Tides in Minas Basin

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Google maps suggests that the centre of Minas Basin is near

```
lon <- -64.18
lat <- 45.31
```

An estimate of the relevant tidal constituents may be found using the WebTide database, as follows.

```
dir <- "/usr/local/WebTide/data/nwatl/"
nod <- read.table(paste0(dir, "nwatl_ll.nod"), header=FALSE)
fac <- 1 / cos(lat * pi / 180) # account for meridional convergence
closest <- nod[which.min((lon-nod$V2)^2*fac^2+(lat-nod$V3)^2),1]
O1<-read.table(paste0(dir, "O1.barotropic.s2c"), header=FALSE, skip=3)[closest, 2]
K1<-read.table(paste0(dir, "K1.barotropic.s2c"), header=FALSE, skip=3)[closest, 2]
N2<-read.table(paste0(dir, "N2.barotropic.s2c"), header=FALSE, skip=3)[closest, 2]
M2<-read.table(paste0(dir, "M2.barotropic.s2c"), header=FALSE, skip=3)[closest, 2]
S2<-read.table(paste0(dir, "S2.barotropic.s2c"), header=FALSE, skip=3)[closest, 2]
```

with results O1= 0.121025m, K1= 0.168322m, N2= 1.041943m, M2= 5.169948m, and S2= 0.850774m.