[] Dendrochronology Program Library Run MHM\_H Program COF 13:05 Tue 06 Mar 2007 Page 1

[] P R O G R A M C O F E C H A Version 6.06P 26364

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 QUALITY CONTROL AND DATING CHECK OF TREE-RING MEASUREMENTS

 Title of run: Mount Hunger-Middlesex-High Corr3-30

 File of DATED series: mhm\_high\_compact\_corr3.dta

 CONTENTS:

 Part 1: Title page, options selected, summary, absent rings by series

 Part 2: Histogram of time spans

 Part 3: Master series with sample depth and absent rings by year

 Part 4: Bar plot of Master Dating Series

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 Part 6: Potential problems: low correlation, divergent year-to-year changes, absent rings, outliers

 Part 7: Descriptive statistics

 RUN CONTROL OPTIONS SELECTED VALUE

 1 Cubic smoothing spline 50% wavelength cutoff for filtering

 32 years

 2 Segments examined are 30 years lagged successively by 15 years

 3 Autoregressive model applied A Residuals are used in master dating series and testing

 4 Series transformed to logarithms Y Each series log-transformed for master dating series and testing

 5 CORRELATION is Pearson (parametric, quantitative)

 Critical correlation, 99% confidence level .4226

 6 Master dating series saved N

 7 Ring measurements listed Y

 8 Parts printed 1234567

 9 Absent rings are omitted from master series and segment correlations (Y)

 Time span of Master dating series is 1908 to 2006 99 years

 Continuous time span is 1908 to 2006 99 years

 Portion with two or more series is 1909 to 2006 98 years

 >> 31a 2000 absent in 6 of 20 series, but is not usually narrow: master index is -.297

 >> 31a 2006 absent in 17 of 20 series, but is not usually narrow: master index is -.012

 >> 31b 2006 absent in 17 of 20 series, but is not usually narrow: master index is -.012

 >> 32b 1992 absent in 2 of 20 series, but is not usually narrow: master index is -.177

 >> 32b 1995 absent in 1 of 20 series, but is not usually narrow: master index is .150

 >> 32b 1996 absent in 1 of 20 series, but is not usually narrow: master index is .456

 >> 32b 1997 absent in 1 of 20 series, but is not usually narrow: master index is 1.303

 >> 32b 1998 absent in 1 of 20 series, but is not usually narrow: master index is 1.594

 >> 32b 1999 absent in 6 of 20 series, but is not usually narrow: master index is .057

 >> 32b 2000 absent in 6 of 20 series, but is not usually narrow: master index is -.297

 >> 32b 2002 absent in 8 of 20 series, but is not usually narrow: master index is .371

 >> 32b 2003 absent in 12 of 20 series, but is not usually narrow: master index is .121

 >> 32b 2004 absent in 15 of 20 series, but is not usually narrow: master index is .257

 >> 32b 2005 absent in 15 of 20 series, but is not usually narrow: master index is .870

 >> 32b 2006 absent in 17 of 20 series, but is not usually narrow: master index is -.012

 >> 33a 2004 absent in 15 of 20 series, but is not usually narrow: master index is .257

 >> 33a 2005 absent in 15 of 20 series, but is not usually narrow: master index is .870

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 >> 34b 2004 absent in 15 of 20 series, but is not usually narrow: master index is .257

 >> 34b 2005 absent in 15 of 20 series, but is not usually narrow: master index is .870

 >> 34b 2006 absent in 17 of 20 series, but is not usually narrow: master index is -.012

 >> 36a 1971 absent in 1 of 20 series, but is not usually narrow: master index is .152

 >> 36a 1982 absent in 1 of 20 series, but is not usually narrow: master index is -.184

 >> 36a 1988 absent in 1 of 20 series, but is not usually narrow: master index is .332

 >> 36a 1999 absent in 6 of 20 series, but is not usually narrow: master index is .057

 >> 36a 2000 absent in 6 of 20 series, but is not usually narrow: master index is -.297

 >> 36a 2002 absent in 8 of 20 series, but is not usually narrow: master index is .371

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ABSENT RINGS listed by SERIES: (See Master Dating Series for absent rings listed by year)

 31a 2 absent rings: 2000 2006

 31b 2 absent rings: 2001 2006

 32a 2 absent rings: 1946 1981

 32b 14 absent rings: 1981 1992 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006

 33a 4 absent rings: 2001 2004 2005 2006

 33b 5 absent rings: 1999 2003 2004 2005 2006

 34a 8 absent rings: 1985 1999 2001 2002 2003 2004 2005 2006

 34b 8 absent rings: 1984 2000 2001 2002 2003 2004 2005 2006

 35a 1 absent rings: 1975

 35b 1 absent rings: 1975

 36a 13 absent rings: 1971 1976 1982 1984 1988 1999 2000 2001 2002 2003 2004 2005 2006

 36b 8 absent rings: 1945 2000 2001 2002 2003 2004 2005 2006

 37a 4 absent rings: 2003 2004 2005 2006

 37b 8 absent rings: 1999 2000 2001 2002 2003 2004 2005 2006

 38a 8 absent rings: 1973 1992 1999 2002 2003 2004 2005 2006

 38b 4 absent rings: 2003 2004 2005 2006

 39a 4 absent rings: 2003 2004 2005 2006

 39b 3 absent rings: 2004 2005 2006

 40a 4 absent rings: 2002 2004 2005 2006

 40b 5 absent rings: 1985 2003 2004 2005 2006

 108 absent rings 5.828%

 Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab

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 1950 .533 20 2000 -.297 20 6<<

