Average High Temperatures in California **COLDEST CITIES** 1. Mammoth Lakes - 40.563° F **January 2010 Monthly Normals** 2. Susanville - 41.001° F statewide/local values interpolated with IDW 3. Truckee - 41.816° F 4. South Lake Tahoe - 42.976° F from NOAA weather station data 5. Montague - 45.315° F WINTER IN CALIFORNIA MAP 6. Mount Shasta - 45.395° F 7. Yreka - 45.704° F 8. Big Bear Lake - 48.717° F 9. Shasta Lake - 52.879° F 7 5 10. Orange Cove - 53.558° F 6 HOTTEST CITIES 9 1. Indio - 71.315° F 2 2. Coachella - 71.276° F 3. Placentia - 70.718° F 4. La Quinta - 70.383° F 5. El Centro - 70.327° F 6. Calexico - 70.031° F 3 7. Imperial - 70.000° F 8. Brawley - 69.768° F 9. Montebello - 69.758° F 10. Orange - 69.557° F Sac SF 1 10 SBd 8 2 MAJOR CITIES LA - Los Angeles - 66.356° F SF - San Francisco - 56.867° F SD - San Diego - 66.496° F Sac - Sacramento - 54.079° F SD) 5 SJ - San Jose - 58.065° F 6 SB - Santa Barbara - 64.355° F PS - Palm Springs - 67.535° F SBd - San Bernardino - 64.071° F Data source: NOAA Monthly Normals US Census Bureau Tiger/LINE Places database Cartography by Aaron Goodman Mono County, California State Parks, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

Average High Temperatures in California August 2010 Monthly Normals statewide/local values interpolated with IDW

statewide/local values interpolated with IDW from NOAA weather station data

SUMMER IN CALIFORNIA MAP

COLDEST CITIES

- 1. Eureka 64.823° F
- 2. Arcata 66.336° F
- 3. Half Moon Bay 67.201° F
- 4. Monterey 67.622° F
- 5. Sand City 68.412° F
- 6. Pacific Grove 68.593° F
- 7. Del Rey Oaks 68.662° F
- 8. Daly City 68.750° F
- 9. Seaside 68.810° F
- 10. Morro Bay 69.514° F

HOTTEST CITIES

- 1. Blythe 107.413° F
- 2. Needles 106.742° F
- 3. Imperial 106.229° F
- 4. Indio 106.200° F
- 5. Coachella 106.139° F
- 6. El Centro 105.963° F
- 7. Cathedral City 105.653° F
- 8. Brawley 105.617° F
- 9. Calexico 105.593° F
- 10. La Quinta 105.365° F



MAJOR CITIES

LA - Los Angeles - 84.850° F

SF - San Francisco - 70.990° F

SD - San Diego - 80.030° F

Sac - Sacramento - 91.823° F

SJ - San Jose - 81.618° F

SB - Santa Barbara - 76.006° F

PS - Palm Springs - 103.050° F

SBd - San Bernardino - 93.927° F

PS 7 4 5 1 1 1 10 SD 3

Data source: NOAA Monthly Normals
US Census Bureau Tiger/LINE Places database
Cartography by Aaron Goodman

Mono County, California State Parks, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

Average High Temperatures in California **COLDEST CITIES** 1. Eureka - 65.139° F **August 2010 Monthly Normals** 2. Daly City - 67.129° F statewide/local values interpolated with EBK* 3. Monterey - 67.918° F 4. Sand City - 68.955° F from NOAA weather station data SUMMER IN CALIFORNIA MAP - TECHNICAL ADDENDUM 5. Pacific Grove - 68.156° F 6. Arcata - 68.237° F 7. Seaside - 68.751° F 8. San Francisco - 68.867° F 9. Fortuna - 68.989° F 10. Del Rey Oaks - 69.293° F 6 HOTTEST CITIES 1. Blythe - 107.335° F 2. Indio - 106.328° F 3. Imperial - 106.223° F 4. Coachella - 106.199° F 5. El Centro - 106.046° F 6. Needles - 105.998° F 7. La Quinta - 105.897° F 8. Cathedral City - 105.769° F 9. Indian Wells - 105.593° F 10. Brawley - 105.583° F SBd MAJOR CITIES LA - Los Angeles - 85.883° F (+1.0) SF - San Francisco - 68.868° F(-2.1) 10 SD - San Diego - 80.301° F (+0.3) 3 Sac - Sacramento - 91.592° F (-0.3) SJ - San Jose - 81.812° F (+0.2) SB - Santa Barbara - 75.730° F (-2.5) PS - Palm Springs - 101.982° F (-1.1) SBd - San Bernardino - 92.456° F (-1.5) Data source: NOAA Monthly Normals US Census Bureau Tiger/LINE Places database Cartography by Aaron Goodman Mono County, California State Parks, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

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Unit 1 - Interpolation, Technical Addendum

The main maps depicting average high temperatures across California were created with Inverse Distance Weighting interpolation. This method produced statistical error that tended towards overestimation rather than underestimation.

The same data from the summer month of August was interpolated once more with Empirical Bayesian Kriging to produce the third map for the technical addendum. This method produced a surface or raster that expanded the coverage of higher temperature areas in the dataset. Several hot regions from the IDW map have been expanded and connected to others in the EBK map. Additionally, some of the spots around individual weather stations have been smoothed into larger areas of consistent temperature. This refinement is especially visible in the central valley as well as California's central coast.

The ranking of hottest and coldest cities in California was only slightly reordered from this alternate interpolation method, though values of a city's estimate may have changed by up to three degrees. California's major cities' temperatures are appended in this third map with their approximate change in degrees from the IDW's estimates.