```
      PROGRAM COMTE
C     PROGRAM TO DETERMINE PARAMETERS AND WRITE OUTPUT
C
      COMMON /M/F,D,NS,A,DH,DHS,S,E,POL,KM
      COMMON /MP/ H1E,H2E,H1G,H2G,DLS1,DLS2,DL1,DL2,DL,DLS,TE1,TE2,TE,KL
      COMMON /MLDS/ AG,AD,AS,ACR,AED,MD,AH50,AH5,D5,MS,AES,DX,H5
      COMMON /ML/ D0,D1,D01,D02,A0,A1,K1,K2,AL,ALS,AOG
      DIMENSION ANS(3),DKM(6),DELH(6),SD(6),SA(6)
      REAL NS,MD,MDO,MS,MSS,MDS,K1,K2,K3,K4,LBF
      DATA (ANS=290.,290.,312.)
      DATA (DKM=5.,10.,20.,30.,50.,80.)
      DATA (DELH=105.,165.,234.,315.,575.)
C
C     CALCULATION OF INPUT PARAMETERS
C
      S=.005  $  E=15.
      DO 500 IX=1,3
      NS=ANS(IX)
      A=6370./(1.-.04665*EXPF(.005577*NS))
      WRITE ( 2,56)1
56    FORMAT (R1)
      IF (IX .EQ. 1) WRITE ( 2,57)
      IF (IX .EQ. 2) WRITE ( 2,58)
      IF (IX .EQ. 3) WRITE ( 2,59)
57    FORMAT (2X,*COLORADO PLAINS   NS=290.*//)
58    FORMAT (2X,*COLORADO MOUNTAINS   NS=290.*//)
59    FORMAT (2X,*OHIO   NS=312.*//)
      DO 400 I=1,9
      KK=0
      DO 300 IZ=1,6
      IF (IX .EQ. 2 .AND. IZ .EQ. 6) GO TO 300
      IF (IX .EQ. 3 .AND. (IZ .EQ. 1 .OR. IZ .EQ. 6)) GO TO 300
      D=DKM(IZ)
      DH=DHS=90.
      IF (IX .EQ. 2) DH=DHS=650.
      F=100.
      IF (I .GT. 6) F=50.
      IF (I .EQ. 9) F=20.
      POL=+1.
      IF (I .GT. 3 .AND. I .LT. 7) POL=-1.
      H1G=H1E=4.
      IF (IX .NE. 3 .AND. I .EQ. 9) H1G=H1E=3.3
      IF (IX .EQ. 3 .AND. I .GT. 6) H1G=H1E=4.24
      IF (IX .EQ. 3 .AND. I .EQ. 9) H1G=H1E=3.68
      H2G=H2E=3.
      IF (I .EQ. 2 .OR. I .EQ. 5) H2G=H2E=6.
      IF (I .EQ. 3 .OR. I .EQ. 6) H2G=H2E=9.
      IF (IX .EQ. 3 .AND. I .EQ. 7) H2G=H2E=1.
      IF (IX .NE. 3 .AND. I .EQ. 7) H2G=H2E=.55
      IF (IX .NE. 3 .AND. I .EQ. 8) H2G=H2E=1.7
      IF (IX .NE. 3 .AND. I .EQ. 9) H2G=H2E=1.3
      DLS1=SQRTF(.002*A*H1E)
      DLS2=SQRTF(.002*A*H2E)
      DLS=DLS1+DLS2
```

```
      DL1=DLS1*EXPF(-.07*SQRTF(DH/H1E))
      DL2=DLS2*EXPF(-.07*SQRTF(DH/H2E))
      DL=DL1+DL2
      TE1=(.00065/DLS1)*((DLS1/DL1-1.)*DH-3.077*H1E)
      TE2=(.00065/DLS2)*((DLS2/DL2-1.)*DH-3.077*H2E)
      TE=MAX1F((TE1+TE2),(-DL/A))
      KK=KK+1
      IF (D .GT. DLS) GO TO 40
      CALL LOS
      SD(KK)=D
      SA(KK)=ACR
      GO TO 300
40    CALL DIFF
      SD(KK)=D
      SA(KK)=ACR
      IF (IX .EQ. 1 .AND. KK .NE. 6) GO TO 300
      IF (IX .EQ. 2 .AND. KK .NE. 5) GO TO 300
      IF (IX .EQ. 3 .AND. KK .NE. 4) GO TO 300
      AE=AOG-K1*DO-K2*ALOG10(DO)
C
C     WRITE OUTPUT
C
      WRITE ( 2,60) F,DH,H1G,H2G,TE,DX
60    FORMAT (4X,*F=*F6.1,*   DH=*F6.2,*   H1G=*F6.2,*   H2G=*F6.2,
