From: Tim Osborn <t.osborn@uea.ac.uk>
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Subject: Briffa et al. series for IPCC figure
Date: Tue, 05 Oct 1999 16:18:29 +0100
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Dear Mike and Ian

Keith has asked me to send you a timeseries for the IPCC multi-proxy reconstruction figure, to replace the one you currently have. The data are attached to this e-mail. They go from 1402 to 1995, although we usually stop the series in 1960 because of the recent non-temperature signal that is superimposed on the tree-ring data that we use. I haven't put a 40-yr smoothing through them - I thought it best if you were to do this to ensure the same filter was used for all curves.

The raw data are the same as used in Briffa et al. (1998), the Nature paper that I think you have the reference for already. They are analysed in a different way, to retain the low-frequency variations. In this sense, it is one-step removed from Briffa et al. (1998). It is not two-steps removed from Briffa et al. (1998), since the new series is simply a *replacement* for the one that you have been using, rather than being one-step further.

A new manuscript is in preparation describing this alternative analysis method, the calibration of the resulting series, and their comparison with other reconstructions. We are consdering submitting this manuscript to J. Geophys. Res. when it is ready, but for now it is best cited as:
Briffa KR, Osborn TJ, Schweingruber FH, Harris IC and Jones PD (1999) Extracting low-frequency temperature variations from a northern tree-ring density network. In preparation.
Keith will be sending you a copy of the manuscript when it is nearer to completion.

I have also attached a PS file showing the original Briffa et al. (1998) curve, with annotation of cold years associated with known volcanic eruptions. Overlain on this, you will see a green curve. This is the new series with a 40-yr filter through it. This is just so that you can see what it should look like (***ignore the temperature scale on this figure***, since the baseline is non-standard).

With regard to the baseline, the data I've sent are calibrated over the period 1881-1960 against the instrumental Apr-Sep tempratures averaged over all land grid boxes with observed data that are north of 20N. As such, the mean of our reconstruction over 1881-1960 matches the mean of the observed target series over the same period. Since the observed series consists of degrees C anomalies wrt to 1961-90, we say that the reconstructed series also represents degrees C anomalies wrt to 1961-90. One could, of course, shift the mean of our reconstruction so that it matched the observed series over a different period - say 1931-60 - but I don't see that this improves things. Indeed, if the non-temperature signal that causes the decline in tree-ring density begins before 1960, then a short 1931-60 period might yield a more biased result than using a longer 1881-1960 period.

If you have any queries regarding this replacement data, then please e-mail me and/or Keith.

Best regards

Tim

Calibrated against observed Apr-Sep temperature over 1881-1960
averaged over all land grid boxes north of 20N

Year	Reconstructed temperature anomaly (degrees C wrt 1961-90)
1402	-0.283
1403	-0.334
1404	-0.286
1405	-0.350

1406	-0.152
1407	-0.124
1408	-0.220
1409	-0.175
1410	-0.100
1411	-0.129
1412	-0.226
1413	-0.115
1414	-0.386
1415	-0.319
1416	-0.277
1417	-0.136
1418	-0.172
1419	-0.294
1420	-0.280
1421	-0.335
1422	-0.406
1423	-0.312
1424	-0.207
1425	-0.136
1426	-0.354
1427	-0.222
1428	-0.305
1429	-0.322
1430	-0.282
1431	-0.143
1432	-0.212
1433	-0.234
1434	-0.076
1435	-0.309
1436	-0.411
1437	-0.122
1438	-0.272
1439	-0.159
1440	-0.330
1441	-0.160
1442	-0.105
1443	-0.080
1444	-0.308
1445	-0.138
1446	-0.317
1447	-0.270
1448	-0.301
1449	-0.357
1450	-0.137
1451	-0.183
1452	-0.207
1453	-0.485
1454	-0.265
1455	-0.358
1456	-0.241
1457	-0.199
1458	-0.366
1459	-0.397
1460	-0.252
1461	-0.230
1462	-0.252
1463	-0.209
1464	-0.174
1465	-0.174
1466	-0.280
1467	-0.256
1468	-0.256
1469	-0.222
1470	-0.237
1471	-0.094
1472	-0.122
1473	-0.056
1474	-0.320

1475	-0.376
1476	-0.133
1477	-0.075
1478	0.037
1479	-0.161
1480	-0.379
1481	-0.513
1482	-0.286
1483	-0.354
1484	-0.327
1485	-0.208
1486	-0.125
1487	-0.380
1488	-0.193
1489	-0.245
1490	-0.466
1491	-0.244
1492	-0.146
1493	-0.278
1494	-0.394
1495	-0.526
1496	-0.275
1497	-0.264
1498	-0.233
1499	-0.169
1500	-0.128
1501	-0.415
1502	-0.306
1503	0.011
1504	-0.013
1505	-0.378
1506	-0.226
1507	-0.428
1508	-0.192
1509	-0.312
1510	-0.157
1511	-0.162
1512	-0.188
1513	-0.135
1514	-0.418
1515	-0.258
1516	-0.381
1517	-0.134
1518	-0.180
1519	-0.166
1520	-0.035
1521	-0.384
1522	-0.302
1523	-0.541
1524	-0.371
1525	-0.183
1526	-0.289
1527	-0.224
1528	-0.247
1529	-0.432
1530	-0.291
1531	-0.467
1532	-0.343
1533	-0.586
1534	-0.183
1535	-0.417
1536	-0.350
1537	-0.257
1538	-0.451
1539	-0.398
1540	-0.497
1541	-0.406
1542	-0.584
1543	-0.448

