

# Distance From Shore

Parent Category: References (/references.html)

Category: Methods (/about-calcofi/methods.html)

C Last Updated: 14 March 2013

**Distance = Distance from shore in nautical miles.** The CalCOFI database includes a calculated distance-from-shore value used primarily for vertical section plots published in the hydrographic data reports. CalCOFI line coastline intercepts, digitized from Google maps, are tabulated below; the latitudes and longitudes are the origins (zero starting point) for vertical section plots.

Line	Sta (if calculated)	Latitude N	Longitude W
93.3, 93	26.2	32.978982	-117.272386
90.0	27.6	33.497430	-117.741800
86.7, 87	32.1	33.917500	-118.430800
83.3, 83	39.1	34.273350	-119.308200
80.0	50.3	34.474500	-120.476500
76.7, 77	47.23	35.148000	-120.653000
73.3, 73	49.6	35.653333	-121.221667
70.0	50.9	36.196667	-121.723333
66.7, 67	46.9	36.903333	-121.845000
63.3, 63	49.3	37.398333	-122.425000
60.0	49.0	37.988333	-122.815000

## Basic Source Code (translated from F77 Fortran)

```
Public Static Sub OLDDDS(LAT1!, Lon1!, D!, Lline$)
'C
'C -- ROUTINE TO RETURN DISTANCE IN NAUTICAL MILES GIVEN TWO POSITIONS
'C   IN DECIMAL DEGREES. USES A METHOD THAT WILL MATCH THE RESULTS
'C   PRODUCED IN THE OLD VERTICAL SECTION PROGRAM.
'C
'C -> LAT0 -- LATITUDE OF FIRST POINT. (DECIMAL DEGREES. SOUTH NEGATIVE.)
'C -> LON0 -- LONGITUDE OF FIRST POINT. (WEST NEGATIVE)
'C -> LAT1 -- LAT. OF SECOND POINT.
'C -> LON1 -- LONG. OF SECOND POINT.
'C <- D   -- DISTANCE (NAUTICAL MILES) BETWEEN POINTS.
'C
Dim COSD#
'  Real LAT1, LON1, LAT2, LON2, D
'  Real L, DLO, COSD, PI, F, A
  PI# = 3.141592654
  F# = PI# / 180
'C
'  INTRINSIC COS,ABS,SQRT
'C
'COSD#(A#) = Cos(A# * F#)
If frmSelData.txtDataIn(6) = "" Then
  LineIn! = (Val(Lline$))
Else
  LineIn! = Val(frmSelData.txtDataIn(6))
End If
D! = 0
Dist2Orig$ = ""
Select Case CInt(LineIn!)
  Case 1
    D! = Dist2Orig$ + LineIn!
  Case 2
    D! = LineIn!
  Case 3
    D! = LineIn! * 1.1515
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    D! = LineIn! * 1.1515
  Case 390
    D! = LineIn! * 1.1515
  Case 391
    D! = LineIn! * 1.1515
  Case 392
    D! = LineIn! * 1.1515
  Case 393
    D! = LineIn! * 1.1515
  Case 394
    D! = LineIn! * 1.1515
  Case 395
    D! = LineIn! * 1.1515
  Case 396
    D! = LineIn! * 1.1515
  Case 397
    D! = LineIn! * 1.1515
  Case 398
    D! = LineIn! * 1.1515
  Case 399
    D! = LineIn! * 1.1515
  Case 400
    D! = LineIn! * 1.1515
  Case 401
    D! = LineIn! * 1.1515
  Case 402
    D! = LineIn! * 1.1515
  Case 403
    D! = LineIn! * 1.1515
  Case 404
    D! = LineIn! * 1.1515
  Case 405
    D! = LineIn! * 1.1515
  Case 406
    D! = LineIn! * 1.1515
  Case 407
    D! = LineIn! * 1.1515
  Case 408
    D! = LineIn! * 1.1515
  Case 409
    D! = LineIn! * 1.1515
  Case 410
    D! = LineIn! * 1.1515
  Case 411
    D! = LineIn! * 1.1515
  Case 412
    D! = LineIn! * 1.1515
  Case 413
    D! = LineIn! * 1.1515
  Case 414
    D! = LineIn! * 1.1515
  Case 415
    D! = LineIn! * 1.1515
  Case 416
    D! = LineIn! * 1.1515
  Case 417
    D! = LineIn! * 1.1515
  Case 418
    D! = LineIn! * 1.1515
  Case 419
    D! = LineIn! * 1.1515
  Case 420
    D! = LineIn! * 1.1515
  Case 421
    D! = LineIn! * 1.1515
  Case 422
    D! = LineIn! * 1.1515
  Case 423
    D! = LineIn! * 1.1515
  Case 424
    D!
```

