

Supplementary Code 1

OxCal code for Kernel Density Estimate (KDE) models.

35°S to 55°S KDE model code

```
Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("Wk-39919",10143,30);
    R_Date("WK 41406",10150,40);
    R_Date("WK 39079",12306,48);
    R_Date("Wk-38425",9717,30);
    R_Date("Wk-39916",10681,29);
    R_Date("Wk-40795",9222,30);
    R_Date("NZA-4607",11951,95);
    R_Date("NZA 9293",10859,77);
    R_Date("Wk-38424",9374,28);
    R_Date("NZA-9293",10859,70);
    R_Date("NZ-313",6290,110);
    R_Date("WK 19756",9057,52);
    R_Date("WK 19734",12173,67);
    R_Date("NZA 4607",11951,95);
    R_Date("NZA-4608",11080,120);
    R_Date("NZ-8226",9292,98);
    R_Date("WK-40801",10086,31);
    R_Date("NZA-4509",15170,140);
    R_Date("Wk-38429",13020,36);
    R_Date("Wk-13466",12445,76);
    R_Date("AA44135",12780,120);
    R_Date("NZ-6948",11700,140);
    R_Date("Wk-19746",13648,73);
    R_Date("Wk-14730",9416,57);
    R_Date("NZ-6898",12950,200);
    R_Date("NZ-4173&NZ4172",12500,500);
    R_Date("SRR-1997",11300,80);
    R_Date("UCIAMS171848",13185,35);
    R_Date("D-AMS-030518",6657,42);
    R_Date("UNSW-202",11882,56);
    R_Date("UNSW-212",11094,32);
    R_Date("Unknown1_SUERC",9280,260);
    R_Date("D-AMS-030519",1520,34);
    R_Date("UNSW-204",598,20);
    R_Date("UNSW-193",9850,23);
    R_Date("UNSW-210",11436,38);
    R_Date("UNSW-189",338,20);
    R_Date("SRR-5435",13475,50);
    R_Date("SRR-5454",7650,45);
    R_Date("UNSW-188",1206,20);
    R_Date("UNSW-211",6906,24);
    R_Date("D-AMS-029690",4740,42);
    R_Date("UNSW-208",9348,28);
    R_Date("D-AMS-029687",13516,60);
    R_Date("UNSW-187",10697,24);
    R_Date("UNSW-184",13957,32);
    R_Date("D-AMS-030520",10002,47);
    R_Date("UCIAMS171841",5830,100);
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R_Date("UB-3036",13077,60);
R_Date("UNSW-181",10525,24);
R_Date("OS-110836",11400,50);
R_Date("Beta-193403",13630,140);
R_Date("UCIAMS 171845",12275,30);
R_Date("UNSW-191",6544,20);
R_Date("UNSW-179",11453,27);
R_Date("D-AMS-030516",7277,38);
R_Date("D-AMS-030517",8041,46);
R_Date("UNSW-192",10853,25);
R_Date("Unknown (Birmingham radiocarbon Barrow 1978)",9163,110);
R_Date("D-AMS-029686",10089,42);
R_Date("UNSW-201",11323,53);
R_Date("D-AMS-030521",9924,47);
R_Date("UNSW-180",11913,27);
R_Date("UNSW-183",7409,20);
R_Date("UNSW-200",10138,47);
R_Date("D-AMS-029694",5542,45);
R_Date("NZA11509",5480,60);
R_Date("KIA-31355",6110,40);
R_Date("KIA-19231",9655,60);
R_Date("NA1 Young and Schofield 1973",8595,125);
R_Date("NA2 Young and Schofield 1973",11010,160);
R_Date("NA Frenot",10140,120);
R_Date("SacA 7753",13190,50);
R_Date("SUA-2164",7200,130);
R_Date("Beta-1386",10275,230);
R_Date("SUA-1845X",5930,240);
R_Date("Beta-1387",5960,360);
R_Date("Pta-3232",5990,70);
R_Date("Pta-3214",6930,90);
R_Date("GrA-30781",4750,40);
R_Date("Beta-663736",1380,30);
R_Date("Beta-663731",11710,40);
R_Date("Beta-478311",8790,40);
R_Date("Beta-663735",7540,30);
R_Date("NZ4768A",12100,200);
R_Date("NZ4764A",10950,200);
R_Date("NZ-773",11850,110);
R_Date("NZA-3540",12390,110);
R_Date("NZ-8062",2792,52);
R_Date("NZ-3138",7530,80);
R_Date("NZ-5530",11300,200);
R_Date("NZ 3953",7070,110);
R_Date("NZ-7703",11300,3200);