 1951 .952 20 2001 -.533 20 8

 1952 1.324 20 2002 .371 20 8<<

 1953 .594 20 2003 .121 20 12<<

 1954 .449 20 2004 .257 20 15<<

 1955 1.064 20 2005 .870 20 15<<

 1956 .361 20 2006 -.012 20 17<<

 1957 -.797 20

 1908 -.326 1 1958 -1.294 20

 1909 -2.055 2 1959 .569 20

 1910 -.077 2 1960 -.655 20

 1911 1.895 2 1961 .233 20

 1912 -2.467 3 1962 -.613 20

 1913 -.818 8 1963 1.063 20

 1914 .299 11 1964 .898 20

 1915 .430 14 1965 .810 20

 1916 -1.102 17 1966 .409 20

 1917 -.973 18 1967 .512 20

 1918 -.511 18 1968 -1.459 20

 1919 -.842 18 1969 .449 20

 1920 1.525 19 1970 .354 20

 1921 .769 20 1971 .152 20 1<<

 1922 .830 20 1972 .118 20

 1923 -.052 20 1973 -.937 20 1

 1924 1.394 20 1974 -.868 20

 1925 1.923 20 1975 -.595 20 2

 1926 .189 20 1976 -.998 20 1

 1927 1.257 20 1977 1.610 20

 1928 .322 20 1978 1.720 20

 1929 -.476 20 1979 .468 20

 1930 -.494 20 1980 -.826 20

 1931 -.884 20 1981 -1.179 20 2

 1932 -1.893 20 1982 -.184 20 1<<

 1933 -.575 20 1983 .132 20

 1934 .862 20 1984 -.791 20 2

 1935 1.498 20 1985 -1.687 20 2

 1936 -2.712 20 1986 -.333 20

 1937 -.783 20 1987 .188 20

 1938 .182 20 1988 .332 20 1<<

 1939 .422 20 1989 -.396 20

 1940 .808 20 1990 .249 20

 1941 .430 20 1991 .687 20

 1942 .821 20 1992 -.177 20 2<<

 1943 .186 20 1993 .004 20

 1944 -.470 20 1994 .347 20

 1945 -3.658 20 1 1995 .150 20 1<<

 1946 -1.247 20 1 1996 .456 20 1<<

 1947 .389 20 1997 1.303 20 1<<

 1948 -1.304 20 1998 1.594 20 1<<

 1949 .158 20 1999 .057 20 6<<

 PART 5: CORRELATION OF SERIES BY SEGMENTS: Mount Hunger-Middlesex-High Corr3-30 13:05 Tue 06 Mar 2007 Page 5

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 Correlations of 30-year dated segments, lagged 15 years

 Flags: A = correlation under .4226 but highest as dated; B = correlation higher at other than dated position

 Seq Series Time\_span 1905 1920 1935 1950 1965 1980

 1934 1949 1964 1979 1994 2009

 --- -------- --------- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----

 1 31a 1914 2006 .77 .66 .55 .60 .66 .55

 2 31b 1917 2006 .72 .78 .79 .42A .36A .54

 3 32a 1916 2006 .89 .94 .80 .51 .58 .50

 4 32b 1916 2006 .81 .83 .88 .59 .59 .58

 5 33a 1914 2006 .85 .86 .84 .59 .65 .69

 6 33b 1913 2006 .64 .88 .83 .57 .54 .61

 7 34a 1913 2006 .74 .79 .45 .33B .46 .63

 8 34b 1915 2006 .86 .90 .76 .46 .27B .63

 9 35a 1920 2006 .66 .62 .74 .57 .30A

 10 35b 1913 2006 .31B .50 .36B .58 .56 .37A

 11 36a 1908 2006 .87 .82 .52 .02B .25B .42A Probably as good as I’m going to get

 12 36b 1913 2006 .80 .74 .67 .70 .54 .44

 13 37a 1916 2006 .84 .86 .77 .62 .50 .41A

 14 37b 1915 2006 .48 .68 .61 .59 .61 .64

 15 38a 1915 2006 .47B .49 .49 .72 .51 .25B

 16 38b 1921 2006 .59 .60 .69 .65 .71

 17 39a 1912 2006 .59 .69 .63 .49 .43 .13B Seems like it should be fine

 18 39b 1914 2006 .71 .84 .87 .48 .40B .39A

 19 40a 1913 2006 .73 .77 .77 .60 .52 .48

 20 40b 1909 2006 .63 .68 .67 .30A .19B .38B Seems like it should be fine

 Av segment correlation .71 .75 .67 .53 .49 .48

PART 6: POTENTIAL PROBLEMS: Mount Hunger-Middlesex-High Corr3-30 13:05 Tue 06 Mar 2007 Page 5

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 For each series with potential problems the following diagnostics may appear:

 [A] Correlations with master dating series of flagged 30-year segments of series filtered with 32-year spline,

 at every point from ten years earlier (-10) to ten years later (+10) than dated

 [B] Effect of those data values which most lower or raise correlation with master series

 Symbol following year indicates value in series is greater (>) or lesser (<) than master series value

 [C] Year-to-year changes very different from the mean change in other series

 [D] Absent rings (zero values)

 [E] Values which are statistical outliers from mean for the year

====================================================================================================================================

 31a 1914 to 2006 93 years Series 1

 [B] Entire series, effect on correlation ( .578) is:

 Lower 1945> -.042 1957< -.022 1960> -.010 2005< -.009 1932> -.009 1919> -.009 Higher 1936 .066 1968 .018

