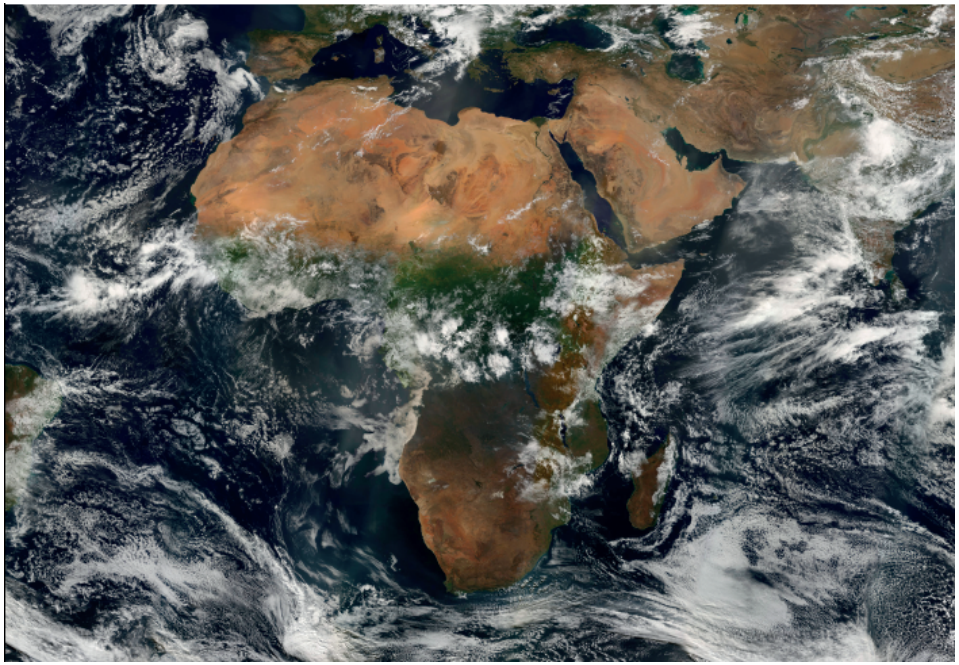
Trans-African Hydro-Meteorological Observatory

