11/4/03 DRAFT

Fire Regime Condition Class (FRCC) Interagency Handbook Reference Conditions

Modeler: Wendel Hann **Date:** 9/25/03 **PNVG Code:** SWSS2

Potential Natural Vegetation Group: Southwest Shrub Steppe With Trees

Geographic Area: Southwest (primarily southeast Arizona and southern New Mexico).

Description: This type typically occurs in the foothills of the desert mountain ranges. Vegetation is open shrubland with grass and scattered pockets of trees. Vegetation is dominated by flourensia, creosote bush, tarbush, mesquite, catclaw, opuntia, yucca, black grama, tobosa grass, blue grama, sideoats grama, and threeawns, with intermingled forbs. Scattered trees include pinyon, juniper, and oaks. This type correlates with Kuchler's (1964) types 58and 59.

Fire Regime Description: Fire regime group II, frequent replacement. The mean fire interval is about 8 years with moderate variation due to year to year variation in grass production related to drought and moisture cycles. Fire years are typically bimodal occurring in the late spring (May and June) and fall (September and October) correlated with grass production following spring summer monsoon moisture. Grazing of the grassy fuels by large ungulates increases the variaton of the fire interval. This type generally occurs in a zone between the shrub steppe and the pinyon juniper zone.

Vegetation Type and Structure of Fire Regime Group II

Class	Percent of Landscape	Description
A: post replacement	4	Dominated by resprouts and seedlings of shrubs and grasses and post-fire associated forbs. This type typically occurs where fires burn relatively hot in classes B and C.
B: mid-development closed	15	Greater than 15 percent shrub cover and 30-50 per cent grass and forb cover; generally associated with more productive soils. Effects of cumulative drought can cause a shift from this class to class C.
C: mid- open	75	Less than 15 percent shrub cover with 20 to 40 percent herbaceous cover. Generally associated with less productive cobbly and gravelly soils. Effects of cumulative drought can cause a shift from class B to this class.
D: late- open	5	Less than 15 percent tree cover scattered in a savannah type structure with clumps of shrubs and grass.
E: late- closed	1	Greater than 15 percent tree cover occurring in somewhat dense patches with clumps of shrubs in the understory, a scattered herbaceous component, and litter/duff layer.
Total	100	

Fire Frequency and Severity

Fire Frequency-Severity	Modeled Probability	Percent, All Fires	Description
Replacement Fire	.107	85	Replacement fires in B and C

Non-Replacement Fire	.018	15	Mosaic fires in classes B and C
All Fire Frequency*	.125	100	8 year mean fire frequency with high variation due to complex interaction of drought cycles and herbivory

*Sum of replacement fire and non-replacement fire probabilities.

References

Brown, James K.; Smith, Jane Kapler, eds. 2000. Wildland fire in ecosystems: effects of fire on flora. Gen. Tech. Rep. RMRS-GTR-42-vol. 2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 257 p.

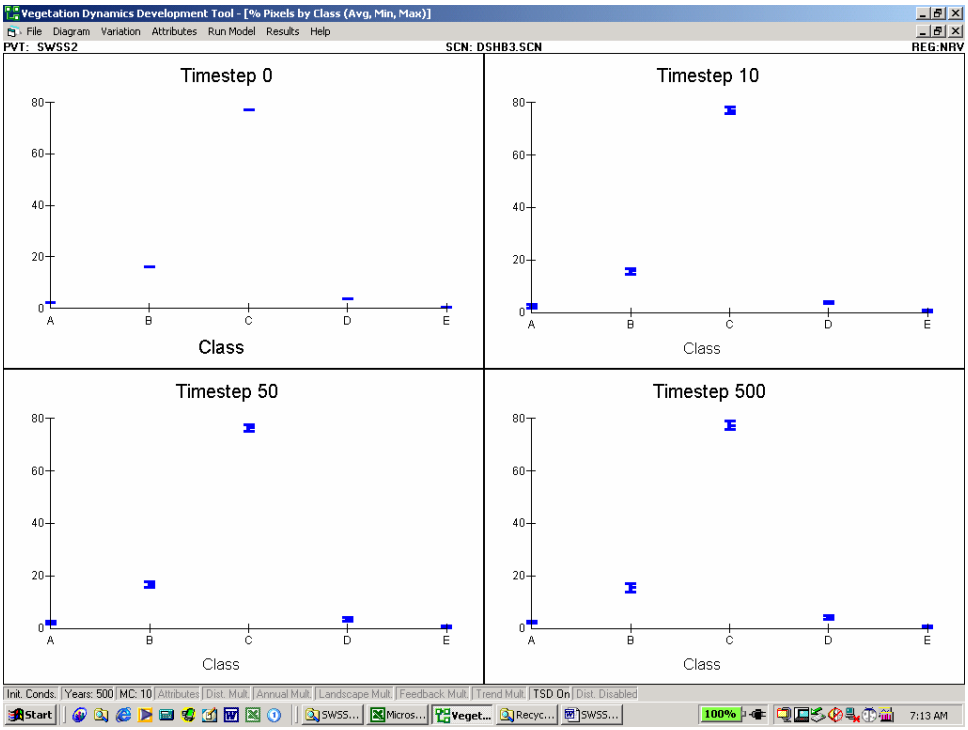
Kuchler, A. W. 1964. Manual to accompany the map of potential natural vegetation of the conterminous United States. American Geographical Society. Spec. Publ. No. 36. Lib. Congress Cat. Card Num. 64-15417. 156 p.

