

## LISTE DE PUBLICATIONS

T. Lebel

### **Articles dans des Revues Scientifiques Internationales**

#### **2023 (2/111)**

- 23.1 Chagnaud, G., Panthou, G., Vischel, T., & Lebel, T., 2023. Capturing and Attributing the Rainfall Regime Intensification in the West African Sahel with CMIP6 Models. *J. Climate*, 36, 1823-1843. DOI: 10.1175/JCLI-D-22-0412.1
- 23.2 Chagnaud, G., et al. 2023. Global assessment of the speed of change in rainfall extreme frequency. Soumis

#### **2022 (2/109)**

- 22.1 Chagnaud, G., Panthou, G., Vischel, T., & **Lebel, T.**, 2022. A synthetic view of rainfall intensification in the West African Sahel. *Environmental Research Letters*, 17(4), 044005, <https://doi.org/10.1088/1748-9326/ac4a9c>
- 22.2 Segura, H., J.-C. Espinoza, C. Junquas, **T. Lebel**, M. Vuille, T. Condom, 2022. Extreme austral winter precipitation events over the South-American Altiplano: Regional Atmospheric Features. *Climate Dynamics*, [10.1007/s00382-022-06240-1](https://doi.org/10.1007/s00382-022-06240-1)

#### **2021 (3/107)**

- 21.1 Chagnaud, G., Panthou, G., Vischel, T., Blanchet, J., & **Lebel, T.** (2021). A unified statistical framework for detecting trends in multi-timescale precipitation extremes: application to non-stationary intensity-duration-frequency curves. *Theoretical and Applied Climatology*, 145:839-860. doi : 10.1007/s00704-021-03650-9
- 21.2 Wilcox, C., Aly, C., Vischel, T., Panthou, G., Blanchet, J., Quantin, G., & **Lebel, T.** (2021). Stochastorm: A stochastic rainfall simulator for convective storms. *Journal of Hydrometeorology*, 22(2), 387-404.
- 21.3 Mathy S., Labussière O., Lavorel, S., **Lebel T.**, Schmitt, B., 2021. Les enjeux de l'inter-disciplinarité de la recherche et des parcours de formation sur le changement climatique. *NSS*, doi : 10.1051/nss/2021017

#### **2020 (2/104)**

- 20.1 Chagnaud, G., Gallée, H., **Lebel T.**, Panthou G., Vischel T., 2020. A boundary forcing sensitivity analysis of the West African Monsoon simulated by the Modèle Atmosphérique Régional. *Atmosphere*, 11, 191; doi:10.3390/atmos11020191
- 20.2 Segura, H., J.-C. Espinoza, C. Junquas, **T. Lebel**, M. Vuille, R. Garrreaud, 2020. Recent changes in the precipitation-driving processes over the southern tropical Andes/western Amazon. *Climate Dynamics*, <https://doi.org/10.1007/s00382-020-05132-6>

#### **2019 (3/ 102)**

- 19\_1. Segura, H., C. Junquas, J.-C. Espinoza, M. Vuille, L. Jauregui, A. Rabatel, T. Condom, **T. Lebel**, 2019. New insights into the rainfall variability in the tropical Andes at seasonal and interannual time scale. *Climate Dynamics*, [doi.org/10.1007/s00382-018-4590-8](https://doi.org/10.1007/s00382-018-4590-8).
- 19\_2. Wendling, V. et al., 2019. Drought induced regime shift and resilience of a Sahelian ecohydrological system. *Environ. Res. Lett.*, 14 105005, <https://doi.org/10.1088/1748-9326/ab3dde>
- 19\_3. Vischel T., Panthou G., Peyrillé P., Roehrig R., Quantin Guillaume, **Lebel Thierry**, Wilcox Catherine, Beucher F., Budiarti M. Precipitation extremes in the West African Sahel : recent evolution and physical mechanisms. In : Venugopal V. (ed.), Sukhatme J. (ed.), Murtugudde R.

(ed.), Roca R. (ed.) *Tropical extremes : natural variability and trends*. Amsterdam : Elsevier, 2019, p. 95-138. ISBN 978-0-12-809248-4

## 2018 (4 / 99)

- 18\_1. Panthou G., **Lebel T.**, Vischel T., Quantin G., Ba A., Sane Y., Ndiaye O., Diongue-Niang A., Diopkane M, 2018. Rainfall intensification in tropical semi-arid regions: the Sahelian case. *Environmental Research Letters*, **13** (6), 064013, <https://doi.org/10.1088/1748-9326/aac334>.
- 18\_2. Sane, Y., Panthou, G., Bodian, A., Vischel, T., **Lebel, T.**, Dacosta, H., Quantin, G., Wilcox, C., Ndiaye, O., Diongue-Niang, A., and Diop Kane, M., 2018. Intensity-duration-frequency (IDF) rainfall curves in Senegal, *Nat. Hazards Earth Syst. Sci.*, **18**, 1849-1866, <https://doi.org/10.5194/nhess-18>.
- 18\_3. Junquas, C., K. Takahashi, T. Condom, J-C Espinoza, S. Chavez, J-E Sicart, **T. Lebel**, 2018. Understanding the influence of orography over the precipitation diurnal cycle and the associated atmospheric processes in the central Andes. *Climate Dynamics*, **50(11-12)**, 3995-4017. [DOI 10.1007/s00382-017-3858-8](https://doi.org/10.1007/s00382-017-3858-8).
- 18\_4. Galle et al. 2018. AMMA-CATCH, a critical zone observatory in West Africa, monitoring a region in transition. *Vadose Zone Journal* <https://doi.org/10.2136/vzj2018.03.0062>

## 2017 (5 / 95)

- 17\_1. Getirana A., Boone A., Peugeot C., Cappelaere B., Demarty J., Séguis L., Velluet C., Chaffard V., Galle S., **Lebel T.**, Quantin G., Mougin E., et al. , 2017. Streamflows over a West African Basin from the ALMIP2 model ensemble. *Journal of Hydrometeorology*, **18** (7), 1831-1845. ISSN 1525-755X
- 17\_2. Grippa M., Kergoat L., Boone A., Peugeot Christophe, Demarty Jérôme, Cappelaere Bernard, Gal Laëtitia, Hiernaux P., Mougin Eric, Ducharne A., Dutra E., Anderson M., Hain C., ALMIP Working Group, Séguis L., Velluet C., Chaffard V., Galle S., **Lebel T.**, Quantin G., 2017. Modeling surface runoff and water fluxes over contrasted soils in the pastoral Sahel : evaluation of the ALMIP2 land surface models over the gourma region in Mali. *Journal of Hydrometeorology*, **18** (7), 1847-1866. ISSN 1525-755XD.
- 17\_3. J Parker, A. Kassimou, B. N Orji, D. P. Osika, I. Hamza, M. Diop-Kane, A. Fink, J. Galvin, F. Guichard, B. L Lamptey, H. Hamidou, R. van der Linden, R. Redl, **T. Lebel**, C. Tubbs, 2017. ; in *Meteorology of Tropical West Africa: The Forecasters' Handbook*, 130-174. John Wiley & Sons, Ltd
- 17\_4. Gaillardet, J., I., Braud,, F., Hankard & **T. Lebel**, 2017. OZCAR. Une infrastructure de recherche au service de la communauté des sciences de la Terre et de l'Environnement. *Géologues*, **195**, 138, 142
- 17\_5. Vischel T., **Lebel Thierry**, Panthou G., **Quantin Guillaume**, Rossi A., Martinet M. The return of a wet period in the Sahel ? : observations and prospects. In : **Sultan Benjamin (ed.)**, **Lalou Richard (ed.)**, Amadou Sanni M. (ed.), Oumarou A. (ed.), Soumaré M.A. (ed.) *Rural societies in the face of climatic and environmental changes in West Africa*. Marseille : IRD, 2017, p. 43-60. (Synthèses). ISBN 978-2-7099-2424-5. <http://www.documentation.ird.fr/hor/fdi:010074963>

## 2016 (1 / 90)

- 16\_1. Makris, A., Prieur, C., Vischel, T., Quantin, G., **Lebel, T.**, Roca R., 2016. Stochastic tracking of mesoscale convective systems: evaluation in the West African Sahel. *Stoch Environ Res Risk Assess*, **30**: 681. <https://doi.org/10.1007/s00477-015-1102-9>

## 2015 (5 / 89)

- 15\_1. Louvet S., T. Pellarin, A. Bitar, B. Cappelaere, S. Galle, M. Grippa, C. Gruhier, Y. Kerr, **T. Lebel**, A. Mialon, E. Mougin, G. Quantin, P. Richaume, P. de Rosnay, 2015. SMOS soil moisture product evaluation over West-Africa from local to regional scale. *Remote Sensing of Environment*, **156**, 383-394.