 [D] 2 Absent rings: Year Master N series Absent

 2000 -.297 20 6 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1945 +3.8 SD

 31a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1914 315 237 166 178 241 288

 1920 386 240 322 244 288 318 222 315 275 257

 1930 195 149 188 209 232 281 96 126 138 264

 1940 260 287 254 331 286 209 227 265 95 171

 1950 150 228 185 162 179 178 227 98 89 155

 1960 160 194 168 183 141 138 108 124 69 112

 1970 102 105 120 96 97 52 52 176 141 72

 1980 70 62 69 56 64 13 22 18 22 30

 1990 65 69 60 78 98 70 60 97 67 34

 2000 0 20 20 25 38 16 0

====================================================================================================================================

 31b 1917 to 2006 90 years Series 2

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1950 1979 0 -.13 -.01 .10 -.26 .06 -.03 .09 -.31 -.05 .01 .42\*-.10 .20 -.36 -.12 -.09 -.03 .10 .07 .08 .27

 1965 1994 0 .01 .14 -.04 -.22 .26 .08 .10 -.20 -.24 .07 .36\*-.14 .11 -.32 -.14 -.14 -.09 .17 -.06 .00 .20

 [B] Entire series, effect on correlation ( .580) is:

 Lower 1966< -.067 1945> -.023 1999> -.020 1984> -.011 1956> -.007 1919> -.007 Higher 1936 .074 1948 .017

 1950 to 1979 segment:

 Lower 1966< -.284 1956> -.023 1964< -.013 1972> -.012 1957> -.008 1968> -.007 Higher 1977 .076 1958 .033

 1965 to 1994 segment:

 Lower 1966< -.178 1984> -.039 1968> -.026 1980> -.025 1981> -.013 1976> -.011 Higher 1977 .101 1985 .093

 [D] 2 Absent rings: Year Master N series Absent

 2001 -.533 20 8

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1966 -5.5 SD

 31b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1917 109 205 232

 1920 254 210 327 182 291 331 158 252 235 210

 1930 186 182 101 206 241 227 91 144 191 214

 1940 270 235 233 260 171 135 125 172 88 167

 1950 184 256 268 198 230 256 305 217 141 181

 1960 164 166 138 206 167 183 109 153 147 174

 1970 182 161 197 154 135 134 134 208 192 139

 1980 126 113 114 94 102 50 55 72 70 43

 1990 42 49 23 24 35 32 23 46 45 44

 2000 11 0 12 8 11 6 0

====================================================================================================================================

 32a 1916 to 2006 91 years Series 3

 [B] Entire series, effect on correlation ( .649) is:

 Lower 1999> -.027 1961< -.020 2000< -.018 1960> -.012 1957> -.011 1946< -.010 Higher 1936 .080 1977 .013

 [D] 2 Absent rings: Year Master N series Absent

 1946 -1.247 20 1

 1981 -1.179 20 2

 32a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1916 165 198 134 178

 1920 319 219 238 190 324 339 230 298 233 186

 1930 185 161 130 137 225 228 41 107 183 182

 1940 215 158 181 164 99 31 0 99 49 110

 1950 148 183 216 178 163 161 82 113 74 91

 1960 104 60 74 114 92 66 73 73 53 53

 1970 54 62 73 30 38 54 13 79 62 24

 1980 26 0 17 13 22 3 22 32 28 10

 1990 17 23 17 32 31 45 25 50 81 101

 2000 16 24 26 36 74 88 34

====================================================================================================================================

 32b 1916 to 2006 91 years Series 4

 [B] Entire series, effect on correlation ( .704) is:

 Lower 1926< -.026 1957> -.024 1998< -.014 1997< -.013 1961< -.009 1989> -.009 Higher 1936 .080 1945 .049

 [D] 14 Absent rings: Year Master N series Absent

 1981 -1.179 20 2

 1992 -.177 20 2 >> WARNING: Ring is not usually narrow

 1995 .150 20 1 >> WARNING: Ring is not usually narrow

 1996 .456 20 1 >> WARNING: Ring is not usually narrow

 1997 1.303 20 1 >> WARNING: Ring is not usually narrow

 1998 1.594 20 1 >> WARNING: Ring is not usually narrow

 1999 .057 20 6 >> WARNING: Ring is not usually narrow

 2000 -.297 20 6 >> WARNING: Ring is not usually narrow

 2001 -.533 20 8

 2002 .371 20 8 >> WARNING: Ring is not usually narrow

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 32b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1916 153 169 178 214

 1920 244 341 237 183 293 294 139 282 226 221

 1930 215 207 171 243 297 320 101 168 176 207

 1940 160 133 170 190 137 38 85 178 85 143

 1950 159 158 223 179 151 231 130 190 133 156

 1960 110 87 73 129 132 143 125 130 87 81

 1970 66 60 94 60 32 41 28 80 48 15

 1980 5 0 4 10 6 12 14 25 32 25

 1990 10 25 0 5 6 0 0 0 0 0

 2000 0 0 0 0 0 0 0

====================================================================================================================================

 33a 1914 to 2006 93 years Series 5

 [B] Entire series, effect on correlation ( .742) is:

 Lower 1999< -.014 2004< -.014 1962> -.011 1959< -.010 1968> -.009 1929< -.009 Higher 1936 .059 1945 .019

 [D] 4 Absent rings: Year Master N series Absent

 2001 -.533 20 8

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 33a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1914 157 189 123 105 131 133

