Project No: 603502

DACCIWA

"Dynamics-aerosol-chemistry-cloud interactions in West Africa"

Deliverable

D8.5 Special issue

Due date of deliverable:	30/11/2018		
Completion date of deliverable:	30/11/2018		
Start date of DACCIWA project:	1st December 2013	**Project duration:**	60 months
Version:	[V1.0]		
File name:	[D8.5_Special_issue_DACCIWA_v1.0.pdf]		
Work Package Number:	**8**		
Task Number:	**5**		
Responsible partner for deliverable:	**UoY**		
Contributing partners:	**ETHZ**		
Project coordinator name:	Prof. Dr. Peter Knippertz		
Project coordinator organisation name:	Karlsruher Institut für Technologie		

The DACCIWA Project is funded by the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 603502.

Dissemination level		
PU	Public	**x**
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Nature of Deliverable		
R	Report	
P	Prototype	
D	Demonstrator	
O	Other	**x**

DOCUMENT INFO

Authors

Author	Beneficiary Short Name	E-Mail
Mathew Evans	UoY	mat.evans@york.ac.uk

Changes with respect to the DoW

Issue	Comments
Change of Staff at ETH	This deliverable was initially allocated to ETH, however with a change in staff it was decided it was best undertaken by the dissemination work package leader Mat Evans at the University of York

Dissemination and uptake

Target group addressed	Project internal / external
Scientific	External and internal

Document Control

Document version #	Date	Changes Made/Comments
V0.1	25.10.2018	Template with basic structure
V0.2	22.11.2018	First version for approval by the General Assembly
V1.0	30.11.2018	Final version approved by the General Assembly

Table of Contents

1 Concept

The objective of Task 8.5 was to produce a special issue in an internationally leading journal to form a central collection of the results of the project. A joint special issue of the European Geophysical Union's Copernicus Publications Atmospheric Chemistry and Physics (ACP) and Atmospheric Measurement Technology (AMT) was chosen, as this provides gold-open access, a European association, an ability to cover many of the diverse science topics of the project and a high impact factor. Thus, an inter-journal special issue of ACP/AMT entitled Results of the project "Dynamics–aerosol–chemistry–cloud interactions in West Africa" (DACCIWA) was set up.

An editorial team with a range of scientific expertise was chosen. This was led by Prof. Mat Evans (University of York) who also leads the dissemination work package of the DACCIWA project and included Prof. Dominick Spracklen from the University of Leeds (aerosols and health), Prof. Serge Janicot from Pierre and Marie Curie University - Paris 6 (climate and meteorology), Prof. Ademe Mekonnen from North Carolina A&T State University (meteorology) and Prof. Sue van den Heever from Colorado State University (aerosols, cloud and meteorology).

Thus far, the team has managed publication of 20 papers through the special issue and these are available at https://www.atmos-chem-phys.net/special_issue914.html. A list of the publications in the special issue is also provided in Appendix 1. Other publications arising from the DACCIWA project have been produced and these have appeared in other journals, which in each case reflects the best choice of journal for the topic of the paper. For example, a review article about links between West African air pollution and climate was published in Nature Climate Change (Knippertz, Evans, *et al.*, 2015), papers with a specific meteorological focus have been published in Monthly Weather Review (Benedetti and Vitart, 2018), Bulletin of the American Meteorological Society (Knippertz, Coe, *et al.*, 2015; Flamant *et al.*, 2018), or the Quarterly Journal of the Royal Meteorological Society (Maranan, Fink and Knippertz, 2018) etc. Overall 39 journal publications have been produced by the project (November 2018) so far, which are listed on the project website (https://www.dacciwa.eu/online-resources/research-publications) and will be updated even after the end of the project.

The special issue will remain open until August 2020. If there is sufficient flow of papers still being produced by the project at this point there will be a request for an extension.

Appendix: Publications within the special issue.

Personal exposure to PM2.5 emitted from typical anthropogenic sources in Southern West Africa (SWA): Chemical characteristics and associated health risks, Hongmei Xu, Jean-François Léon, Cathy Liousse, Benjamin Guinot, Véronique Yoboué, Aristide Barthélémy Akpo, Jacques Adon, Kin Fai Ho, Steven Sai Hang Ho, Lijuan Li, Eric Gardrat, Zhenxing Shen, and Junji Cao**,** Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-1060, 2018

Aerosol liquid water content in the moist southern West African monsoon layer and its radiative impact, Konrad Deetz, Heike Vogel, Sophie Haslett, Peter Knippertz, Hugh Coe, and Bernhard Vogel**,** Atmos. Chem. Phys., 18, 14271-14295, https://doi.org/10.5194/acp-18-14271-2018, 2018