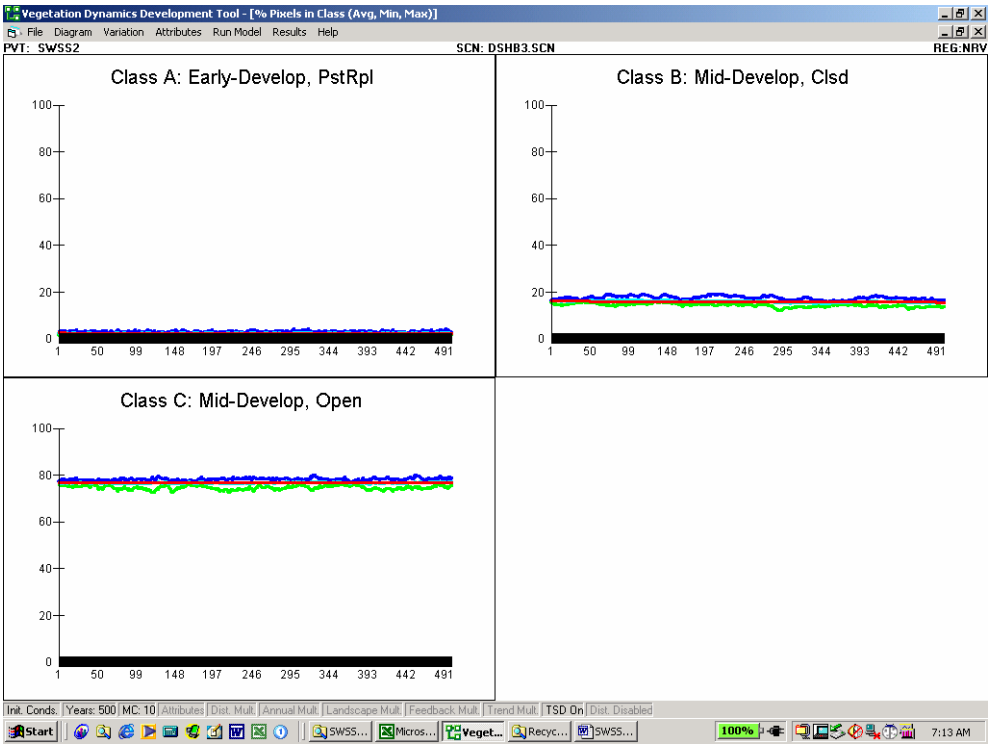
Schmidt, Kirsten M, Menakis, James P., Hardy, Colin C., Hann, Wendel J., Bunnell, David L. 2002. Development of coarse-scale spatial data for wildland fire and fuel management. Gen. Tech. Rep. RMRS-GTR-87. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 41 p. + CD.

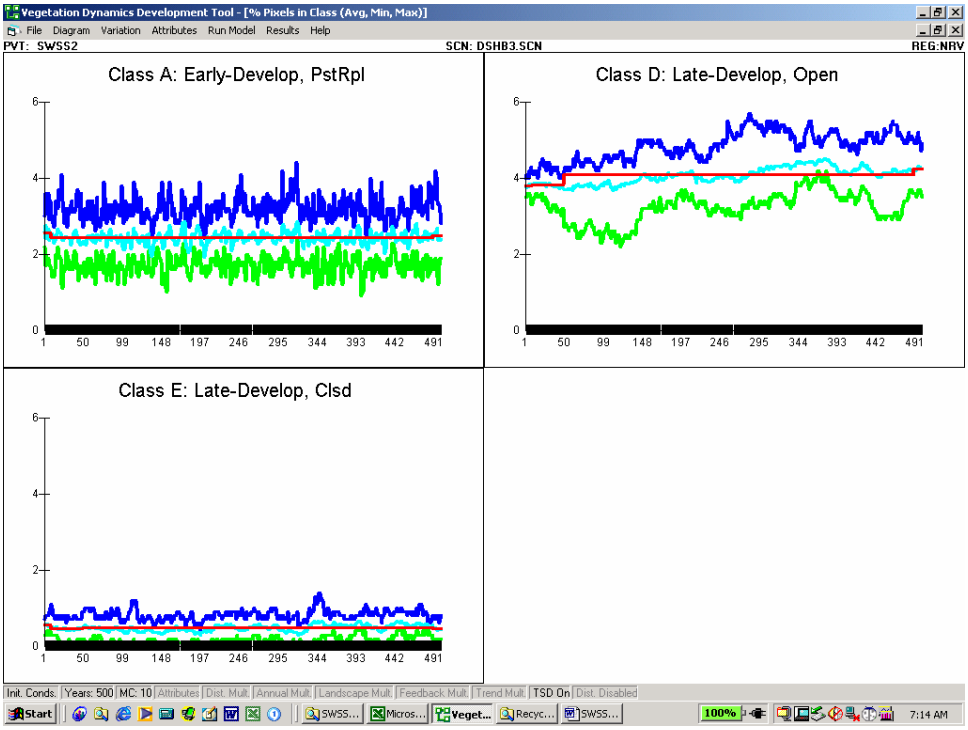
U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, December). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/.

