

Sandrine Bony (LMD/IPSL, CNRS)

List of publications

2019

- Bony, S. and B. Stevens, 2019: Measuring Area-Averaged Vertical Motions with Dropsondes. *J. Atmos. Sci.*, **76**, 767–783, <https://doi.org/10.1175/JAS-D-18-0141.1>
- Colin, M., S. Sherwood, O. Geoffroy, S. Bony and D. Fuchs, 2019: Identifying the sources of convective memory in cloud-resolving simulations. *J. Atmos. Sci.* **76**, 947–962,, <https://doi.org/10.1175/JAS-D-18-0036.1>
- Li, Y., D.W. Thompson, S. Bony, and T.M. Merlis, 2019: Thermodynamic Control on the Poleward Shift of the Extratropical Jet in Climate Change Simulations: The Role of Rising High Clouds and Their Radiative Effects. *J. Climate*, **32**, 917–934, <https://doi.org/10.1175/JCLI-D-18-0417.1>
- Stevens, B., F. Ament, S. Bony, S. Crewell, F. Ewald, S. Gross, A. Hansen, L. Hirsch, M. Jakob, T. Kölling, H. Konow, B. Mayer, M. Wendisch, M. Wirth, K. Wolf, S. Bakan, M. Bauer-Pfundstein, M. Brueck, J. Delanoë, A. Ehrlich, D. Farrell, M. Forde, F. Gödde. H. Grob, M. Hagen, E. Jäkel, F. Jansen, C. Klepp, M. Klingebiel, M. Mech, G. Peters, M. Rapp, A. Wing and T. Zinner.: A high-altitude long-range aircraft configured as a cloud observatory – the NARVAL expeditions. *Bull. Amer. Meteorol. Soc.*, in press, <https://doi.org/10.1175/BAMS-D-18-0198.1>

2018

- Coppin, D. and S. Bony: On the interplay between convective aggregation, surface temperature gradients and climate sensitivity. *J. Adv. Model. Earth Syst.*, 10, <https://doi:10.1029/2018MS001406>. [Editor's Highlight]
- Fläschner, D., T. Mauritsen, B. Stevens and S. Bony, 2018: The signature of shallow circulations, not cloud-radiative effects, in the spatial distribution of tropical precipitation. *J. Climate*, **31**, 9489–9505, <https://doi.org/10.1175/JCLI-D-18-0230.1>
- Masunaga, H. and S. Bony, 2018: Radiative Invigoration of Tropical Convection by Preceding Cirrus Clouds. *J. Atmos. Sci.*, 75, 1327–1342, <https://doi.org/10.1175/JAS-D-17-0355.1>
- Vial, J., Cassou, C., Codron, F., Bony, S., & Ruprich-Robert, Y., 2018: Influence of the Atlantic Meridional Overturning Circulation on the tropical climate response to CO₂ forcing. *Geophys. Res. Lett.*, 45, 8519–8528. <https://doi.org/10.1029/2018GL078558>
- Wing, A. A., K. A. Reed, M. Satoh, B. Stevens, S. Bony, and T. Ohno, 2018: Radiative-Convective Equilibrium Model Intercomparison Project. *Geosci. Mod. Dev.*, 11(2), 793–813, <https://10.5194/gmd-11-793-2018>

2017

- Bony, S., B. Stevens, and D. Carlson, 2017: Understanding clouds to anticipate future climate. *WMO*

