****DRAFT****

Fire Regime Condition Class (FRCC) Interagency Handbook
Reference Conditions

Modeler: Kenneth W. Outcalt **Date: 5/18/2004** **PNVG Code: PAPR**

Potential Natural Vegetation Group: Palmetto Prairie

Geographic Area: south central and south Florida with the largest concentrations along the Kissimmee River, west and south of Lake Okeechobee, and the region north of Charlotte Harbor in Sarasota and Manatee counties.

Description: Palmetto prairie, also called dry prairie, is a mostly treeless grass dominated community that occupies broad flat regions where fire is very frequent because there are no major natural fire barriers. Interspersed throughout the community are areas occupied by wet prairie, ephemeral depression ponds, marshes, flatwoods, and mesic hammocks. Soils are sandy, poorly to somewhat poorly drained, acidic, and nutrient poor. The subtropical climate of the region has a pronounced wet and dry season. During the wet season the water table often is at or above the soil surface, while during the dry season it is a meter or more below the surface. The diverse ground cover is dominated by wiregrass (*Aristida beyrichiana*) with scattered saw palmetto (*Serenoa repens*) and patches of runner oak (*Quercus minima*). Other common plants include bottlebrush three awn (*A. spiciformis*), broomsedge (*Andropogon virginicus*), fetterbush (*Lyonia lucida*), rusty lyonia (*L. fruiticosa*), dwarf blueberry (*Vaccinium myrsinities*), and yellow-eyed grasses (*Xyris* spp.)

Fire Regime Description: Fire Regime II with replacement fires every 1 to 2 years. This region of Florida has one of the highest incidences of lightning in the U.S., which is the ignition source for natural fires. Most of these fires occurred in April to June during the transition stage from dry to wet season. The palmetto and ericaceous shrubs are highly flammable but re-sprout vigorously. Thus, the majority of this type burns frequently consuming above ground portions and keeps the community in A, post replacement phase. Occasionally mosaic fires would occur during wetter periods after 4 years without fire and allow a few trees to become big enough to survive subsequent fires. This is the source of the scattered trees of mid-development open C phase. Occasionally fires are severe enough to kill these trees and send the area back to A. Because the vegetation is so pyrogenic and burns severely at least once every 50 years, late development phases do not occur naturally, although they can now be found on the landscape because of human reduction in fire occurrence.

Vegetation Type and Structure

Class	Percent of Landscape	Description
A: post replacement	93	Post-fire, grass dominated with numerous forbs and scattered saw palmetto and shrubs.
B: mid-development closed	6	Closed understory without emergent trees. Grass still dominates but there are fewer forbs. Saw palmetto and shrubs are noticeable feature with average heights greater than 0.5m.
C: mid-open	1	Scattered emergent live oak, pine and/or cabbage palm trees over grass, palmetto and shrub understory. This condition only occurs as scattered single or small groups of trees. Larger areas with this condition are true flatwoods community.

D: late –open	NA	Scattered older live oak, pine and/or cabbage palm trees over grass, palmetto, and shrub understory. This condition is not dry prairie, but rather flatwoods community that develops behind natural fire shadows where fire frequency is reduced.
E: late-closed	NA	This is a palmetto and shrub dominated closed canopy with and average height greater than 1.5 m that could potentially occur with very diligent fire control on a few areas.
Total	100	

Fire Frequency and Severity

Fire Severity	Fire Frequency (yrs)	Probability	Percent, All Fires	Description
Replacement Fire	1-2	0.494	98	Replacement fires occur in A which keeps system in A and in B and C, which sends larger areas to A
Non-Replacement Fire	83	0.012	2	Larger palmetto and shrubs in stage B can quickly recover from light surface fires, which occur mainly at night, and thus keep the system in B.
All Fire Frequency*	2	0.506	100	

*All Fire Probability = sum of replacement fire and non-replacement fire probabilities. All Fire Frequency = inverse of all fire probability (previous calculation).

