[] Dendrochronology Program Library Run 25 Program COF 14:16 Wed 30 Mar 2011 Page 1

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[] P R O G R A M C O F E C H A Version 6.06P 27849

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QUALITY CONTROL AND DATING CHECK OF TREE-RING MEASUREMENTS

File of DATED series: 25\_GRY

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

Part 5: Correlation by segment of each series with Master

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 50 years lagged successively by 25 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 .3281

6 Master dating series saved N

7 Ring measurements listed N

8 Parts printed 1234567

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

Time span of Master dating series is 1918 to 2010 93 years

Continuous time span is 1918 to 2010 93 years

Portion with two or more series is 1919 to 2010 92 years

>> 232A 1976 absent in 1 of 20 series, but is not usually narrow: master index is .047

>> 241B 2010 absent in 1 of 20 series, but is not usually narrow: master index is 1.147

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*C\* Number of dated series 20 \*C\*

\*O\* Master series 1918 2010 93 yrs \*O\*

\*F\* Total rings in all series 1544 \*F\*

\*E\* Total dated rings checked 1543 \*E\*

\*C\* Series intercorrelation .505 \*C\*

\*H\* Average mean sensitivity .204 \*H\*

\*A\* Segments, possible problems 15 \*A\*

\*\*\* Mean length of series 77.2 \*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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

232A 8 absent rings: 1972 1973 1974 1975 1976 1977 1978 1979

241B 1 absent rings: 2010

9 absent rings .583%

PART 2: TIME PLOT OF TREE-RING SERIES: 14:16 Wed 30 Mar 2011 Page 2

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 Ident Seq Time-span Yrs

: : : : : : : : : : : : : : : : : : : : : -------- --- ---- ---- ----

. . . . . . . . . . . . . . . . . . <=======> . 232A 1 1936 2010 75

. . . . . . . . . . . . . . . . . . <=======> . 232B 2 1937 2010 74

. . . . . . . . . . . . . . . . . . <=======> . 233A 3 1934 2010 77

. . . . . . . . . . . . . . . . . . <======> . 233B 4 1940 2010 71

. . . . . . . . . . . . . . . . . . <========> . 234A 5 1926 2010 85

. . . . . . . . . . . . . . . . . . <=======> . 234B 6 1930 2010 81

. . . . . . . . . . . . . . . . . . <======> . 235A 7 1947 2010 64

. . . . . . . . . . . . . . . . . . <======> . 235B 8 1942 2010 69

. . . . . . . . . . . . . . . . . . <=======> . 236A 9 1932 2010 79

. . . . . . . . . . . . . . . . . . <======> . 236B 10 1943 2010 68

. . . . . . . . . . . . . . . . . . <======> . 237A 11 1947 2010 64

. . . . . . . . . . . . . . . . . . <=======> . 237B 12 1938 2010 73

. . . . . . . . . . . . . . . . . . <========> . 238A 13 1927 2010 84

. . . . . . . . . . . . . . . . . . <=======> . 238B 14 1937 2010 74

. . . . . . . . . . . . . . . . . . <=======> . 239A 15 1931 2010 80

. . . . . . . . . . . . . . . . . .<=========> . 239B 16 1918 2010 93

. . . . . . . . . . . . . . . . . . <=======> . 240A 17 1933 2010 78

. . . . . . . . . . . . . . . . . . <=======> . 240B 18 1932 2010 79

. . . . . . . . . . . . . . . . . .<=========> . 241A 19 1919 2010 92

. . . . . . . . . . . . . . . . . . <========> . 241B 20 1927 2010 84

: : : : : : : : : : : : : : : : : : : : :

