



QWeCI

Quantifying Weather and Climate Impacts on Health in Developing Countries

Newsletter

September 2011, No. 3

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EDITORIAL

Dear Reader,

Welcome to the third six-monthly newsletter of the QWeCI Project!

Many of you were able to attend the second QWeCI Annual Meeting, held in Trieste, Italy earlier this month. The meeting was a great success, with every partner represented. Information was shared, relationships built and future collaboration planned.

Special thanks to Adrian Tompkins, Claudio Piani and all of our colleagues at ICTP who worked very hard to arrange this great event.

We thank all those working on and associated with QWeCI and look forward to our further productive collaboration!

– The QWeCI Management Board

Coordinator's report

The QWeCI Project has reached the eighteen-month-mark and I think it is appropriate to talk about the first Periodic Report that the project has recently submitted to the European Commission. I'd like to thank all partners and researchers for helping to produce a thorough technical report on our progress and all administrators for successfully completing the financial side of the report. I would particularly like to thank Andrew McCaldon for all his hard work especially taking over from Tara through this critical reporting period, and Tara Wambugu for getting the systems in place so effectively. Throughout the reporting, I have been very pleased with the high standard of the Deliverables and Milestones that have been produced and would like thank you all for your time, effort and energy in completing them in such a timely fashion!

Since I last wrote to you, we have had our second Annual Project Meeting which was held in Trieste. It was wonderful to see every partner represented and I was pleased by the networking and collaboration that was going on both in Trieste and through bilateral exchanges over the last six months. I would like to thank ICTP in Trieste for being such excellent hosts and thank everyone who has been involved in organizing such a positive event for the project. The joint session with the workshop which QWeCI co-sponsored and the WCRP CLIVAR Working Group on Seasonal to Interannual prediction joint presentations illustrates that QWeCI is working with both the established forecasting communities and at the same time is helping to encourage the next generation of researchers and operational experts in climate impacts.

Over the summer, Tara Wambugu has left us and this has been a significant loss to the project. Tara's know-how and management expertise ensured the smooth running of the Project Office and we have all benefited from her energy and enthusiasm – I would like to wish Tara, Jesse and Claire the very best of luck in their future in Nairobi.

The post of Project Manager has been advertised and we hope to have our new manager in place before the end of the year. Until then, Andrew will be answering all queries directed to the Project Office.

Publications are starting to appear from the project this is great news. Please let us have copies (as PDF) and the full reference to any papers and reports that are published that acknowledge QWeCI as the funding body, even if it is only part funding the work. Papers that are peer reviewed will be loaded on the EU portal.

I look forward to more success in the coming months and further collaboration and communication.

With best wishes,
Andy



QWeCI Second Annual Meeting



The Second QWeCI Annual Meeting was held in Trieste, Italy from 14th–16th September 2011. As a result, there have been two annual meetings within twelve months; however the project meeting schedule is now in line with periodic reporting windows and, as the project is in its busiest, experimental period, enhanced collaboration is positive.

Every project partner was represented and presentations were given which helped WP partners to better understand the overall progress of their integrated work.

Prior to the annual meeting, ICTP hosted a workshop which included sessions led by external speakers and leading scientists.

Both events were a useful opportunity for partners and researchers to meet, network and discuss progress and/or issues that have been identified.



Partner Profiles

Dr Jane Olwoch

University of Pretoria, South Africa



Dr Jane Olwoch is a biologist with a research focus on the relationship between environmental change, vectors and vector diseases; an interest that she developed from her adolescent years through the devastation that ticks and tick-borne diseases had on the family source of livelihood which was cattle-keeping.

Later, at Makerere University, Uganda, during her undergraduate studies, Jane specialized in modules in parasitology and entomology. She graduated with a BSc (Bot/Zoo) from Makerere University, Uganda in 1986. Dr Olwoch moved to South Africa in 1991 and during her Honours studies at the Medical University of Southern Africa (now Limpopo University, Medunsa Campus) she studied Intra-specific cross-resistance between different stages of the tick species *Rhipicephalus appendiculatus* on Rabbits. Dr Olwoch was awarded "a Nikon Award" for best the poster presentation involving this research.