- 15\_2.** Gascon, T., T. Vischel, **T. Lebel**, G. Quantin, T. Pellarin, V. Quatela, D. Leroux, S.Galle , 2015. Influence of rainfall space-time variability over the Ouémé basin in Benin. *P. Int. Assoc. Hydrolog. Sci.*, **368**, 102–107, doi:10.5194/piahs-368-102-2015..
- 15\_3.** Mourre, L., T. Condom, C. Junquas, **T. Lebel**, J. E. Sicart, R. Figueroa, A. Cochachin, 2015. Spatio-temporal assessment of WRF, TRMM and in situ precipitation data in a tropical mountain environment (Cordillera Blanca, Peru). *Hydrol. Earth Syst. Sci.*, **20**, 125-141.
- 15\_4.** A Gutiérrez-López, T Lebel, I Ruiz-González, L. Descroix, M. Duhne-Ramírez Prediction of hydrological risk for sustainable use of water in Northern Mexico. In *Sustainability of Integrated Water Resource Management*, pp 245-271. Springer, Cham Ed
- 15\_5.** Reinert M., Janicot Serge (ed.), Aubertin Catherine (ed.), Bernoux Martial (ed.), Doumias Edmond (ed.), Guégan Jean-François (ed.), **Lebel Thierry (ed.)**, Mazurek Hubert (ed.), Sultan Benjamin (ed.), Sokona Y. (pref.), Moatti Jean-Paul (pref.). *Changement climatique : quels défis pour le Sud ?*. Marseille : IRD, 2015, 272 p. (Beaux-Livres). ISBN 978-2-7099-2168-8

## 2014 (2 / 84)

- 14\_1.** Panthou G., T. Vischel, **T. Lebel**, 2014. Recent trends in the regime of extreme rainfall in the West African Sahel. *International Journal of Climatology*, DOI: 10.1002/joc.3984.
- 14\_2.** Panthou G., T. Vischel, **T. Lebel**, G. Quantin, G. Molinié. Space-time structure characterization of extreme rainfall: IDAF curves estimation in the Sahel. *Hydrology and Earth System Sciences* **18** (12), 5093-5107

## 2013 (1 / 82)

- 13\_1.** Panthou G., T. Vischel, **T. Lebel**, G. Quantin, A.-C. Favre, J. Blanchet, A. Ali, 2013. From pointwise testing to a regional vision: an integrated statistical approach to detect non stationarity in extreme daily rainfall. Application to the Sahelian region. *Journal of Geophysical Research*, 118, 8222-8237, doi:10.1002/jgrd.50340.

## 2012 (7 / 81)

- 12\_1.** Descroix L., Laurent J. P., Vauclin M., Amogu O., Boubkraoui S., Ibrahim B., Galle S., Cappelaere B., Bousquet S., Mamadou I., Le Breton E., **Lebel T.**, Quantin G., Ramier D., Boulain N., 2012. Experimental evidence of deep infiltration under sandy flats and gullies in the Sahel. *J. Hydrol.*, **424–425**, 1–15
- 12\_2.** Jabot, E., I. Zin, **T. Lebel**, A. Gautheron, C. Obled, 2012. Spatial interpolation of sub-daily air temperatures for snow and hydrologic applications in mesoscale Alpine catchments. *Hydrological Processes*, **26**, 2618-2630
- 12\_3.** Panthou G., T. Vischel, **T. Lebel**, J. Blanchet, G. Quantin, A. Ali, 2012. Extreme rainfall in West Africa: A regional modeling. *Water Resources Research*, **48**, W08501, doi:10.1029/2012WR012052
- 12\_4.** Hingray B., J.-P. Dedieu, **T. Lebel**, C. Obled, J.-E. Sicart, D. Six, C. Vincent, P. Wagnon, I. Zin Observations glaciologiques hydrométéorologiques en zone de montagne : quelques problématiques et perspectives actuelles. *La Houille Blanche*, **2**, DOI 10.1051/lhb/2012009.
- 12\_5.** Peugeot C., O. Bock, A. Boone, B. Cappelaere, M. Gosset, R. Meynadier, L. Séguis, T. Lebel, J.-L. Redelsperger. Le cycle de l'eau dans le système de mousson d'Afrique de l'Ouest. *La Météorologie, Série 8*, 2012, 55-63.
- 12\_6.** Janicot S., J.-L. Redelsperger, T. Lebel. The West African monsoon: Introduction to some contributions of the AMMA multidisciplinary study programme. *La Météorologie, Série 8*, 2012, 1-8
- 12\_7.** Lawin, EA, A Afouda, PG Oguntunde, M Gosset, T Lebel, 2012. Rainfall variability at regional and local scales in the Ouémé upper valley in Benin. *Int. J. Sci. Adv. Technol.*, **2**, 46-55

## **2011 (8 / 74)**

- 11\_1. Lebel, T., Parker, D.J., Flamant, C., Höller, H., Polcher, J., Redelsperger, J.-L. et al., 2011. The AMMA Field Campaigns: accomplishments and lessons learned. *Atmospheric Science Letters.*, **12**(1), 123-128.
- 11\_2. Massuel, S., Cappelaere, B., Favreau, G., Leduc, C., Lebel, T., Vischel T., 2011. Integrated surface-groundwater modelling in the context of increasing water reserves of a Sahelian aquifer. *Hydrol. Sci. J.* **56**(7), 1242-1264.
- 11\_3. Paeth, H., et al., 2011. Progress in regional downscaling of West African precipitation. *Atmospheric Science Letters.*, **12**(1), 75-82.
- 11\_4. Pierre, C., G. Bergametti, B. Marticorena, E. Mougin, T. Lebel and A. Ali. Pluriannual comparisons of satellite based rainfall products over the Sahelian belt for seasonal vegetation modelling. *J. Geoph. Res.*, **116**, p. D18201.
- 11\_5. Polcher, J., et al., 2011. AMMA's contribution to the evolution of prediction and decision-making systems for West Africa. *Atmospheric Science Letters.*, **12**(1), 2-6.
- 11\_6. Seguis, L. et al., 2011 Contrasted land-surface processes along the West African rainfall gradient. *Atmospheric Science Letters.*, **12**(1), 31-37.
- 11\_7. Vischel T., Quantin G., Lebel T., Viarre J., Gosset M., Cazenave, F., Panthou, G., 2011. Generation of high resolution rainfields in West Africa: evaluation of dynamical interpolation methods. *Journal of Hydrometeorology*, doi:10.1175/JHM-D-10-05015.1
- 11\_8. Gutierrez-Lopez A., Ramirez A. I., Lebel T., Santillan O., Fuentes C., 2011. El variograma y el correlograma, dos estimadores de la variabilidad de mediciones hidrológicas = Variogram and correlogram, two proposed estimators of the hydrological variability measurement. *Revista Facultad de Ingenieria*, **59**, 193-202.

## **2010 (4 / 66)**

- 10\_1. Cairo, F., J. P. Pommereau, K. S. Law, H. Schlager, A. Garnier, F. Fierli, M. Ern, M. Streibe, S. Arabas, S. Borrmann, J. J. Berthelier, C. Blom, T. Christensen, F. D'Amato, G. Di Donfrancesco, T. Deshler, A. Diedhiou, G. Durry, O. Engelsen, F. Goutai, N. R. P. Harris, E. R. T. Kerstel, S. Khaykin, P. Konopka, A. Kylling, N. Larsen, T. Lebel, et al., 2010. An introduction to the SCOUT-AMMA stratospheric aircraft, balloons and sondes campaign in West Africa, August 2006: rationale and roadmap. *Atmos. Chem. Phys.*, **10**, 2237-2256.
- 10\_2. Kassimou, A., Parker, D.J., Brooks, B., Kalthoff , N. and Lebel, T., 2010. The diurnal cycle of lower boundary layer wind in the West African monsoon. *Q. J. R. Meteorol. Soc.*, **136** (S1), 66-76 (doi:10.1002/qj.536).
- 10\_3. Lebel, T., Parker, D.J., Flamant, C., Bourles, B., Marticorena, M., Mougin, E., Peugeot, C., Diedhiou, A., Haywood, J.M., Ngamini, J.B. et al., 2009. The AMMA field campaigns: Multiscale and multidisciplinary observations in the West African region. *Q. J. R. Meteorol. Soc.*, **136** (S1), 8-33 (DOI: 10.1002/qj.486).
- 10\_4. Russell, B., Williams, E., Gosset, M., Cazenave, F., Descroix, L., Lebel, T., Ali, A. and Metayer, F., 2009. Radar-Raingage comparisons on squall lines in Niamey, Niger for the AMMA. *Q. J. R. Meteorol. Soc.*, **136** (S1), 289-303 (DOI: 10.1002/qj.548).

## **2009 (8 / 62)**

- 09\_1. Ali A., T. Lebel, 2009. The Sahelian standardized rainfall index revisited. *International Journal of Climatology*, **29** (4), 1705-1714.
- 09\_2. Cappelaere, C., Descroix, L., Lebel, T., Boulain, N., Ramier, D., Laurent, J.-P., Le Breton, E., I., M., Boubkraoui, S., Bouzou Moussa, I., 2009. The AMMA Catch observing system in the cultivated Sahel of South West Niger- Strategy, Implementation and Site conditions. *J. Hydrol.*, **375**(1-2): 34-51.
- 09\_3. Descroix, L., Mahé, G., Lebel, T., Favreau, G., Galle, S., Gautier, E., Olivry, J.-C., Albergel, J., Amogu, O., Cappelaere, B. et al., 2009. Spatio-Temporal Variability of Hydrological Regimes Around the Boundaries between Sahelian and Sudanian Areas of West Africa: A Synthesis. *J. Hydrol.*, **375**(1-2): 90-102.
- 09\_4. Frappart, F., Mougin, E., Guichard, F., Kergoat, L., Hiernaux, P., Arjounin, M., Lavenu, F. and Lebel, T., 2009. Rainfall regime over the Sahelian climate gradient in the Gourma. *J. Hydrol.*, **375**(1-2): 128-142.
- 09\_5. Lebel, T. and Ali, A., 2009. Recent trends in the Central and Western Sahel rainfall regime (1990 - 2007). *J. Hydrol.*, **375**(1-2): 52-64.