Reference:

Abrahamson, W.G.; Hartnett, D.C. 1990. Pine flatwoods and dry prairies. In: R.L. Myers and J.J. Ewel (eds.), Ecosystems of Florida. Orlando: University of Central Florida Press: 103-1149.

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.

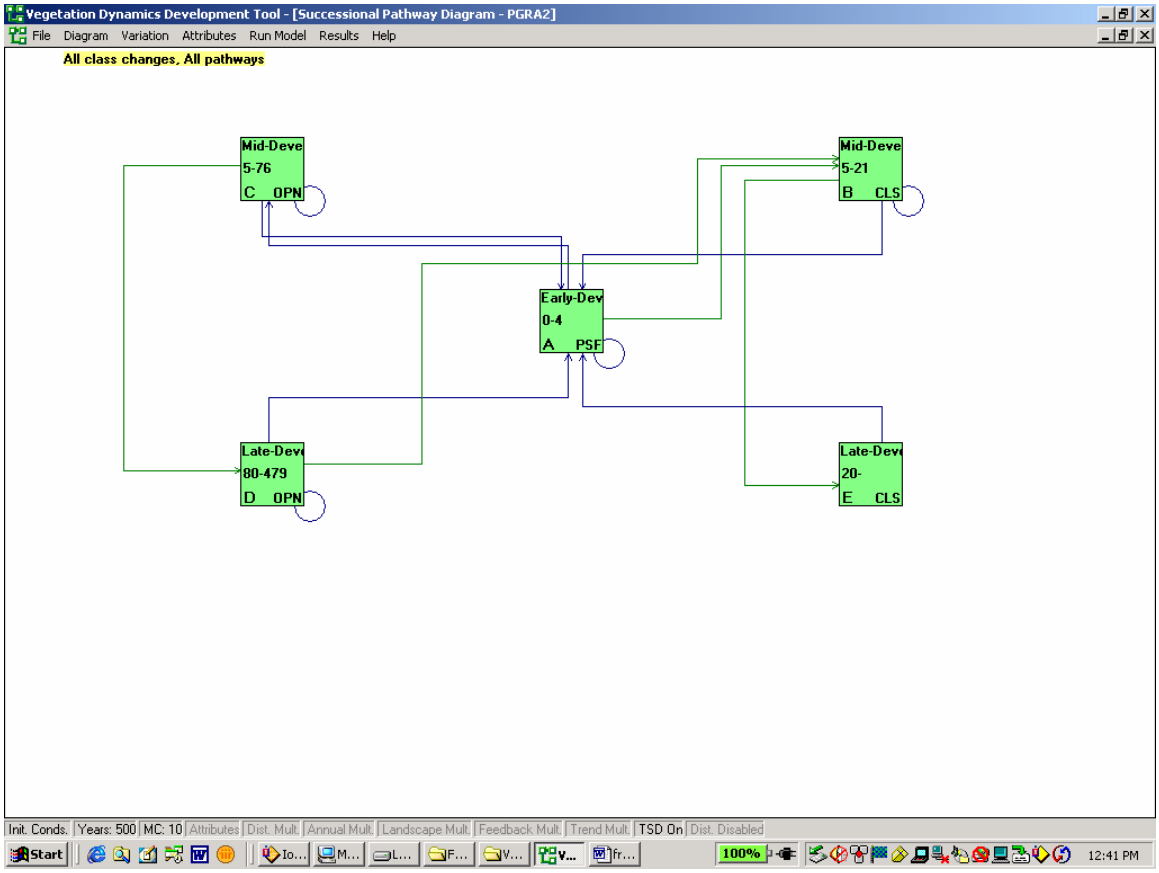
Davis, J.J. 1943. The natural features of southern Florida. Florida Geologic Survey Bulletin 25, 311p.