     C*   TE=*F10.6,*   DX=*F8.2)
      WRITE ( 2,61) AE,K1,K2,DLS,ALS
61    FORMAT (4X,*AE=*F8.2,*   K1=*F10.5,*   K2=*F10.5,*   DLS=*F8.2,
     C*   ALS=*F8.2)
      ADX=AED+MD*DX
      WRITE ( 2,62) AED,MD,AES,MS,ADX
62    FORMAT (4X,*AED=*F8.2,*   MD=*F10.5,*   AES=*F8.2,*   MS=*F10.5,
     C*   ADX=*F8.2)
      WRITE ( 2,63) (SD(JZ), JZ=1,KK)
      WRITE ( 2,64) (SA(JZ), JZ=1,KK)
63    FORMAT (4X,*D*6F10.2)
64    FORMAT (4X,*A*6F10.2)
      WRITE ( 2,56)
300   CONTINUE
400   CONTINUE
500   CONTINUE
      CALL EXIT
      END


      SUBROUTINE DIFF
C     SUBROUTINE TO COMPUTE DIFFRACTION ATTENUATION
C
      COMMON /NR/ JZ,W,SW3,SW4,SA3,SA4,SAFO
          COMMON /MAR14/D3,D4,T5
      COMMON /M/F,D,NS,A,DH,DHS,S,E,POL,KM
      COMMON /MP/ H1E,H2E,H1G,H2G,DLS1,DLS2,DL1,DL2,DL,DLS,TE1,TE2,TE,KL
      COMMON /MLDS/ AG,AD,AS,ACR,AED,MD,AH50,AH5,D5,MS,AES,DX,H5
      REAL NS,MD,MDO,MS,MSS,MDS,K1,K2,K3,K4
      FNA(C)=6.02+9.11*C-1.27*C*C
```

```
      FNB(C)=12.953+20.*ALOG10(C)
      FNC(C)=416.4*F**.3333333333*(1.607-C)
      FND(C)=(.36278/(C*F)**.3333333333)*1./((E-1.)**2+X*X)**.25
      FNE(C)=C*SQRTF(E*E+X*X)
      RDL=DL
      KK=0
10    KK=KK+1
      D3=DL+.5*(A*A/F)**.3333333333
      IF (D3 .LT. DLS)  D3=DLS
      D4=D3+(A*A/F)**.3333333333
      T3=TE+D3/A
      T4=TE+D4/A
C
C     CALCULATION OF KNIFE EDGE DIFFRACTION
C
      V13=1.2915*T3*SQRTF(F*DL1*(D3-DL)/(D3-DL2))
      V23=1.2915*T3*SQRTF(F*DL2*(D3-DL)/(D3-DL1))
      V14=1.2915*T4*SQRTF(F*DL1*(D4-DL)/(D4-DL2))
      V24=1.2915*T4*SQRTF(F*DL2*(D4-DL)/(D4-DL1))
      AV13=FNA(V13)
      IF(V13 .GT. 2.4) AV13=FNB(V13)
      AV23=FNA(V23)
      IF(V23.GT.2.4) AV23=FNB(V23)
      AV14=FNA(V14)
      IF (V14 .GT. 2.4) AV14=FNB(V14)
      AV24=FNA(V24)
      IF(V24.GT.2.4) AV24=FNB(V24)
      AK3=AV13+AV23
      AK4=AV14+AV24
C
C     CALCULATION OF ROUNDED EARTH DIFFRACTION
C
      A1=DL1*DL1/(.002*H1E)
      A2=DL2*DL2/(.002*H2E)
      A3=(D3-DL)/T3
      A4=(D4-DL)/T4
      X=18000.*S/F
      K1=FND(A1)
      K2=FND(A2)
      K3=FND(A3)
      K4=FND(A4)
      IF (POL .EQ. -1.) GO TO 15
      K1=FNE(K1)
      K2=FNE(K2)
      K3=FNE(K3)
      K4=FNE(K4)
15    B1=FNC(K1)
      B2=FNC(K2)
      B3=FNC(K3)
      B4=FNC(K4)
      X1=B1*DL1/A1**.6666666666
      X2=B2*DL2/A2**.66666666666
      X3=B3*(D3-DL)/A3**.666666666+X1+X2
      X4=B4*(D4-DL)/A4**.666666666+X1+X2
```

```
      XL1=450./ABSF(ALOG10(K1)**3)
      XL2=450./ABSF(ALOG10(K2)**3)
      IF(X1.GT.0..AND.X1.LE. 200. .AND.K1 .GE. 0..AND. K1.LE. .00001)