- 09\_6.** Lebel, T., Cappelaere, C., Galle, S., Hanan, N., Kergoat, L., Levis, S., Vieux, B., Descroix, L., Gosset, M., Mougin, E., 2009. AMMA-CATCH studies in the Sahelian region of West-Africa: an overview. *J. Hydrol.*, **375**(1-2): 3-13.
- 09\_7.** Mougin, E., Hiernaux, P., Kergoat, L., Grippa, M., de Rosnay, P., Timouk, F., Le Dantec, V., Demarez, V., Lavenu, F., Arjounin, M., Lebel, T. et al., 2009. The AMMA-CATCH Gourma observatory site in Mali: Relating climatic variations to changes in vegetation, surface hydrology, fluxes and natural resources. *J. Hydrol.*, **375**(1-2): 14-33
- 09\_8.** Vischel, T., Lebel, T., Massuel, S. and Cappelaere, B., 2009. Conditional simulation schemes of rain fields and their application for rainfall runoff modeling studies in the Sahel. *J. Hydrol.*, **375**(1-2): 273-286.

## 2008 (4 / 54)

- 08\_1.** Ali A., T. Lebel, A. Amani, 2008. Signification et usage de l'indice pluviométrique au Sahel. *Sécheresse*, **19** (4), 227-235
- 08\_2.** Janicot, S., C. Thorncroft, A. Ali, N. Asencio, G. Berry, O. Bock, B. Bourles, G. Caniaux, F. Chauvin, A. Deme, L. Kergoat, J.-P. Lafore, C. Lavaysse, T. Lebel, B. Marticorena, F. Mounier, J.-L. Redelsperger, C. Reeves, R. Roca, P. de Rosnay, B. Sultan, M. Tomasini, 2008. Large-scale overview of the summer monsoon over West and Central Africa during the AMMA field experiment in 2006, *Annales Geophysicae*, **26**, 2569-2595.
- 08\_3.** Parker, D. J., A. Fink, S. Janicot, J.-B. Ngamini, M. Douglas, E. Afiesimama , A. Agusti-Panareda, A. Beljaars, F. Dide , A. Diedhiou , T. Lebel, J. Polcher, J.-L. Redelsperger, C. Thorncroft, G. Wilson, 2008. The AMMA radiosonde program and its implications for the future of atmospheric monitoring over Africa, *Bulletin of the American Meteorological Society*, **89**, 1015-1027.
- 08\_4.** Lebel, T. et J.-L. Redelsperger, 2008. Le projet AMMA, un exemple d'étude intégré et multidisciplinaire sur un système climatique régional. *La Houille Blanche*, **2-2008**, 1-7

## 2007 (1 / 50)

- 07\_1** Vischel, T. and T. Lebel, 2007. Assessing the water balance in the Sahel: Impact of small scale rainfall variability on runoff Part 2: Idealized simulation of runoff sensitivity. *J. Hydrol.*, **333**(2-4), 340-355.

## 2006 (5 / 49)

- 06\_1.** Balme, M., T. Vischel, T. Lebel, C. Peugeot, S. Galle, 2006. Assessing the water balance in the Sahel: Impact of small scale rainfall variability on runoff Part 1: Rainfall variability analysis. *J. Hydrol.*, **331**, 336-348.
- 06\_2.** Balme, M., T. Lebel et A. Amani, 2006. Dry years and wet years in the Sahel: quo vadimus? *Hydrological Sciences–Journal*, **51**(2), 254- 271.
- 06\_3.** Lavaysse, C., A. Diedhiou, H. Laurent and T. Lebel, 2006. African Easterly Waves and convective activity in wet and dry sequences of the West African Monsoon. *Climate Dynamics*, DOI: **10.1007/s00382-006-0137-5**.
- 06\_4.** Redelsperger, J.-L., C. Thorncroft, A. Diedhiou, T. Lebel, D. Parker, J. Polcher, 2006. African Monsoon, Multidisciplinary Analysis (AMMA): An International Research Project and Field Campaign, *Bulletin of the American Meteorological Society*, **87**(12), 1739-1746.
- 06\_5.** Redelsperger, J.-L., A. Diedhiou, C. Flamant, S. Janicot, JP Lafore, T. Lebel, et al., 2006. AMMA: un projet international et multidisciplinaire d'étude de la mousson ouest africaine, *La Météorologie*, **54**, 22-32

## 2005 (4 / 44)

- 05\_1.** Ali A., T. Lebel, A. Amani, 2005. Rainfall estimation in the Sahel. Part 1: Error Function. *J. of Applied Meteor.*, **44** (11), 1691-1706.
- 05\_2.** Ali A., A. Amani, A. Diedhiou, T. Lebel, 2005. Rainfall estimation in the Sahel. Part 2: Evaluation of Raingauge Networks in the CILSS Countries and Objective Intercomparison of Rainfall Products. *J. of Applied Meteor.*, **44** (11), 1707-1722.
- 05\_3.** Baron, C., B. Sultan, M. Balme, B. Sarr, S. Traore, T. Lebel, S. Janicot and M. Dingkuhn. 2005. From GCM Grid Cell to Agricultural Plot: Scale Issues affecting Modelling of Climate Impact. *Phil. Trans. Royal. Soc. B.*, doi:10.1098/rstb.2005.1741.

- 05\_4.** Balme, M., S. Galle et **T. Lebel**, 2005. Démarrage de la saison des pluies au Sahel: variabilité aux échelles hydrologique et agronomique, analyse à partir des données EPSAT-Niger. *Sécheresse*, **16**(1), 15-22

#### **2004 (4 / 40)**

- 04\_1** **Lebel, T.** et T. Vischel, 2004. Climat et cycle de l'eau en zone tropicale : un problème d'échelle. *CR Acad. Sciences, Géosciences*, **337**, 29-38
- 04\_2** Onibon H., **T. Lebel**, A. Afouda, G. Guillot, 2004. Gibbs sampling for conditional spatial disaggregation of rain fields, *Water Resources Research*, **40**, W08401, doi: 10.1029.
- 04\_3** Gallée H., W. Moufouma-Okia, P. Marbaix, C. Messager, R. Ramel and **T. Lebel**, 2004. A high-resolution simulation of a West African rainy season using a regional climate model. *J. Geophys. Res.*, **109 (D05108)**, doi:10.1029/2003JD004020.
- 04\_4** Ali A., **T. Lebel**, A. Amani, 2004. Estimation des pluies au Sahel : utilisation d'un modèle d'erreur pour évaluer réseaux sol et produits satellitaires. *Sécheresse*, **15**(3), 1-8.

#### **2003 (3 / 36)**

- 03\_1** Ali, A., **T. Lebel**, A. Amani, 2003. Invariance in the spatial structure of Sahelian rainfields at climatological scales. *J. of Hydrometeor.*, **4**(6), 996-1011.
- 03\_2** **Lebel, T.**, A. Didhiou and H. Laurent, 2003. Seasonal cycle and interannual variability of the Sahelian rainfall at hydrological scales. *J. Geoph. Res.*, **108(D8)**, 8389, doi:10.1029.
- 03\_3** Bouvier, C., L. Cisneros, R. Dominguez, J.-P. Laborde and **T. Lebel**, 2003. Generating rainfall fields using principal components (PC) decomposition of the covariance matrix: a case study in Mexico City. *J. Hydrol.*, **278**(1-4), 107-120.

#### **2002 (3 / 33)**

- 02\_1** Mathon V., H. Laurent and **T. Lebel**, 2002. Mesoscale convective system rainfall in the Sahel, 2002. *J. of Applied Meteor.*, **41**, 1081-1092
- 02\_2** Le Barbé, L., **T. Lebel**, and D. Tapsoba, 2002. Rainfall variability in West Africa during the years 1950-1990. *J. Climate*, **15**(2), 187-202.
- 02\_3** Brasseur, O., H Gallée, JD Creutin, T Lebel, P Marbaix, 2002. High resolution simulations of precipitation over the Alps with the perspective of coupling to hydrological models. in *Climatic Change: Implications for the Hydrological Cycle and for Water Management*. pp 75-99. Springer, Dordrecht ed.

#### **2001 (1 / 30)**

- 01\_1** Descroix, L., J.-F. Nouvelot, J. Estrada et **T. Lebel**, 2001 : Complémentarité et convergences de méthodes de régionalisation des précipitations. Application à une région endoréique du Nord-Mexique. *Revue des Sciences de l'Eau*, **14** (3): 281-305.

#### **2000 (1 / 29)**

- 00\_1** **Lebel, T.**, F. Delclaux, L. Le Barbé and J. Polcher, 2000 : From GCM scales to hydrological scales : rainfall variability in West Africa. *Stochastic Environ. Research and Risk Assessment* (**14**) 275-295.