R_Date("NZ-4484",9480,130);
R_Date("NZA-8785",9968,70);
R_Date("Wk 1213",3430,50);
R_Date("NZ4038A",12600,200);
R_Date("NZ-5412",12900,200);
R_Date("NZ1774",14450,250);
R_Date("NZ-1774",14020,250);
R_Date("Wk-264",11500,80);
R_Date("Wk-529",13300,110);
R_Date("WK116",12170,120);
R_Date("Wk534",15200,130);
R_Date("Wk115",10750,90);
R_Date("Wk-1445",4620,80);
R_Date("Wk114",10250,90);
R_Date("Wk 225",7110,80);
R_Date("Wk-1290",11700,80);
R_Date("NZ334",12250,750);
R_Date("Wk-398",6540,80);

R_Date("Wk-34573R",9367,37);
R_Date("Wk-234572R",2707,32);
R_Date("NZA-3818",22410,450);
R_Date("Poz-4489",8760,310);
R_Date("SUERC55280",13189,55);
R_Date("AA-42413",13980,120);
R_Date("Reclus tephra",12420,255);
R_Date("AA-42415",13190,80);
R_Date("AA-30643",12530,80);
R_Date("CAMS-65903",14470,50);
R_Date("AA-42414",13610,90);
R_Date("NA 1 Sugden et al. 2009",10314,80);
R_Date("A-6793",14260,350);
R_Date("AA-42416",13850,80);
R_Date("QL-1683",13280,80);
R_Date("A-7569",12740,120);
R_Date("NA 2 Sugden et al. 2009",16530,120);
R_Date("QL-1470",13400,140);
R_Date("SRR-6502",13160,60);
R_Date("NA Fesq-Martin",9659,83);
R_Date("NA 3 Sugden et al. 2009",12638,60);
R_Date("NSRL-10171",10650,50);
R_Date("CAMS-98833",10555,40);
R_Date("QL-1475",10870,70);
R_Date("A-4333",10390,470);
R_Date("Beta-22298",12950,150);
R_Date("N/A 4. Sugden et al. 2009",10975,80);
R_Date("NSRL-10532",15250,60);
R_Date("RL-1892",12310,360);
R_Date("AA-20370",14941,97);
R_Date("AA-15900",19993,257);
R_Date("AA-23244",16410,110);
R_Date("AA-15916",17821,159);
R_Date("AA-15907",13870,95);
R_Date("AA-13536",16621,114);
R_Date("UGA-6913",20585,170);
R_Date("AA-9303",20580,170);
R_Date("GX-3804",10425,350);
R_Date("SRR-1166",9433,120);
R_Date("SRR-1979",9700,150);
R_Date("SRR-1169",8737,50);
R_Date("SRR-1162",8657,45);
R_Date("UTC-3307",9160,110);
R_Date("UTC-6866",8225,45);
R_Date("UTC-4179",9520,80);
R_Date("NZ-8304",6220,57);
R_Date("Gak-2239",9550,200);
R_Date("Gak-984",4930,180);
R_Date("SUA 2723",13010,130);
R_Date("SUA 2908",11820,100);
R_Date("SUA 2597",2520,80);
R_Date("ANU 5794",8270,270);
R_Date("Gak-785",10840,180);
R_Date("SUA-2188",13400,600);
R_Date("AA-18818",11160,110);
R_Date("QL-1685",12730,90);
R_Date("UTC-5402",10920,70);
R_Date("QL-4326",7070,120);
R_Date("A-4817",13360,280);
R_Date("NA Ponce et al. 1982",7995,50);
R_Date("UCIAMS-77131",1985,15);
R_Date("QL-4279-80",14640,260);
R_Date("RL-2001",10080,250);

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R_Date("AA-62509",10670,39);
R_Date("QL-4174",9780,70);
R_Date("QL-4162",12100,50);
R_Date("QL-4436",12060,60);
R_Date("Beta-55681",12430,80);
R_Date("UCIAMS-78207",9480,25);
R_Date("LuS-6510",13515,60);
R_Date("Pta-7990",10310,100);
R_Date("CSIR-8515",8920,70);
R_Date("A-4882",10730,180);
R_Date("AA-62823",7043,47);
R_Date("AECV-500C",9310,180);
R_Date("UCIAMS-78212",6250,80);
R_Date("AA-65161",12366,80);
R_Date("AA-65171",12138,77);
R_Date("AA-65172",8190,60);
R_Date("CSIR-8521",11830,120);
R_Date("CSIR-8516",12210,80);
R_Date("CSIR-8518",10030,60);
R_Date("UCIAMS-202541",10050,25);
R_Date("UCIAMS-179338",12900,30);
R_Date("QL-4366",8680,80);
R_Date("NSRL-11403",14130,180);
R_Date("UCIAMS-77136",8215,20);
};
};