 1920 221 161 209 200 267 261 187 249 207 80

 1930 109 175 86 161 221 235 60 149 143 186

 1940 217 199 176 155 114 36 103 222 80 104

 1950 178 176 170 132 187 150 124 64 52 76

 1960 91 134 142 137 106 126 130 168 112 90

 1970 120 86 91 46 54 94 64 146 181 118

 1980 43 23 31 40 5 15 37 57 32 15

 1990 55 50 44 61 51 42 26 58 79 6

 2000 10 0 18 14 0 0 0

====================================================================================================================================

 33b 1913 to 2006 94 years Series 6

 [B] Entire series, effect on correlation ( .606) is:

 Lower 1919< -.069 1999< -.016 1961< -.015 1913> -.013 1980> -.013 1932> -.010 Higher 1936 .091 1945 .018

 [C] Year-to-year changes diverging by over 4.0 std deviations:

 1918 1919 -4.1 SD

 [D] 5 Absent rings: Year Master N series Absent

 1999 .057 20 6 >> WARNING: Ring is not usually narrow

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1919 -7.3 SD

 33b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1913 192 193 154 154 171 141 35

 1920 212 168 254 199 282 277 195 231 185 113

 1930 120 155 161 141 229 240 55 160 169 192

 1940 218 201 208 132 113 46 78 145 112 154

 1950 196 248 204 179 166 145 129 95 119 119

 1960 90 53 57 125 196 201 163 262 163 163

 1970 151 142 113 79 106 122 91 204 168 168

 1980 159 115 106 73 34 29 58 111 60 49

 1990 38 35 20 16 35 15 19 58 94 0

 2000 8 3 11 0 0 0 0

====================================================================================================================================

 34a 1913 to 2006 94 years Series 7

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1950 1979 8 -.02 -.03 -.04 .05 -.13 -.21 -.04 -.04 .03 -.13 .33|-.01 .15 -.27 -.10 -.11 -.12 -.04 .41\*-.14 -.10

 [B] Entire series, effect on correlation ( .508) is:

 Lower 1960< -.087 1955< -.010 2000> -.008 1966< -.008 2006> -.007 1962> -.007 Higher 1945 .023 1936 .021

 1950 to 1979 segment:

 Lower 1960< -.033 1955< -.025 1962> -.021 1973> -.016 1957> -.016 1958> -.014 Higher 1977 .063 1978 .034

 [C] Year-to-year changes diverging by over 4.0 std deviations:

 1959 1960 -4.7 SD 1960 1961 4.7 SD

 [D] 8 Absent rings: Year Master N series Absent

 1985 -1.687 20 2

 1999 .057 20 6 >> WARNING: Ring is not usually narrow

 2001 -.533 20 8

 2002 .371 20 8 >> WARNING: Ring is not usually narrow

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1960 -7.8 SD

 34a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1913 143 181 307 237 201 207 227

 1920 294 235 286 222 287 376 296 307 202 156

 1930 148 133 114 132 207 221 83 107 122 141

 1940 192 102 107 185 100 47 105 223 124 160

 1950 152 200 157 102 104 95 160 129 120 123

 1960 19 109 114 145 117 84 59 65 65 77

 1970 123 118 91 85 75 61 66 142 145 96

 1980 55 52 19 30 9 0 19 49 35 28

 1990 32 30 4 13 11 5 41 30 35 0

 2000 19 0 0 0 0 0 0

====================================================================================================================================

 34b 1915 to 2006 92 years Series 8

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1965 1994 9 -.25 -.22 .10 .34 -.10 .10 .00 -.08 -.06 -.04 .27| .24 -.31 -.14 .25 .16 -.06 .03 .18 .39\* .07

 [B] Entire series, effect on correlation ( .643) is:

 Lower 1968> -.035 1974> -.020 1960< -.019 1954< -.018 1989> -.011 1919> -.011 Higher 1945 .052 1936 .043

 1965 to 1994 segment:

 Lower 1968> -.128 1974> -.067 1989> -.038 1975< -.017 1966< -.012 1988< -.011 Higher 1977 .098 1984 .042

 [D] 8 Absent rings: Year Master N series Absent

 1984 -.791 20 2

 2000 -.297 20 6 >> WARNING: Ring is not usually narrow

 2001 -.533 20 8

 2002 .371 20 8 >> WARNING: Ring is not usually narrow

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 34b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1915 265 235 207 198 253

 1920 329 260 257 233 266 330 231 237 169 139

 1930 136 101 70 129 169 230 90 144 158 166

 1940 181 195 148 172 112 36 66 103 99 158

 1950 158 167 168 139 80 127 147 95 81 125

 1960 62 140 81 118 122 111 91 103 124 117

 1970 142 129 83 62 130 45 18 94 82 36

 1980 10 16 20 22 0 10 19 23 14 31

 1990 35 24 18 27 23 21 27 22 25 11

 2000 0 0 0 0 0 0 0

====================================================================================================================================

 35a 1920 to 2006 87 years Series 9

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1977 2006 0 .16 .14 .09 -.10 -.29 -.23 -.11 -.21 -.12 .04 .30\* - - - - - - - - - -

 [B] Entire series, effect on correlation ( .598) is:

 Lower 1948> -.016 1938< -.013 2006> -.013 1935< -.012 1980> -.010 2004< -.010 Higher 1945 .073 1968 .013

 1977 to 2006 segment:

 Lower 2004< -.044 2006> -.044 1980> -.037 1996< -.029 1984> -.025 1994< -.020 Higher 1977 .097 1985 .037

