

SEASONAL PLANNING GUIDE

SOUTHWEST VIRGINIA: MIXED HUMID CLIMATE ZONE IV-B

We live in a tricky climate zone, referred to as 'Mixed Humid'. We have cold, dry winters and warm, humid summers. Fall and Spring are variable and include times when heating and cooling equipment is not needed and windows can be wide open. This is why solutions designed for other climate zones regions not only don't work - they may actively cause harm. Each season, think about the following to optimize comfort, building durability, indoor air quality and energy efficiency.

Fall: Variable - Still Humid from Summer

- Service, clean and tune HVAC systems and Fireplaces.
- Check dryer vent at exterior and hose at interior: You will probably need to pull out the dryer and actually look into the vent line to do this. Replace, if needed. Keep the vent line as short and direct as possible without bunching.
- Clean out gutters in late autumn. Address any roof issues before winter.
- Open the windows when outdoor air quality is good, humidity is low and temperatures are comfortable. If your building has more than one story, harness the 'stack effect': Open an upper level window one side of the house and a lower level window on the other side of the building.
- If you have an ERV, pull out the filter and clean it - they can last for years if cleaned regularly.
- Avoid water infiltration at basements and crawlspaces: Pull debris away from the foundation - regrade, if needed.

Winter: Cold and Dry

- Put storm windows in place, if you use them. Caulk around window trim wherever you feel gaps (run your fingers along the bottom of sills and tops of headers).
- Test and replace batteries at all smoke alarms. Review fire safety plan with all occupants.
- Check and replace weatherstripping. For older doors, weatherstripping can be difficult, but a door sweep helps reduce drafts at the bottom, where most of the air typically comes in.
- Ventilation (the right amount of dry, fresh air supplied from mechanical means) is especially important in winter when windows are typically closed. If you don't have an ERV - or heat your building primarily with a radiator system - pollutants can build up all winter long, causing flu-like symptoms. Indoor air in winter can be much worse than the air outside - even on 'bad air' days'. Talk to us about strategies! The simplest one may be to open those windows and air things out on temperate days.
- Never operate a ventless fireplace for more than an hour or so without dedicated fresh air! Better yet: replace it with a direct vent model. Ventless (and wood) fireplaces can raise carbon monoxide (CO) levels dramatically within minutes.
- If you have a heat pump, it's best to either set the temperature and forget it - or if you turn it down at night, step it up in 1 degree increments to prevent it going into expensive emergency heat mode. Think about it this way: if the materials in your home (walls, floors, furniture) is cold, it will rob you of body heat because heat goes to cold. In building science-speak, we refer to this as 'Mean Radiant Temperature'. Its impact on comfort and energy efficiency is often under-appreciated.
- If you're feeling any drafts, call us. Draftiness is a signal of expensive air leakage.

Spring: Variable - Stormy - Still Dry from Winter

- Check gutters to check for damage by heavy, sliding snow off of the roof. Repair, as needed.
- Open the windows when outdoor air quality is good and temperatures are balmy. Enhance natural ventilation by harnessing the 'stack effect': Open an upper level window on one side of the building and a lower level window on the other side.
- Spring is the best time to think about energy efficiency upgrades because you have time to plan and schedule work before the very busy (and more expensive) fall season. Call us if you need advice.
- Purchase a year's worth of filters for each return air return or anywhere filters exist.

Summer: Hot and Humid

- Verify filter supply and change a little more often during the summer.
- Change out bulbs (even CFLS) to 2700K Energy Star rated LEDs. Plan to replace a room at a time over the next six months.
- Research air quality and radon monitors. Check with us before you buy - it's the Wild West out there with monitors and we've been testing them all. Know what the data means before you buy the wrong monitor.
- Check exhaust fan flows. If bathroom and kitchen exhaust isn't working properly, indoor humidity sources will add to exterior humidity, creating ideal conditions for mold. (Solve humidity and water sources to solve mold issues - or they *will* come back.)
- If indoor air feels a little muggy when the air conditioning is running, your system may be oversized. Note that when replacing it a Manual J calculation (ideally along with tightening up your building) may result in a smaller, less expensive system.
- If rooms just below the attic feel hot, remember that heat goes to cold - not necessarily 'up'. Rooms may be hot because heat is coming through air leaks at the attic interface - even if you have plenty of insulation.
- Take a field trip to your crawlspace, if you have one. If you see wet areas or insulation hanging down, call us! Your crawlspace has become a rain-forest machine (and it's not great for indoor air quality or building durability).