	2A3A Ellis*	VIRGIN ISLANDS
5A6A Plymouth	3A4A Polk	1A2A Hidalgo*	
5A6A Pocahontas	3A4A Rockingham	2A3A Johnson*	
5A6A Sac	3A4A Rutherford	2A3A Navarro*	

R301.3 (IRC N1101.7.2) International climate zones. Climate zone definitions. ~~The climate zone for any location outside the United States shall be determined by applying Table R301.3(1) and then Table R301.3(2).~~ To determine the climate zones for locations not listed in this code, use the following information to determine climate zone numbers and letters.

Determine the thermal climate zone, 0–8, from Table R301.3(1) using the heating and cooling degree-days for the location. Determine the moisture zone (Marine, Dry or Humid):

a. If monthly average temperature and precipitation data are available, use the Marine, Dry, and Humid definitions below to determine the moisture zone (C, B, or A).

b. If annual average temperature information (including degree-days) and annual precipitation (i.e. annual mean) are available, use the following to determine the moisture zone:

1. If thermal climate zone is 3 and $CDD_{50^{\circ}F} \leq 4500$ ($CDD_{10^{\circ}C} \leq 2500$), climate zone is Marine (3C).

2. If thermal climate zone is 4 and $CDD_{50^{\circ}F} \leq 2700$ ($CDD_{10^{\circ}C} \leq 1500$), climate zone is Marine (4C).

3. If thermal climate zone is 5 and $CDD_{50^{\circ}F} \leq 1800$ ($CDD_{10^{\circ}C} \leq 1000$), climate zone is Marine (5C).

Use the third criteria below for determining the Dry/Humid threshold if not Marine (C).

c. If only degree-day information is available, use the following to determine the moisture zone:

1. If thermal climate zone is 3 and $CDD_{50^{\circ}F} \leq 4500$ ($CDD_{10^{\circ}C} \leq 2500$), climate zone is Marine (3C).

2. If thermal climate zone is 4 and $CDD_{50^{\circ}F} \leq 2700$ ($CDD_{10^{\circ}C} \leq 1500$), climate zone is Marine (4C).
3. If thermal climate zone is 5 and $CDD_{50^{\circ}F} \leq 1800$ ($CDD_{10^{\circ}C} \leq 1000$), climate zone is Marine (5C).

It is not possible to assign Dry/Humid splits in this case. Marine (C) Zone Definition—Locations meeting all four of the following criteria:

a. Mean temperature of coldest month between $27^{\circ}F$ ($-3^{\circ}C$) and $65^{\circ}F$ ($18^{\circ}C$)

b. Warmest month mean $< 72^{\circ}F$ ($22^{\circ}C$)

c. At least four months with mean temperatures over $50^{\circ}F$ ($10^{\circ}C$)

d. Dry season in summer. The month with the heaviest precipitation in the cold season has at least three times as much precipitation as the month with the least precipitation in the rest of the year. The cold season is October through March in the Northern Hemisphere and April through September in the Southern Hemisphere.

Dry (B) Definition—Locations meeting the following criteria:

a. Not Marine (C)

b. If 70% or more of the precipitation, P, occurs during the high sun period, then the dry/humid threshold is: $P < 0.44 \times (T - 7)$ (I-P) $P < 20.0 \times (T + 14)$ (SI)

c. If between 30% and 70% of the precipitation, P, occurs during the high sun period, then the dry/humid threshold is: $P < 0.44 \times (T - 19.5)$ (I-P) $P < 20.0 \times (T + 7)$ (SI)

d. If 30% or less of the precipitation, P, occurs during the high sun period, then the dry/humid threshold is: $P < 0.44 \times (T - 32)$ (I-P) $P < 20 \times T$ (SI) where: P = annual precipitation, in. (mm). T = annual mean temperature, $^{\circ}F$ ($^{\circ}C$). Summer or = April through September in the high sun Northern Hemisphere and October period through March in the Southern Hemisphere. Winter or = October through March in the Northern cold season Hemisphere and April through September in the Southern Hemisphere. Humid (A) Definition—Locations that are not Marine (C) and not Dry