The role of droplet sedimentation in the evolution of low-level clouds over southern West Africa, Christopher Dearden, Adrian Hill, Hugh Coe, and Tom Choularton**,** Atmos. Chem. Phys., 18, 14253-14269, https://doi.org/10.5194/acp-18-14253-2018, 2018

The role of low-level clouds in the West African monsoon system, Anke Kniffka, Peter Knippertz, and Andreas H. Fink**,** Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-743, 2018 Manuscript under review for ACP (discussion: final response, 2 comments)

Nocturnal low-level clouds in the atmospheric boundary layer over southern West Africa: an observation-based analysis of conditions and processes, Bianca Adler, Karmen Babić, Norbert Kalthoff, Fabienne Lohou, Marie Lothon, Cheikh Dione, Xabier Pedruzo-Bagazgoitia, and Hendrik Andersen**,** Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-775, 2018**,** Manuscript under review for ACP (discussion: final response, 3 comments)

Aerosol distribution in the northern Gulf of Guinea: local anthropogenic sources, long-range transport, and the role of coastal shallow circulations, Cyrille Flamant, Adrien Deroubaix, Patrick Chazette, Joel Brito, Marco Gaetani, Peter Knippertz, Andreas H. Fink, Gaëlle de Coetlogon, Laurent Menut, Aurélie Colomb, Cyrielle Denjean, Rémi Meynadier, Philip Rosenberg, Regis Dupuy, Pamela Dominutti, Jonathan Duplissy, Thierry Bourrianne, Alfons Schwarzenboeck, Michel Ramonet, and Julien Totems**,** Atmos. Chem. Phys., 18, 12363-12389, https://doi.org/10.5194/acp-18-12363-2018, 2018

The radiative impact of out-of-cloud aerosol hygroscopic growth during the summer monsoon in southern West Africa, Sophie L. Haslett, Jonathan W. Taylor, Konrad Deetz, Bernhard Vogel, Karmen Babić, Norbert Kalthoff, Andreas Wieser, Cheikh Dione, Fabienne Lohou, Joel Brito, Regis Dupuy, Alfons Schwarzenboeck, and Hugh Coe, Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-805, 2018, Manuscript under review for ACP (discussion: final response, 2 comments)

The observed diurnal cycle of nocturnal low-level stratus clouds over southern West Africa: a case study, Karmen Babić, Bianca Adler, Norbert Kalthoff, Hendrik Andersen, Cheikh Dione, Fabienne Lohou, Marie Lothon, and Xabier Pedruzo-Bagazgoitia, Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-776, 2018, Revised manuscript under review for ACP (discussion: final response, 3 comments)

Diurnal cycle of coastal anthropogenic pollutant transport over southern West Africa during the DACCIWA campaign, Adrien Deroubaix, Laurent Menut, Cyrille Flamant, Joel Brito, Cyrielle Denjean, Volker Dreiling, Andreas Fink, Corinne Jambert, Norbert Kalthoff, Peter Knippertz, Russ Ladkin, Sylvain Mailler, Marlon Maranan, Federica Pacifico, Bruno Piguet, Guillaume Siour, and Solène Turquety, Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-766, 2018
Revised manuscript under review for ACP (discussion: final response, 3 comments)

Numerical simulations of aerosol radiative effects and their impact on clouds and atmospheric dynamics over southern West Africa, Konrad Deetz, Heike Vogel, Peter Knippertz, Bianca Adler, Jonathan Taylor, Hugh Coe, Keith Bower, Sophie Haslett, Michael Flynn, James Dorsey, Ian Crawford, Christoph Kottmeier, and Bernhard Vogel, Atmos. Chem. Phys., 18, 9767-9788, https://doi.org/10.5194/acp-18-9767-2018, 2018

Evaluation of Windsond S1H2 performance in Kumasi during the 2016 DACCIWA field campaign, Geoffrey E. Q. Bessardon, Kwabena Fosu-Amankwah, Anders Petersson, and Barbara J. Brooks**,** Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2018-179, 2018**,** Manuscript under review for AMT (discussion: final response, 5 comments)

Particle and VOC emission factor measurements for anthropogenic sources in West Africa, Sekou Keita, Cathy Liousse, Véronique Yoboué, Pamela Dominutti, Benjamin Guinot, Eric-Michel Assamoi, Agnès Borbon, Sophie L. Haslett, Laetitia Bouvier, Aurélie Colomb, Hugh Coe, Aristide Akpo, Jacques Adon, Julien Bahino, Madina Doumbia, Julien Djossou, Corinne Galy-Lacaux, Eric Gardrat, Sylvain Gnamien, Jean F. Léon, Money Ossohou, E. Touré N'Datchoh, and Laurent Roblou**,** Atmos. Chem. Phys., 18, 7691-7708, https://doi.org/10.5194/acp-18-7691-2018, 2018