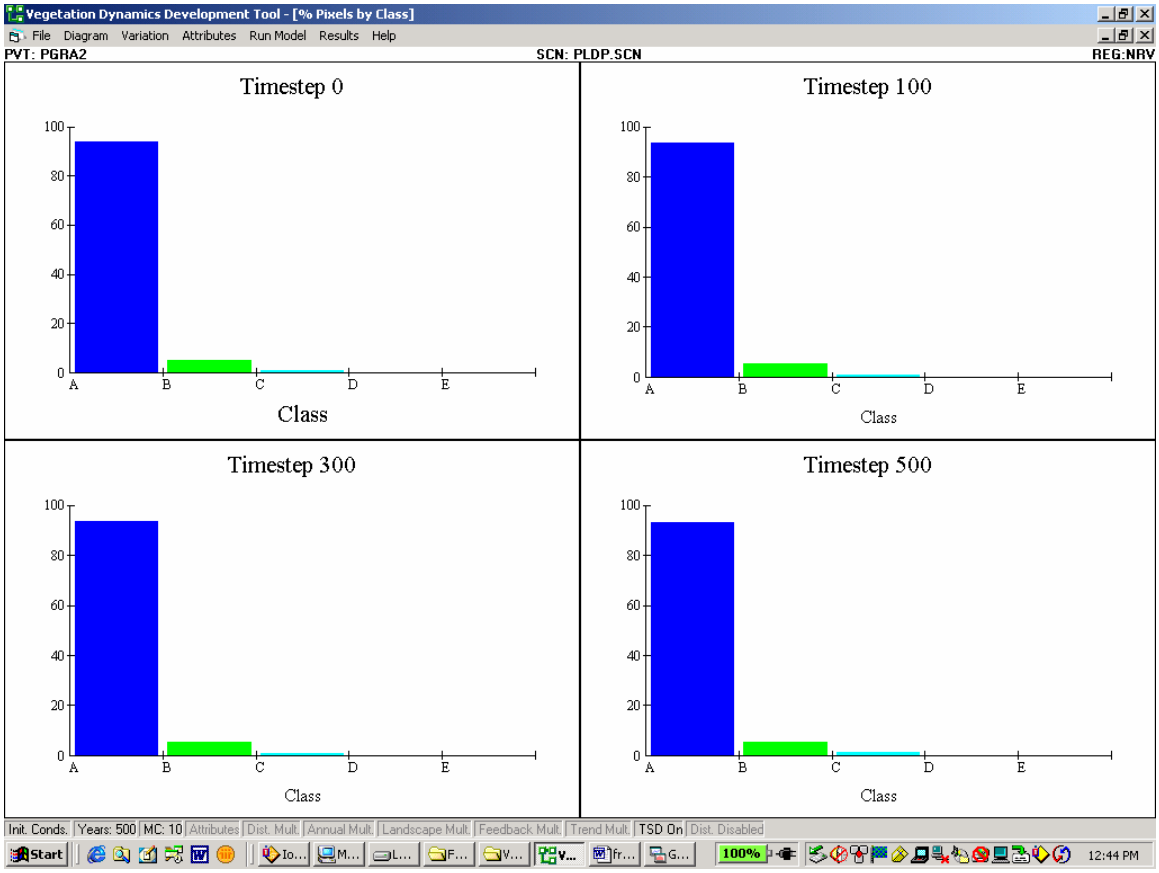
Harashberger, J.W. 1914. The vegetation of south Florida south of 27 degrees 30 minutes north, exclusive of the Florida Keys. Transactions of the Wagner Free Institute of Science of Philadelphia 7(3):51-189.