```

35°S to 40°S KDE model code

```

Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("NZ4038A",12600,200);
    R_Date("NZ-5412",12900,200);
    R_Date("NZ1774",14450,250);
    R_Date("NZ-1774",14020,250);
    R_Date("Wk-264",11500,80);
    R_Date("Wk-529",13300,110);
    R_Date("WK116",12170,120);
    R_Date("Wk534",15200,130);
    R_Date("Wk115",10750,90);
    R_Date("Wk-1445",4620,80);
    R_Date("Wk114",10250,90);
    R_Date("Wk 225",7110,80);
    R_Date("Poz-4489",8760,310);
    R_Date("Wk-1290",11700,80);
    R_Date("NZ334",12250,750);
    R_Date("Wk-398",6540,80);
    R_Date("Wk-34573R",9367,37);
    R_Date("Wk-234572R",2707,32);
    R_Date("NZA-3818",22410,450);
  };
};

```

40°S to 45°S KDE model code

```
Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("NZ-4173&NZ4172",12500,500);
    R_Date("RL-1892",12310,360);
    R_Date("NZ-4484",9480,130);
    R_Date("NZA-8785",9968,70);
    R_Date("AA-20370",14941,97);
    R_Date("Gak-2239",9550,200);
    R_Date("Gak-984",4930,180);
    R_Date("SUA 2723",13010,130);
    R_Date("SUA 2908",11820,100);
    R_Date("SUA 2597",2520,80);
    R_Date("ANU 5794",8270,270);
    R_Date("AA-15900",19993,257);
    R_Date("Gak-785",10840,180);
    R_Date("AA-23244",16410,110);
    R_Date("AA-15916",17821,159);
    R_Date("AA-15907",13870,95);
    R_Date("AA-13536",16621,114);
    R_Date("UGA-6913",20585,170);
    R_Date("SUA-2188",13400,600);
    R_Date("AA-9303",20580,170);
    R_Date("Wk 1213",3430,50);
    R_Date("GX-3804",10425,350);
  };
};
```

45°S to 50°S KDE model code

```
Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("NA1 Young and Schofield 1973",8595,125);
    R_Date("NA2 Young and Schofield 1973",11010,160);
    R_Date("NA Frenot",10140,120);
    R_Date("SacA 7753",13190,50);
    R_Date("Beta-22298",12950,150);
    R_Date("N/A 4. Sugden et al. 2009",10975,80);
    R_Date("Beta-663735",7540,30);
    R_Date("Beta-478311",8790,40);
    R_Date("Pta-3232",5990,70);
    R_Date("Beta-663731",11710,40);
    R_Date("NZ-8304",6220,57);
    R_Date("Beta-663736",1380,30);
    R_Date("GrA-30781",4750,40);
    R_Date("Pta-3214",6930,90);
    R_Date("KIA-19231",9655,60);
    R_Date("NZA11509",5480,60);
    R_Date("KIA-31355",6110,40);
    R_Date("NZ4768A",12100,200);
    R_Date("NZ4764A",10950,200);
  };
};
```

```

R_Date("NZ-773",11850,110);
R_Date("NZA-3540",12390,110);
R_Date("NSRL-10532",15250,60);
R_Date("NZ-8062",2792,52);
R_Date("NZ-3138",7530,80);
R_Date("NZ-5530",11300,200);
R_Date("NZ 3953",7070,110);
R_Date("NZ-7703",11300,3200);
};
};

```

50°S to 52.5°S KDE model code

```

Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("UCIAMS171848",13185,35);
    R_Date("NSRL-10171",10650,50);
    R_Date("NSRL-11403",14130,180);
    R_Date("UCIAMS-77136",8215,20);
    R_Date("D-AMS-030518",6657,42);
    R_Date("UNSW-202",11882,56);
    R_Date("UNSW-212",11094,32);
    R_Date("Unknown1_SUERC",9280,260);
    R_Date("D-AMS-030519",1520,34);
    R_Date("UNSW-204",598,20);
    R_Date("UNSW-193",9850,23);
    R_Date("UNSW-210",11436,38);
    R_Date("UNSW-189",338,20);
    R_Date("SRR-5435",13475,50);
    R_Date("SRR-5454",7650,45);
    R_Date("UNSW-188",1206,20);
    R_Date("UNSW-211",6906,24);
    R_Date("D-AMS-029690",4740,42);
    R_Date("UNSW-208",9348,28);
    R_Date("D-AMS-029687",13516,60);
    R_Date("UNSW-187",10697,24);
    R_Date("UNSW-184",13957,32);
    R_Date("D-AMS-030520",10002,47);
    R_Date("UCIAMS171841",5830,100);
    R_Date("UB-3036",13077,60);
    R_Date("UNSW-181",10525,24);
    R_Date("OS-110836",11400,50);
    R_Date("Beta-193403",13630,140);
    R_Date("UCIAMS 171845",12275,30);
    R_Date("UNSW-191",6544,20);
    R_Date("UNSW-179",11453,27);
    R_Date("D-AMS-030516",7277,38);
    R_Date("D-AMS-030517",8041,46);
    R_Date("UNSW-192",10853,25);
    R_Date("Unknown (Birmingham radiocarbon Barrow 1978)",9163,110);
    R_Date("D-AMS-029686",10089,42);
    R_Date("UNSW-201",11323,53);
    R_Date("D-AMS-030521",9924,47);
    R_Date("UNSW-180",11913,27);
    R_Date("UNSW-183",7409,20);
    R_Date("UNSW-200",10138,47);
  }
}