Revise as follows:

**TABLE R301.3(1) [IRC N1101.7.2(1)]
INTERNATIONAL CLIMATE ZONE DEFINITIONS**

MAJOR CLIMATE TYPE DEFINITIONS

<p>Marine (G) Definition—Locations meeting all four criteria:</p> <ol style="list-style-type: none"> 1. Mean temperature of coldest month between -3°C (27°F) and 18°C (65°F). 2. Warmest month mean $< 22^{\circ}\text{C}$ (72°F). 3. Not fewer than four months with mean temperatures over 10°C (50°F). 4. Dry season in summer. The month with the heaviest precipitation in the cold season has not less than three times as much precipitation as the month with the least precipitation in the rest of the year. The cold season is October through March in the Northern Hemisphere and April through September in the Southern Hemisphere.
<p>Dry (B) Definition—Locations meeting the following criteria: Not marine and $P_{if} < 0.44 \times (TF - 19.5)$ [$P_{em} < 2.0 \times (TC + 7)$ in SI units]</p> <p>where: P_{if} = Annual precipitation in inches (cm) T = Annual mean temperature in $^{\circ}\text{F}$ ($^{\circ}\text{C}$)</p>
<p>Moist (A) Definition—Locations that are not marine and not dry.</p>
<p>Warm humid Definition—Moist (A) locations where either of the following wet bulb temperature conditions shall occur during the warmest six consecutive months of the year:</p> <ol style="list-style-type: none"> 1. 67°F (19.4°C) or higher for 3,000 or more hours. 2. 73°F (22.8°C) or higher for 1,500 or more hours.

For SI: $^{\circ}\text{C} = [(^{\circ}\text{F}) - 32]/1.8$, 1 inch = 2.54 cm.

**TABLE R301.3(2.1) [IRC N1101.7.2(2.1)]
INTERNATIONAL CLIMATE ZONE DEFINITIONS**

ZONE NUMBER	THERMAL CRITERIA	
	IP Units	SI Units
1	$9000 < \text{CDD}50^{\circ}\text{F}$	$5000 < \text{CDD}10^{\circ}\text{C}$
2	$6300 < \text{CDD}50^{\circ}\text{F} \leq 9000$	$3500 < \text{CDD}10^{\circ}\text{C} \leq 5000$ <u>6000</u>
3A and 3B	4500 $< \text{CDD}50^{\circ}\text{F} \leq 6300$ AND $\text{HDD}65^{\circ}\text{F} \leq$ <u>5400</u> <u>3600</u>	2500 $< \text{CDD}10^{\circ}\text{C} \leq 3500$ AND $\text{HDD}18^{\circ}\text{C} \leq$ <u>3000</u> <u>2000</u>
4A and 4B	$\text{CDD}50^{\circ}\text{F} \leq 4500$ <u>6300</u> AND $3600 < \text{HDD}65^{\circ}\text{F} \leq 5400$	$\text{CDD}10^{\circ}\text{C} \leq 2500$ <u>3500</u> AND $\text{HDD}18^{\circ}\text{C} \leq 3000$
3G	$\text{HDD}65^{\circ}\text{F} \leq 3600$	$\text{HDD}18^{\circ}\text{C} \leq 2000$
4G	$3600 < \text{HDD}65^{\circ}\text{F} \leq 5400$	$2000 < \text{HDD}18^{\circ}\text{C} \leq 3000$
5	$\text{CDD}50^{\circ}\text{F} < 6300$ AND $5400 < \text{HDD}65^{\circ}\text{F} \leq 7200$	$\text{CDD}10^{\circ}\text{C} < 3500$ AND $3000 < \text{HDD}18^{\circ}\text{C} \leq 4000$
6	$7200 < \text{HDD}65^{\circ}\text{F} \leq 9000$	$4000 < \text{HDD}18^{\circ}\text{C} \leq 5000$
7	$9000 < \text{HDD}65^{\circ}\text{F} \leq 12600$	$5000 < \text{HDD}18^{\circ}\text{C} \leq 7000$
8	$12600 < \text{HDD}65^{\circ}\text{F}$	$7000 < \text{HDD}18^{\circ}\text{C}$

For SI: $^{\circ}\text{C} = [(^{\circ}\text{F}) - 32]/1.8$.