#### **1991-1999 (23 / 28)**

- 9\_1.** Guillot, G. and **T. Lebel**, 1999. Disaggregation of Sahelian mesoscale convective system rainfields: further developments and validation. *J. Geoph. Res.*, **104 (D24)**, 31533-31551.
- 9\_2.** **Lebel, T.**, A. Amani, 1999. Rainfall estimation in the Sahel: what is the ground truth? *J. of Applied Meteor.*, **38**, 555-567.
- 9\_3.** Guillot, G. and **T. Lebel**, 1999. Sahelian rainfall field modelling with a quasi meta-Gaussian distribution. 2: parameter estimation and comparison to data. *Stochastic Environ. Research and Risk Ass.*, **13**: 113-130
- 9\_4.** Laurent H., N. D'Amato and **T. Lebel**, 1998. How important is the contribution of the Mesoscale Convective Complexes to the Sahelian rainfall ? *Phys. Chem. Earth*, **23**, 629-633.
- 9\_5.** Amani, A. and **T. Lebel**, 1998. Relationship between point rainfall, average sampled rainfall and ground truth at the event scale in the Sahel. *Stochastic Hydrol. and Hydraulics*, **12**(2), 141-153.

- 9\_6.** Taylor, C. and **T. Lebel**, 1998 : Observational evidence of persistent convective scale rainfall patterns. *Monthly Weather Rev.*, **126**, 1597-1607.
- 9\_7.** Lebel, T., I. Braud and J-D. Creutin, 1998. A space-time disaggregation model adapted to Sahelian squall lines. *Water Resources Research*. **34**(7), 1711-1726.
- 9\_8.** D'Amato, N., **T. Lebel**, 1998. On the characteristics of the rainfall events in the Sahel with a view to the analysis of climatic variability. *International Journal of Climatology*. **18**, 955-974.
- 9\_9.** Amani A., **T. Lebel** 1997,. Lagrangian Kriging for the Estimation of Sahelian Rainfall at small time steps. *Journal of Hydrology*. **192**, 125-157.
- 9\_10.** Taylor, C., F. Said and **T. Lebel**, 1997 : Interactions between the land surface and mesoscale rainfall variability during HAPEX-Sahel. *Monthly Weather Rev.*, **125**(9), 2211-2227.
- 9\_11.** LeBarb  , L. and **Lebel**, T., 1997. Rainfall climatology of the HAPEX-Sahel region during the years 1950-1990. *Journal of Hydrology*. **188-189**, 43-73.
- 9\_12.** **Lebel**, T. and LeBarb   L., 1997. Rainfall monitoring during HAPEX-Sahel :2. Point and areal estimation at the event and seasonal scales. *Journal of Hydrology*. **188-189**, 97-122.
- 9\_13.** **Lebel**, T., Taupin, J.D. and D'Amato, N., 1997. Rainfall monitoring during HAPEX-Sahel: 1. General rainfall conditions and climatology. *Journal of Hydrology*. **188-189**, 74-96.
- 9\_14.** Desconnets J.C., Taupin, J.D., **Lebel** T., and Leduc C., 1997. Hydrology of the HAPEX-Sahel central Super-Site: surface water drainage and aquifer recharge through the pool systems. *Journal of Hydrology*. **188-189**, 155-178.
- 9\_15.** Vandervaere, J.P., C. Peugeot, M. Vauclin, R. Angulo Jaramillo and **T. Lebel**, 1997, Estimating hydraulic conductivity of crusted soils using disc infiltrometers and minitensiometers. *Journal of Hydrology*. **188-189**, 203-223.
- 9\_16.** Wai, M.K., E.A. Smith, P. Bessemoulin, A.D. Culf, A.J. Dolman, and **T. Lebel**, 1997. Variability in Boundary Layer Structure during HAPEX-Sahel wet-dry season transition. *Journal of Hydrology*. **188-189**, 965-997.
- 9\_17.** A.J. Dolman, J.H.C. Gash, J-P, Goutorbe, Y. Kerr, **T. Lebel**, S.D. Prince and J.M.M. Stricker, 1997. The role of the land surface in sahelian climate: hapex-sahel results and future research needs. *Journal of Hydrology*. **188-189**, 1067-1079.
- 9\_18.** Goutorbe, J.-P., **Lebel**, T., Dolman, A.J., Gash, J.H.C., Kabat, P., Kerr, Y., Montey, B., Prince, S.D., Stricker, J.M.M., Tinga, A. and Wallace, J.S., 1997. An overview of HAPEX-Sahel : a study in climate and desertification. *J. Hydrol.*, **188-189**, 4-17.
- 9\_19.** Amani A., **T. Lebel**, J. Rousselle, and J.D. Taupin,1996. Typology of Rainfall Fields to Improve Rainfall Estimation in the Sahel by the ATI Method. *Water Resources Research*, **32**(8), 2473-2487.
- 9\_20.** Prince S., Y.H. Kerr, J.P. Goutorbe, **T. Lebel**, A. Tinga, P. Bessemoulin, J. Brouwer, H. Dolman, E.T. Engman, J.H.C. Gash, M. Hoepffner, P. Kabat, B. Monteny, F. Sa  d, P. Sellers, and J. Wallace, 1995. Geographical, biological and remote sensing aspects of the Hydrologic Atmospheric Pilot Experiment in the Sahel (HAPEX-SAHEL). *Remote Sensing of Environment*, **51**, 215-234 .
- 9\_21.** Goutorbe, J.P., **T. Lebel**, A. Tinga, P. Bessemoulin, J. Brouwer, H. Dolman, E.T. Engman, J.H.C. Gash, M. Hoepffner, P. Kabat, Y.H. Kerr, B. Monteny, S. Prince, F. Sa  d, P. Sellers, and J. Wallace, 1994. HAPEX-SAHEL : a large-scale study of land-atmosphere interactions in the semi-arid tropics. *Ann. Geophysicae*. **12**, 53-64
- 9\_22.** **Lebel**,T., H. Sauvageot, M. Hoepffner,M. Desbois, B. Guillot and P. Hubert, 1992. Rainfall estimation in the Sahel: the EPSAT-NIGER experiment. *Hydrological Sciences Journal* **Vol. 37**(3), 201-215.
- 9\_23.** Thauvin V., and **T. Lebel**, 1991. EPSAT-NIGER: study of rainfall over the Sahel at small time steps using a dense network of recording raingauges. *Hydrological Processes*, **Vol. 5**, 251-260.

## 1985-1989 (5 / 5)

- 8\_1.** Roux C., **T. Lebel**, C. Depraetere et H. Andrieux, 1989. Simulation des echos de sol d'un radar m  t  orologique    l'aide d'un Mod  le Num  rique de Terrain. *Hydrologie Continentale*. **Vol. 4** (2),139-149.
- 8\_2.** Creutin D., Delrieu, G. and **T. Lebel**, 1988. Raingauge Radar Rainfall Measurement Using a Geostatistical Approach. *Journal of Atmospheric and Oceanic Technology*. **Vol. 5**(1), 102-115 .

- 8\_3. **Lebel T.** et J.P. Laborde, 1988. Areal Rainfall Statistic Assessment : a Geostatistical Approach. *Stochastic Hydrology and Hydraulics*. **Vol. 2 (4)**, 245-261.
- 8\_4. **Lebel T.**, G. Bastin, C. Obled and D. Creutin, 1987. On the accuracy of areal rainfall estimation : a case study. *Water Ressources research*. **Vol. 23(11)**, 2123-2138.
- 8\_5. **Lebel T.**, and G. Bastin, 1985. Variogram Identification by the Mean-square Interpolation Error Method with Application to Hydrologic Fields. *Journal of Hydrology*. **Vol. 77**, 31-56.

## **Articles dans autres Revues Scientifiques à Comité de Lecture**

Redelsperger, J.-L., A. Diedhiou, C. Flamant, S. Janicot, JP Lafore, **T. Lebel**, et al., 2006. AMMA: un projet international et multidisciplinaire d'étude de la mousson ouest africaine, *La Météorologie*, **54**, 22-32

Hubert P., P. Fouéré, **T. Lebel**. 1991. Influence de l'échantillonnage des intensités pluviométriques sur l'estimation des précipitations cumulées. *Veille Climatique Satellitaire*, **38**, 50-56

## **Articles "invités"**

Parker, D.J., T. Lebel, B. Bourlès, Overview of the AMMA observing campaigns, *CLIVAR Exchanges Letters*, Vol. 12, n°2, 4-6, April 2007.

AS5 **Lebel T.**, 2004. Comprendre le climat et son évolution. *La Fayolle*, **38**, 20-23.

AS4 **Lebel T.**, J.-L. Redelsperger and C. Thorncroft, 2003. African Monsoon Multidisciplinary (AMMA) : An international research project and field campaign. *Exchanges*, **27(8)**, 52-54.

AS3 **Lebel T.**, J.-L. Redelsperger and C. Thorncroft, 2003. The African Monsoon Multidisciplinary (AMMA). *GEWEX Newsletter*, **13(4)**, 8-9.

AS2 **Lebel T.**, 2003. Comprendre le climat et son évolution. *Marchés tropicaux*, xxx-xxx.