A solution to provide weather observations in Africa

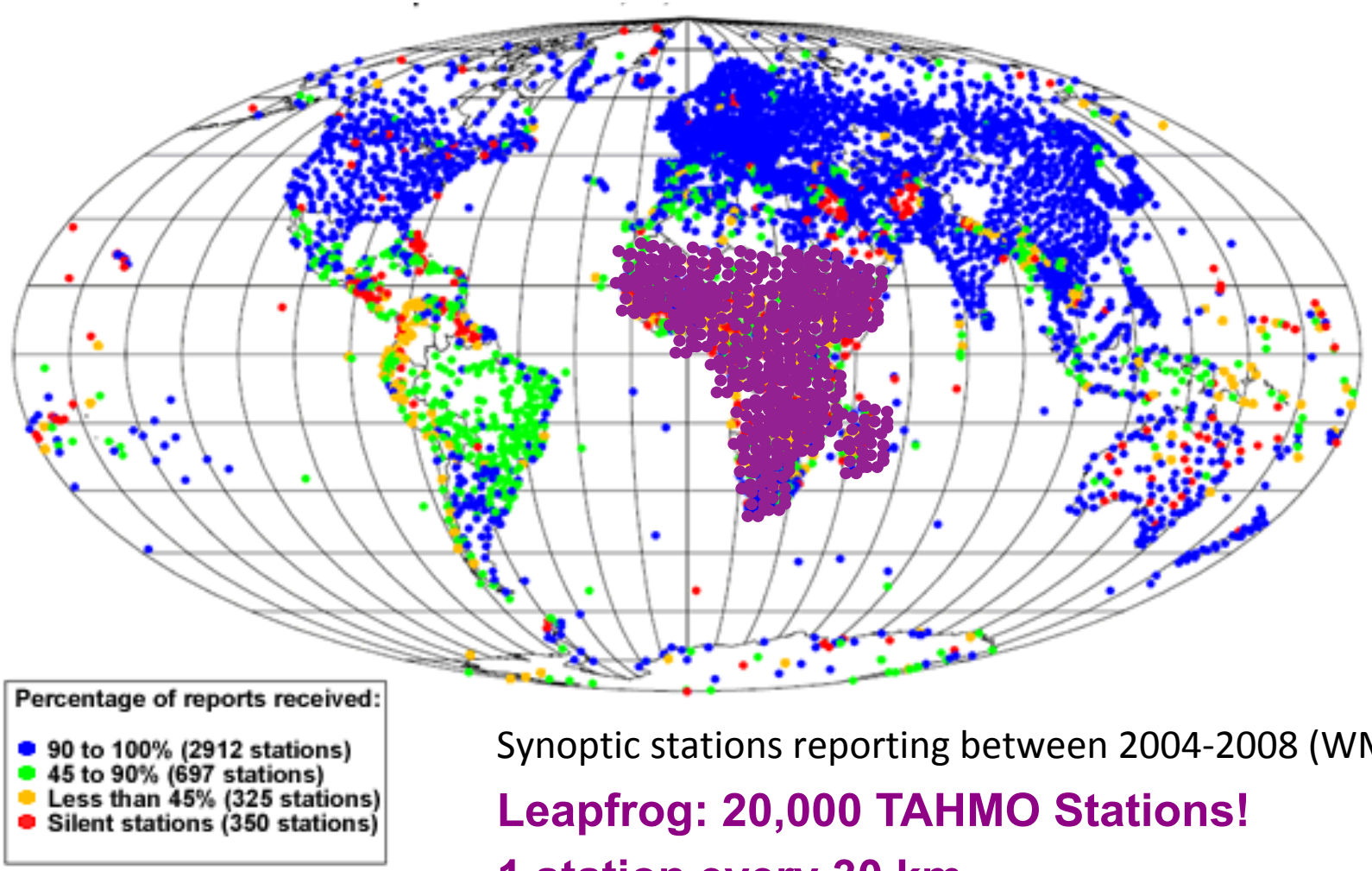


Rebecca Hochreutener – Operations Manager

Directors: John Selker (Oregon State University) and Nick van de Giesen (TU Delft)

CEO : Frank Annor

TAHMO's purpose and obective



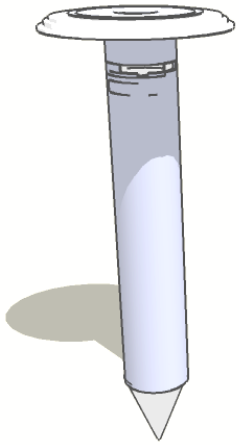
Synoptic stations reporting between 2004-2008 (WMO)

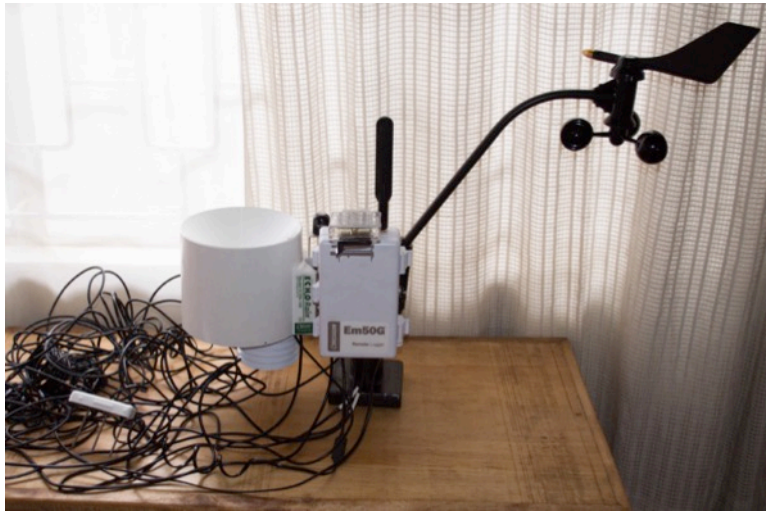
Leapfrog: 20,000 TAHMO Stations!

