

User's Manual for the ORGEDIT.DLL version of ORGANON 9.1

The ORGEDIT.DLL and ORGEDIT.LIB Microsoft compatible import files were created using the Lahey/Fujitsu FORTRAN 95 compiler. Two subroutines have been exposed for usage by other programs: PREPARE and GET\_ORGEDIT\_EDITION.

SUBROUTINE

PREPARE (VERSION, NPTS, NTREES, STAGE, BHAGE, SPECIES, USER, IEVEN,  
DBH, HT, CR, EXPAN, RADGRO, RVAR, SERR, TERROR,  
SWARN, TWARN, IERR, IRAD, GROWTH, ACALIB)

DIMENSIONS SPECIES(2000), USER(2000), DBH(2000), HT(2000),  
CR(2000), EXPAN(2000), RADGRO(2000), RVAR(30),  
SERR(13), TERROR(2000, 6), SWARN(8),  
TWARN(2000), GROWTH(2000), ACALIB(3, 18)

The following variables will include a classification describing whether each variable is strictly an "INPUT" variable (i.e., it is entered into the DLL and is not modified by the DLL), or strictly an "OUTPUT" variable (i.e., it is created with in the DLL and then outputted by the DLL).

Description of Variables

VERSION	INTEGER*4	Version of ORGANON to be used: 1 = Southwest Oregon (SWO), 2 = Northwest Oregon (NWO), 3 = Stand Management Cooperative (SMC), 4 = Red Alder Plantations (RAP). (INPUT variable)
NPTS	INTEGER*4	Total number of sample plots/points used to collect the tree list data. Include all treeless plots/points in the count. (INPUT variable)
NTREES	INTEGER*4	Total number of sample trees measured in the stand (NTREES cannot exceed 2000). (INPUT variable)

STAGE	INTEGER*4	Total age of the stand at the start of the current growth cycle(s). STAGE should be 0 for an uneven-aged stand. (INPUT variable)
BHAGE	INTEGER*4	Breast height age of the stand at the start of the current growth cycle(s). BHAGE should be 0 for an uneven-aged stand. (INPUT variable)
SPECIES (I)	INTEGER*4	Species code for the I <sup>th</sup> sample tree, $1 \leq I \leq \text{NTREES}$ (maximum of 2000). (INPUT variable)
USER (I)	INTEGER*4	User code for the I <sup>th</sup> sample tree, $1 \leq I \leq \text{NTREES}$ (maximum of 2000). (INPUT variable)
IEVEN	INTEGER*4	1 = Stand is even-aged; 0 = Stand is uneven-aged. (INPUT variable)
DBH (I)	REAL*4	DBH for the I <sup>th</sup> sample tree, $1 \leq I \leq \text{NTREES}$ (maximum of 2000). (INPUT variable)
HT (I)	REAL*4	Total height for the I <sup>th</sup> sample tree, $1 \leq I \leq \text{NTREES}$ (maximum of 2000). Trees without a measured height (i.e., HT = 0.0) will have the missing values filled in by ORGEDIT. (INPUT variable)
CR (I)	REAL*4	Crown ratio for the I <sup>th</sup> sample tree, $1 \leq I \leq \text{NTREES}$ (maximum of 2000). Trees without a measured crown ratio (i.e., CR = 0.0) will have the missing values filled in by ORGEDIT. (INPUT variable)
EXPAN (I)	REAL*4	The plot/point level expansion factor for the I <sup>th</sup> sample tree (i.e., the expansion factors should NOT be divided by the total number of plots/points measured in the stand), $1 \leq I \leq \text{NTREES}$ (maximum of 2000). (INPUT variable)

RADGRO (I)	REAL*4	The radial growth inside bark for the I <sup>th</sup> sample tree measured in inches, $1 \leq I \leq$ NTREES (maximum of 2000). Radial growth should be set to 0.0 on trees where it is not measured. (INPUT variable)
RVARS (1)	REAL*4	The value of SITE_1: Douglas-fir site index: Hann and Scrivani (1987) for the SWO version, and Bruce (1981) for the NWO and SMC. Red alder site index: Weiskittel et al. (2009) for the RAP version. For the SWO, NWO, and SMC versions, ORGANON will calculate this value from SITE_2 if it is set to zero. For the RAP version, SITE_1 must be entered. (INPUT variable)
RVARS (2)	REAL*4	Other site index (SITE_2): Hann and Scrivani (1987) ponderosa pine site index for the SWO version and Flewelling's site index for western hemlock in the NWO and SMC versions. For the RAP version, Bruce (1981) Douglas-fir site index. For the SWO, NWO, and SMC versions, ORGANON will calculate this value from SITE_1 if it is set to zero. For the RAP version, it will be reset to 115 if not entered by the user. (INPUT variable)
RVARS (3)	REAL*4	Maximum stand density index of Douglas-fir for the SWO, NWO, and SMC versions. Maximum stand density index of red alder for the RAP version. A value of 0 will result in the version specific default value being used. (INPUT variable)
RVARS (4)	REAL*4	Maximum stand density index of white fir and/or grand fir for the SWO, NWO, and SMC versions. Maximum stand density index of Douglas-fir for the RAP version. A value of 0 will result in the version specific default value being used. (INPUT variable)