 [D] 1 Absent rings: Year Master N series Absent

 1975 -.595 20 2

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1945 -5.2 SD

 35a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1920 269 188 214 203 277 293 190 222 194 175

 1930 162 125 99 140 195 149 79 138 107 166

 1940 191 104 118 126 107 35 100 121 121 115

 1950 137 143 121 117 140 156 119 76 85 136

 1960 83 57 69 90 107 92 103 116 30 65

 1970 91 75 22 22 15 0 15 124 130 65

 1980 64 54 40 41 77 55 74 152 160 95

 1990 86 88 36 24 28 28 27 65 66 42

 2000 40 18 65 22 8 51 52

====================================================================================================================================

 35b 1913 to 2006 94 years Series 10

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1913 1942 5 - - - - - -.16 .41 -.01 -.25 .25 .31|-.01 -.12 .07 .27 .42\*-.03 -.15 -.06 -.18 .03

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 1935 1964 5 .08 .27 .36 -.01 -.42 -.17 .26 -.07 .00 -.14 .36|-.04 .02 .06 .24 .45\*-.20 -.21 -.04 -.06 -.17

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 1977 2006 0 -.14 -.08 -.07 .04 -.01 -.09 .18 -.32 -.47 -.19 .37\* - - - - - - - - - -

 [B] Entire series, effect on correlation ( .407) is:

 Lower 1940< -.049 1913< -.046 1936> -.031 1998< -.019 1948> -.016 2003< -.012 Higher 1945 .046 1968 .025

 1913 to 1942 segment:

 Lower 1940< -.106 1913< -.104 1936> -.064 1919> -.009 1937> -.009 1923> -.006 Higher 1932 .048 1925 .034

 1935 to 1964 segment:

 Lower 1940< -.213 1948> -.024 1963< -.021 1960> -.014 1941< -.009 1937> -.009 Higher 1945 .187 1935 .023

 1977 to 2006 segment:

 Lower 1998< -.090 1984> -.044 1981> -.044 2003< -.032 1985> -.026 1996< -.015 Higher 1977 .068 1980 .049

 [D] 1 Absent rings: Year Master N series Absent

 1975 -.595 20 2

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1913 -5.2 SD

 35b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1913 27 198 197 141 172 151 194

 1920 300 294 330 276 322 356 202 197 158 103

 1930 138 71 24 112 134 182 103 184 135 112

 1940 15 35 126 84 61 13 27 62 83 120

 1950 129 125 126 87 123 124 83 82 85 114

 1960 94 93 70 58 53 59 61 27 4 50

 1970 46 40 24 5 11 0 21 80 99 29

 1980 8 53 64 53 71 61 74 96 128 56

 1990 69 67 65 70 109 68 42 75 35 24

 2000 19 6 43 8 12 17 4

====================================================================================================================================

 36a 1908 to 2006 99 years Series 11

 [\*] Early part of series cannot be checked from 1908 to 1908 -- not matched by another series

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1950 1979 1 .00 -.10 .24 -.32 -.17 -.08 -.25 -.01 -.08 .12 .02| .34\* .12 -.17 .14 -.17 -.04 -.25 -.13 -.09 .16

 1965 1994 -6 -.33 -.09 -.09 -.15 .35\* .22 -.25 -.21 .10 .20 .25|-.07 -.07 -.16 -.14 -.04 -.16 -.03 .13 .15 -.05

 1977 2006 0 -.32 .06 .01 .13 .35 .33 -.25 -.30 -.03 .38 .42\* - - - - - - - - - -

 [B] Entire series, effect on correlation ( .534) is:

 Lower 1956< -.054 1971< -.029 1968> -.026 1948> -.020 1962> -.018 1960> -.011 Higher 1936 .085 1912 .043

 1950 to 1979 segment:

 Lower 1968> -.088 1962> -.061 1956< -.051 1960> -.036 1961< -.012 1963< -.011 Higher 1976 .079 1978 .031

 1965 to 1994 segment:

 Lower 1968> -.131 1971< -.066 1989> -.034 1982< -.015 1988< -.014 1975> -.012 Higher 1976 .058 1984 .054

 1977 to 2006 segment:

 Lower 1989> -.063 1977< -.035 1982< -.022 1995> -.021 1983> -.021 2005< -.020 Higher 1984 .060 1997 .045

 [D] 13 Absent rings: Year Master N series Absent

 1971 .152 20 1 >> WARNING: Ring is not usually narrow

 1976 -.998 20 1

 1982 -.184 20 1 >> WARNING: Ring is not usually narrow

 1984 -.791 20 2

 1988 .332 20 1 >> WARNING: Ring is not usually narrow

 1999 .057 20 6 >> WARNING: Ring is not usually narrow

 2000 -.297 20 6 >> WARNING: Ring is not usually narrow

 2001 -.533 20 8

 2002 .371 20 8 >> WARNING: Ring is not usually narrow

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

 1956 -4.7 SD; 1971 -4.8 SD

 36a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1908 238 220

 1910 254 330 219 282 341 304 251 266 306 323

 1920 418 366 366 284 306 374 260 261 251 161

 1930 192 144 127 141 209 182 60 109 121 111

 1940 176 128 167 162 131 64 98 107 120 95

 1950 89 136 133 108 97 127 25 62 46 70

 1960 110 58 156 93 123 133 115 108 124 123

 1970 67 0 52 33 23 38 0 19 35 25

 1980 16 7 0 21 0 3 8 5 0 14

 1990 13 15 5 7 3 22 39 38 32 0

 2000 0 0 0 0 0 0 0

====================================================================================================================================