     C16,17
16    T=40.*ALOG10(X1)-117.
      T1=-117.
      T2=MIN1F((ABSF(T)),(ABSF(T1)))
      FX1=T
      IF (T2 .EQ. ABSF(T1)) FX1=T1
17    IF(X2.GT.0..AND. X2.LE.200. .AND. K2 .GE.0..AND. K2.LE. .00001)
     C18,19
18    T=40.*ALOG10(X2)-117.
      T1=-117.
      T2=MIN1F((ABSF(T)),(ABSF(T1)))
      FX2=T
      IF (T2 .EQ. ABSF(T1)) FX2=T1
19    IF(X1 .GT.0. .AND.X1 .LE.200. .AND.K1 .GT. .00001 .AND. K1 .LT. 1.
     C) 21,22
21    FX1=40.*ALOG10(X1)-117.
      IF (X1 .LE. XL1)  FX1=20.*ALOG10(K1)+2.5*1. E-5*X1*X1/K1-15.
22    IF(X2 .GT.0. .AND.X2 .LE.200. .AND.K2 .GT. .00001 .AND. K1 .LT. 1.
     C) 23,24
23    FX2=40.*ALOG10(X2)-117.
      IF (X2 .LE. XL2)  FX2=20.*ALOG10(K2)+2.5*1. E-5*X2*X2/K2-15.
24    W1=.0134*X1*EXPF(-.005*X1) $ W2=.0134*X2*EXPF(-.005*X2)
      IF(X1.GT.200. .AND. X1.LE.2000.)
     C FX1=W1*(40.*ALOG10(X1)-117.)+(1.-W1)*(.05751*X1-10.*ALOG10(X1))
      IF(X2 .GT. 200. .AND. X2 .LE. 2000.)
     CFX2=W2*(40.*ALOG10(X2)-117.)+(1.-W2)*(.05751*X2-10.*ALOG10(X2))
      IF(X1.GT. 2000.) FX1=.05751*X1-10.*ALOG10(X1)
      IF(X2 .GT. 2000.) FX2=.05751*X2-10.*ALOG10(X2)
      GX3=.05751*X3-10.*ALOG10(X3)
      GX4=.05751*X4-10.*ALOG10(X4)
      AR3=GX3-FX1-FX2-20.
      AR4=GX4-FX1-FX2-20.
C
C     COMBINATION OF ROUNDED EARTH AND KNIFE EDGE DIFFRACTION
C
28    DHD3=DH*(1.-.8 *EXPF(-.02*D3))
      DHD4=DH*(1.-.8 *EXPF(-.02*D4))
      P13=SQRTF((H1E*H2E)/(H1G*H2G))+(A*TE+DL)/D3
      P14=SQRTF((H1E*H2E)/(H1G*H2G))+(A*TE+DL)/D4
      DOL3=MIN1F(1000.,(DHD3*F/299.7925))
      DOL4=MIN1F(1000.,(DHD4*F/299.7925))
63    W3=1./(1.+.1      *SQRTF(DOL3*P13))
      W4=1./(1.+.1      *SQRTF(DOL4*P14))
31    A3=(1.-W3)*AK3+W3*AR3
      A4=(1.-W4)*AK4+W4*AR4
      MD=(A4-A3)/(D4-D3)
      AED=A4-MD*D4
      DHDLS=DH*(1.-.8*EXPF(-.02*DLS))
      SHDLS=.78*DHDLS*EXPF(-.5*(DHDLS**.25))
      AF0=5.*ALOG10(1.+H1G*H2G*F*SHDLS*.00001)
      AF0=MIN1F(AF0,15.)
