

This flora of the Pike-San Isabel NFs and Cimarron-Comanche NGs (PSICC) started from the four Master's theses done by students of Ron Hartman at University of Wyoming (Chumley 1998, Elliott 2000, Holt 2002, and Kuhn 2009). After sorting through names of plant species and getting them to agree, it appears that there are approximately 2,200 species, subspecies, and varieties of plants across the PSICC. Species names in this effort generally follow Ackerfield's "Flora of Colorado" (2015). The higher level taxonomy (above genus level) follows the ANGIOSPERM PHYLOGENY WEBSITE, version 14 (<http://www.mobot.org/MOBOT/Research/APweb/>).

As for the tab of "synonyms," there are six widely used sources for southeastern Colorado. The new standard that I've been using is Flora of Colorado (Ackerfield 2015). This effort contains the latest in plant taxonomy for the local area. Weber and Wittmann (2014) is the fourth edition of the Colorado flora. These works split the state into east slope and west slope volumes. Every so often there's a species that we see here on the east slope, but may only be in the keys of the west slope. Some of the taxonomy and nomenclature is not well accepted, so there can be some confusion as to what you're actually looking at. The USDA recommended names of plants are in the NRCS-PLANTS database (<https://plants.usda.gov/java/>). The taxonomy in the database are somewhat dated and not keeping up with the latest available science. NatureServe (an outgrowth of the science side of The Nature Conservancy, and now an independent group - <http://explorer.natureserve.org/>) includes lots of information, sometimes, and is the source of G- and S-ranks. BONAP (Biota of North America Program - <http://www.bonap.org/>) is something of a successor to PLANTS – some of the same high-level authors of taxonomy. An issue here is that, while nomenclature follows current science, there is sometimes little explanation of how one species suddenly moved to a new genus. The Flora of North America (http://beta.floranorthamerica.org/Main_Page) is incomplete, and some of the earlier treatments are already obsolete. What isn't finished yet, may take several more years before its completion. In the tab, I've tried to at least find the names from each that fit what is used in Colorado. There isn't necessarily a one-to-one correspondence of names, but most of those used by one source or another are included (I'm sure I've missed a few).

I used the SEINet website (<http://swbiodiversity.org/seinet/index.php>) to search for documented records of the species in and near the PSICC, and, rather tediously, quad by quad to come up with distribution information by ranger district (and ecological subsections). SEINet information can be somewhat variable in quality, so some was not used. For example, a few place names cause confusion (references to Brown Canyon in Organ Pipe Cactus NP, AZ, were excluded); perhaps transposed digits in coordinates put records in counties not on the PSICC, and vague location information doesn't help (near Buena Vista, Colorado, 1886). Another source that contributes to the sources of species distribution information is Integrated Digitized Biocollections (iDigBio - <https://www.idigbio.org/portal/search>).

Also happening has been the updating/correcting of the ecological subsections of Bailey's ecoregions (<https://www.fs.fed.us/land/pubs/ecoregions/> - see list of subsection names and codes on the next page). There are several subtle changes that have been proposed in the area of the PSICC. An attempt was made to sort the species distribution information by the ecological subsections in the updated configuration.

Crossing the ranger districts with the revised subsections was variable. Some quads have only one ranger district in one subsection, while others have more than one of each, so keeping track of record

locations may have introduced a few glitches, but most information should be close to correct – the majority should provide reliable information on which species are likely to occur where across the Forests and Grasslands. Since this is mostly based on herbarium specimen records in a relatively narrow group of herbaria, there are known gaps in species (for example, no specimen records of big bluestem on the Cimarron NG, where it can be quite common in places. It did appear in iDigBio, however.). The quad by quad search includes species on adjacent non-PSICC lands where that habitat/ecological subsection continues onto the Forest or Grassland.

To hopefully make this something useful, rather than just a shopping list of species, included are columns for species wetland status from the national wetland species list (less than half of the species have that information) for both plains and mountains (they're not necessarily the same - http://wetland-plants.usace.army.mil/nwpl_static/data/DOC/lists_2016/National/National_2016v2.pdf); an elevation range for species in the mountain districts; and the CNHP "coefficient of conservatism", something of an indicator of how likely a species is to tolerate disturbance (the lower the number, the more disturbance it can handle. Rows highlighted in yellow are species tracked by state natural heritage programs (<https://cnhp.colostate.edu/ourdata/trackinglist/>, <http://biosurvey.ku.edu/ksnhi/rare-plants-and-animals>). Rows highlighted in shades of green are non-native. For Colorado species the pale green is just not native, next shade are "C" list, and the darkest are "A" list weeds (<https://www.colorado.gov/pacific/agconservation/noxious-weed-species>). The Kansas noxious weeds list is much shorter (<https://agriculture.ks.gov/divisions-programs/plant-protect-weed-control/noxious-weed-control-program>).

There is a table for mosses that have been found in the PSICC area. It is sorted by county, and nomenclature follows the Flora of North America (http://beta.floranorthamerica.org/Main_Page). Lichen also have their page, also sorted by county, and nomenclature follows the North American Lichen Checklist (<https://www.ndsu.edu/pubweb/~esslinge/chcklst/chcklst7.htm#C>).

Ecological subsection names and codes

Ba – Sand Hill-Ogallala Plateau

Bc – Mesa de Maya

Bd – Sandy Smooth High Plains

Ia – Picket Wire Canyonlands-Rolling Plains

If – Arkansas Valley Tablelands

Ii – Southern Front Range Foothills

Ja – San Luis Valley

MFa – Sangre de Cristo Range

MFb – Wet Mountains

MFc – Wet Mountain Valley

MFs – Spanish Peaks (a proposed separation of the peaks from the Sangre de Cristo Range)

MGu – San Juan Mountains

Mlg – Mosquito-Gore Range

Mlh – South Platte River Canyon

Mli – Upper Arkansas River Granitics

Mlj – South Park

MIk – Sawatch Range

Mil – Upper Arkansas Valley

Min – Pikes Peak-Rampart Range

Mlp – Indian Peaks-Williams Mountains