RVARS (5)	REAL*4	Maximum stand density index of ponderosa pine for the SWO version and western hemlock in the NWO, SMC, and RAP versions. A value of 0 will result in the version specific default value being used. (INPUT variable)
RVARS (6)	REAL*4	For RAP-ORGANON, the starting number of red alder trees per acre (i.e., planting density) for the plantation. Must be specified for RAP-ORGANON only, otherwise it is set to zero. (INPUT variable)
RVARS (7+)	REAL*4	Currently unused, set to 0. (INPUT variable)
SERROR (I)	INTEGER*4	If SERROR(I)=1 ( $1 \leq I \leq 13$ ), then a stand level error of type "I" has occurred (a value of 0 indicated no error). See the following tables for a description of the particular errors. (OUTPUT variable)
TERROR (I,J)	INTEGER*4	If TERROR(I,J)=1 ( $1 \leq I \leq \text{NTREES}$ , $1 \leq J \leq 6$ ), then a tree level error of type "J" has occurred for the I <sup>th</sup> tree (a value of 0 indicated no error). See the following tables for a description of the particular errors. (OUTPUT variable)
SWARNING (I)	INTEGER*4	If SWARNING(I)=1 ( $1 \leq I \leq 8$ ), then a stand level warning of type "I" has occurred (a value of 0 indicated no error). See the following tables for a description of the particular warnings. (OUTPUT variable)
TWARNING (I)	INTEGER*4	If TWARNING(I)=1 ( $1 \leq I \leq \text{NTREES}$ ), then a tree warning has occurred for the I <sup>th</sup> tree (a value of 0 indicated no error). See the following tables for a description of the particular warnings. (OUTPUT variable)

IERROR	INTEGER*4	If IERROR=1, then a stand or tree level error has occurred and the error must be corrected before proceeding. (OUTPUT variable)
IRAD	INTEGER*4	If IRAD=1, then radial growth measurements have been entered. (OUTPUT variable)
GROWTH(I)	REAL*4	Outside bark diameter growth rate for the I <sup>th</sup> sample tree that occurred during the last 5-year growth period, $1 \leq I \leq \text{NTREES}$ (maximum of 2000). This value is calculated in ORGEDIT. (OUTPUT variable)
ACALIB(I,J)	REAL*4	Actual calibration values for the I <sup>th</sup> attribute (when I=1, the height/DBH equation; I=2, the crown ratio equation; and I=3, the diameter growth rate equation); and the J <sup>th</sup> species group depending upon the version of ORGANON, $1 \leq J \leq 18$ . The calibration values and species groups are calculated in the ORGEDIT DLL (if enough trees have been measured) based upon version and species for the tree. (OUTPUT variable)

SUBROUTINE GET\_ORGEDIT\_EDITION(EDITION)

Description of Variable

EDITION	REAL*4	Edition of the ORGEDIT DLL (OUTPUT variable)
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## Descriptions of the SERROR(I) Array

I	Description of the Error
1	NTREES < 1 or NTREES > 2000
2	VERSION < 1 or VERSION > 4
3	NPTS < 1
4	Both SITE_1 and SITE_2 are set to 0
5	There are no major tree species for the VERSION
6	BHAGE has been set to 0 for an even-aged stand
7	BHAGE > 0 for an uneven-aged stand
8	STAGE is too small for the BHAGE
9	MSDI_1, MSDI_2, and/or MSDI_3 > 1000
10	SITE_1 is set to 0 for RAP-ORGANON
11	PDEN is set to zero for RAP-ORGANON
12	Stand must be even-aged for RAP-ORGANON
13	Stand must have at least 90% of basal area in red alder for RAP-ORGANON

Descriptions of the TERROR(I,J) Array

J	Description of the Error
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1	Illegal species code for the VERSION
2	DBH $\leq$ 0.0
3	HT $>$ 0.0 and HT $\leq$ 4.5
4	CR $>$ 1.0
5	EXPAN $<$ 0.0

## Descriptions of the SWARNING(I) Array

I	Description of the Error
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1	SITE_1 is out of range for the VERSION
2	SITE_2 is out of range for the VERSION
3	Tree heights are too large for the site index value
4	BHAGE is too young for the VERSION
5	Amount of minor species is higher than recommended for the VERSION
6	Number of sample trees is below recommended minimum
7	Majority of the input stand is over the upper age recommended for the VERSION
8	Majority of the projected stand is now over the upper age recommended for the VERSION

Descriptions of the TWARNING(I) Array

J

Description of the Error

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1

HT to DBH ratio is too large for the species