```

```
91      AED=AED+AF0
        IF (KM .EQ. 2) GO TO 40
        IF (KK.EQ. 2) GO TO 20
           SAF0=AF0
        SW3=W3  $  SW4=W4  $  SA3=A3  $  SA4=A4
29      AD=AED+MD*D
32      TD=(TE+D/A)*D
        SDL1=DL1  $  SDL2=DL2  $  SDL=DL  $  STE1=TE1  $  STE2=TE2
        STE=TE
C
C       CALCULATION OF SCATTER ATTENUATION
C
        CALL SCATT
        IF (H5 .LE. 10.)  AES=AH5 -MS*D5
        IF (H5 .LE. 10.) AS=AES+MS*D
        IF(H5.LE.10.) GO TO 30
        MDS=MD
        AEDS=AED
        DH=0.
        GO TO 10
20      ADO=AED
        MDO=MD
        MD=MDS
        AED=AEDS
        DX1=(AH50-MS*D5-ADO)/(MDO-MS)
        DX2=(RDL+.25*(A*A/F)**.3333333333*ALOG10(F))
        DXO=DX1*(3.-.2*H5)+DX2*(.2*H5-2.)
        AXO=ADO+MDO*DXO
        ASX=AXO+(AH5-AH50)
        AES=ASX-MS*DXO
        AS=AES+MS*D
30      DX=(AES-AED)/(MD-MS)
        DXN=DL+.25*(A*A/F)**.3333333333*ALOG10(F)
        IF (DXN .GT. DX) AES=AED+(MD-MS)*DX
        IF (DXN .GT. DX) DX=DXN
        ACR=AD
        IF (D .GT. DX) ACR=AS
        DL1=SDL1  $  DL2=SDL2  $  DL=SDL  $  TE1=STE1  $  TE2=STE2
        TE=STE
        DH=DHS
41      CONTINUE
40      RETURN
        END


        SUBROUTINE SCATT
C       SUBROUTINE TO COMPUTE SCATTER PARAMETERS
C
        COMMON /M/F,D,NS,A,DH,DHS,S,E,POL,KM
        COMMON /MP/ H1E,H2E,H1G,H2G,DLS1,DLS2,DL1,DL2,DL,DLS,TE1,TE2,TE,KL
        COMMON /MAR14/D3,D4,T5
        COMMON /MLDS/ AG,AD,AS,ACR,AED,MD,AH50,AH5,D5,MS,AES,DX,H5
        REAL NS,MD,MDO,MS,MSS,MDS,K1,K2,K3,K4
        KK=0
```

```
10    KK=KK+1
      D5=DL+ 200.
      D6=DL+ 400.
11    T5=TE+D5/A
      T6=TE+ D6/A
      H5=MIN1F(((1./H1E +1./H2E)/(T5*F*ABSF(.007-.058*T5))), (15.))
      H6=MIN1F(((1./H1E+1./H2E)/(T6*F*ABSF(.007-.058*T6))),(15.))
      S5=H5+10.*ALOG10(F*T5**4)-.1*(NS-301.)*EXPF(-T5*D5/40.)
      S6=H6+10.*ALOG10(F*T6**4)-.1*(NS-301.)*EXPF(-T6*D6/40.)
      IF(T5*D5 .LE.10.) AH5=S5+103.4+.332*T5*D5-10.*ALOG10(T5*D5)
      IF(T6*D6 .LE.10.)AH6=S6+103.4+.332*T6*D6-10.*ALOG10(T6*D6)
      IF(T5*D5 .GT. 10. .AND.T5*D5.LE. 70.) AH5=S5+97.1+.212*T5*D5-2.5*
     CALOG10(T5*D5)
      IF(T6*D6 .GT. 10. .AND.T6*D6 .LE. 70.) AH6=S6+97.1+.212*T6*D6-2.5
     C*ALOG10(T6*D6)
      IF(T5*D5 .GT. 70.) AH5=S5+86.8+.157*T5*D5+5.*ALOG10(T5*D5)
      IF(T6*D6 .GT. 70.) AH6=S6+86.8+.157*T6*D6+5.*ALOG10(T6*D6)
      MS=(AH6-AH5)/(D6-D5)