 36b 1913 to 2006 94 years Series 12

 [B] Entire series, effect on correlation ( .682) is:

 Lower 1951< -.014 1948> -.012 1983> -.010 1990< -.010 2005< -.009 1985> -.008 Higher 1945 .060 1936 .022

 [D] 8 Absent rings: Year Master N series Absent

 1945 -3.658 20 1

 2000 -.297 20 6 >> WARNING: Ring is not usually narrow

 2001 -.533 20 8

 2002 .371 20 8 >> WARNING: Ring is not usually narrow

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1945 -4.9 SD

 36b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1913 227 280 298 219 202 231 231

 1920 322 281 261 239 282 250 213 212 192 132

 1930 178 188 118 158 209 234 55 63 125 81

 1940 106 62 80 72 55 0 56 58 54 72

 1950 46 34 106 86 57 75 65 33 27 92

 1960 77 96 54 74 117 85 101 65 11 77

 1970 69 39 36 22 18 19 6 39 44 31

 1980 14 5 17 56 6 6 21 7 4 14

 1990 3 20 4 40 18 3 47 59 102 41

 2000 0 0 0 0 0 0 0

====================================================================================================================================

 37a 1916 to 2006 91 years Series 13

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1977 2006 0 .15 -.46 -.06 .20 .26 .22 .01 -.12 -.19 .12 .41\* - - - - - - - - - -

 [B] Entire series, effect on correlation ( .620) is:

 Lower 2006> -.029 1995< -.016 1986< -.015 1973> -.013 1964< -.012 1985> -.009 Higher 1936 .044 1945 .018

 1977 to 2006 segment:

 Lower 2006> -.105 1986< -.039 1995< -.035 1984> -.026 1985> -.023 2001> -.023 Higher 1998 .073 1977 .068

 [D] 4 Absent rings: Year Master N series Absent

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 2006 +3.0 SD

 37a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1916 248 246 282 288

 1920 321 347 291 267 305 299 259 277 219 158

 1930 177 146 99 130 169 197 84 127 196 180

 1940 186 162 152 152 104 56 93 139 92 122

 1950 95 91 108 123 150 192 160 50 80 133

 1960 100 128 62 146 90 85 135 120 28 107

 1970 100 87 92 98 50 67 44 111 106 67

 1980 30 21 94 99 56 32 3 17 26 13

 1990 29 24 26 14 26 3 13 22 38 4

 2000 4 10 6 0 0 0 0

====================================================================================================================================

 37b 1915 to 2006 92 years Series 14

 [B] Entire series, effect on correlation ( .523) is:

 Lower 1915< -.041 1950< -.022 1939< -.016 1948> -.014 1975> -.012 1916> -.011 Higher 1945 .034 1936 .020

 [D] 8 Absent rings: Year Master N series Absent

 1999 .057 20 6 >> WARNING: Ring is not usually narrow

 2000 -.297 20 6 >> WARNING: Ring is not usually narrow

 2001 -.533 20 8

 2002 .371 20 8 >> WARNING: Ring is not usually narrow

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 37b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1915 329 373 381 345 344

 1920 416 360 337 309 302 283 278 262 213 219

 1930 164 153 127 177 202 243 127 149 190 105

 1940 198 215 202 151 120 69 72 131 130 238

 1950 103 99 162 157 176 149 140 93 65 125

 1960 112 133 110 178 109 96 125 83 10 74

 1970 61 55 37 58 20 80 28 88 117 25

 1980 2 13 19 30 18 3 22 5 13 4

 1990 4 18 2 5 3 19 4 4 3 0

 2000 0 0 0 0 0 0 0

====================================================================================================================================

 38a 1915 to 2006 92 years Series 15

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1915 1944 -7 - - - .52\*-.25 -.16 .22 .09 -.19 .02 .47|-.04 .21 .25 -.06 .13 -.04 -.11 -.29 -.29 .16

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 1977 2006 -4 .16 .22 -.26 -.10 .17 .23 .28\*-.09 -.21 -.23 .25| - - - - - - - - - -

 [B] Entire series, effect on correlation ( .475) is:

 Lower 2006> -.037 1943< -.030 1998< -.022 1936> -.017 1981> -.014 1984> -.013 Higher 1948 .023 1977 .015

 1915 to 1944 segment:

 Lower 1943< -.101 1936> -.060 1933< -.024 1918> -.013 1928> -.012 1929> -.008 Higher 1925 .038 1916 .035

 1977 to 2006 segment:

 Lower 2006> -.134 1998< -.098 1981> -.048 1984> -.043 2000> -.030 2002< -.013 Higher 1977 .089 1985 .082

 [D] 8 Absent rings: Year Master N series Absent

 1973 -.937 20 1

 1992 -.177 20 2 >> WARNING: Ring is not usually narrow

 1999 .057 20 6 >> WARNING: Ring is not usually narrow

 2002 .371 20 8 >> WARNING: Ring is not usually narrow

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 2006 +4.8 SD

 38a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1915 181 33 147 258 215

 1920 322 348 329 266 286 384 203 302 306 258

 1930 222 183 139 101 167 171 124 118 159 137

 1940 129 127 119 42 70 56 119 155 38 157

 1950 146 172 152 106 139 173 94 69 71 147

 1960 111 130 46 121 127 127 120 167 74 91

 1970 91 56 29 0 21 25 50 161 125 79

 1980 46 104 96 73 92 33 53 68 53 12

 1990 17 20 0 22 17 17 11 18 5 0

 2000 11 4 0 0 0 0 0

====================================================================================================================================