In 1993, Jane completed an MSc (Biology) and put her research career on hold to raise a family. On her return in 2001 she embarked on a PhD study at University of Pretoria that investigated the relationship between climate change, ticks, their hosts in sub-Saharan and the implication this has if any to tick-borne diseases. Though a modeling approach, current and future distributions of ticks and their preferred hosts were produced in the current and future modelled climate. Four papers were published from this project in international peer review journals.

In 2008, her research focus took another "leg" to include other diseases particularly malaria and the effects of heat and cold extremes, pollution and increase of ozone

in the lower atmosphere on human health. The importance of the above research focus and presentation of preliminary results in conferences has earned her national and international recognition through which she has been invited as a reviewer for projects and also journals including *Global Ecology and Biogeography*, *South African Journal of Wildlife Research*, *South Africa Geographical Journal*, *Global Change Biology* and *Journal of Arid Environments*. In South Africa, she has forged collaborations with two government departments on climate change related issues.



Dr Jane Olwoch with 2007 Nobel Peace Prize laureate, Dr Rajendra Pachauri

Dr Olwoch was recently co-lead author in the preparation of a chapter entitled "Global change and human health in the recently completed South Africa risk and vulnerability atlas (www.rvatlas.org). Internationally, in 2008 she was appointed as a chair/convener of Young African Scientist on Global Change Research session during an IGPB conference that took place in Cape Town and was more recently appointed on START (the global change System for Analysis, Research & Training) Pan-Africa committee and member of its advisory committee.

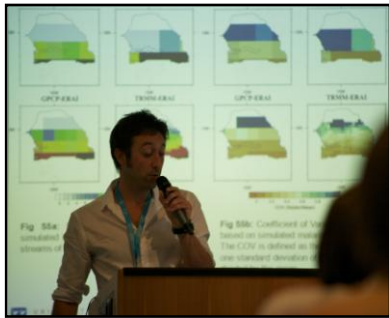
Dr Cyril Caminade

University of Liverpool, UK

Dr Caminade's main research interests are relatively broad with specific expertise on Tropical and African climate variability, including the effect of climate change.

Cyril takes an interest in the most up to date works about the impact of climate





Dr Cyril Caminade talking at the 2011 QWeCI Workshop hosted by ICTP

change upon African climate (with a specific focus over West Africa). He also has strong interests in climate impact studies, namely health and socio-economics as a multidisciplinary approach.

In Liverpool, partners have developed and strengthened several collaborations within the University (with the veterinary school and the LUCINDA team especially), in order to model and map several key vector born diseases over Europe and Africa. This includes various animal diseases of blue tongue and liver fluke in Europe, and key human diseases including Rift Valley Fever and malaria in Africa. Several methods have been developed to map the disease risk changes for the future, using climate scenario simulations. This has produced several publications (McIntyre et al., 2010; Guis et al., 2010; Caminade et al., 2011; Guis et al., 2011; Impoinvil et al., 2011).

Dr Caminade also collaborated with human geographers working at the University of Liverpool (Assan et al., 2009), and has taken part in a climate scientist / NGOs & stakeholders exchange with the Humanitarian Futures Programme framework (Visman et al., 2010).

News from the Field

Field exchange visits

Exchange visits between partners are a central part of the synergy and capacity building efforts within QWeCI. Below are just a few of the collaborative visits that have taken place and many more are planned for the coming year.

UNILIV to IC3 May 2011 Andy Morse and Dave MacLeod visited partners in IC3 to discuss the initial decadal predictions and collaborate on disease modeling.

UP to UNILIV May 2011 Kibii Komen visited the Liverpool partners in May. This was to work on malaria data from

South Africa and learn to use the LMM within the environment of the new DMC.

UoC to ICTP May 2011 Volker Ermert contributed to the development of VECTRI. The refinement of the model included the analysis of model runs with constant temperature and precipitation conditions and the reduction of the parameter space of the model.

UCAD & CSE to UNILIV June 2011 Jacques–Andre Ndione (CSE) visited the Liverpool partners in June to work on two RVF papers a review and a modeling paper of the 2010 Mauritania outbreak. Dr Ndione also gave a presentation at a University of Liverpool symposium on environmental change and disease.

Amadou Deme (UCAD) also visited Liverpool in June and worked on meteorological analysis and their use of the LMM within the DMC.

CSIC to KNUST September 2011 Rodrigo García Manzanas visited partners in Ghana to discuss the QWeCI Statistical Downscaling Portal and establish future collaboration for working on the search of optimum domain/predictors over Ghana.