      IF (KK .EQ. 2)  GO TO 25
      IF (H5 .LE. 10.) GO TO 30
      IF (KK .EQ. 1) GO TO 20
25    MS=MSS
      AH50=AH5
      AH5=AH5S
      D5=D5S
      GO TO 30
20    DH=0.
      DL1=DLS1*EXPF(-.07*SQRTF(DH/H1E))
      DL2=DLS2*EXPF(-.07*SQRTF(DH/H2E))
      DL=DL1+DL2
      TE1=(.00065/DLS1)*((DLS1/DL1-1.)*DH-3.077*H1G)
      TE2=(.00065/DLS2)*((DLS2/DL2-1.)*DH-3.077*H2G)
      TE=MAX1F((TE1+TE2),(-DL/A))
      T=TE+D/A
      AH5S=AH5
      MSS=MS
      D5S=D5
      GO TO 10
30    CONTINUE
      RETURN
      END


      SUBROUTINE LOS
C     SUBROUTINE TO COMPUTE LINE OF SIGHT ATTENUATION
C
      COMMON /M/F,D,NS,A,DH,DHS,S,E,POL,KM
      COMMON /NR/ JZ,W,SW3,SW4,SA3,SA4,SAF0
      COMMON /MP/ H1E,H2E,H1G,H2G,DLS1,DLS2,DL1,DL2,DL,DLS,TE1,TE2,TE,KL
      COMMON /MLDS/ AG,AD,AS,ACR,AED,MD,AH50,AH5,D5,MS,AES,DX,H5
      COMMON /ML/ D0,D1,D01,D02,A0,A1,K1,K2,AL,ALS,A0G
      REAL NS,MD,MD0,MS,MSS,MDS,K1,K2,K3,K4,M
      KM=2
      CALL DIFF
```

```
      KM=0
C
C     CALCULATION OF TWO RAY THEORY
C
      D01=.00004*H1E*H2E*F
      D02=MIN1F((-AED/MD),(DL-2.))
      IF (AED .GE. 0.)  D0=MIN1F(D01,(.5*DL))
      IF (AED .LT. 0.) D0=.5*DL
      IF (AED .LT. 0. .AND. D02 .GE. D0) D0=D02
      D1=D0+.25*(DL-D0)
      IF (D1 .LE. D0) D1=D0+.25*(DLS-D0)
      J=0  $  DS=D
      IF (J.EQ. 0) D=D0
22    DIV=1.  $  PSI=ATANF((H1E+H2E)/(1000.*D))
2     DHD=DH*(1.-.8 *EXPF(-.02*D))
      SH=.78*DHD*EXPF(-.5*DHD**.25)
      SP=SINF(PSI)
      X=18000.*S/F
      P2=(SQRTF((E-COSF(PSI)*COSF(PSI))**2+X*X)+E-COSF(PSI)*COSF(PSI))/2
     C.
      P=SQRTF(P2)
      Q=X/(2.*P)
      IF (POL .EQ. 1.)B=(E*E+X*X)/(P2+Q*Q)
      IF(POL .EQ. -1.)B=1./(P2+Q*Q)
      IF (POL .EQ. 1.)M=2.*(P*E+Q*X)/(P2+Q*Q)
      IF (POL .EQ. -1.)M=2.*P/(P2+Q*Q)
      R2=(1.+B*SP*SP-M*SP)/(1.+B*SP*SP+M*SP)
      RE=SQRTF(SP)
      SQEXF=SQRTF(R2)*EXPF(-.0209584473*F*SH*SP)*DIV
      IF (SQEXF .GT. .5 .AND. SQEXF .GT. RE)  RE=SQEXF
      C=ATANF(Q/(P+SP))-ATANF(Q/(P-SP))
      IF (POL .EQ. -1.)GO TO 40
      Y1=(X*SP+Q)/(E*SP+P)
      Y2=(X*SP-Q)/(E*SP-P)
      IF (E*SP .GE. P) C=ATANF(Y1)-ATANF(Y2)+3.141592654
      IF (E*SP .LT. P .AND. P*SP .GT. .5) C=ATANF(Y1)+ATANF(Y2)
      IF (E*SP .LT. P .AND. P*SP .LE. .5) C=ATANF(Y1)-ATANF(Y2)
40    IF (J .EQ. 0)
     CA0=-10.*ALOG10(1.+RE*RE-2.*RE*COSF(.000041917*F*H1E*H2E/D0-C))
      IF (J .EQ. 1) GO TO 3
      D=D1  $  J=1
      GO TO 22
3     CONTINUE
      D=DS
      IF (J .EQ. 1)
     CA1=-10.*ALOG10(1.+RE*RE-2.*RE*COSF(.000041917*F*H1E*H2E/D1-C))
C
C     COMBINATION OF TWO RAY THEORY AND DIFFRACTION
C
      ALS=AED+MD*DLS
      AL=AED+MD*DL
      DED0=AED+MD*D0
      DED1=AED+MD*D1
      SA0=A0  $  SA1=A1
```

```
      W=(MIN1F(H1E,H2E)/MAX1F(H1E,H2E))/(1.+F*DH*.0001)
      W=1./(1.+F*DH*.0001)
      A0=MIN1F((W*A0+(1.-W)*DED0),DED0)
      A1=MIN1F((W*A1+(1.-W)*DED1),DED1)
10    K2=((ALS-A0)*(D1-D0)-(A1-A0)*(DLS-D0))/((D1-D0)*ALOG10(DLS/D0)-
     C(DLS-D0)*ALOG10(D1/D0))
      K2=MAX1F(K2,0.)