AS1 **Lebel T.**, J. Lecocq, F. Cazenave, J.D. Taupin, M. Gréard, et L. Le Barbé, 1995. Vers une meilleure compréhension des fluctuations pluviométriques au Sahel : l'expérience EPSAT-Niger. *Rapport quadriennal 1991-1995 du Comité National Français de Géodésie et de Géophysique* (CNFGG éditeur) pour la XXIeme assemblée générale de l'IUGG (Boulder, Juillet 1995), 225-236.

## **Contributions à ouvrages**

- B5 Xue, X., R.W.A. Hutjes, R. Harding, M; Claussen, S. Prince, **T. Lebel**, E. Lambin, S. Allen and P. Dirmayer, 2004. The Sahelian Climate. In *Kabat et al. Ed. Vegetation, water, humans and the Climate: a new perspective on an interactive system*, Springer Verlag, A.5 pp 59-77.
- B4 Brasseur O., Gallée H., Creutin J.-D., **Lebel T.**, and Marbaix P., 2002. High resolution simulations of precipitation over the Alps with the perspective of coupling with a hydrological model. *Advances in Global Change Research*, Kluwer Academic Publishers. pp 75-100.
- B3 Sircoulon, J. and **T. Lebel**, 1996. Assessment of climate variability and change on the hydrology of Africa. in "*Impact of Climate on Hydrologic Regimes: a Global Perspective*", Rapport UNESCO à paraître.

- B2** Desconnets J.C., **T. Lebel** et J.D. Taupin, 1995. Bilan hydrologique de surface durant la période de suivi à long terme de HAPEX-Sahel à partir du suivi des mares temporaires sur une zone test de 600 KM<sup>2</sup>. Paru dans T. Lebel (Ed.) : "*Hydrologie et Météorologie de Méso-échelle dans HAPEX-SAHEL : dispositif de mesures au sol et premiers résultats.*" 69-114. ORSTOM Editions.
- B1** **Lebel T.**, J.D. Taupin, M. Gréard, 1995. Rainfall monitoring : The EPSAT-Niger setup and its use for HAPEX-Sahel. Paru dans T. Lebel (Ed.) : "*Hydrologie et Météorologie de Méso-échelle dans HAPEX-SAHEL : dispositif de mesures au sol et premiers résultats.*" 31-68. ORSTOM Editions.

## **Mémoires de diplômes**

- T. Lebel**, 1997. Variabilité des pluies au Sahel : Observation, Estimation et Modélisation. Mémoire d'Habilitation à Diriger des Recherches. Institut National Polytechnique de Grenoble. Décembre 1997.
- T. Lebel**, 1984. Moyenne Spatiale de la pluie sur un Bassin Versant : Estimation Optimale, Génération Stochastique et Gradex des Valeurs Extrêmes. Thèse de Docteur-Ingénieur. Institut National Polytechnique de Grenoble. Février 1984.

## **Conférences internationales invitées**

Marticorena B., Siour G., Pierre C., Bouet C., Bergametti G., Abdourhamane Touré A., Baron C., Bouniol D., Couvreux F., Guichard F., Grippa M., Hiernaux P., Kergoat L., Largeron Y., Lebel T., Mougin E., Quantin G., Rajot J.L., Roussillon J., Tidjani A.D., Valentin C., Vischel T., Impact of land use on wind erosion and dust emission in the Sahel: a regional modelling approach, *International Conference on Aeolian Research ICAR X*, 25-29 juin 2018, Bordeaux.

Marticorena B., Siour G., Pierre C., Bouet C., Bergametti G., Abdourhamane Touré A., Baron C., Bouniol D., Couvreux F., Guichard F., Grippa M., Hiernaux P., Kergoat L., Largeron Y., Lebel T., Mougin E., Quantin G., Rajot J.L., Roussillon J., Tidjani A.D., Valentin C., Vischel T., Wind erosion and dust emission in the Sahel: a regional modelling approach to evaluate the impact of climate and land-use, *Enjeux et Actualités des Observatoires de la Zone Critique en Afrique*, 12-14 novembre, Niamey (Niger).

**CI11 Les problèmes d'échelle dans le cycle hydrologique**, *Third Workshop on Contemporary Problems in Mathematical Physics*, Cotonou, 2-6 Novembre 2003

**CI10 Cycle de l'eau, moussons et sécheresses en zone tropicale**, Académie des Sciences, Paris, 15-17 Septembre 2003

**CI9 Les impacts hydrologiques du changement climatique.** Regards croisés sur le changement climatique, Arles, Novembre 2002

**CI8 The West African Monsoon/ A Land - Atmosphere Coupled System.** Desert Research Institute, Renno (USA), Août 2002

**CI7 GEWEX/CLIVAR activities and implications for African climate studies.** 26<sup>th</sup> EGS General Assembly, Nice, 25-29 Mars 2001.

**CI6 West African rainfall variability: Basic knowledge from simple data and simple analysis methods.** 6<sup>th</sup> Int. Conf. on Precipitation, Samoset (USA), 1-3 Juillet 2001.

**CI5 Variabilité pluviométrique en Afrique de l'Ouest: des échelles climatiques aux échelles hydrologiques** Journées J. Cartier, Montréal, Octobre 2000

**CI4 Validation of satellite precipitation estimates. What is the ground Truth ?**. Première conférence MEGHA-TROPIQUES, Bengalure, Mai 1999.

**CI3 From the atmosphere to the earth: how to disaggregate rainfields ?** CPTEC (Centre de Prévision numérique du Temps), Brésil, Juillet 1998.

**CI2 A proposed integrated experiment on the West African Monsoon** CTA, San Jose dos Campos, Brésil, Juillet 1998

**CI1 The Water cycle in the tropics.** University of Oklahoma (USA), Janvier 1998.

## **Communications à des colloques avec publication**

**C51** Marticorena B., Abdourhamane Touré A., Baron C., Bergametti G. , Bouet C., Bouniol D., Campos A. , Couvreux F., Dardel C., Guichard F. Grippa M., Hiernaux P., A., Kergoat L., Lebel T., Mougin E., E., Pennanech, Quantin, G., C., Louis Rajot J.L., G. Siour, Tidjani A.D., Valentin, C., Vischel T. Impact of climate, vegetation and agriculture in the sahel in the recent past :

presentation of the caviars project. ICAR VIII (International Conference on Aeolian Erosion), Juillet 2014, China.

- C50** Lawin E.A., Afouda A., Gosset M., **Lebel T.** Variabilité comparée du régime pluviométrique aux échelles régionale et locale sur la Haute Vallée de l'Ouémé au Bénin. In : **Servat Eric (ed.)**, Demuth S. (ed.), **Dezetter Alain (ed.)**, Daniell T. (ed.), Ferrari E. (collab.), Ijjaali M. (collab.), Jabrane R. (collab.), Van Lanen H. (collab.), Huang Y. (collab.) *Global Change : facing risks and threats to water resources : proceedings of the sixth world FRIEND conference*. Wallingford : IAHS, 2010, (340), p. 61-76. (IAHS Publication ; 340). World FRIEND Conference : Global Change : Facing Risks and Threats to Water Resources, 6., Fez (MAR), 2010/10/25-29. ISBN 978-1-907-161-13-1
- C49** **Ali, A., A. Amani, T. Lebel, S. Ibrahimia**, 2006. Utilisation optimale de l'information pluviométrique des MCGA aux échelles hydrologiques au Sahel. *Proceedings of the FRIEND-2006 conference*, Cuba, November 2006, IAHS, **308**.
- C48** **Descroix, L., O. Amogu, A.-L. Besnier, A. Diedhiou, T. Lebel**, 2005. Silting up of Niger river channel in Niger: a consequence of land use change. *VIIth IAHS Scientific Assembly*, Foz do Iguaçu, Brazil, April 2005, **in press**.
- C47** Lebel, T., A. Ali and A. Amani, 2004. Derivation of an error function for the inter-comparison of various rainfall products- Application to rainfall estimation in the Sahel. *8<sup>th</sup> International Conference on Precipitation*, Vancouver, August 2004.
- C46** Afouda, A., E. Lawin., T. Lebel. A stochastic streamflow model based on the minimum energy expenditure concept, *Proc. of the Third Workshop on Contemporary Problems in Mathematical Physics*, Cotonou, 2-6 Novembre 2003, World Scientific Publishing, pp xx-xx
- C45** Afouda, A., T. Lebel, H. Onibon, W. Sacher, L. Le Barbé, C. Depraetere and G. Alé, 2002. Evidence of scaling properties in West-African rainfall. *Proceedings of the FRIEND-2002 conference*, Le Cap, March 2002, IAHS., **274**, 491-497.
- C44** Onibon, H., T. Lebel and A. Afouda, 2002. Space-time rainfall variability in West Africa as seen from observations and from GCM's. *Proceedings of the FRIEND-2002 conference*, Le Cap, March 2002, IAHS., **274**, 483-490.
- C43** Gutiérrez, A. **T. Lebel**, L. Descroix, 2002. Statistical analysis for modelling the hydrological risks in northern Mexico. IAHR International Symposium on *Hydraulic and Hydrological aspects of reliability and safety assessment of hydraulic structures*, St Petersbourg, Mai 2002. *IAHR pre-published proceedings (CD ROM)*..
- C42** Onibon, H., T. Lebel A. Afouda, and G. Guillot, 2001. Application of the Gibbs sampler to the conditional simulation of rainfields, in : Govaerts J., N. Houkonnou, and A. Z. Msezane (Editors). *Proceedings of 2<sup>nd</sup> Copromaph workshop*, Cotonou (Bénin), Novembre 2001. World Scientific Publishing, pp 314-330.
- C41** Gallée, H., O. Brasseur, W. Moufouma-Okia, A. Diedhiou, P. Marbaix and T. Lebel., 2001. Preliminary simulations of the West African climate using a regional climate model. *7<sup>th</sup> Int. Precip. Conference*, Samoset, Maine (USA), 1-3 Juillet 2001.
- C40** Afouda, A., **T. Lebel** and H. Onibon, 2001. Space-time properties of West African rainfall. *7<sup>th</sup> Int. Precip. Conference*, Samoset, Maine (USA), 1-3 Juillet 2001.
- C39** Ramage, K., I. Jobard, **T. Lebel** and M. Desbois, 2000. Satellite estimation of 1-day to 10-day cumulated precipitation: comparison and validation over tropical Africa of

TRMM, Meteosat and GPCP products. *Proceedings of the 2000 Eumetsat Meteorol. Satellite Data Users'Conference*, Bologna, Italy. 363-369.