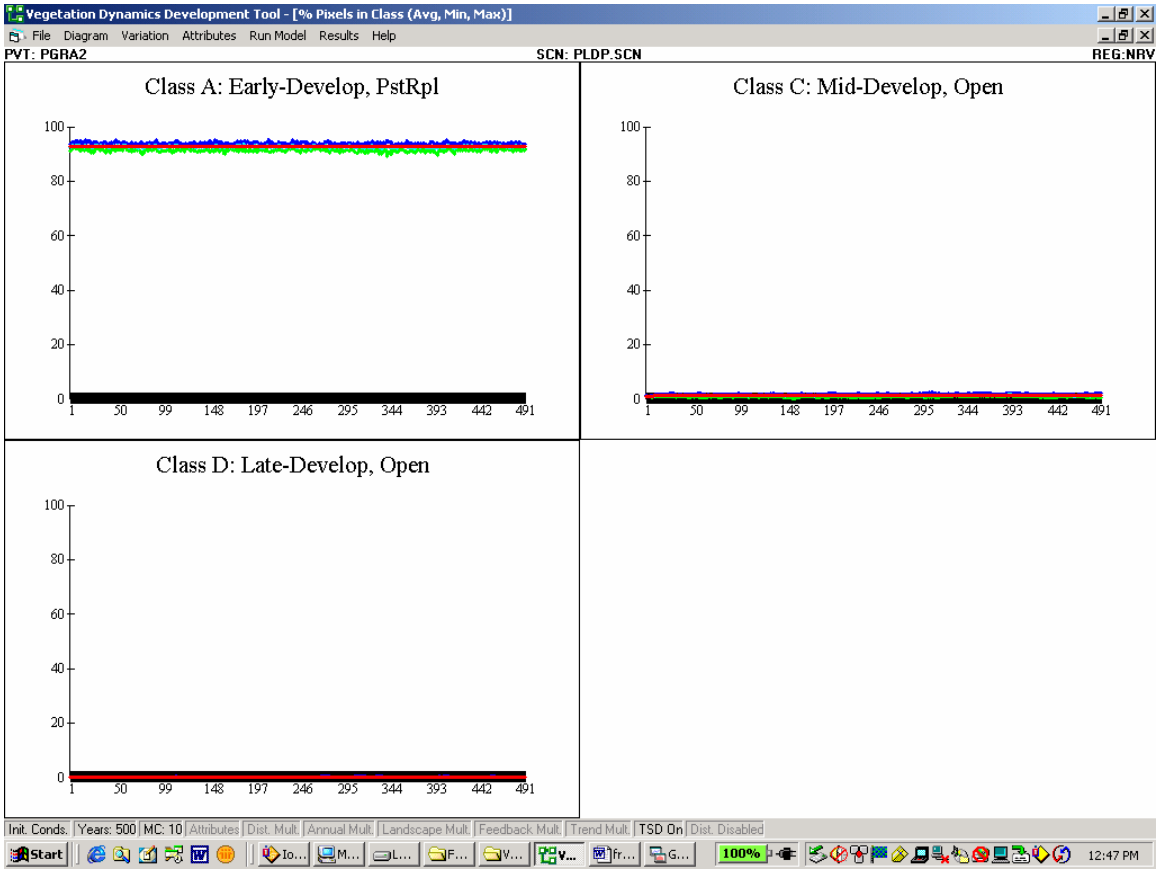
Huck, R.B. 1987. Plant communities along an edaphic continuum in a central Florida watershed. Florida Scientist 50(2):111-128.