1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050

PART 3: Master Dating Series: 14:16 Wed 30 Mar 2011 Page 3

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

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

1950 .495 20 2000 -.873 20

1951 -.133 20 2001 -.326 20

1952 -.499 20 2002 1.825 20

1953 .517 20 2003 -.184 20

1954 1.533 20 2004 .065 20

1955 1.050 20 2005 .880 20

1956 -1.928 20 2006 -.555 20

1957 .921 20 2007 1.468 20

1958 1.405 20 2008 -1.344 20

1959 -.100 20 2009 -.991 20

1960 -1.038 20 2010 1.147 20 1<<

1961 .345 20

1962 -1.216 20

1963 -.049 20

1964 -.189 20

1965 1.213 20

1966 .690 20

1967 .160 20

1918 -.096 1 1968 -.160 20

1919 .095 2 1969 .138 20

1920 2.251 2 1970 .172 20

1921 .267 2 1971 1.230 20

1922 .601 2 1972 -.651 20 1

1923 -1.344 2 1973 -.879 20 1

1924 -.550 2 1974 -1.946 20 1

1925 .511 2 1975 -1.316 20 1

1926 -.240 3 1976 .047 20 1<<

1927 -1.270 5 1977 -.512 20 1

1928 .226 5 1978 -1.111 20 1

1929 -.701 5 1979 -.740 20 1

1930 1.267 6 1980 -.571 20

1931 .659 7 1981 -1.175 20

1932 .759 9 1982 1.528 20

1933 -.730 10 1983 .568 20

1934 .610 11 1984 -.218 20

1935 .753 11 1985 .578 20

1936 -1.270 12 1986 1.301 20

1937 .216 14 1987 .836 20

1938 -.378 15 1988 .977 20

1939 -.314 15 1989 -.008 20

1940 -.719 16 1990 .961 20

1941 1.007 16 1991 .545 20

1942 .894 17 1992 1.181 20

1943 -.829 18 1993 .149 20

1944 .162 18 1994 -1.234 20

1945 1.005 18 1995 .880 20

1946 -.261 18 1996 -2.273 20

1947 1.153 20 1997 -1.622 20

1948 -3.460 20 1998 -1.048 20

1949 -.367 20 1999 .180 20

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PART 4: Master Bar Plot: 14:16 Wed 30 Mar 2011 Page 4

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

Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value

1950-------B 2000--c

1951----a 2001---a

1952---b 2002----------G

1953-------B 2003----a

1954----------F 2004-----@

1955---------D 2005--------D

1956h 2006--b

1957--------D 2007----------F

1958----------F 2008-e

1959----@ 2009-d

1960-d 2010---------E

1961------A

1962-e

1963----@

1964----a

1965---------E

1966-------C

1967-----A

1918----@ 1968----a

1919-----@ 1969-----A

1920----------I 1970------A

1921------A 1971---------E

1922-------B 1972--c

1923-e 1973--d

1924---b 1974h

1925-------B 1975-e

1926----a 1976-----@

1927-e 1977---b

1928------A 1978-d

1929--c 1979--c

1930---------E 1980--b

1931-------C 1981-e

1932--------C 1982----------F

1933--c 1983-------B

1934-------B 1984----a

1935--------C 1985-------B

1936-e 1986---------E

1937------A 1987--------C

1938---b 1988--------D

1939---a 1989-----@

1940--c 1990--------D

1941--------D 1991-------B

1942--------D 1992---------E

1943--c 1993-----A

1944------A 1994-e

1945--------D 1995--------D

1946----a 1996i

1947---------E 1997f

1948n 1998-d

1949---a 1999------A

PART 5: CORRELATION OF SERIES BY SEGMENTS: 14:16 Wed 30 Mar 2011 Page 5

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Correlations of 50-year dated segments, lagged 25 years

Flags: A = correlation under .3281 but highest as dated; B = correlation higher at other than dated position

Seq Series Time\_span 1900 1925 1950 1975

1949 1974 1999 2024

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

1 232A 1936 2010 .52B .53 .73

2 232B 1937 2010 .35B .55 .49

3 233A 1934 2010 .70 .40 .30A

4 233B 1940 2010 .39 .40 .31A

5 234A 1926 2010 .63 .63 .64

6 234B 1930 2010 .44 .65 .71

7 235A 1947 2010 .24B .27A .38

8 235B 1942 2010 .63 .63 .61

9 236A 1932 2010 .60 .64 .62

10 236B 1943 2010 .61 .49 .45

11 237A 1947 2010 .44 .20B .38B

12 237B 1938 2010 .32A .37 .34

13 238A 1927 2010 .68 .75 .61

14 238B 1937 2010 .43B .60 .59

15 239A 1931 2010 .54 .42 .51

16 239B 1918 2010 .41 .50 .34 .45

17 240A 1933 2010 .48 .24A .17B

18 240B 1932 2010 .36 .43 .52

19 241A 1919 2010 .41 .50 .59 .54

20 241B 1927 2010 .32A .32B .31A

Av segment correlation .41 .48 .47 .48

PART 6: POTENTIAL PROBLEMS: 14:16 Wed 30 Mar 2011 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 50-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

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

232A 1936 to 2010 75 years Series 1

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

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

1936 1985 8 -.14 -.06 .17 -.10 -.15 -.14 .19 .09 .03 -.22 .52|-.11 -.13 -.13 .06 .06 .01 -.39 .67\*-.22 -.18

[B] Entire series, effect on correlation ( .619) is:

Lower 1940< -.051 1951< -.022 1981> -.013 1939> -.011 1946> -.011 1980> -.008 Higher 1948 .080 1996 .032

1936 to 1985 segment:

Lower 1940< -.061 1951< -.027 1981> -.018 1946> -.015 1939> -.014 1976< -.011 Higher 1948 .154 1956 .023

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

1972 -.651 20 1

1973 -.879 20 1

1974 -1.946 20 1

1975 -1.316 20 1

1976 .047 20 1 >> WARNING: Ring is not usually narrow

1977 -.512 20 1

1978 -1.111 20 1

1979 -.740 20 1

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

232B 1937 to 2010 74 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

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

1937 1986 -8 .05 -.32 .37\*-.13 .01 -.22 .11 .07 -.25 -.09 .35|-.30 -.22 .00 .20 .14 .10 -.02 .16 .25 -.06

[B] Entire series, effect on correlation ( .472) is:

Lower 1948> -.044 1939< -.028 2008> -.028 1937< -.023 1962> -.022 1967< -.014 Higher 1996 .079 1956 .041

1937 to 1986 segment:

Lower 1939< -.041 1937< -.035 1948> -.033 1962> -.030 1967< -.021 1966< -.018 Higher 1956 .084 1982 .032

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

233A 1934 to 2010 77 years Series 3

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

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

1961 2010 0 .06 -.25 -.06 .01 .01 -.02 .23 .11 .26 -.05 .30\* - - - - - - - - - -

[B] Entire series, effect on correlation ( .568) is:

Lower 1996> -.056 1981> -.019 1994> -.018 1951> -.011 2007< -.009 1975< -.008 Higher 1948 .134 1956 .037

1961 to 2010 segment:

Lower 1996> -.084 1981> -.037 1994> -.035 1988< -.015 2009> -.014 2007< -.012 Higher 1982 .038 2008 .028

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

233B 1940 to 2010 71 years Series 4

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

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

1961 2010 0 -.13 -.13 -.19 .02 -.11 .19 .08 -.04 .14 .05 .31\* - - - - - - - - - -

[B] Entire series, effect on correlation ( .408) is:

Lower 1948> -.053 2001< -.037 1973< -.037 1984> -.027 2003> -.015 1989> -.011 Higher 1956 .044 2008 .034

1961 to 2010 segment:

Lower 2001< -.049 1984> -.041 1973< -.037 2003> -.024 1989> -.017 1987< -.015 Higher 2008 .076 1996 .028

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234A 1926 to 2010 85 years Series 5

[B] Entire series, effect on correlation ( .653) is:

Lower 1943> -.025 1926< -.018 1989> -.016 1990< -.014 1927> -.014 1933> -.012 Higher 1948 .080 1996 .042

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

234B 1930 to 2010 81 years Series 6

[B] Entire series, effect on correlation ( .594) is:

Lower 1948> -.042 1943> -.018 1971< -.012 1940> -.010 1978> -.010 1992< -.009 Higher 1996 .056 2008 .017

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

235A 1947 to 2010 64 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

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

1947 1996 -6 .25 -.11 .09 .02 .27\*-.02 .00 .22 -.09 -.18 .24|-.20 -.20 -.22 -.20 -.03 -.05 .01 -.13 -.11 .23

1950 1999 0 .20 -.11 .09 .04 .19 -.04 .09 .16 .00 -.22 .27\*-.12 -.21 -.23 -.24 .02 -.05 -.12 -.12 -.05 .24

[B] Entire series, effect on correlation ( .312) is:

Lower 1948> -.040 1984< -.038 1958< -.024 1996> -.020 1956> -.016 2006> -.016 Higher 2008 .022 1982 .018

1947 to 1996 segment:

Lower 1984< -.047 1958< -.032 1948> -.027 1949< -.016 1994> -.015 1996> -.014 Higher 1982 .025 1957 .021

1950 to 1999 segment:

Lower 1984< -.044 1958< -.038 1996> -.036 1956> -.027 1994> -.022 1973> -.019 Higher 1982 .029 1957 .025

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

235B 1942 to 2010 69 years Series 8

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

Lower 1966< -.033 2008> -.030 1943> -.025 1962> -.022 1967< -.011 1975> -.010 Higher 1948 .102 1996 .037

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

236A 1932 to 2010 79 years Series 9

[B] Entire series, effect on correlation ( .617) is:

Lower 1946< -.045 1960> -.014 1932< -.012 1959> -.010 1949< -.008 2004< -.008 Higher 1948 .042 1956 .023

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236B 1943 to 2010 68 years Series 10

[B] Entire series, effect on correlation ( .591) is:

Lower 1975> -.018 2005< -.015 1964< -.013 1974> -.012 1943> -.012 1973> -.012 Higher 1948 .114 1956 .014

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

237A 1947 to 2010 64 years Series 11

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

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1950 1999 -10 .30\*-.04 .19 .07 -.10 .09 -.14 -.03 -.20 -.44 .20|-.02 -.06 .00 .12 .13 .10 .22 .07 .13 -.08

1961 2010 -10 .39\* .00 .11 -.08 -.14 .17 -.04 -.02 -.17 -.47 .38| - - - - - - - - - -

[B] Entire series, effect on correlation ( .487) is:

Lower 1996> -.057 1960> -.037 1955< -.020 1962> -.017 1970< -.016 1983< -.014 Higher 1948 .115 2008 .031

1950 to 1999 segment:

Lower 1996> -.059 1960> -.052 1955< -.031 1962> -.021 1970< -.021 1988< -.020 Higher 1956 .072 1982 .042

1961 to 2010 segment:

Lower 1996> -.096 1962> -.028 1970< -.020 1997> -.019 1978> -.019 1988< -.017 Higher 2008 .077 1982 .030

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237B 1938 to 2010 73 years Series 12

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

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

1938 1987 0 -.05 -.21 .13 .05 -.11 .09 .01 .03 -.14 -.01 .32\*-.25 -.35 .04 -.05 .01 -.18 .00 .07 -.04 .17

[B] Entire series, effect on correlation ( .349) is:

Lower 1948> -.048 1986< -.032 1993< -.021 1984< -.021 1946> -.019 1990< -.015 Higher 1956 .042 1974 .020

1938 to 1987 segment:

Lower 1948> -.084 1986< -.046 1946> -.029 1984< -.028 1953< -.020 1972> -.015 Higher 1956 .065 1974 .032

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238A 1927 to 2010 84 years Series 13

[B] Entire series, effect on correlation ( .671) is:

Lower 2003> -.020 1946> -.017 2002< -.016 1975> -.012 1933< -.010 1940> -.008 Higher 1948 .067 1996 .042

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238B 1937 to 2010 74 years Series 14

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

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

1937 1986 5 -.06 -.13 .07 .00 -.13 -.02 -.08 .03 -.20 -.25 .43|-.02 -.07 .09 -.06 .43\* .06 -.01 .15 -.23 .06

[B] Entire series, effect on correlation ( .514) is:

Lower 1948> -.054 1968< -.022 1945< -.017 1943< -.013 1952> -.013 2003> -.010 Higher 1996 .050 1956 .018

1937 to 1986 segment:

Lower 1948> -.072 1968< -.029 1945< -.025 1952> -.017 1978> -.013 1981> -.010 Higher 1956 .034 1974 .024

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239A 1931 to 2010 80 years Series 15

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

Lower 1970< -.020 1975> -.017 1991< -.017 1960> -.017 1933> -.013 1976< -.012 Higher 1948 .088 1996 .048

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239B 1918 to 2010 93 years Series 16

[\*] Early part of series cannot be checked from 1918 to 1918 -- not matched by another series

[B] Entire series, effect on correlation ( .448) is:

Lower 1944< -.046 1921< -.035 1956> -.019 2010< -.012 1923< -.011 1962> -.011 Higher 1948 .157 2008 .017

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

240A 1933 to 2010 78 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

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

1950 1999 0 -.10 -.29 .00 .06 -.02 .15 .12 -.05 -.05 -.20 .24\*-.18 .03 -.08 .13 .08 -.09 .08 .10 .03 .07

1961 2010 -5 -.24 -.32 .10 .18 .06 .26\* .00 -.09 -.01 -.23 .17| - - - - - - - - - -

[B] Entire series, effect on correlation ( .375) is:

Lower 1967< -.030 2002< -.027 1933> -.021 1997> -.021 1956> -.017 1934< -.017 Higher 1948 .205 1982 .024

1950 to 1999 segment:

Lower 1967< -.047 1997> -.038 1992< -.027 1956> -.024 1953< -.018 1981> -.011 Higher 1982 .061 1996 .043

1961 to 2010 segment:

Lower 2002< -.047 1967< -.038 1997> -.034 2006> -.028 1992< -.024 2005< -.015 Higher 1982 .064 1996 .052

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240B 1932 to 2010 79 years Series 18

[B] Entire series, effect on correlation ( .462) is:

Lower 1952< -.042 1937< -.042 1960> -.021 1981> -.018 2000> -.015 1942< -.015 Higher 1948 .075 1996 .035