 38b 1921 to 2006 86 years Series 16

 [B] Entire series, effect on correlation ( .608) is:

 Lower 1943< -.106 1957> -.015 1965< -.010 1967< -.009 1931> -.008 1954< -.008 Higher 1936 .068 1977 .017

 [D] 4 Absent rings: Year Master N series Absent

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1943 -6.2 SD

 38b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1921 326 290 270 343 387 324 344 344 286

 1930 223 228 131 153 186 233 90 101 157 114

 1940 153 105 121 19 47 34 91 161 82 151

 1950 165 156 158 118 76 142 101 124 93 137

 1960 75 122 77 168 138 72 49 27 18 64

 1970 53 46 42 13 14 16 17 111 134 47

 1980 37 16 21 35 8 4 11 8 17 19

 1990 41 56 37 32 114 81 49 58 140 65

 2000 27 3 3 0 0 0 0

====================================================================================================================================

 39a 1912 to 2006 95 years Series 17

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1977 2006 -10 .34\* .19 -.01 -.34 -.27 .05 -.06 -.12 -.15 .21 .13| - - - - - - - - - -

 [B] Entire series, effect on correlation ( .474) is:

 Lower 2006> -.075 1937< -.017 1913> -.015 1914< -.014 1958> -.013 1949< -.013 Higher 1912 .062 1945 .057

 1977 to 2006 segment:

 Lower 2006> -.203 1998< -.035 1997< -.035 2001> -.029 2002< -.017 1990< -.015 Higher 1985 .090 1977 .049

 [C] Year-to-year changes diverging by over 4.0 std deviations:

 1936 1937 -4.1 SD

 [D] 4 Absent rings: Year Master N series Absent

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

 1937 -4.6 SD; 2006 +5.2 SD

 39a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1912 171 290 230 286 288 312 322 246

 1920 401 414 331 267 357 446 319 386 311 272

 1930 260 170 173 133 137 144 52 7 13 94

 1940 104 118 116 91 70 7 41 85 56 44

 1950 66 103 153 140 104 130 133 141 186 182

 1960 146 176 143 203 283 256 240 183 132 119

 1970 100 143 71 22 28 57 40 107 115 133

 1980 104 71 58 48 41 21 45 63 112 73

 1990 37 81 45 16 15 14 13 10 8 7

 2000 9 17 5 0 0 0 0

====================================================================================================================================

 39b 1914 to 2006 93 years Series 18

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1965 1994 5 .21 -.07 .12 -.25 .07 .02 -.19 -.35 .08 -.05 .40| .10 -.03 .06 .34 .46\*-.07 -.22 -.01 -.22 -.28

 1977 2006 0 .05 .01 .14 -.04 .05 .33 -.16 -.50 -.11 .02 .39\* - - - - - - - - - -

 [B] Entire series, effect on correlation ( .593) is:

 Lower 2004< -.023 1914< -.015 1992> -.014 1978< -.013 2003> -.013 1981< -.012 Higher 1936 .094 1945 .051

 1965 to 1994 segment:

 Lower 1978< -.055 1992> -.040 1976> -.032 1973> -.028 1975> -.025 1970< -.024 Higher 1968 .094 1977 .038

 1977 to 2006 segment:

 Lower 2004< -.058 1992> -.056 2003> -.052 1978< -.036 1979> -.022 1993> -.014 Higher 1980 .063 1977 .060

 [D] 3 Absent rings: Year Master N series Absent

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1981 -5.7 SD

 39b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1914 241 346 324 320 250 202

 1920 329 438 342 280 384 461 298 365 262 246

 1930 225 245 212 166 189 265 82 112 121 98

 1940 74 160 135 111 93 5 42 73 44 57

 1950 158 175 173 92 77 114 96 74 88 123

 1960 93 107 64 91 110 156 140 116 56 92

 1970 58 51 79 79 76 91 86 96 61 73

 1980 30 11 29 45 24 27 48 41 41 34

 1990 50 44 58 65 34 29 31 26 27 5

 2000 10 11 28 36 0 0 0

====================================================================================================================================

 40a 1913 to 2006 94 years Series 19

 [B] Entire series, effect on correlation ( .587) is:

 Lower 1980< -.042 1960> -.012 2004< -.011 1932> -.011 1977< -.010 1947< -.009 Higher 1936 .019 1945 .015

 [D] 4 Absent rings: Year Master N series Absent

 2002 .371 20 8 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1980 -5.9 SD

 40a Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1913 291 339 355 222 253 343 266

 1920 401 262 270 265 331 344 282 285 220 204

 1930 177 147 176 172 217 310 133 152 229 179

 1940 157 132 171 133 66 34 57 56 44 68

 1950 106 105 145 152 133 153 173 136 113 144

 1960 146 168 103 155 144 150 124 108 61 102

 1970 106 89 95 43 51 31 40 41 43 32

 1980 8 9 35 26 18 18 19 19 28 19

 1990 46 40 36 32 25 40 59 70 93 8

 2000 15 13 0 25 0 0 0

====================================================================================================================================

 40b 1909 to 2006 98 years Series 20

 [A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

 --------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

 1950 1979 0 .07 .10 -.12 -.03 -.24 -.28 -.01 -.30 .19 .13 .30\* .19 -.09 -.02 -.03 -.11 .01 -.31 -.06 .16 .08