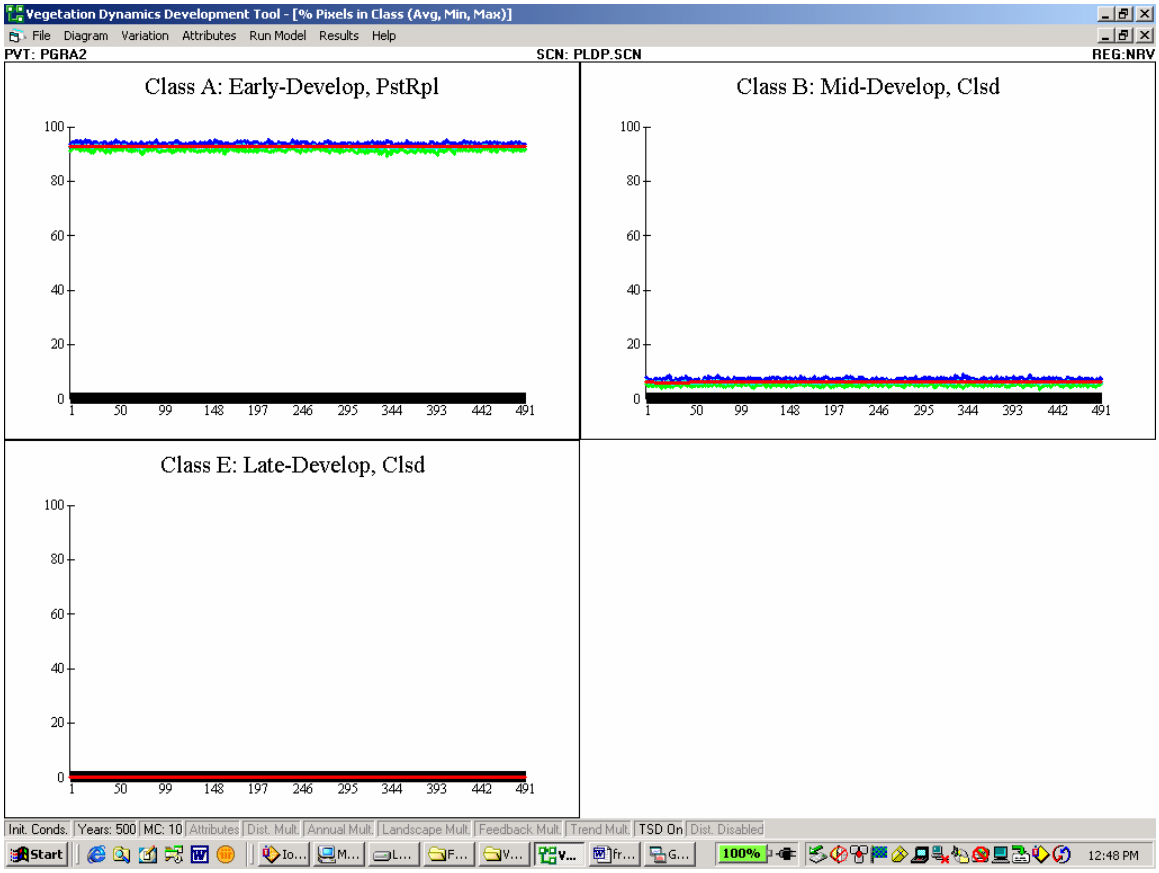
Schmidt, Kirsten M.; Menakis, James P.; Hardy, Colin C.; Hann, Wendel J.; Bunnell, David L. 2002. Development of coarse-scale spatial data for wildland fire and fuel management. Gen. Tech. Rep. RMRS-GTR-87. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.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