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241A 1919 to 2010 92 years Series 19

[B] Entire series, effect on correlation ( .449) is:

Lower 1921> -.037 1923> -.023 1931< -.023 1927> -.019 1930< -.018 1971< -.017 Higher 1948 .079 1996 .034

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

241B 1927 to 2010 84 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

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

1927 1976 0 - .11 -.04 -.33 .15 -.17 .23 -.15 -.08 -.05 .32\*-.04 .22 .02 -.04 -.28 .10 -.01 -.07 -.06 .04

1950 1999 2 -.13 -.08 .08 -.12 -.01 -.10 .27 -.30 -.02 .17 .32|-.16 .32\* .13 .06 -.20 -.16 .02 -.07 -.20 -.14

1961 2010 0 .05 -.19 .02 .08 -.01 -.11 -.12 -.16 .21 -.04 .31\* - - - - - - - - - -

[B] Entire series, effect on correlation ( .242) is:

Lower 2010< -.060 1936> -.022 1985< -.020 1942< -.019 1943> -.015 1984> -.012 Higher 1948 .070 1996 .015

1927 to 1976 segment:

Lower 1936> -.037 1942< -.032 1943> -.024 1960< -.021 1971< -.016 1949< -.015 Higher 1948 .096 1974 .019

1950 to 1999 segment:

Lower 1985< -.044 1984> -.027 1971< -.021 1960< -.018 1951> -.015 1957< -.015 Higher 1974 .027 1996 .022

1961 to 2010 segment:

Lower 2010< -.137 1985< -.042 1984> -.027 2000> -.022 1971< -.019 2007< -.017 Higher 1996 .049 1974 .036

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

2009 2010 -4.2 SD

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

2010 1.147 20 1 >> WARNING: Ring is not usually narrow

>> WARNING: Last ring in series is ABSENT

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PART 7: DESCRIPTIVE STATISTICS: 14:16 Wed 30 Mar 2011 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 232A 1936 2010 75 3 1 .619 1.98 3.91 .919 .823 .193 2.92 .506 .003 1

2 232B 1937 2010 74 3 1 .472 2.07 3.70 .677 .738 .191 2.69 .508 .017 2

3 233A 1934 2010 77 3 1 .568 1.52 3.25 .423 .595 .183 2.52 .437 -.090 1

4 233B 1940 2010 71 3 1 .408 1.08 1.80 .293 .720 .169 2.80 .508 .001 1

5 234A 1926 2010 85 3 0 .653 1.02 3.41 .677 .912 .208 2.72 .498 -.132 1

6 234B 1930 2010 81 3 0 .594 1.20 3.02 .748 .902 .255 2.59 .489 -.057 1

7 235A 1947 2010 64 3 2 .312 1.87 3.33 .497 .712 .169 2.56 .497 .010 2

8 235B 1942 2010 69 3 0 .682 1.33 2.90 .481 .818 .193 2.60 .467 .024 1

9 236A 1932 2010 79 3 0 .617 1.75 2.83 .549 .634 .217 2.54 .513 -.020 1

10 236B 1943 2010 68 3 0 .591 2.40 3.91 .670 .618 .204 2.75 .517 -.036 1

11 237A 1947 2010 64 3 2 .487 2.90 4.64 .775 .769 .154 2.71 .617 -.034 2

12 237B 1938 2010 73 3 1 .349 1.71 4.15 .955 .908 .171 2.65 .584 .025 2

13 238A 1927 2010 84 3 0 .671 2.10 3.33 .457 .608 .153 2.77 .527 -.056 1

14 238B 1937 2010 74 3 1 .514 3.07 4.51 .607 .647 .137 2.59 .486 -.056 1

15 239A 1931 2010 80 3 0 .578 1.90 5.24 .695 .696 .199 2.89 .554 .002 1

16 239B 1918 2010 93 4 0 .448 1.59 5.68 1.119 .886 .208 2.84 .394 .032 1

17 240A 1933 2010 78 3 2 .375 1.94 3.42 .668 .788 .184 2.70 .398 .020 1

18 240B 1932 2010 79 3 0 .462 1.00 2.88 .534 .854 .241 2.71 .510 .052 1

19 241A 1919 2010 92 4 0 .449 .86 4.52 1.007 .967 .280 2.77 .599 -.058 2

20 241B 1927 2010 84 3 3 .242 1.41 5.20 1.119 .806 .318 2.68 .453 -.044 1

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Total or mean: 1544 62 15 .505 1.71 5.68 .704 .775 .204 2.92 .502 -.021

- = [ COFECHA 25 COF ] = -