Case 93, 94 ', 93.3

Lat0! = 32.969 '93.3 26.2 Google projection 2010; old value 32.95298 from Ralf & Nav Program

Lon0! = -117.2696 'Google projection 2010; old value -117.2664

Case 90, 91

Lat0! = 33.49743 '90.0 27.6 Google checked 2010 '4969634422

Lon0! = -117.7418 '745017037

Case 87, 86 ', 86.7

Lat0! = 33.9175 '86.7 32.1 Google projection 2010; old .89568 '918195424

Lon0! = -118.4308 'Google projection 2010; old .419 '431669307

Case 83, 84 ', 83.3

Lat0! = 34.27335 '83.3 39.1 Google checked 2010 '2739356345

Lon0! = -119.3082 '310048755

Case 80, 79

Lat0! = 34.4745 '80.0 50.3 Google projection 2010; old .4631 '4823190269

Lon0! = -120.4765 'Google projection 2010; old .4739 '485679527

Case 77, 76 ', 76.7

Lat0! = 35.148 '76.7 47.23 Google checked 2010 '1446809515

Lon0! = -120.653 '650653673

Case 73 ', 73.3

Lat0! = 35.65333333333

Lon0! = -121.221666667

Case 70

Lat0! = 36.19666666667

Lon0! = -121.723333333

Case 67 ', 66.7

Lat0! = 36.90333333333

Lon0! = -121.845

Case 63

Lat0! = 37.39833333333

Lon0! = -122.425

Case 60 ', 57.8, 57.9

Lat0! = 37.98833333333

Lon0! = -122.815

Case Else

Select Case LineIn!

Case 91.7, 91.6, 91.8, 92

Lat0! = 33.25773 'from Ralf & Nav Program

Lon0! = -117.4385

Case 88.5, 88.6, 88.4, 88

Lat0! = 33.69985 'from Ralf & Nav Program

Lon0! = -118.0522

Case 85.4, 85.5, 85.6

Lat0! = 34.01588 'from Ralf & Nav Program

Lon0! = -118.8243

Case 82, 81.9, 82.1

Lat0! = 34.435 'from Ralf & Nav Program

Lon0! = -119.955

Case 81.7, 81.8, 81

Lat0! = 34.4174 'from Ralf & Nav Program

Lon0! = -119.8033

Case 78.5, 78.4, 78.6

Lat0! = 34.77699 'from Ralf & Nav Program

Lon0! = -120.6302

Case Else

If LineIn! <> Val(Liine\$) And LineIn! <> Val(StndL\$) Then

LineIn! = Val(StndL\$)

GoTo 190

Else

Exit Sub

End If

```
End Select
End Select
'C
Lon0! = Lon0! * -1
L! = Abs(LAT1! - Lat0!)
DLO! = Abs(Lon1! - Lon0!)
If (DLO! > 180) Then DLO! = 360 - DLO!
'C
L! = L! * 60
DLO! = DLO! * 60
DLO! = DLO! * Cos(F# * ((Lat0! + LAT1!) / 2))
D! = (Sqr(L! * L! + DLO! * DLO!)) * -1
Dist2Orig$ = Format(D!, "#0.00")
If D! = 0 Then Dist2Orig$ = ""

End Sub
```