• Publications
  – WGSIP CHFP paper to appear in BAMS in November
  – coauthored chapter in S2S book (editors Andy Robertson and Frederic Vitart)
  – Health Early warning Uganda in WMO-WHO book and PNAS next month
  – Work on importance of entrainment on convective organization when using grey
     – zone resolutions published in JAMES

• Developments in S2S-seasonal health impacts:
  – Automated genetic algorithm for calibration (IRI, PLOS)
  – Numerous numerical and process improvements (e.g. immunity, hydro).
  – Malaria seasonal forecast system set up with SYNTEX2-driven VECTRI with
     JAMSTEC for S. Africa
  – Guidance given to Médecins Sans Frontières (MSF) for recent trends in highland
     malaria in eastern Congo (with Uni Liverpool)
  – New project on dengue prediction with NUS and government of Singapore.

• Workshops:
  – S2S teleconnections workshop next week at ICTP
  – S2S workshop at EAIFR (Rwanda) postponed to 2018
  – ICTP Summer School on Theory, Mechanisms and Hierarchical Modelling of
    Climate Dynamics: Multiple Equilibria in the Climate System June 25 2018
    (annual event with focus each year)
  – Next call deadline for proposals: March 2018 for 2019 activities
Malaria in Kenyan highlands

Only calibration of malaria model parameters

Only calibration of driving climate data

which uncertainty is important?
Médecins Sans Frontières (MSF)

- MSF approached ICTP and U.Liverpool with a problem.
  - In Eastern DR Congo highlands they have seen drastically rising levels of malaria since 2015
  - They wanted to understand what might be causing this (climate, migration, conflict, health systems breakdown) and if it might be a temporary

- The uncalibrated VECTRI (ICTP) and LMM (Liverpool) models were set up to run with identical climate forcing (ERAI+TRMM) to simulate malaria in the region

![Graph showing malaria eir (endemic infection rate) over time with LMM and VECTRI models compared.](image)
Where is this from?

Days above 18°C (theoretical minimum temperature threshold for the parasite to replicate inside the mosquito vector) for the same location. The shaded area depicts values above the average. A 6 months running average was applied to the data.
Climate (6 month running averages)

ERA-Interim

ENSO events clear on top of recent warming trend

TRMM Rainfall [mm/day]

Recent period drier relative to 18 year period