```

```

R_Date("D-AMS-029694",5542,45);
R_Date("CAMS-98833",10555,40);
R_Date("QL-1475",10870,70);
R_Date("Wk-39919",10143,30);
R_Date("WK 41406",10150,40);
R_Date("WK 39079",12306,48);
R_Date("Wk-38425",9717,30);
R_Date("Wk-39916",10681,29);
R_Date("Wk-40795",9222,30);
R_Date("NZA-4607",11951,95);
R_Date("NZA 9293",10859,77);
R_Date("Wk-38424",9374,28);
R_Date("NZA-9293",10859,70);
R_Date("NZ-313",6290,110);
R_Date("WK 19756",9057,52);
R_Date("WK 19734",12173,67);
R_Date("NZA 4607",11951,95);
R_Date("NZA-4608",11080,120);
R_Date("NZ-8226",9292,98);
R_Date("WK-40801",10086,31);
R_Date("NZA-4509",15170,140);
R_Date("Wk-38429",13020,36);
R_Date("A-4333",10390,470);
};
};

```

52.5°S to 55°S KDE model code

```

Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("AA-18818",11160,110);
    R_Date("QL-1685",12730,90);
    R_Date("UTC-5402",10920,70);
    R_Date("QL-4326",7070,120);
    R_Date("A-4817",13360,280);
    R_Date("NA Ponce et al. 1982",7995,50);
    R_Date("UCIAMS-77131",1985,15);
    R_Date("QL-4279-80",14640,260);
    R_Date("RL-2001",10080,250);
    R_Date("AA-62509",10670,39);
    R_Date("QL-4174",9780,70);
    R_Date("QL-4162",12100,50);
    R_Date("QL-4436",12060,60);
    R_Date("Beta-55681",12430,80);
    R_Date("UCIAMS-78207",9480,25);
    R_Date("LuS-6510",13515,60);
    R_Date("Pta-7990",10310,100);
    R_Date("CSIR-8515",8920,70);
    R_Date("A-4882",10730,180);
    R_Date("AA-62823",7043,47);
    R_Date("AECV-500C",9310,180);
    R_Date("SUA-2164",7200,130);
    R_Date("UCIAMS-78212",6250,80);
    R_Date("AA-65161",12366,80);
    R_Date("AA-65171",12138,77);
    R_Date("Beta-1386",10275,230);
  }
}

```

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R_Date("AA-65172",8190,60);
R_Date("CSIR-8521",11830,120);
R_Date("SUA-1845X",5930,240);
R_Date("CSIR-8516",12210,80);
R_Date("CSIR-8518",10030,60);
R_Date("Beta-1387",5960,360);
R_Date("UCIAMS-202541",10050,25);
R_Date("SRR-1166",9433,120);
R_Date("SRR-1979",9700,150);
R_Date("SRR-1169",8737,50);
R_Date("SRR-1162",8657,45);
R_Date("UCIAMS-179338",12900,30);
R_Date("UTC-3307",9160,110);
R_Date("UTC-6866",8225,45);
R_Date("UTC-4179",9520,80);
R_Date("SUERC55280",13189,55);
R_Date("QL-4366",8680,80);
R_Date("AA-42413",13980,120);
R_Date("Reclus tephra",12420,255);
R_Date("AA-42415",13190,80);
R_Date("AA-30643",12530,80);
R_Date("CAMS-65903",14470,50);
R_Date("AA-42414",13610,90);
R_Date("NA 1 Sugden et al. 2009",10314,80);
R_Date("A-6793",14260,350);
R_Date("AA-42416",13850,80);
R_Date("QL-1683",13280,80);
R_Date("A-7569",12740,120);
R_Date("NA 2 Sugden et al. 2009",16530,120);
R_Date("QL-1470",13400,140);
R_Date("SRR-6502",13160,60);
R_Date("SRR-1997",11300,80);
R_Date("NA Fesq-Martin",9659,83);
R_Date("NA 3 Sugden et al. 2009",12638,60);
R_Date("Wk-13466",12445,76);
R_Date("AA44135",12780,120);
R_Date("NZ-6948",11700,140);
R_Date("Wk-19746",13648,73);
R_Date("Wk-14730",9416,57);
R_Date("NZ-6898",12950,200);
};
};

```

All Southern Hemisphere KDE model code