Disease Model Cradle

A new software application – the Disease Model Cradle (DMC) – is being developed by Dr Andy Heath of the University of Liverpool. The application provides an interactive front-end to run a variety of disease models (including the Liverpool Malaria Model (LMM) and the Rift Valley Fever (RVF) model when available).

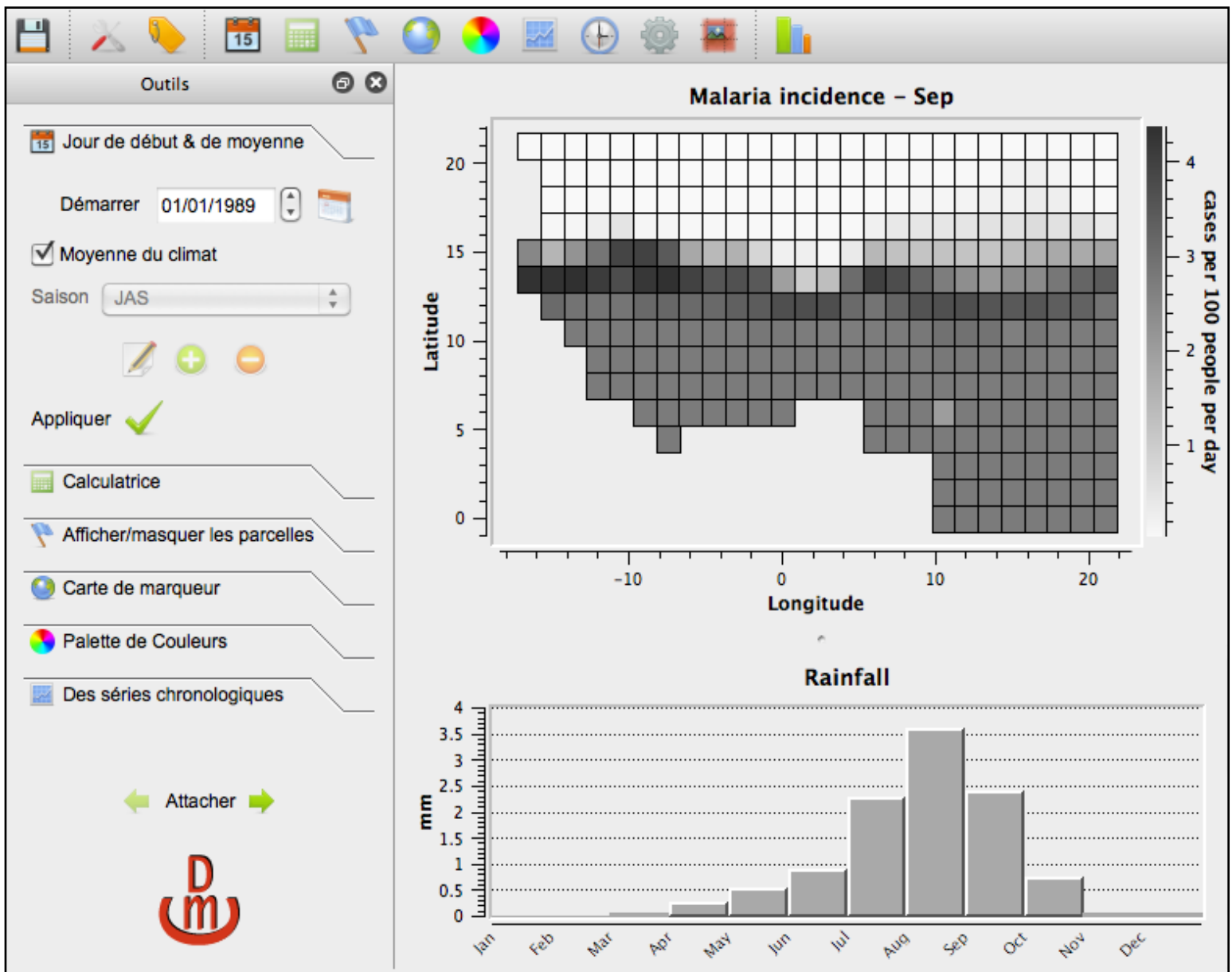
Disease models, developed independently of DMC, are encapsulated as dynamic libraries and plugged into the application using a standardised interface. DMC is a multi-platform tool (it runs on Windows, Mac and Linux) and allows partners involved in the projects to run models – including LMM – at their local institutions with their own meteorological datasets and to investigate and validate the results with respect to epidemiological field measurements

(e.g. malaria incidences, number of infected mosquitoes).