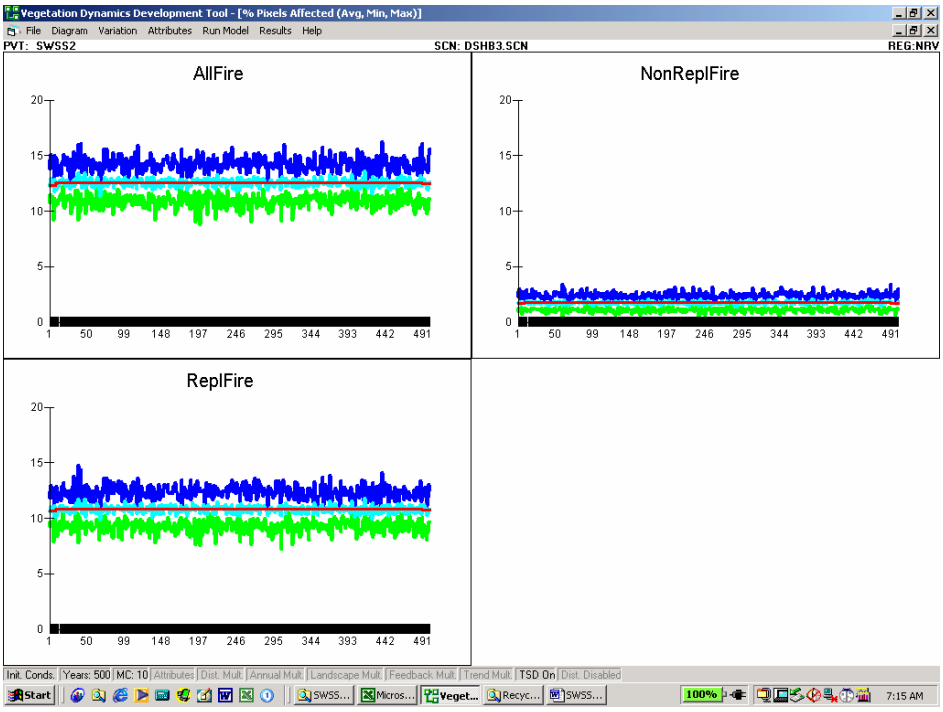
MODELER FIELD REVIEWS (if applicable):
Wendel Hann - Arizona 2003, New Mexico 2003

VDDT Results:






Vegetation Dynamics Development Tool - [% Pixels in Class (Avg, Min, Max)]
File Diagram Variation Attributes Run Model Results Help
PVT: SWSS2
SCN: DSHB3.SCN
REG:NRV
Class A: Early-Develop, PstRpl
Class D: Late-Develop, Open
Class E: Late-Develop, Clsd
0 2 4 6
1 50 99 148 197 246 295 344 393 442 491
Init. Conds. | Years: 500 | MC: 10 | Attributes | Dist. Mult. | Annual Mult. | Landscape Mult. | Feedback Mult. | Trend Mult. | TSD On | Dist. Disabled
Start
SWSS...
Micros...
Veget...
Recyc...
SWSS...
100%
7:14 AM


Vegetation Dynamics Development Tool - [% Pixels Affected (Avg, Min, Max)]
File Diagram Variation Attributes Run Model Results Help
PVT: SWSS2
SCN: DSHB3.SCN
REG:NRV
AllFire
NonReplFire
ReplFire
0 5 10 15 20
1 50 99 148 197 246 295 344 393 442 491
Init. Conds. | Years: 500 | MC: 10 | Attributes | Dist. Mult. | Annual Mult. | Landscape Mult. | Feedback Mult. | Trend Mult. | TSD On | Dist. Disabled
Start
SWSS...
Micros...
Veget...
Recyc...
SWSS...
100%
7:15 AM