```

Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("Wk-39919",10143,30);
    R_Date("WK 41406",10150,40);
    R_Date("WK 39079",12306,48);
    R_Date("Wk-38425",9717,30);
    R_Date("Wk-39916",10681,29);
    R_Date("Wk-40795",9222,30);
    R_Date("NZA-4607",11951,95);
    R_Date("NZA 9293",10859,77);
    R_Date("Wk-38424",9374,28);
  }
}

```


R_Date("NZA-9293",10859,70);
R_Date("NZ-313",6290,110);
R_Date("WK 19756",9057,52);
R_Date("WK 19734",12173,67);
R_Date("NZA 4607",11951,95);
R_Date("NZA-4608",11080,120);
R_Date("NZ-8226",9292,98);
R_Date("WK-40801",10086,31);
R_Date("NZA-4509",15170,140);
R_Date("Wk-38429",13020,36);
R_Date("Wk-13466",12445,76);
R_Date("AA44135",12780,120);
R_Date("NZ-6948",11700,140);
R_Date("Wk-19746",13648,73);
R_Date("Wk-14730",9416,57);
R_Date("NZ-6898",12950,200);
R_Date("NZ-4173&NZ4172",12500,500);
R_Date("SRR-1997",11300,80);
R_Date("UCIAMS171848",13185,35);
R_Date("D-AMS-030518",6657,42);
R_Date("UNSW-202",11882,56);
R_Date("UNSW-212",11094,32);
R_Date("Unknown1_SUERC",9280,260);
R_Date("D-AMS-030519",1520,34);
R_Date("UNSW-204",598,20);
R_Date("UNSW-193",9850,23);
R_Date("UNSW-210",11436,38);
R_Date("UNSW-189",338,20);
R_Date("SRR-5435",13475,50);
R_Date("SRR-5454",7650,45);
R_Date("UNSW-188",1206,20);
R_Date("UNSW-211",6906,24);
R_Date("D-AMS-029690",4740,42);
R_Date("UNSW-208",9348,28);
R_Date("D-AMS-029687",13516,60);
R_Date("UNSW-187",10697,24);
R_Date("UNSW-184",13957,32);
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R_Date("UCIAMS171841",5830,100);
R_Date("UB-3036",13077,60);
R_Date("UNSW-181",10525,24);
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R_Date("Beta-193403",13630,140);
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R_Date("UNSW-191",6544,20);
R_Date("UNSW-179",11453,27);
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R_Date("D-AMS-030517",8041,46);
R_Date("UNSW-192",10853,25);
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R_Date("D-AMS-029686",10089,42);
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R_Date("D-AMS-030521",9924,47);
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R_Date("UNSW-200",10138,47);
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R_Date("KIA-31355",6110,40);
R_Date("KIA-19231",9655,60);
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R_Date("NA2 Young and Schofield 1973",11010,160);
R_Date("NA Frenot",10140,120);

R_Date("SacA 7753",13190,50);
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R_Date("Beta-1386",10275,230);
R_Date("SUA-1845X",5930,240);
R_Date("Beta-1387",5960,360);
R_Date("Pta-3232",5990,70);
R_Date("Pta-3214",6930,90);
R_Date("GrA-30781",4750,40);
R_Date("Beta-663736",1380,30);
R_Date("Beta-663731",11710,40);
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R_Date("Beta-663735",7540,30);
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R_Date("NZ4764A",10950,200);
R_Date("NZ-773",11850,110);
R_Date("NZA-3540",12390,110);
R_Date("NZ-8062",2792,52);
R_Date("NZ-3138",7530,80);
R_Date("NZ-5530",11300,200);
R_Date("NZ 3953",7070,110);
R_Date("NZ-7703",11300,3200);
R_Date("NZ-4484",9480,130);
R_Date("NZA-8785",9968,70);
R_Date("Wk 1213",3430,50);