- C38** Ramage, K., I. Jobard, **T. Lebel** and M. Desbois, 2000. Estimation of precipitation over tropical Africa using TRMM rain products and Meteosat data. *Proceedings of the 10th AMS Conference on Satellite Meteorology and, Oceanography*, Long Beach, USA. **P5.7**. pp 314-317.
- C37** Amani A., **T. Lebel**, et B. Some, 1999. Etude comparée de l'estimation des pluies sur le Sahel à l'aide de différents réseaux : exemple de l'année 1994. *Atelier Scientifique FRIEND-AOC*, Yaounde. Cameroun. Novembre 1999, à paraître collection IAHS.
- C36** Naghettini, M., B. Versiani and **T. Lebel**, 1999. Sampling problems in daily extreme rainfall analysis: a regional study in Minas Gerais, Brasil. International Water Resources Engineering Conference - *Water Resources into the New Millennium : Past Accomplishments, New Challenge*. Seattle August 1999. Prepublished proceedings.
- C35** **Lebel, T.**, A. Amani and J.D. Taupin, 1998. Variabilité spatiale des pluies au Sahel : une question d'échelles. 2- Modélisation. Preprints, *Conf. Int. sur la variabilité des ressources en eau en Afrique au XX<sup>e</sup> siècle*, Abidjan. Côte d'Ivoire. Novembre 1998, IAHS., 252, 153-158.
- C34** Taupin, J.D., A. Amani and **T. Lebel**, 1998. Variabilité spatiale des pluies au Sahel : une question d'échelles. 1- Approche expérimentale. Preprints, *Conf. Int. sur la variabilité des ressources en eau en Afrique au XX<sup>e</sup> siècle*, Abidjan. Côte d'Ivoire. Novembre 1998, IAHS., 252, 143-151.
- C34** Laurent, H., T. Lebel and J. Polcher, 1997 : Rainfall variability in Soudano-Sahelian Africa studied from raingauges, satellite and GCM. Preprints, *13th conference on hydrology of the 77th AMS Annual meeting*, 2-7 Février 1997, Long Beach, USA, AMS Publ., 17-20.
- C33** Le Barbé, L. and T. Lebel, 1997 : Variabilité interannuelle et décennale de la pluviométrie en Afrique de l'Ouest : diagnostic et modélisation. Preprints, *Climate variability prediction, water resources and agricultural productivity : food security and agricultural issues in Sub-Saharan Africa*, Cotonou, Bénin, 22-25 Juillet, START, WCRP.
- C31** Groupe PRAO, 1995. La distribution spatio-temporelle des pluies au Sahel : Apports de l'expérience EPSAT-Niger. *Conférence à la mémoire de Jean Rodier "L'hydrologie tropicale : géoscience et outil pour le développement"*. Paris, Mai 1995. A paraître.
- C30** Lecocq, J., H. Benichou H., and **T. Lebel**, 1995. Rainfall climatology in tropical Africa using a C-band Weather radar: (2) a case study involving a validation by raingauge measurements. Proceedings of the IIIeme International Symposium on Hydrological Applications of Weather Radars. Sao Paulo, Brazil, August 20-23, 1995. pp 309-320
- C29** Amani, A. and **T. Lebel**, 1995. Spatio- temporal kriging applied to the interpolation of Sahelian rainfields at small time steps. Vème International Conference on Precipitation. Space-Time Variability and Dynamics of Rainfall. Elounda, Grèce, June 14-16, 1995
- C28** Saïd F., C. Maurel, **T. Lebel**, P. Bessemoulin. 1994. Champs bi-dimensionnels de flux de surface et paramètres thermodynamiques, mesures par avion au cours d'HAPEX-Sahel. *Actes des 10<sup>eme</sup> Journées Hydrologiques ORSTOM: Interactions surface continental-*

*atmosphère, l'expérience HAPEX-Sahel.* Editions de l'ORSTOM (colloques et séminaires), à paraître.

- C27** Lo Seen D., E. Mougin, A. Chehbouni, B. Monteny, Y. Kerr, **T. Lebel**, P. Bessemoulin. 1994. Modélisation du fonctionnement et observation satellitaire de la végétation herbacée sahélique. *Actes des 10eme Journées Hydrologiques ORSTOM: Interactions surface continental- atmosphère, l'expérience HAPEX-Sahel.* Editions de l'ORSTOM (colloques et séminaires), à paraître.
- C26** Lecocq J., N. D'Amato-Rajot, F. Cazenave, **T. Lebel**. 1994. Etudes préliminaires pour la calibration d'un radar bande C pour l'estimation des pluies sur le degré-carré de Niamey. *Actes des 10eme Journées Hydrologiques ORSTOM: Interactions surface continental-atmosphère, l'expérience HAPEX-Sahel.* Editions de l'ORSTOM (colloques et séminaires), à paraître.
- C25** **Lebel T.**, A. Amani, J.D. Taupin. 1994. La pluie au Sahel : une variable rebelle à la régionalisation. *Actes des 10eme Journées Hydrologiques ORSTOM: Interactions surface continental- atmosphère, l'expérience HAPEX-Sahel.* Editions de l'ORSTOM (colloques et séminaires), à paraître.
- C24** Taupin J.D., A. Amani, **T. Lebel**. 1993. Small scale spatial variability of the annual rainfall in the Sahel, in : Bolle H.-J., Feddes, R.A. and Kalma, J. (Editors). *Exchange Processes at the Land Surface for a Range of Space and Time Scales (Proceedings of the Yokohama Symposium, July 1993)*. IAHS Publ. N° 212, pp 593 - 602.
- C23** Goutorbe, J.P., **T. Lebel**, A. Tinga, P. Bessemoulin, J. Brouwer, H. Dolman, E.T. Engman, J.H.C. Gash, M. Hoepffner, P. Kabat, Y.H. Kerr, B. Monteny, S. Prince, F. Saïd, P. Sellers, J. Wallace. 1993. A large-scale study of land-atmosphere interactions in the semi-arid tropics (HAPEX-SAHEL), in : Bolle H.-J., Feddes, R.A. and Kalma, J. (Editors). *Exchange Processes at the Land Surface for a Range of Space and Time Scales (Proceedings of the Yokohama Symposium, July 1993)*. IAHS Publ. N° 212, pp 299-311
- C22** Desconnets J.C., J.D. Taupin, **T. Lebel**, 1993, Le rôle des mares dans le bilan hydrologique d'une région sahélique, in : Bolle H.-J., Feddes, R.A. and Kalma, J. (Editors). *Exchange Processes at the Land Surface for a Range of Space and Time Scales*
- C21** Ben Mohamed, A., H. Sauvageot, **T. Lebel**, 1993, Tropical Convection in the Sahel : a comparison of ECMWF forecasts and regional sounding analysis, in : Becker A., B. Sevruk and M. Lapin (Editors). *Evaporation, Water Balance and Deposition : Proceedings of the International Symposium on Precipitation and Evaporation*, September 1993, Vol. 3, pp 255-262. Printed by Slovak Hydrometeorological Institute.
- C20** Amani A., J. Rousselle, **T. Lebel**, 1993, Indicator kriging applied to point and areal rainfall distribution assessment in the Sahel, in : Duckstein L. and Parent, E. (Editors). *Engineering Risk and Reliability in a Changing Physical Environment* (Proceedings of the NATO Advanced Study Institute, Deauville, May 1993).
- C19** Amani A., J. Rousselle, **T. Lebel**, J.D. Taupin, 1993, Hyetogram analysis for sahelian mesoscale convective systems, in : Sevruk B. and M. Lapin (Editors), *Precipitation Variability and Climate Change : Proceedings of the International Symposium on Precipitation and Evaporation*, September 1993, Vol. 2, pp 23-28. Printed by Slovak Hydrometeorological Institute.

