

HOW TO STAY COMFORTABLE AND SAFE DURING THE HOT SUMMER

with little or no air conditioning

We have five years of experience living without AC in central Oklahoma. This information is based on that experience, 2002-2007. Because of the changes we made in 2005. . .

- ✓ we installed 9 inches of insulation in our walls, 14 inches of insulation in the attic,
- ✓ the trees and bushes planted around the exterior of our house grew tall enough to cast significant shade on the building (most were planted earlier, starting in 2000),
- ✓ we added attic ventilation,
- ✓ we replaced our windows with double pane, argon filled, low E coated windows,
- ✓ we installed ceiling fans,
- ✓ we installed R-20 insulated shutters for the windows
- ✓ we started cooking all of our meals outside in 2003, when we first went without AC

. . . in 2007 we found that we could cool our 1500 square foot house, with only two or three 5,000 BTU window air conditioners. Each of these window units was only rated to cool 120 sq ft.

Our experience after our renovations in 2005 was that we could generally keep the inside ten degrees cooler than the outside temperature. The moving air of our ceiling and table fans took another 10 degrees off the apparent temperature, so the **passive measures** of our renovated house (originally built in 1929) are good for about 20 degrees off the outside temperature. There's no way to finesse humidity, however, with such passive measures. So in 2007 we decided to see what we could do with air conditioning. We installed two of the 5,000 BTU window units, and later when we added additional people to the house we bought a third. Generally, at any given time, only two of those are going. We only cool occupied areas of the house. We don't cool the kitchen and we don't cook inside the house (except for a microwave oven) during the summer.

Our theory about our ability to cool 1500 square feet with only 240 or 360 sq feet of AC power, is that the window air conditioners are primarily acting as dehumidifiers, and providing the “last mile” of temperature comfort. The passive measures were all one-time expenditures. We consider that money to be an investment, which continues to pay a “tax free dividend” in the form of money we no longer spend for energy.

Stay hydrated. With or without AC. . . Drink at least a cup of water every 20-30 minutes during extreme heat periods in the summer, even if you aren't thirsty. Avoid soft drinks and alcoholic beverages. The idea that an ice cold soda pop is the perfect solution to thirst is a delusion encouraged by advertising. The more soda pop you drink, the more thirsty you will be, the hotter you will feel, and thus the more uncomfortable you will be. Soft drink advertisements are LIES! “Sugar free” drinks are as bad as the sugared versions, in some ways they are worse (especially for diabetics).

Cook outside to avoid increasing the heat and humidity inside your house. We started our outdoor summer kitchen with an electric frying pan, crockpot, electric roaster oven, a hot plate, and a propane grill. Nothing was expensive Later we converted a conventional gas stove to burn propane, and that's what we use on our porch during the summer. We use about four gallons of propane/month to cook 3 meals a day.

Eat small, light meals, spaced throughout the day, rather than 2 or 3 big heavy meals.

Dress for the season. Wear shorts and a light shirt. Loose fitting clothes are cooler and more comfortable than tight fitting garments. Go barefoot or wear sandals. Natural fabrics are cooler than synthetics. At night, use light cotton sheets on your bed. Minimize indoor fabrics, as fabric increases interior humidity.

If the heat becomes oppressive, douse your head, arms, and feet with cool water, or take a cool shower. Or go outside and douse yourself and everybody else in the house with a water hose. This actually is a lot of fun. We found that this was necessary about once each hour or so, maybe once each 45 minutes when it was really hot. Keep a spray bottle of cool water handy, and give yourself spritzes of cool water. Dip cloths in cool water and wrap around your neck, wrists, and ankles.

Shade is your friend. Keep the sun's heat from hitting windows, doors, walls. Shade the **outside** of the windows. Indoor curtains are not enough (although they help). Once the sun hits the glass and window frame, the heat gets inside the house, even if you have curtains. Use auto sun shades to make a cheap outdoor window shade. Duct tape two or three of them together (depending on the size of the window). Hang them on the outside of the windows. A roll-up window shade also works fine. Or tape aluminum foil to cardboard and cover the outside of your windows. One or more curtains inside will help. Choose white or another light color (sheets are do-able and cheap). Shade the doors. Shade your walls with plants. It takes many years to grow a tall tree, but vines like Morning Glories grow fast. Covering/shading your windows – outside and inside – will make a serious difference in how comfortable you are, whether or not you have air conditioning.

If you have no air conditioning, ventilate your house at night. At night put box fans in the south and west windows to pull hot air out of the house. Put box fans in north or east windows to draw in cooler air. Open every window and door to facilitate cross breezes. In the morning, close your windows and doors when the temperature outside is the same as the temperature inside. If you have covered your windows, and do some of the other suggestions, the temperature outside will increase faster than it does inside. But when the house catches up with the outside again (usually mid afternoon), that's the time to open up. If practical for your situation, during the day only open windows and doors that are shaded. We tried several different ways to do this over our five years without AC and this is the one that provided the most comfort.

Stay out of air conditioned buildings. I was typically the most uncomfortable just after coming home from my perfectly air conditioned office. On days off, my body acclimated to the heat and I was a lot more comfortable than I expected when we first started living without AC.

Keep the air moving around inside. Use fans to create breezes during the day and the night. Moving air makes you feel 10 degrees cooler than the actual temperature. Use fans even if you have an air conditioner. With fan breezes inside, you can set the thermostat higher than would be the case without the fans, and maintain comfort.. **Minimize heat buildup inside the house:**

- ✓ If you have a dishwasher, don't use it or at minimum don't use the heat dry at the end of the cycle.
- ✓ Cool showers are much more comfortable than hot showers.
- ✓ Many electronic devices such as "instant on" televisions draw current all the time, and thus create heat all the time. Plug them into an electrical outlet strip and turn it off and on with the switch on the strip. This will eliminate those unnecessary "hot plates" that add heat to the indoor climate.
- ✓ Don't use the clothes dryer, hang your clothes on a line outside to dry.
- ✓ If you smoke, do so outside. (It would be better for you to quit.)
- ✓ Turn your computers off when they are not in use.
- ✓ **COOK OUTSIDE! I know we already said this but it is important.**
- ✓ Replace your incandescent lights with compact fluorescent bulbs or LED bulbs..
- ✓ If you have AC, either window units or central. . . **shade the outside parts of your air conditioner.** If the AC is in bright sunlight, it will work less efficiently. Shade the compressor or the outside part of a window AC with an awning or vegetation. Don't block the air intakes.

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OSCAR ROMERO CATHOLIC WORKER HOUSE IN OKLAHOMA CITY

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