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R_Date("NZ-5412",12900,200);
R_Date("NZ1774",14450,250);
R_Date("NZ-1774",14020,250);
R_Date("Wk-264",11500,80);
R_Date("Wk-529",13300,110);
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R_Date("Wk534",15200,130);
R_Date("Wk115",10750,90);
R_Date("Wk-1445",4620,80);
R_Date("Wk114",10250,90);
R_Date("Wk 225",7110,80);
R_Date("Wk-1290",11700,80);
R_Date("NZ334",12250,750);
R_Date("Wk-398",6540,80);
R_Date("Wk-34573R",9367,37);
R_Date("Wk-234572R",2707,32);
R_Date("NZA-3818",22410,450);
R_Date("Poz-4489",8760,310);
R_Date("SUERC55280",13189,55);
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R_Date("Reclus tephra",12420,255);
R_Date("AA-42415",13190,80);
R_Date("AA-30643",12530,80);
R_Date("CAMS-65903",14470,50);
R_Date("AA-42414",13610,90);
R_Date("NA 1 Sugden et al. 2009",10314,80);
R_Date("A-6793",14260,350);
R_Date("AA-42416",13850,80);
R_Date("QL-1683",13280,80);
R_Date("A-7569",12740,120);
R_Date("NA 2 Sugden et al. 2009",16530,120);
R_Date("QL-1470",13400,140);
R_Date("SRR-6502",13160,60);
R_Date("NA Fesq-Martin",9659,83);
R_Date("NA 3 Sugden et al. 2009",12638,60);
R_Date("NSRL-10171",10650,50);

R_Date("CAMS-98833",10555,40);
R_Date("QL-1475",10870,70);
R_Date("A-4333",10390,470);
R_Date("Beta-22298",12950,150);
R_Date("N/A 4. Sugden et al. 2009",10975,80);
R_Date("NSRL-10532",15250,60);
R_Date("RL-1892",12310,360);
R_Date("AA-20370",14941,97);
R_Date("AA-15900",19993,257);
R_Date("AA-23244",16410,110);
R_Date("AA-15916",17821,159);
R_Date("AA-15907",13870,95);
R_Date("AA-13536",16621,114);
R_Date("UGA-6913",20585,170);
R_Date("AA-9303",20580,170);
R_Date("GX-3804",10425,350);
R_Date("SRR-1166",9433,120);
R_Date("SRR-1979",9700,150);
R_Date("SRR-1169",8737,50);
R_Date("SRR-1162",8657,45);
R_Date("UTC-3307",9160,110);
R_Date("UTC-6866",8225,45);
R_Date("UTC-4179",9520,80);
R_Date("Lu-2952",5350,60);
R_Date("NZ-8304",6220,57);
R_Date("Gak-2239",9550,200);
R_Date("Gak-984",4930,180);
R_Date("SUA 2723",13010,130);
R_Date("SUA 2908",11820,100);
R_Date("SUA 2597",2520,80);
R_Date("ANU 5794",8270,270);
R_Date("Gak-785",10840,180);
R_Date("SUA-2188",13400,600);
R_Date("AA-18818",11160,110);
R_Date("QL-1685",12730,90);
R_Date("UTC-5402",10920,70);
R_Date("QL-4326",7070,120);
R_Date("A-4817",13360,280);
R_Date("NA Ponce et al. 1982",7995,50);
R_Date("UCIAMS-77131",1985,15);
R_Date("QL-4279-80",14640,260);
R_Date("RL-2001",10080,250);
R_Date("AA-62509",10670,39);
R_Date("QL-4174",9780,70);
R_Date("QL-4162",12100,50);
R_Date("QL-4436",12060,60);
R_Date("Beta-55681",12430,80);
R_Date("UCIAMS-78207",9480,25);
R_Date("LuS-6510",13515,60);
R_Date("Pta-7990",10310,100);
R_Date("CSIR-8515",8920,70);
R_Date("A-4882",10730,180);
R_Date("AA-62823",7043,47);
R_Date("AECV-500C",9310,180);
R_Date("UCIAMS-78212",6250,80);
R_Date("AA-65161",12366,80);
R_Date("AA-65171",12138,77);
R_Date("AA-65172",8190,60);
R_Date("CSIR-8521",11830,120);
R_Date("CSIR-8516",12210,80);
R_Date("CSIR-8518",10030,60);
R_Date("UCIAMS-202541",10050,25);
R_Date("UCIAMS-179338",12900,30);

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R_Date("QL-4366",8680,80);
R_Date("NSRL-11403",14130,180);
R_Date("UCIAMS-77136",8215,20);
};
};