1 station every 30 km

Station design : objectives

- ✓ Low cost (initial goal was <$500)
- ✓ Robust
- ✓ Connected to the cellular network
- ✓ No moving parts
- ✓ Adapted to the African climate



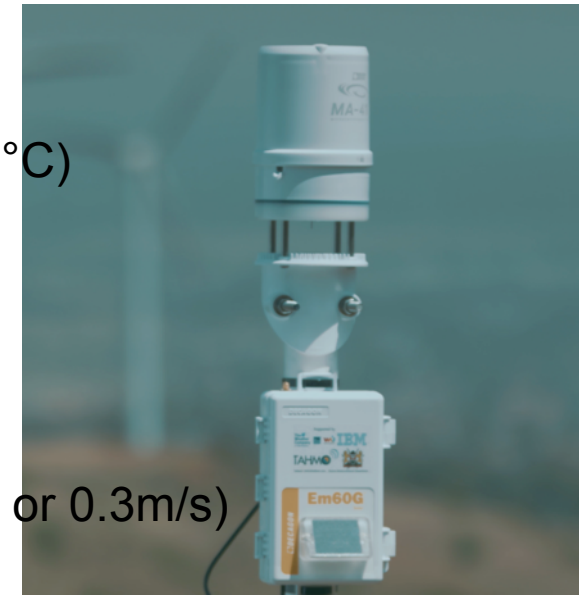


METER

Developed in collaboration with the Meter Group

Today's TAHMO weather station

- ✓ **Temperature**
  - Air temperature (-40-50°C, 0.1°C, ±0.6°C)
  - Humidity sensor temperature (-40-50°C, 0.1°C, ±1°C)
- ✓ **Relative Humidity** (0 -100%, 0,1%, ±3% RH)
- ✓ **Solar radiation** (0-1750W/m^2, 1 W/m^2, ±5%)
- ✓ **Vapor Pressure** (0 – 47kPa, 0.01kPa, ± 0.02kPa)
- ✓ **Barometric pressure** (50-110 kPa, 0.01kPa, 0.1 kPa)
- ✓ **Sonic anemometer**
  - Horizontal wind speed (0-40m/s, 0.01m/s, > of 3% or 0.3m/s)
  - Wind gust (0-40m/s, 0.01m/s, > of 3% or 0.3m/s)
  - Wind direction (0-359° ,1° , ± 5%)
- ✓ **Drip-count precipitation** (0-400mm/h, 0.017mm, ±5% between 0-50mm/h)



Other features:

- ✓ 5 open ports
- ✓ Solar w/ 6-mo battery
- ✓ GPRS communication
- ✓ GPS location
- ✓ Compass
- ✓ Lightning detector

Data assimilation and availability

Weather Stations (with different systems)