      K1=((ALS-A0)-K2*ALOG10(DLS/D0))/(DLS-D0)
      IF (K1 .GE. 0.) GO TO 50
      K1=0.
      K2=(ALS-A0)/(ALOG10(DLS/D0))
50    AG=A0+K1*(D-D0)+K2*ALOG10(D/D0)
      IF (AG .LT. 0.) AG=0.
51    A0G=A0
53    ACR=AG
      RETURN
      END
```

Computer Program Output

COLORADO PLAINS NS=290.

```
F= 100.0   DH= 90.00   H1G=  4.00   H2G=  3.00   TE=  0.004861   DX=  133.88
AE=   28.09   K1=   0.49356   K2=   6.69918   DLS=   15.23   ALS=   43.53
AED=   39.24   MD=   0.28151   AES=   69.68   MS=   0.05418   ADX=   76.93
D       5.00     10.00     20.00     30.00     50.00     80.00
A      35.24     39.72     44.87     47.69     53.32     61.76

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  6.00   TE=  0.002464   DX=  130.11
AE=   24.93   K1=   0.40159   K2=   7.10267   DLS=   18.16   ALS=   41.17
AED=   36.15   MD=   0.27636   AES=   64.85   MS=   0.05575   ADX=   72.11
D       5.00     10.00     20.00     30.00     50.00     80.00
A      31.91     36.05     41.68     44.44     49.97     58.26

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  9.00   TE=  0.001556   DX=  126.02
AE=   22.62   K1=   0.36162   K2=   7.20867   DLS=   20.41   ALS=   39.44
AED=   33.81   MD=   0.27609   AES=   61.49   MS=   0.05641   ADX=   68.60
D       5.00     10.00     20.00     30.00     50.00     80.00
A      29.47     33.44     39.23     42.09     47.61     55.89

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  3.00   TE=  0.004861   DX=  135.25
AE=   30.15   K1=   0.32410   K2=   7.97226   DLS=   15.23   ALS=   44.51
AED=   40.18   MD=   0.28417   AES=   71.29   MS=   0.05418   ADX=   78.62
D       5.00     10.00     20.00     30.00     50.00     80.00
A      37.34     41.36     45.87     48.71     54.39     62.92

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  6.00   TE=  0.002464   DX=  129.21
AE=   26.22   K1=   0.24421   K2=   8.39353   DLS=   18.16   ALS=   41.22
AED=   36.16   MD=   0.27885   AES=   64.98   MS=   0.05575   ADX=   72.19
D       5.00     10.00     20.00     30.00     50.00     80.00
A      33.30     37.05     41.73     44.52     50.10     58.46

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  9.00   TE=  0.001556   DX=  125.44
AE=   23.70   K1=   0.23397   K2=   8.47052   DLS=   20.41   ALS=   39.57
AED=   33.88   MD=   0.27858   AES=   61.75   MS=   0.05641   ADX=   68.83
D       5.00     10.00     20.00     30.00     50.00     80.00
A      30.79     34.51     39.40     42.24     47.81     56.17

F=  50.0   DH= 90.00   H1G=  4.00   H2G=  0.55   TE=  0.029474   DX=  121.70
AE=   31.31   K1=   1.01536   K2=   8.14286   DLS=   11.19   ALS=   51.21
AED=   47.89   MD=   0.29676   AES=   78.36   MS=   0.04634   ADX=   84.00
D       5.00     10.00     20.00     30.00     50.00     80.00
A      42.07     49.60     53.82     56.79     62.72     71.63

F=  50.0   DH= 90.00   H1G=  4.00   H2G=  1.70   TE=  0.008505   DX=  136.42
AE=   29.15   K1=   0.47486   K2=   9.49046   DLS=   13.48   ALS=   46.28
AED=   42.92   MD=   0.24920   AES=   69.78   MS=   0.05227   ADX=   76.91
D       5.00     10.00     20.00     30.00     50.00     80.00
A      38.16     43.39     47.90     50.40     55.38     62.86

F=  20.0   DH= 90.00   H1G=  3.30   H2G=  1.30   TE=  0.011970   DX=  139.21
AE=   30.25   K1=   0.31408   K2=  10.97428   DLS=   12.07   ALS=   45.91
AED=   43.48   MD=   0.20074   AES=   64.35   MS=   0.05084   ADX=   71.43
D       5.00     10.00     20.00     30.00     50.00     80.00
A      39.49     44.36     47.50     49.51     53.52     59.54
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COLORADO MOUNTAINS    NS=290.

