THI formulas

thi.ruminant <- (0.18 \* tmax + 32.0) - (0.55 - 0.0055 \* rh) \* (0.18 \* (tmax - 26.8))

names(thi.ruminant) <- month.abb

thi.broiler <- 0.85 \* tmax + 0.15 \* tmin

names(thi.broiler) <- month.abb

thi.layer <- 0.60 \* tmax + 0.40 \* tmin

names(thi.layer) <- month.abb

thi.swine <- tmax - (0.55 - (0.0055 \* rh) \* (tmax - 14.5))

names(thi.swine) <- month.abb

thi.sheep = tave - (0.31 - 0.0031 \* rh \* tave ) \* (tave - 14.4) # from Marai IFM, El-Darawany AA, Fadiel A, Abdel-Hafez MAM (2007)

names(thi.sheep) <- month.abb

Values of the variables

values of the THI data sets

Broilers

class : RasterBrick

dimensions : 360, 720, 259200, 12 (nrow, ncol, ncell, nlayers)

resolution : 0.5, 0.5 (x, y)

extent : -180, 180, -90, 90 (xmin, xmax, ymin, ymax)

crs : +proj=longlat +datum=WGS84 +no\_defs +ellps=WGS84 +towgs84=0,0,0

source : memory

names : Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

min values : -47.80702, -45.04482, -52.24953, -59.04041, -61.04318, -60.74704, -61.90023, -62.68270, -60.72219, -51.17508, -38.21789, -46.10070

max values : 38.09443, 37.46971, 39.01261, 41.12263, 41.16794, 42.42606, 43.27619, 43.21228, 40.62764, 38.08938, 37.55805, 38.31450