 1965 1994 1 -.12 .04 .13 -.06 -.29 .04 .03 -.09 .28 .10 .19| .36\*-.25 -.15 -.03 .01 .12 -.21 .04 .02 -.06

 1977 2006 -8 -.25 .26 .49\*-.24 -.38 -.04 .07 -.09 -.03 .34 .38| - - - - - - - - - -

 [B] Entire series, effect on correlation ( .497) is:

 Lower 1985< -.028 1968> -.019 1912> -.018 1976> -.014 1977< -.014 1936> -.012 Higher 1945 .025 1911 .012

 1950 to 1979 segment:

 Lower 1968> -.081 1977< -.079 1976> -.061 1979> -.032 1970< -.026 1952< -.009 Higher 1957 .066 1958 .048

 1965 to 1994 segment:

 Lower 1968> -.094 1977< -.069 1976> -.049 1988< -.021 1979> -.019 1970< -.019 Higher 1985 .162 1978 .031

 1977 to 2006 segment:

 Lower 1977< -.072 1979> -.037 1999> -.026 1980> -.020 1992> -.019 2005< -.018 Higher 1985 .134 1997 .027

 [D] 5 Absent rings: Year Master N series Absent

 1985 -1.687 20 2

 2003 .121 20 12 >> WARNING: Ring is not usually narrow

 2004 .257 20 15 >> WARNING: Ring is not usually narrow

 2005 .870 20 15 >> WARNING: Ring is not usually narrow

 2006 -.012 20 17 >> WARNING: Ring is not usually narrow

 >> WARNING: Last ring in series is ABSENT

 [E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

 1985 -7.1 SD

 40b Ring measurements

 Annual values

 Date 0 1 2 3 4 5 6 7 8 9

 1909 80

 1910 211 377 207 295 289 343 218 209 277 200

 1920 329 312 279 253 341 380 313 349 206 288

 1930 218 184 200 203 257 336 212 233 262 251

 1940 234 203 204 159 147 72 65 112 63 71

 1950 186 151 131 125 121 125 139 83 70 108

 1960 114 128 115 165 133 151 150 121 135 170

 1970 103 118 120 88 86 61 111 86 112 123

 1980 86 56 71 62 35 0 52 54 35 47

 1990 58 80 66 46 54 42 65 79 57 40

 2000 14 8 29 0 0 0 0

====================================================================================================================================

PART 7: DESCRIPTIVE STATISTICS: Mount Hunger-Middlesex-High Corr3-30 13:05 Tue 06 Mar 2007 Page 6

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 Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

 No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

 Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

 --- -------- --------- ----- ----- ----- ------ ----- ----- ----- ----- ----- ----- ----- ----- --

 1 31a 1914 2006 93 6 0 .578 1.49 3.86 .946 .827 .341 2.79 .477 .016 1

 2 31b 1917 2006 90 6 2 .580 1.48 3.31 .840 .806 .325 2.74 .521 -.054 1

 3 32a 1916 2006 91 6 0 .649 1.04 3.39 .830 .827 .477 2.70 .471 -.044 1

 4 32b 1916 2006 91 6 0 .704 1.11 3.41 .933 .847 .410 2.53 .414 -.040 1

 5 33a 1914 2006 93 6 0 .742 1.09 2.67 .702 .746 .451 2.50 .466 -.069 2

 6 33b 1913 2006 94 6 0 .606 1.25 2.82 .744 .762 .386 2.64 .400 -.057 1

 7 34a 1913 2006 94 6 1 .508 1.13 3.76 .869 .850 .431 2.46 .322 -.024 1

 8 34b 1915 2006 92 6 1 .643 1.07 3.30 .837 .885 .366 2.58 .510 -.007 1

 9 35a 1920 2006 87 5 1 .598 1.02 2.93 .636 .802 .391 2.37 .331 -.002 2

 10 35b 1913 2006 94 6 3 .407 .94 3.56 .778 .836 .513 2.52 .452 .031 1

 11 36a 1908 2006 99 6 3 .534 1.17 4.18 1.105 .927 .497 2.49 .458 -.069 1

 12 36b 1913 2006 94 6 0 .682 .88 3.22 .870 .902 .531 2.52 .337 -.013 2

 13 37a 1916 2006 91 6 1 .620 1.12 3.47 .886 .904 .422 2.75 .484 -.050 2

 14 37b 1915 2006 92 6 0 .523 1.19 4.16 1.115 .930 .463 2.68 .507 .021 1

 15 38a 1915 2006 92 6 2 .475 1.10 3.84 .912 .832 .508 3.03 .481 -.068 1

 16 38b 1921 2006 86 5 0 .608 1.04 3.87 .960 .884 .451 2.68 .411 -.032 1

 17 39a 1912 2006 95 6 1 .474 1.32 4.46 1.122 .915 .370 3.64 .456 .162 1

 18 39b 1914 2006 93 6 2 .593 1.22 4.61 1.085 .894 .358 2.54 .458 .018 1

 19 40a 1913 2006 94 6 0 .587 1.24 4.01 1.014 .901 .332 2.58 .424 .029 1

 20 40b 1909 2006 98 6 3 .497 1.45 3.80 .986 .857 .317 2.45 .345 .040 1

 --- -------- --------- ----- ----- ----- ------ ----- ----- ----- ----- ----- ----- ----- ----- --

 Total or mean: 1853 118 20 .580 1.17 4.61 .910 .857 .417 3.64 .436 -.010

 - = [ COFECHA MHM\_HCOF ] = -