R301.4 (IRC N1101.8) Tropical climate zone. The tropical *climate zone* shall be defined as:

1. Hawaii, Puerto Rico, Guam, American Samoa, U.S. Virgin Islands, Commonwealth of Northern Mariana Islands; and
2. Islands in the area between the Tropic of Cancer and the Tropic of Capricorn.

Reason:

Reason:

Currently approximately 10% of the counties across the US have different different climate zones under the IECC and ASHRAE 90.1, ASHRAE 90.2, and the IgCC. This proposal updates the climate zones to correspond with the release of ASHRAE Standard 169-2013, which is referenced in both the 2018 IgCC and ASHRAE 90.1 and ASHRAE 90.2 Approximately 10% of the counties in the United States have a change in Climate Zone designation due to this change. ICC has a licensing agreement with ASHRAE to include the climate zone map, definitions and tables for consistency with ASHRAE Standard 169-2013.

This modification includes:

- The U.S. map as Figure R301.1 and U.S. county tables as Table R301.1 to be used in determining the climate zone for locations within the U.S.
- Updating county climate zone designations in Tables C301.1 and R301.1
- Updating the information in Tables C301.3(1) and R301.3(1) with an updated Climate Zone Definition, replacing these tables with text in Sections C301.3 and R301.3.
- Updating Tables C301.3(2) and R301.3(2) to include Climate Zone 0, and modify climate zones 1-4 for consistency across the IECC, IgCC and ASHRAE 90.1

Climate Zone 0 is a subset of the previous Climate Zone 1. Whereas the previous CZ 1 was all locations with more than 9,000 Cooling Degree Days, Climate Zone 1 now "tops out" at 10,800 Cooling Degree Days, and Climate Zone 0 is for those locations with more than 10,800 Cooling Degree Days. Cities in Climate Zone 0 include very hot locations such as Mumbai (Bombay), Jakarta and Abu Dhabi. There are no cities in the United States in Climate Zone 0; Miami and the islands of Hawaii are in Climate Zone 1.

The separation of Climate Zones 0 and 1 allows separate criteria for IECC to be developed that are more specific to the very hot regions with Climate Zone 0.

Because Climate Zone 0 is a subset of the previous Climate Zone 1, and the code does not currently have any criteria specific to climate zone 0, the following are typical editorial change that will result from the addition of Climate Zone 0.

Section or Table	Current Language	Proposed addition of Zero
TABLE R402.1.2 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT _a	1	0-1
TABLE R402.1.2 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT _a footnote b	Exception: In Climate Zones 1 through 3,	Exception: In Climate Zones 0 through 3,
R403.3.6 (3) Ducts buried within ceiling insulation.	In Climate Zones 1A, 2A and 3A, the	In Climate Zones 0A, 1A, 2A and 3A, the supply ducts

This proposal is submitted by the ICC Sustainable, Energy and High Performance Code Action Committee (SEHPCAC). The SEHPCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance International Codes with regard to sustainability, energy and high performance as it relates to the built environment included, but not limited to, how these criteria relate to the International Green Construction Code (IgCC) and the International Energy Conservation Code (IECC). In 2018-2019, the SEHPCAC has held five two- or three-day open meetings and numerous workgroup calls, to discuss and debate proposed changes and public comments. Attendees at the meetings and calls included members of the SEHPCAC as well as any interested parties. Related documentation and reports are posted on the SEHPCAC website at:
<http://www.iccsafe.org/cs/SEHPCAC/Pages/default.aspx>
(<http://www.iccsafe.org/cs/SEHPCAC/Pages/default.aspx>)

Proposal # 5824

CE36-19 Part II