F= 100.0    DH=650.00    H1G=  4.00    H2G=  3.00    TE=  0.180463    DX=  131.08
AE=    52.42    K1=    0.68866    K2=    0.66909    DLS=    15.23    ALS=    63.70
AED=   59.29    MD=    0.28955    AES=   91.24    MS=    0.04574    ADX=    97.24
D       5.00     10.00     20.00     30.00     50.00
A      56.33     59.97     65.08     67.97     73.76

F= 100.0    DH=650.00    H1G=  4.00    H2G=  6.00    TE=  0.117712    DX=  164.84
AE=    47.62    K1=    0.57113    K2=    0.69038    DLS=    18.16    ALS=    58.86
AED=   53.99    MD=    0.26795    AES=   94.89    MS=    0.01984    ADX=    98.16
D       5.00     10.00     20.00     30.00     50.00
A      50.95     54.02     59.35     62.03     67.39

F= 100.0    DH=650.00    H1G=  4.00    H2G=  9.00    TE=  0.100178    DX=  164.32
AE=    45.85    K1=    0.52997    K2=    0.63153    DLS=    20.41    ALS=    57.49
AED=   52.17    MD=    0.26061    AES=   87.84    MS=    0.04351    ADX=    94.99
D       5.00     10.00     20.00     30.00     50.00
A      48.94     51.78     57.27     59.99     65.20

F= 100.0    DH=650.00    H1G=  4.00    H2G=  3.00    TE=  0.180463    DX=  125.95
AE=    53.20    K1=    0.67804    K2=    0.80520    DLS=    15.23    ALS=    64.48
AED=   60.01    MD=    0.29374    AES=   91.24    MS=    0.04574    ADX=    97.00
D       5.00     10.00     20.00     30.00     50.00
A      57.16     60.79     65.88     68.82     74.70

F= 100.0    DH=650.00    H1G=  4.00    H2G=  6.00    TE=  0.117712    DX=  161.69
AE=    48.13    K1=    0.55941    K2=    0.83653    DLS=    18.16    ALS=    59.34
AED=   54.43    MD=    0.27074    AES=   95.00    MS=    0.01984    ADX=    98.20
D       5.00     10.00     20.00     30.00     50.00
A      51.51     54.56     59.84     62.55     67.96

F= 100.0    DH=650.00    H1G=  4.00    H2G=  9.00    TE=  0.100178    DX=  161.52
AE=    46.33    K1=    0.51989    K2=    0.78175    DLS=    20.41    ALS=    57.96
AED=   52.59    MD=    0.26327    AES=   88.08    MS=    0.04351    ADX=    95.11
D       5.00     10.00     20.00     30.00     50.00
A      49.47     52.31     57.74     60.49     65.75

F=  50.0    DH=650.00    H1G=  4.00    H2G=  0.55    TE=  1.482328    DX=  163.97
AE=    68.73    K1=    1.87381    K2=    1.59156    DLS=    11.19    ALS=    91.37
AED=   86.21    MD=    0.46115    AES=  120.32    MS=    0.25309    ADX=   161.82
D       5.00     10.00     20.00     30.00     50.00
A      79.21     89.06     95.43    100.04    109.27

F=  50.0    DH=650.00    H1G=  4.00    H2G=  1.70    TE=  0.305643    DX=  128.35
AE=    51.08    K1=    1.01365    K2=    2.02007    DLS=    13.48    ALS=    67.03
AED=   62.71    MD=    0.32004    AES=   95.06    MS=    0.06799    ADX=   103.79
D       5.00     10.00     20.00     30.00     50.00
A      57.56     63.23     69.11     72.31     78.71

F=  20.0    DH=650.00    H1G=  3.30    H2G=  1.30    TE=  0.437338    DX=  146.37
AE=    44.25    K1=    1.52346    K2=    4.18953    DLS=    12.07    ALS=    67.17
AED=   63.15    MD=    0.33315    AES=   98.92    MS=    0.08873    ADX=   111.91
D       5.00     10.00     20.00     30.00     50.00
A      54.80     63.68     69.81     73.14     79.80
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OHIO   NS=312.