Liverpool partners decided that they needed to build a model development platform to run the LMM and to develop the RVF model from LMM rather than go back to a generic model. DMC provides monthly/seasonal time averaging (time tools), the ability to generate graphics (time series, maps), and the possibility to run the model on gridded climate datasets. Model output may be exported for more detailed analysis and all results

are stored in a binary document that can be shared between different operating systems. To promote ease of usage, the user interface language of DMC can be instantly switched between French and English.

Partners in the University of Pretoria and the University Cheikh Anta Diop de Dakar are currently testing the DMC prototype and it was used at the ICTP workshop in September to get final feedback before the official release which is scheduled for late 2011.



Farewell to Tara

It was with regret that, earlier this year, we had to say farewell to the QWeCI Project Manager, Tara Wambugu.

Over the summer, the QWeCI Project was thrilled to congratulate Tara and Jesse on the birth of their daughter, Claire Nyambura. Tara had planned to return to the Project in September but the family took the decision to move to Nairobi where Jesse had been offered a job.



Tara brought a great deal to the QWeCI Project and the Project Office benefited hugely from her wisdom, experience and enthusiasm.

We all wish Tara, Jesse and Claire the best of luck in their new lives in Kenya!

Periodic Reporting Update

The Project Office would like to extend our most sincere thanks to all partners, researchers and administrators for a smooth reporting period! Our thanks to everyone for submitting your reports and financial information on time and would like to thank you for your continued support throughout this process.

In addition, we would like to echo the words of Andy Morse and thank everyone for the high quality of the Deliverables and Milestones that have been submitted.

The final periodic report was submitted earlier this month and you will be glad to hear the next Periodic Reporting stage is not until the end of Month 30 (July 2012).

Future events

- **Workshop – Dakar, Senegal**
14th–19th November 2011

For more details contact Dr Jacques-Andre Ndione (Jacques-Andre.Ndione@cse.sn).

- **Third Annual QWeCI Meeting – Nairobi, Kenya**
23rd–24th October 2012

Dates are provisional pending confirmation.

Recent Publications

- Ermert, V., Fink, A. H., Morse, A. P. and Paeth, H., 'The Impact of Regional Climate Change due to Greenhouse Forcing and Land-Use Changes on Malaria Risk in Tropical Africa', *Environmental Health Perspectives* (forthcoming 2011)
- Doblas-Reyes, F. J., van Oldenborgh, G. J., García-Serrano, J., Pohlmann, H., Scaife, A. A. and Smith, D., 'CMIP5 near-term climate prediction', *CLIVAR Exchanges*, No. 56, Vol. 16, No. 2 (May, 2011)
- Ermert, V., Fink, A. H., Jones, A. E. and Morse, A. P., 'Development of a new version of the Liverpool Malaria Model. II. Calibration and validation for West Africa', *Malaria Journal* (2011)
- Ermert, V., Fink, A. H., Jones, A. E. and Morse, A. P., 'Development of a new version of the Liverpool Malaria Model. I. Refining the parameter settings and mathematical formulation of basic processes based on a literature review', *Malaria Journal* (February 2011)

Contacts

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Until QWeCI appoints a new Project Manager, Andrew will answer all enquiries directed to the Project Office.

Coordination

The Coordinator and Principle Investigator of QWeCI is Dr Andy Morse of the University of Liverpool (A.P.Morse@liverpool.ac.uk) with Dr Adrian Tompkins acting as Deputy Coordinator at the International Centre for Theoretical Physics, Trieste (Tompkins@ictp.it).

Further Information

Keep up to date

Please visit the QWeCI website for project details, partner information, and regular updates:

<http://www.liv.ac.uk/qweci>

Our Friends

Please see below the pages of related projects:

www.liv.ac.uk/ENHanCE

www.HealthyFutures.eu

www.BaobabHealth.org

Photo Acknowledgements

Andy Morse

Adrian Tompkins

Jane Olwoch

Andy Heath