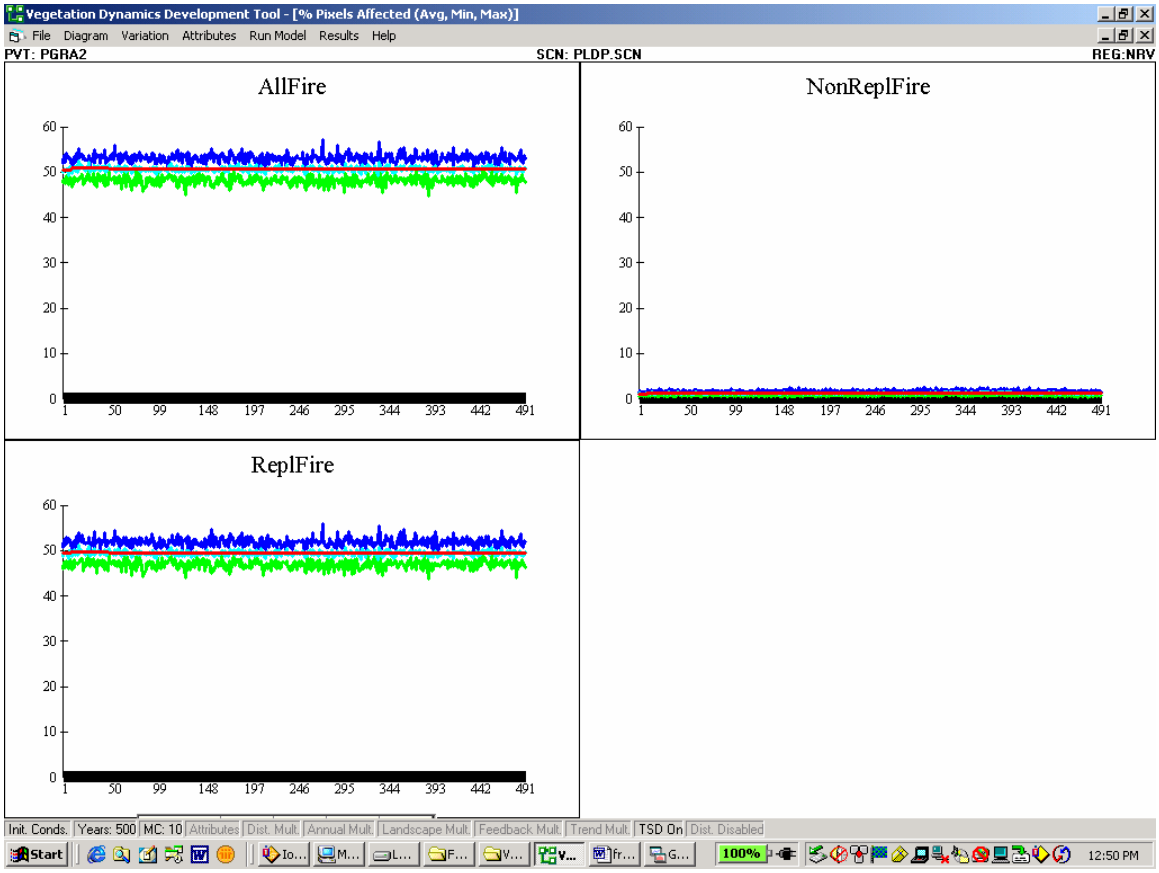
U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, December). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/ [Accessed: 5/17/04].