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  3.00   TE=  0.004762   DX=  140.04
AE=   28.13   K1=   0.47405   K2=   6.72692   DLS=   15.55   ALS=   43.52
AED=   39.26   MD=   0.27418   AES=   69.81   MS=   0.05598   ADX=   77.65
D     10.00     20.00     30.00     50.00
A     39.60     44.74     47.48     52.97

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  6.00   TE=  0.002414   DX=  135.88
AE=   24.98   K1=   0.38606   K2=   7.13023   DLS=   18.53   ALS=   41.18
AED=   36.19   MD=   0.26912   AES=   64.94   MS=   0.05754   ADX=   72.76
D     10.00     20.00     30.00     50.00
A     35.97     41.57     44.26     49.65

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  9.00   TE=  0.001524   DX=  131.49
AE=   22.67   K1=   0.34787   K2=   7.23686   DLS=   20.83   ALS=   39.46
AED=   33.86   MD=   0.26883   AES=   61.55   MS=   0.05821   ADX=   69.21
D     10.00     20.00     30.00     50.00
A     33.39     39.04     41.92     47.30

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  3.00   TE=  0.004762   DX=  141.46
AE=   30.18   K1=   0.30841   K2=   7.99234   DLS=   15.55   ALS=   44.50
AED=   40.19   MD=   0.27675   AES=   71.43   MS=   0.05598   ADX=   79.34
D     10.00     20.00     30.00     50.00
A     41.26     45.73     48.50     54.03

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  6.00   TE=  0.002414   DX=  134.94
AE=   26.26   K1=   0.23228   K2=   8.41271   DLS=   18.53   ALS=   41.23
AED=   36.20   MD=   0.27151   AES=   65.07   MS=   0.05754   ADX=   72.83
D     10.00     20.00     30.00     50.00
A     36.99     41.63     44.34     49.77

F= 100.0   DH= 90.00   H1G=  4.00   H2G=  9.00   TE=  0.001524   DX=  130.88
AE=   23.74   K1=   0.22313   K2=   8.49031   DLS=   20.83   ALS=   39.59
AED=   33.94   MD=   0.27121   AES=   61.81   MS=   0.05821   ADX=   69.43
D     10.00     20.00     30.00     50.00
A     34.46     39.25     42.07     47.50

F=  50.0   DH= 90.00   H1G=  4.24   H2G=  1.00   TE=  0.014366   DX=  138.42
AE=   30.00   K1=   0.61595   K2=   8.93820   DLS=   12.74   ALS=   47.73
AED=   44.45   MD=   0.25734   AES=   72.89   MS=   0.05189   ADX=   80.07
D     10.00     20.00     30.00     50.00
A     45.10     49.60     52.17     57.32

F=  50.0   DH= 90.00   H1G=  4.24   H2G=  3.00   TE=  0.004564   DX=  144.92
AE=   27.49   K1=   0.39565   K2=   9.59105   DLS=   15.79   ALS=   45.23
AED=   41.53   MD=   0.23414   AES=   67.33   MS=   0.05610   ADX=   75.46
D     10.00     20.00     30.00     50.00
A     41.04     46.22     48.56     53.24

F=  20.0   DH= 90.00   H1G=  3.68   H2G=  3.00   TE=  0.005064   DX=  148.33
AE=   27.77   K1=   0.19176   K2=  11.81777   DLS=   15.21   ALS=   44.65
AED=   41.83   MD=   0.18600   AES=   61.14   MS=   0.05580   ADX=   69.41
D     10.00     20.00     30.00     50.00
A     41.50     45.55     47.41     51.13
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GPO 845-021