1544	-0.317
1545	-0.312
1546	-0.289
1547	-0.114
1548	-0.459
1549	-0.335
1550	-0.009
1551	-0.074
1552	-0.047
1553	-0.207
1554	-0.285
1555	-0.116
1556	-0.141
1557	-0.419
1558	-0.174
1559	-0.465
1560	-0.287
1561	-0.169
1562	-0.231
1563	-0.270
1564	-0.347
1565	-0.116
1566	-0.202
1567	-0.278
1568	-0.445
1569	-0.488
1570	-0.465
1571	-0.434
1572	-0.674
1573	-0.324
1574	-0.493
1575	-0.273
1576	-0.623
1577	-0.483
1578	-0.521
1579	-0.551
1580	-0.473
1581	-0.436
1582	-0.382
1583	-0.345
1584	-0.280
1585	-0.565
1586	-0.409
1587	-0.580
1588	-0.530
1589	-0.534
1590	-0.354
1591	-0.377
1592	-0.407
1593	-0.337
1594	-0.591
1595	-0.459
1596	-0.436
1597	-0.475
1598	-0.152
1599	-0.134
1600	-0.381
1601	-1.169
1602	-0.403
1603	-0.414
1604	-0.472
1605	-0.393
1606	-0.564
1607	-0.529
1608	-0.822
1609	-0.789
1610	-0.617
1611	-0.681
1612	-0.670

1613	-0.364
1614	-0.733
1615	-0.428
1616	-0.698
1617	-0.479
1618	-0.485
1619	-0.524
1620	-0.706
1621	-0.671
1622	-0.714
1623	-0.662
1624	-0.387
1625	-0.566
1626	-0.671
1627	-0.665
1628	-0.759
1629	-0.654
1630	-0.379
1631	-0.466
1632	-0.330
1633	-0.377
1634	-0.521
1635	-0.222
1636	-0.265
1637	-0.252
1638	-0.396
1639	-0.382
1640	-0.400
1641	-1.152
1642	-1.067
1643	-1.092
1644	-0.649
1645	-0.588
1646	-0.632
1647	-0.554
1648	-0.368
1649	-0.572
1650	-0.215
1651	-0.317
1652	-0.529
1653	-0.268
1654	-0.343
1655	-0.400
1656	-0.372
1657	-0.332
1658	-0.359
1659	-0.182
1660	-0.260
1661	-0.258
1662	-0.433
1663	-0.433
1664	-0.353
1665	-0.440
1666	-0.837
1667	-0.857
1668	-0.816
1669	-0.779
1670	-0.871
1671	-0.463
1672	-0.434
1673	-0.631
1674	-0.663
1675	-0.870
1676	-0.523
1677	-0.670
1678	-0.794
1679	-0.768
1680	-0.701
1681	-0.380

1682	-0.518
1683	-0.364
1684	-0.369
1685	-0.688
1686	-0.178
1687	-0.481
1688	-0.351
1689	-0.229
1690	-0.254
1691	-0.221
1692	-0.545
1693	-0.263
1694	-0.316
1695	-0.955
1696	-0.816
1697	-0.687
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1699	-1.005
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1707	-0.257
1708	-0.465
1709	-0.493
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1712	-0.345
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1718	-0.270
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1720	-0.110
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1723	-0.193
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1727	-0.241
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1792	-0.086
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1794	-0.030
1795	-0.243
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1797	-0.565
1798	-0.049
1799	-0.228
1800	-0.287
1801	-0.413
1802	-0.117
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1804	0.036
1805	-0.094
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1807	-0.089
1808	-0.241
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1850	-0.261
1851	-0.165
1852	-0.100
1853	-0.174
1854	-0.138
1855	-0.418
1856	-0.250
1857	-0.538
1858	-0.126
1859	-0.195
1860	-0.231
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1873	-0.183
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1909	-0.214
1910	-0.147
1911	-0.194
1912	-0.631
1913	-0.161
1914	-0.294
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1932	0.081
1933	-0.057
1934	0.007
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1937	0.060
1938	0.163
1939	-0.075
1940	0.113
1941	-0.200
1942	0.128
1943	0.053
1944	-0.080
1945	0.059
1946	-0.016
1947	-0.188
1948	-0.038
1949	-0.107
1950	-0.269
1951	-0.100
1952	-0.118
1953	0.161
1954	-0.235
1955	-0.127
1956	-0.308
1957	-0.194

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1958    -0.308
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1966    -0.171
1967    -0.200
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1969    -0.355
1970    -0.353
1971    -0.328
1972    -0.563
1973    -0.262
1974    -0.336
1975    -0.507
1976    -0.558
1977    -0.363
1978    -0.698
1979    -0.289
1980    -0.612
1981    -0.195
1982    -0.522
1983    -0.234
1984    -0.335
1985    -0.423
1986    -0.430
1987    -0.424
1988    -0.161
1989    -0.286
1990    -0.275
1991    -0.169
1992    -0.175
1993    -0.341
1994    -0.320

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