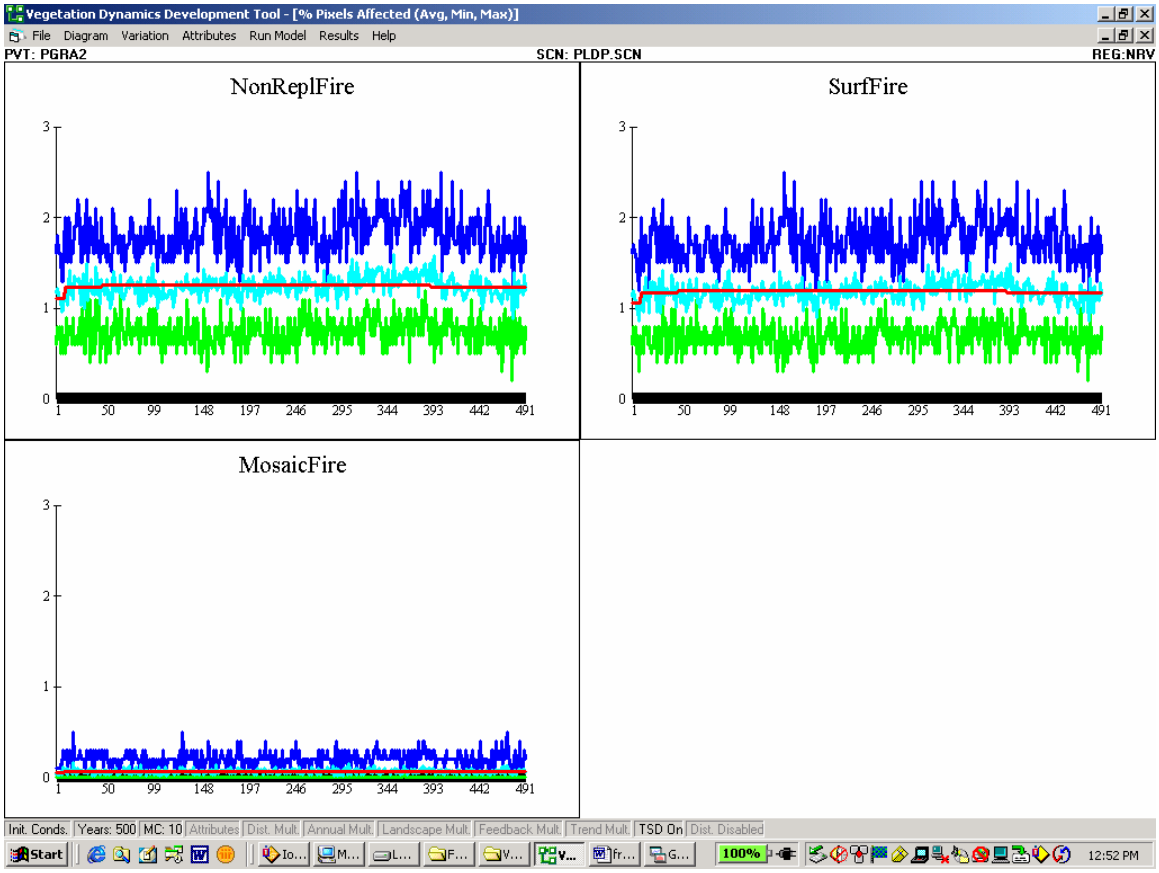



Vegetation Dynamics Development Tool - [% Pixels by Class]
File Diagram Variation Attributes Run Model Results Help
PVT: PGRA2
SCN: PLDP.SCN
REG:NRV
Timestep 0
Timestep 100
Timestep 300
Timestep 500
100
80
60
40
20
0
A
B
C
D
E
Class
Init. Conds.
Years: 500
MC: 10
Attributes
Dist. Mult.
Annual Mult.
Landscape Mult.
Feedback Mult.
Trend Mult.
TSD On
Dist. Disabled
Start
100%
12:44 PM


Vegetation Dynamics Development Tool - [% Pixels in Class (Avg, Min, Max)]
File Diagram Variation Attributes Run Model Results Help
PVT: PGRA2
SCN: PLDP.SCN
REG:NRV
Class A: Early-Develop, PstRpl
Class C: Mid-Develop, Open
Class D: Late-Develop, Open
100
80
60
40
20
0
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
100%
12:47 PM


Vegetation Dynamics Development Tool - [% Pixels in Class (Avg, Min, Max)]
File Diagram Variation Attributes Run Model Results Help
PVT: PGRA2
SCN: PLDP.SCN
REG:NRV
Class A: Early-Develop, PstRpl
Class B: Mid-Develop, Clsd
Class E: Late-Develop, Clsd
100
80
60
40
20
0
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
100%
12:48 PM


Vegetation Dynamics Development Tool - [% Pixels Affected (Avg, Min, Max)]
File Diagram Variation Attributes Run Model Results Help
PVT: PGRA2
SCN: PLDP.SCN
REG:NRV
AllFire
NonReplFire
ReplFire
60
50
40
30
20
10
0
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
100%
12:50 PM


Vegetation Dynamics Development Tool - [% Pixels Affected (Avg, Min, Max)]
File Diagram Variation Attributes Run Model Results Help
PVT: PGRA2
SCN: PLDP.SCN
REG:NRV
NonReplFire
SurfFire
MosaicFire
0 1 2 3
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
100%
12:52 PM