```

South America KDE model code

```

Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("SUERC55280",13189,55);
    R_Date("AA-42413",13980,120);
    R_Date("Reclus tephra",12420,255);
    R_Date("AA-42415",13190,80);
    R_Date("AA-30643",12530,80);
    R_Date("CAMS-65903",14470,50);
    R_Date("AA-42414",13610,90);
    R_Date("NA 1 Sugden et al. 2009",10314,80);
    R_Date("A-6793",14260,350);
    R_Date("AA-42416",13850,80);
    R_Date("QL-1683",13280,80);
    R_Date("A-7569",12740,120);
    R_Date("NA 2 Sugden et al. 2009",16530,120);
    R_Date("QL-1470",13400,140);
    R_Date("SRR-6502",13160,60);
    R_Date("NA Fesq-Martin",9659,83);
    R_Date("NA 3 Sugden et al. 2009",12638,60);
    R_Date("NSRL-10171",10650,50);
    R_Date("CAMS-98833",10555,40);
    R_Date("QL-1475",10870,70);
    R_Date("A-4333",10390,470);
    R_Date("Beta-22298",12950,150);
    R_Date("N/A 4. Sugden et al. 2009",10975,80);
    R_Date("NSRL-10532",15250,60);
    R_Date("RL-1892",12310,360);
    R_Date("AA-20370",14941,97);
    R_Date("AA-15900",19993,257);
    R_Date("AA-23244",16410,110);
    R_Date("AA-15916",17821,159);
    R_Date("AA-15907",13870,95);
    R_Date("AA-13536",16621,114);
    R_Date("UGA-6913",20585,170);
    R_Date("AA-9303",20580,170);
    R_Date("GX-3804",10425,350);
    R_Date("AA-18818",11160,110);
    R_Date("QL-1685",12730,90);
    R_Date("UTC-5402",10920,70);
    R_Date("QL-4326",7070,120);
    R_Date("A-4817",13360,280);
    R_Date("NA Ponce et al. 1982",7995,50);
    R_Date("UCIAMS-77131",1985,15);
    R_Date("QL-4279-80",14640,260);
    R_Date("RL-2001",10080,250);
    R_Date("AA-62509",10670,39);
    R_Date("QL-4174",9780,70);
    R_Date("QL-4162",12100,50);
  }
}

```

```

R_Date("QL-4436",12060,60);
R_Date("Beta-55681",12430,80);
R_Date("UCIAMS-78207",9480,25);
R_Date("LuS-6510",13515,60);
R_Date("Pta-7990",10310,100);
R_Date("CSIR-8515",8920,70);
R_Date("A-4882",10730,180);
R_Date("AA-62823",7043,47);
R_Date("AECV-500C",9310,180);
R_Date("UCIAMS-78212",6250,80);
R_Date("AA-65161",12366,80);
R_Date("AA-65171",12138,77);
R_Date("AA-65172",8190,60);
R_Date("CSIR-8521",11830,120);
R_Date("CSIR-8516",12210,80);
R_Date("CSIR-8518",10030,60);
R_Date("UCIAMS-202541",10050,25);
R_Date("UCIAMS-179338",12900,30);
R_Date("QL-4366",8680,80);
R_Date("NSRL-11403",14130,180);
R_Date("UCIAMS-77136",8215,20);
};
};

```

South Atlantic KDE model code

```

Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("UCIAMS171848",13185,35);
    R_Date("D-AMS-030518",6657,42);
    R_Date("UNSW-202",11882,56);
    R_Date("UNSW-212",11094,32);
    R_Date("Unknown1_SUERC",9280,260);
    R_Date("D-AMS-030519",1520,34);
    R_Date("UNSW-204",598,20);
    R_Date("UNSW-193",9850,23);
    R_Date("UNSW-210",11436,38);
    R_Date("UNSW-189",338,20);
    R_Date("SRR-5435",13475,50);
    R_Date("SRR-5454",7650,45);
    R_Date("UNSW-188",1206,20);
    R_Date("UNSW-211",6906,24);
    R_Date("D-AMS-029690",4740,42);
    R_Date("UNSW-208",9348,28);
    R_Date("D-AMS-029687",13516,60);
    R_Date("UNSW-187",10697,24);
    R_Date("UNSW-184",13957,32);
    R_Date("D-AMS-030520",10002,47);
    R_Date("UCIAMS171841",5830,100);
    R_Date("UB-3036",13077,60);
    R_Date("UNSW-181",10525,24);
    R_Date("OS-110836",11400,50);
    R_Date("Beta-193403",13630,140);
    R_Date("UCIAMS 171845",12275,30);
    R_Date("UNSW-191",6544,20);
    R_Date("UNSW-179",11453,27);
  }
}

```

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R_Date("D-AMS-030516",7277,38);
R_Date("D-AMS-030517",8041,46);
R_Date("UNSW-192",10853,25);
R_Date("Unknown (Birmingham radiocarbon Barrow 1978)",9163,110);
R_Date("D-AMS-029686",10089,42);
R_Date("UNSW-201",11323,53);
R_Date("D-AMS-030521",9924,47);
R_Date("UNSW-180",11913,27);
R_Date("UNSW-183",7409,20);
R_Date("UNSW-200",10138,47);
R_Date("D-AMS-029694",5542,45);
R_Date("SRR-1997",11300,80);
R_Date("N/A",3265,120);
R_Date("Gd-5333",4090,60);
R_Date("Poz-4489",8760,310);
R_Date("SRR-1166",9433,120);
R_Date("SRR-1979",9700,150);
R_Date("SRR-1169",8737,50);
R_Date("SRR-1162",8657,45);
R_Date("UTC-3307",9160,110);
R_Date("UTC-6866",8225,45);
R_Date("UTC-4179",9520,80);
R_Date("Lu-2952",5350,60);
};
};

```

South Indian KDE model code