- C18** **Lebel T.**, 1990. H comme HAPEX : Hydrologie Hors Bassin Versant. *Actes du 4<sup>e</sup> Séminaire Informatique ORSTOM (SEMINFOR n° 4)*, pp 493-506. Brest. 11-13 Septembre. Collection Colloques et Séminaires. ORSTOM Editions
- C17** **Lebel T.**, 1990. Le transfert d'échelle en hydrologie : conception ou confusion ? *Actes du 4<sup>e</sup> Séminaire Informatique ORSTOM (SEMINFOR n° 4)*, pp 147-156. Brest. 11-13 Septembre. Collection Colloques et Séminaires. ORSTOM Editions
- C16** **Lebel T.**, 1990. Simulation of weather Radar Ground Clutters in a Mountainous Area using a Digitized Elevation Model. *International conference on water resources in Mountainous regions*, EPFL/IAH/IAHS. Lausanne. Suisse. 27 août - 1 septembre. Proceedings pp 1-23.
- C15** Le Barbe L. and **T. Lebel**, 1989. Analysis of regional precipitation patterns in Western Africa based on the law of leaks. *Fourth International Meeting on Statistical Climatology* (American Meteorological Society). Rotorua, New Zealand. Proceedings pp 273-277.
- C14** **Lebel T.**, et G. Bastin, 1989. Real time estimation of areal rainfall with low density telemetered networks. *IAHS Publi n° 178*, 67-80.
- C13** Leoussov J., et **T. Lebel**, 1989 A flash flood warning pilot system : the telemetered system of the Gard region. *IAHS Publi n° 178*, 59-66.
- C12** B. Wery, **T. Lebel**, G. Bastin, 1987. On real time forecasting of riverflows under various climatological conditions : Methodology and experimental results. XIX congrès de l'IUGG. Vancouver, août 1987.
- C11** **Lebel T.**, 1987. Eloge de la méthode pour le développement de logiciels. *Actes des 3<sup>e</sup> Journées Hydrologiques ORSTOM*. Collection Colloques et Séminaires. ORSTOM Editions.
- C10** **Lebel T.**, 1988. Le modèle hydrologique, boîte noire ou pochette surprise ? 3<sup>e</sup> Séminaire Informatique ORSTOM (SEMINFOR n° 3). Montpellier. Collection Colloques et Séminaires. ORSTOM Editions.
- C9** Ribstein P. et **T. Lebel**, 1988. L'hydrogramme unitaire appliqué à l'analyse des crues au Sahel. Comparaison de différentes méthodes d'identification. *Séminaire UNESCO-IWRA-CIEH sur l'état de l'art en hydrologie et hydrogéologie dans les zones arides et semi-arides d'Afrique*, Ouagadougou. Proceedings pp 161-172.
- C8** Obled Ch. **T. Lebel** and Slimani, 1986. Estimation, regionalization and spatial averaging of extreme rainfall at small time steps. *3<sup>rd</sup> International Conference On Statistical Climatology*. June 1986 Vienna. Austria. Published by WMO editions.
- C7** Slimani, M., and **T. Lebel**, 1986. Comparison of three methods of estimating rainfall frequency parameters according to the duration of accumulation ; in *Flood frequency and risk analyses. (Vol. 4 : regional flood analysis)*, edited by V.J. Singh, Reidel Publishing Company, Boston, U.S.A. October 1987.
- C6** **Lebel T.**, et M. Slimani, 1986. Estimation, Regionalisation et Moyenne Spatiale de la Distribution Fréquentielle des Pluies. *Actes des 2<sup>e</sup> Journées Hydrologiques ORSTOM*, pp 263-288. Editions de l'ORSTOM (Colloques et Séminaires) Bondy.

- C5** Bastin G. et **T. Lebel**. Le krigeage climatologique pour l'estimation optimale de la pluviométrie moyenne. "Fellow session" du Fond National de la Recherche Scientifique Belge (FNRS) sur le thème : "*Analyse des données spatiales en agronomie*". Louvain La Neuve Mars .1986.
- C4** Bois P., et **T. Lebel**, 1985. Modelisation Stochastique de la relation pluie-débit. *Actes des premières Journées Hydrologiques ORSTOM*, pp 272-290. Editions de l'ORSTOM (colloques et séminaires) Bondy.
- C3** Creutin D.,G. Delrieu et **T. Lebel**, 1985. L'estimation des lames d'eaux moyennes et exceptionnelles.Colloque A.F.M.E. "*Petite Hydraulique. Problématique de développement*."Sophia Antipolis. Octobre 1985.
- C2** **Lebel T.**, and D. Creutin, 1983. Areal Rainfall Estimation : Forecast and Simulation over Small Watersheds Subject to Major Flashfloods. *Vth International Conference On Hydrometeorology*. October 1983 Tulsa, Ok. U.S.A. AMS Proceedings pp 291-298.
- C1** **Lebel T.**, and P. Guillot, 1983. Statistical Analysis of Point and Areal Hourly Rainfalls. *Vth International Conference On Hydrometeorology*. October 1983 Tulsa, Ok.U.S.A. AMS Proceedings pp 17-25.

### **Autres communications et rapports divers**

Andreas Fink, Douglas J. Parker, Olivier Bock Serge Janicot, Jean-Blaise Ngamini, Michael Douglas, Ernest Afiesimama, Anna Agusti-Panareda, Anton Beljaars, Francis Dide, Arona Diedhiou, Thierry Lebe, Jan Polcher, Jean-Luc Redelsperger, Chris Thorncroft, and George Ato Wilson, 2008. The AMMA radiosonde programme, *AMS Conference, New Orleans, Janvier 2008*.

Ali, A., T. Lebel, A. Amani, S. Ibrahima, 2007. Désagrégation des pluies au Sahel : une approche basée sur les Chaînes de Markov. *Second International AMMA Conference, Karlsruhe*, 26-30 Nov. 2007.

Boubacar, I., S. Boubkraoui, I. Mamadou, E. Le Breton, L. Descroix, T. Lebel. Caractérisation du fonctionnement hydrologique d'un petit bassin sahélien dans la zone du degré carré de Niamey et de l'hydrodynamisme des états de surface du bassin : bassin versant de wankama (amont zone d'épandage). *Second International AMMA Conference, Karlsruhe*, 26-30 Nov. 2007.

Cohard, J-M., A. Guyot, and the AMMA Land surface working group. Could soil heat storage play a role in monsoon processes? *Second International AMMA Conference, Karlsruhe*, 26-30 Nov. 2007.

Kergoat, L., Hiernaux, P., Baup, F., Boulain, N., Cappelaere, B., Cohard, J.-M., Descroix, L., Galle, S., Guilbert, S. Guichard, F., Grippa, M., **Lebel, T.**, Lloyd, C., Lohou, F., Mougin E., Ottle, C., Ramier, D., De Rosnay, P., Serca, D., Samain, O., Saut-Picart, S., Taylor, C., Timouk, F., Trichon, V., Zribi, M., 2007, Land surface in AMMA : extending ecosystem, energy and water balance studies in space and time is some-times surprising. *Second International AMMA Conference, Karlsruhe*, 26-30 Nov. 2007.

Lebel, T., 2007. Long term observations necessary for climate and weather monitoring and forecast (Ocean, Land, Atmosphere), *Second International AMMA Conference, Karlsruhe*, 26-30 Nov. 2007.

Lebel, T., A. Ali, 2007. Revisiting the standardized precipitation index applied to rainfall variability analysis in the Sahel, *Second International AMMA Conference, Karlsruhe*, 26-30 Nov. 2007.

Vischel, T. and T. Lebel, 2007. Impact of recent changes of Sahelian rainfall regimes on the response of hydrological systems. *Second International AMMA Conference, Karlsruhe*, 26-30 Nov. 2007.

Vischel, T. and T. Lebel, 2007. Spatial analysis of recent changes in the Sahelian rainfall regime. *Second International AMMA Conference, Karlsruhe*, 26-30 Nov. 2007.

**D38** Lebel, T., H. Onibon, 2005. Gibbs sampling for conditional spatial disaggregation of rain fields, Why developing such models ?, *Première Conférence Internationale AMMA, Dakar, Décembre 2005*, **2.02**.

**D37** Ali, A., A. Amami, and T. Lebel, 2005. Une approche de modélisation intégrée de la variabilité pluviométrique au Sahel, *Première Conférence Internationale AMMA, Dakar, Décembre 2005*, **2.11**.

**D36** Hamatan, M., A. et T. Lebel, 2005. Validation des sorties pluviométriques des modèles GCMs au Sahel, aux échelles mensuelle et journalière, *Première Conférence Internationale AMMA, Dakar, Décembre 2005*, **P1.77**.

**D35** Vischel, T., T. Lebel, C. Messager, A. Amani, 2005. Scale issues in assessing the water balance of a regional-size Sahelian catchment, *Première Conférence Internationale AMMA, Dakar, Décembre 2005*, **P2.12**.

**D34** Bailleul, C. et al., 2005. Feedback surface/atmosphère: et l'échelle locale?, *Première Conférence Internationale AMMA, Dakar, Décembre 2005*, **P3.02**.

**D33** Vischel, T., T. Lebel, A. Ali. (2005). - Oral Presentation - Potential climate changes and their impacts on the response of an endoreic hydrological landscape in the Dantiandou Kori. European Geosciences Union, Vienne, Autriche.