Farmers

Scientists & Integrators

Insurance Companies

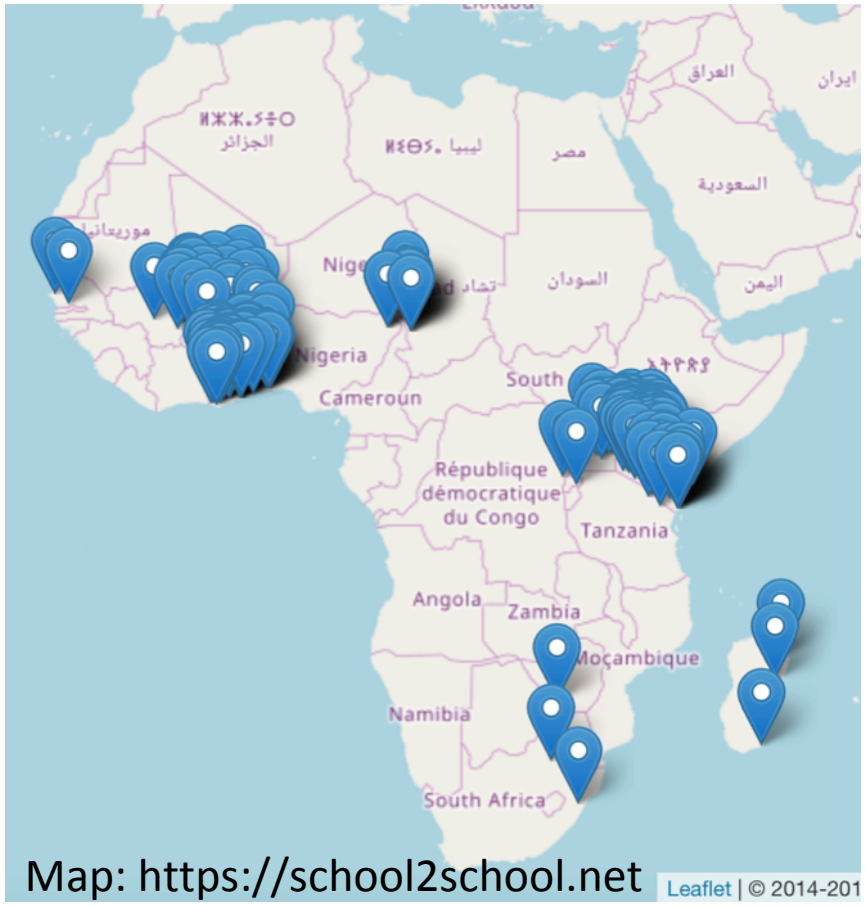
TAHMO data platform
https://datahmo.org

Free Data

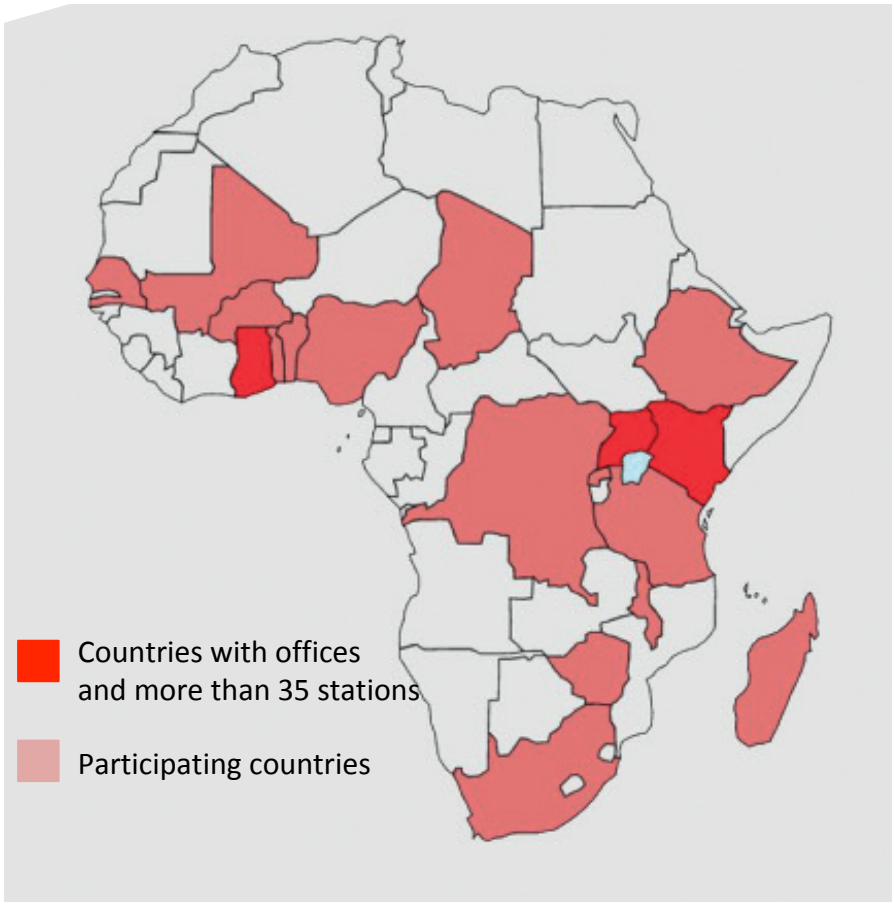
National Meteorological Services

Other private sector

Current TAHMO stations/countries



Map: https://school2school.net



Join the TAHMO initiative !