```

Options()
{
  Curve="ShCal20.14c";
};
Plot()
{
  KDE_Model("Model1", N(0,1),U(0,0.5))
  {
    R_Date("NZA11509",5480,60);
    R_Date("KIA-31355",6110,40);
    R_Date("KIA-19231",9655,60);
    R_Date("NA1 Young and Schofield 1973",8595,125);
    R_Date("NA2 Young and Schofield 1973",11010,160);
    R_Date("NA Frenot",10140,120);
    R_Date("SacA 7753",13190,50);
    R_Date("Pta-3232",5990,70);
    R_Date("Pta-3214",6930,90);
    R_Date("GrA-30781",4750,40);
    R_Date("Beta-663736",1380,30);
    R_Date("Beta-663731",11710,40);
    R_Date("Beta-478311",8790,40);
    R_Date("Beta-663735",7540,30);
  };
};

```

SW Pacific KDE model code

```

Options()
{
  Curve="ShCal20.14c";
};
Plot()
{

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KDE_Model("Model1", N(0,1),U(0,0.5))
{
  R_Date("Wk-39919",10143,30);
  R_Date("WK 41406",10150,40);
  R_Date("WK 39079",12306,48);
  R_Date("Wk-38425",9717,30);
  R_Date("Wk-39916",10681,29);
  R_Date("Wk-40795",9222,30);
  R_Date("NZA-4607",11951,95);
  R_Date("NZA 9293",10859,77);
  R_Date("Wk-38424",9374,28);
  R_Date("NZA-9293",10859,70);
  R_Date("NZ-313",6290,110);
  R_Date("WK 19756",9057,52);
  R_Date("WK 19734",12173,67);
  R_Date("NZA 4607",11951,95);
  R_Date("NZA-4608",11080,120);
  R_Date("NZ-8226",9292,98);
  R_Date("WK-40801",10086,31);
  R_Date("NZA-4509",15170,140);
  R_Date("Wk-38429",13020,36);
  R_Date("Wk-13466",12445,76);
  R_Date("AA44135",12780,120);
  R_Date("NZ-6948",11700,140);
  R_Date("Wk-19746",13648,73);
  R_Date("Wk-14730",9416,57);
  R_Date("NZ-6898",12950,200);
  R_Date("NZ-4173&NZ4172",12500,500);
  R_Date("SUA-2164",7200,130);
  R_Date("Beta-1386",10275,230);
  R_Date("SUA-1845X",5930,240);
  R_Date("Beta-1387",5960,360);
  R_Date("NZ4768A",12100,200);
  R_Date("NZ4764A",10950,200);
  R_Date("NZ-773",11850,110);
  R_Date("NZA-3540",12390,110);
  R_Date("NZ-8062",2792,52);
  R_Date("NZ-3138",7530,80);
  R_Date("NZ-5530",11300,200);
  R_Date("NZ 3953",7070,110);
  R_Date("NZ-7703",11300,3200);
  R_Date("NZ-4484",9480,130);
  R_Date("NZA-8785",9968,70);
  R_Date("Wk 1213",3430,50);
  R_Date("NZ4038A",12600,200);
  R_Date("NZ-5412",12900,200);
  R_Date("NZ1774",14450,250);
  R_Date("NZ-1774",14020,250);
  R_Date("Wk-264",11500,80);
  R_Date("Wk-529",13300,110);
  R_Date("WK116",12170,120);
  R_Date("Wk534",15200,130);
  R_Date("Wk115",10750,90);
  R_Date("Wk-1445",4620,80);
  R_Date("Wk114",10250,90);
  R_Date("Wk 225",7110,80);
  R_Date("Wk-1290",11700,80);
  R_Date("NZ334",12250,750);
  R_Date("Wk-398",6540,80);
  R_Date("Wk-34573R",9367,37);
  R_Date("Wk-234572R",2707,32);
  R_Date("NZA-3818",22410,450);
  R_Date("NZ-8304",6220,57);

```

```
R_Date("Gak-2239",9550,200);  
R_Date("Gak-984",4930,180);  
R_Date("SUA 2723",13010,130);  
R_Date("SUA 2908",11820,100);  
R_Date("SUA 2597",2520,80);  
R_Date("ANU 5794",8270,270);  
R_Date("Gak-785",10840,180);  
R_Date("SUA-2188",13400,600);  
};  
};
```