LES study of the impact of moist thermals on the oxidative capacity of the atmosphere in southern West Africa, Fabien Brosse, Maud Leriche, Céline Mari, and Fleur Couvreux
Atmos. Chem. Phys., 18, 6601-6624, https://doi.org/10.5194/acp-18-6601-2018, 2018

Mass concentration, optical depth and carbon composition of particulate matter in the major southern West African cities of Cotonou (Benin) and Abidjan (Côte d'Ivoire), Julien Djossou, Jean-François Léon, Aristide Barthélemy Akpo, Cathy Liousse, Véronique Yoboué, Mouhamadou Bedou, Marleine Bodjrenou, Christelle Chiron, Corinne Galy-Lacaux, Eric Gardrat, Marcellin Abbey, Sékou Keita, Julien Bahino, Evelyne Touré N'Datchoh, Money Ossohou, and Cossi Norbert Awanou**,** Atmos. Chem. Phys., 18, 6275-6291, https://doi.org/10.5194/acp-18-6275-2018, 2018

A pilot study of gaseous pollutants' measurement (NO2, SO2, NH3, HNO3 and O3) in Abidjan, Côte d'Ivoire: contribution to an overview of gaseous pollution in African cities, Julien Bahino, Véronique Yoboué, Corinne Galy-Lacaux, Marcellin Adon, Aristide Akpo, Sékou Keita, Cathy Liousse, Eric Gardrat, Christelle Chiron, Money Ossohou, Sylvain Gnamien, and Julien Djossou**,** Atmos. Chem. Phys., 18, 5173-5198, https://doi.org/10.5194/acp-18-5173-2018, 2018

Measurements of nitric oxide and ammonia soil fluxes from a wet savanna ecosystem site in West Africa during the DACCIWA field campaign, Federica Pacifico, Claire Delon, Corinne Jambert, Pierre Durand, Eleanor Morris, Mat J. Evans, Fabienne Lohou, Solène Derrien, Venance H. E. Donnou, Arnaud V. Houeto, Irene Reinares Martinez, and Pierre-Etienne Brilouet
Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2017-1198, 2018, Manuscript under review for ACP

An overview of the diurnal cycle of the atmospheric boundary layer during the West African monsoon season: results from the 2016 observational campaign, Norbert Kalthoff, Fabienne Lohou, Barbara Brooks, Gbenga Jegede, Bianca Adler, Karmen Babić, Cheikh Dione, Adewale Ajao, Leonard K. Amekudzi, Jeffrey N. A. Aryee, Muritala Ayoola, Geoffrey Bessardon, Sylvester K. Danuor, Jan Handwerker, Martin Kohler, Marie Lothon, Xabier Pedruzo-Bagazgoitia, Victoria Smith, Lukman Sunmonu, Andreas Wieser, Andreas H. Fink, and Peter Knippertz**,** Atmos. Chem. Phys., 18, 2913-2928, https://doi.org/10.5194/acp-18-2913-2018, 2018

Impact of biomass burning on pollutant surface concentrations in megacities of the Gulf of Guinea, Laurent Menut, Cyrille Flamant, Solène Turquety, Adrien Deroubaix, Patrick Chazette, and Rémi Meynadier**,** Atmos. Chem. Phys., 18, 2687-2707, https://doi.org/10.5194/acp-18-2687-2018, 2018

Assessing the role of anthropogenic and biogenic sources on PM1 over southern West Africa using aircraft measurements, Joel Brito, Evelyn Freney, Pamela Dominutti, Agnes Borbon, Sophie L. Haslett, Anneke M. Batenburg, Aurelie Colomb, Regis Dupuy, Cyrielle Denjean, Frederic Burnet, Thierry Bourriane, Adrien Deroubaix, Karine Sellegri, Stephan Borrmann, Hugh Coe, Cyrille Flamant, Peter Knippertz, and Alfons Schwarzenboeck, Atmos. Chem. Phys., 18, 757-772, https://doi.org/10.5194/acp-18-757-2018, 2018

Interactions of atmospheric gases and aerosols with the monsoon dynamics over the Sudano-Guinean region during AMMA, Adrien Deroubaix, Cyrille Flamant, Laurent Menut, Guillaume Siour, Sylvain Mailler, Solène Turquety, Régis Briant, Dmitry Khvorostyanov, and Suzanne Crumeyrolle, Atmos. Chem. Phys., 18, 445-465, https://doi.org/10.5194/acp-18-445-2018, 2018