**D32** Vischel, T., S. Massuel, C. Peugeot, B. Cappelaere, T. Lebel (2003). -Présentation orale- Impact de la variabilité spatio-temporelle de la pluie sur la réponse des systèmes hydrologiques sahéliens. 3ème Conférence COPROMAPH (COntemporary PROblems in MAThematical PHysics), Cotonou, Bénin.

**D31** Ali, A., T. Lebel, and A. Amami, 2003. A scaling approach for characterising rainfall in the Sahel and the impact of its variability on agriculture. Conférence on Monsoon environments: Agricultural and hydrological impacts of seasonal variability and climate change, Mars 2003, Trieste, Italie.

**D30** Balme, M., Galle, S. and Lebel, T., 2003. The onset of the rainy season in the Sahel, variability at hydrological and agronomical scales. Conference on Monsoon environments: Agricultural and hydrological impacts of seasonal variability and climate change, Mars 2003, Trieste, Italie.

- D29** Balme M., Lebel T. and Galle S., 2003. Mesoscale space-time variability of the rainy season onset in the Sahel, "EGS". Geophysical Research Abstracts, Nice, pp. 02663. [EAE03-A-02663](#).
- D28** Vischel T., Peugeot C., Cras A., **Lebel T.**, Cappelaere B. and **Galle S.**, 2003. Rainfall disaggregation for water resources modelling : case study on a small Sahelian watershed, "EGS". Geophysical Research Abstracts, Nice, pp. 10745. [EAE03-A-10745](#).
- D27** Lavaysse C., A. Diedhiou, **T.Lebel**, J.Y. Grandpeix, H.Laurent, 2003; Wet and dry convective events over Sahel:Diagnostic and numerical studies. *EGS-AGU-EUG Joint Assembly*, 06 - 11 April 2003, Nice, France.
- D26** **Lebel, T.** 2001. GEWEX-CLIVAR Activities and implications for African climate studies. *XXVI General Assembly of the European Geophysical Society*, 25th, Nice, 25-30 March 2001. Session *Ocean and Atmosphere: OA26-1*. Résumés in CD ROM (ISSN 1029-7006, **vol.3**).
- D25** **Lebel, T.**, W. Sacher, A. Cras, M. Balme, and A. Diedhiou. 2001. EPSAT-Niger : 10 years of fine scale observation of rainfall variability in the Sahel. *XXVI General Assembly of the European Geophysical Society*, 25th, Nice, 25-30 March 2001. Session *Ocean and Atmosphere: OA26-1*. Résumés in CD ROM (ISSN 1029-7006, **vol.3**).
- D24** Moufouma-Okia, W., H. Gallée, O. Brasseur, **T. Lebel**, and A. Diedhiou. 2001. Simulation of climate over West-Africa using a regional climate model : sensitivity studies. *XXVI General Assembly of the European Geophysical Society*, 25th, Nice, 25-30 March 2001. Session *Ocean and Atmosphere: OA26-1*. Résumés in CD ROM (ISSN 1029-7006, **vol.3**).
- D23** Onibon H. **T. Lebel**, and A. Afouda. 2001. Application of the Gibbs sampler to the conditional simulation of rain fields. *XXVI General Assembly of the European Geophysical Society*, 25th, Nice, 25-30 March 2001. Session *Non linear processes in Geophysics : NP15-3*. Résumés in CD ROM (ISSN 1029-7006, **vol.3**).
- D22** Mathon V., H. Laurent and **T. Lebel**, 2000. Objective identification of the Squall Lines over the Sahel. *XXV General Assembly of the European Geophysical Society*, Nice, 25-29 April 2000. Session *Ocean and Atmosphere: OA32-1*. Résumés in CD ROM (ISSN 1029-7006, **vol.2**).
- D21** Onibon H., F. Delclaux, **T. Lebel**, and J. Polcher, 2000. Comparison of GCM and observed rainfall over the CATCH region (West Africa). *XXV General Assembly of the European Geophysical Society*, Nice, 25-29 April 2000. Session *Ocean and Atmosphere: OA32-1*. Résumés in CD ROM (ISSN 1029-7006, **vol.2**).
- D20** **Lebel T.**, A. Amani and L. Le Barbé, 1998. Rainfall variability in the Sahel : a matter of scales. *XXIII General Assembly of the European Geophysical Society*, Nice,, Nice, France, 20-24 April 1998.
- D19** Amani, A., G. Guillot, **T. Lebel** and J.D. Creutin, 1998. A Simple Conceptual Model for the Disaggregation of Sahelian Rainfall Field. European Geophysical Society, 23th General Assembly, Nice, France, 20-24 April 1998.
- D18** Delclaux, F., J. Polcher and **T. Lebel**, 1998. Rain event climatology in West Africa : comparison from in situ and GCM outputs. European Geophysical Society, 23th General Assembly, Nice, France, 20-24 April 1998.

- D17** Le Barbé and **T. Lebel** 1998. Interannual to decadal variability of rainfall in West Africa: diagnosis and modeling. *Euroclivar conference*, Bologne, 3-5 Juin 1998.
- D16** Taylor C., F. Said, T. Lebel 1996. A land surface feedback on mesoscale rainfall variability during HAPEX-Sahel. XXI assemblée générale de l'EGS, La Haye, Mai 1996.
- D15** Guillot G., E. Sauquet, I; Braud, **T. Lebel**. A Simple Conceptual Model for the Disaggregation of Sahelian Rainfall Field. XXI assemblée générale de l'EGS, La Haye, Mai 1996.
- D14** Taupin J.D., E. Bonef, M. Greard, **T. Lebel**, O. Ponseel, 1995. EPSAT-NIGER, campagne 1993. *Rapport ORSTOM-DMN*, 66 p.
- D13** Lo Seen D., E. Mougin, A. Chehbouni, B. Monteny, Y. Kerr, **T. Lebel**, P. Bessemoulin. 1994. Investigating the possibility of using satellite data to drive a sahelian grassland vegetation growth model. AGU Fall general Session. San Fransisco. Décembre 1994. (résumés publiés dans un volume spécial de Earth Observation Sciences Transactions).
- D12** **Lebel T.**, P. Bessemoulin, H. Dolman, E.T. Engman, J.P. Goutorbe, P. Kabat, Y.H. Kerr, S. Prince, F. Saïd. 1993. Regional and aggregation studies in HAPEX-Sahel. AGU Fall general Session. San Fransisco. Décembre 1993. (résumés publiés dans un volume spécial de Earth Observation Sciences Transactions).
- D11** Desconnets J.C., C. Leduc, **T. Lebel**. 1993. Surface Water Balance assessment over the East Central Super Site. AGU Fall general Session. San Fransisco. Décembre 1993. (résumés publiés dans un volume spécial de Earth Observation Sciences Transactions).
- D10** **Lebel T.**, J.D. Taupin. 1993. Rainfall Monitoring During HAPEX-Sahel. AGU Fall general Session. San Fransisco. Décembre 1993. (résumés publiés dans un volume spécial de Earth Observation Sciences Transactions).
- D9** **Lebel T.**, B. Monteny, A. Tinga. 1993. HAPEX-SAHEL, vers une meilleure compréhension des mécanismes du climat, in *ORSTOM Actualités N° 39*.
- D8** Taupin J.D., **T. Lebel**, F. Cazenave, M. Greard, J. Kong, J. Lecocq, M. Adamson, N. D'Amato, A. Ben Mohamed. 1993. EPSAT-NIGER, campagne 1992. *Rapport ORSTOM-DMN*, 98 p.
- D7** Goutorbe, J.P., **T. Lebel**, A. Tinga, H. Dolman, E.T. Engman, J.H.C. Gash, P. Kabat, Y.H. Kerr, B. Monteny, S. Prince, P. Sellers, J. Wallace, M. Hoepffner. 1992. Experiment Plan for HAPEX-SAHEL CNRM, Toulouse. En attente d'édition par les éditions ORSTOM.
- D6** Desconnets J.C., J.D. Taupin, M. Esteves, M. Gréard, R. Gualde, **T. Lebel** 1992. Etude des endoreismes au Sahel. Rapport de Campagne 1991.
- D5** Taupin J.D., **T. Lebel**, F. Cazenave, F. Chiron, R. Gathelier, M. Greard, R. Gualde, J. Kong, T. Valero. 1992. EPSAT-NIGER, campagne 1991. *Rapport ORSTOM-DMN*, 86 p.
- D4** **Lebel, T.**, F. Cazenave, R. Gathelier, M. Greard, R. Gualde, J. Kong, T. Valero. 1991. EPSAT-NIGER, CAMPAGNE 1990. *Rapport ORSTOM, DMN*, 66p.
- D3** **Lebel T.**, and V. Thauvin. 1990. Spatial and temporal sampling of Sahelian Squall line rainfall : some experimental features. *European Geophysical Society. XV General Assembly*. Copenhague. 23-27 Avril 1990.

- D2** **Lebel T.**, et J.F. Boyer. 1989. DIXLOI: un ensemble de programmes FORTRAN 77 pour l'ajustement de lois statistiques et leur représentation graphique. *Notice ONNIh N°3*. 56 p. ORSTOM- Laboratoire d'hydrologie. Montpellier.
- D1** **Lebel T.** 1985. Optimal interpolation of raingauge data for radar calibration. *Rapport NOAA* (National Oceanic and Atmospheric Administration). Boulder, Colorado, USA.