- Bony, S., B. Stevens, F. Ament, S. Bigorre, P. Chazette, S. Crewell, J. Delanoë, K. Emanuel, D. Farrell, C. Flamant, S. Gross, L. Hirsch, J. Karstensen, B. Mayer, L. Nuijens, J. H. Ruppert Jr., I. Sandu, P. Siebesma, S. Speich, F. Szczap, J. Totems, R. Vogel, M. Wendisch, M. Wirth, 2017: EUREC⁴A: A field campaign to elucidate the couplings between clouds, convection and circulation. EUREC4A. *Surveys of Geophysics*, 38(6), 1529-1568, <https://link.springer.com/article/10.1007/s10712-017-9428-0>
- Coppin, D. and S. Bony, 2017: Internal Variability in a Coupled General Circulation Model in Radiative-Convective Equilibrium. *Geophys. Res. Lett.*, 44, 5142-5149, <http://doi:10.1002/2017GL073658>, Supplementary Information. Editor's Highlight
- Holloway, C. E., A. A. Wing, S. Bony, C. Muller, H. Masunaga, T. S. L'Ecuyer, D. D. Turner and P. Zuidema, 2017: Observing Convective Aggregation, *Surveys in Geophysics*, 38 (6), 1199-1236, doi: 10.1007/s10712-017-9419-1
- Marotzke, J., C. Jakob, S. Bony, P. A. Dirmeyer, P. O'Gorman, E. Hawkins, S. Perkins-Kirkpatrick, C. Le Quéré, S. Nowicki, K. Paulavets, S. I. Seneviratne, B. Stevens and M. Tuma, 2017: Climate research must sharpen its view. *Nature Climate Change*, <https://www.nature.com/articles/nclimate3206>
- Stein, T. H. M., C. E. Holloway, I. Tobin and S. Bony, 2017: Observed relationships between cloud vertical structure and convective aggregation over tropical ocean. *J. Climate*, 30 (6), 2187-2207, <https://doi.org/10.1175/JCLI-D-16-0125.1>
- Stouffer, R. J., V. Eyring, G. A. Meehl, S. Bony, C. Senior, B. Stevens, K. E. Taylor, 2017: CMIP5 scientific gaps and recommendations for CMIP6. *Bull. Amer. Meteorol. Soc.*, 98, 95-105, doi: 10.1175/BAMS-D-15-00013.1
- Thompson, D. W., S. Bony and Y. Li, 2017: A thermodynamic constraint on the global tropopause and large-scale extratropical dynamics. *Proc. Natl. Acad. Sci.*, 114 (31), 8181-8186, <https://doi.org/10.1073/pnas.1620493114>
- Vial, J., S. Bony, B. Stevens and R. Vogel, 2017: Mechanisms and model diversity of trade-wind shallow cumulus cloud feedbacks: A review. *Surveys of Geophysics*, 38 (6), 1331-1353, doi:10.1007/s10712-017-9418-2
- Voigt, A., R. Pincus, B. Stevens, S. Bony, O. Boucher, N. Bellouin, A. Lewinschal, B. Medeiros, Z. Whang and H. Zhang: Fast and slow shifts of the zonal-mean intertropical convergence zone in response to an idealized anthropogenic aerosol. *J. Adv. Model. Earth Syst.*, 9, 870-892, doi:10.1002/2016MS000902.
- Webb, M. J., T. Andrews, A. Bodas-Salcedo, S. Bony, C. S. Bretherton, R. Chadwick, H. Chepfer, H. Douville, P. Good, J. E. Kay, S. A. Klein, R. Marchand, B. Medeiros, A. P. Siebesma, C. B. Skinner, B.

Stevens, G Tselioudis, Y Tsushima, and M Watanabe, 2017: The Cloud Feedback Model Intercomparison Project (CFMIP) contribution to CMIP6. *Geosci. Mod. Dev.*, 10, 359–384, doi:10.5194/gmd-10-359-2017

2016:

- Bony S., B. Stevens, D. Coppin, T. Becker, K. Reed, A. Voigt and B. Medeiros, 2016: Thermodynamic control of anvil-cloud amount. *Proc. Natl. Acad. Sci.*, 113 (32), 8927–8932, 10.1073/pnas.1601472113.
- Brient, F., T. Schneider, Z. Tan, S. Bony, X. Qu and A. Hall, 2016: Shallowness of tropical low clouds as a predictor of climate models' response to warming. *Clim. Dyn.*, 47 (1-2), 433-449, doi:10.1007/s00382-015-2846-0
- Eyring, V., S. Bony, G. A. Meehl, C. Senior, B. Stevens, R. J. Stouffer, and K. E. Taylor, 2016: Overview of the Coupled Model Intercomparison Project Phase 6 (CMIP6): Experimental design and organisation. *Geosci. Mod. Dev.*, 9, 1937–1958, www.geosci-model-dev.net/9/1937/2016/doi:10.5194/gmd-9-1937-2016
- Gaetani M., C. Flamant, S. Bastin, S. Janicot, C. Lavaysse, F. Hourdin, P. Braconnot. and S. Bony, 2016: West African monsoon dynamics and precipitation: the competition between global SST warming and CO2 increase in CMIP5 idealized simulations, *Clim. Dyn.*, Springer Verlag, (in press). 10.1007/s00382-016-3146-z
- Oueslati B., S. Bony, C. Risi and J.-L. Dufresne, 2016: Interpreting the inter-model spread in regional precipitation projections in the tropics: Role of surface evaporation and cloud radiative effects. *Clim. Dyn.*, 47, 2801. doi:10.1007/s00382-016-2998-6
- Risi C., J. Ogée, S. Bony, T. Bariac, N. Raz-Yaseef, L. Wingate, J. Welker, A. Knohl, C. Besson, M. Leclerc, G. Zhang, N. Buchmann, J. Santrucek, M. Hronkova, T. David, P. Peylin, and F. Guglielmo, 2016: Evaluation of the isotopic version of the land-surface model ORCHIDEE, *Hydrol. Current*, 7:258. doi: 10.4172/2157-7587.1000258.
- Stevens B., S. C. Sherwood, S. Bony and M. J. Webb, 2016: Prospects for narrowing bounds on Earth's Equilibrium Climate Sensitivity. *Earth's Future*, 4, doi:10.1002/2016EF000376.
- Vial, J., S. Bony, J.-L. Dufresne and R. Roehrig, 2016: Coupling between lower-tropospheric convective mixing and low-level clouds: physical mechanisms and dependence on convection scheme. *J. Adv. Model. Earth Syst.*, 8, doi: 10.1002/2016MS000740.

2015

- Asrar, G., J. Schmetz, S. Bony, O. Boucher, A. Busalacchi, A. Cazenave, M. Dowell, G. Flato, G. Hegerl, E. Källén, T. Nakajima, A. Ratier, R. Saunders, J. Slingo, B.-J. Sohn, B. Stevens, P. Zhang, and F. Zwiers, 2015: Climate Symposium 2014 – Findings and Recommendations. *Bull. Amer. Meteorol. Soc.*, 96, ES145–ES147. <http://dx.doi.org/10.1175/BAMS-D-15-00003.1>

- Bony S, 2015: L'eau atmosphérique, in *L'eau à découvert*. Sous la direction de Rémy Mosseri, Catherine Jeandel et Agathe Euzen, CNRS éditions, 368 pages, Nov 2015, ISBN 978-2-271-08829-1.
- Bony S., B. Stevens, D. M. W. Frierson, C. Jakob, M. Kageyama, R. Pincus, T. G. Shepherd, S. C. Sherwood, A. P. Siebesma, A. H. Sobel, M. Watanabe, and M. J. Webb, 2015: Clouds, Circulation and Climate Sensitivity. *Nature Geoscience*, 8, 261–268, doi:10.1038/ngeo2398. Nature News. INSU News
- Chavaillaz, Y., S. Joussaume, S. Bony and P. Braconnot, 2015: Spatial stabilization and intensification of moistening and drying rate patterns under future climate change, *Clim. Dyn.*, pp 1-15, DOI 10.1007/s00382-015-2882-9.
- Coppin, D. and S. Bony, 2015: Physical mechanisms controlling the initiation of convective self-aggregation in a General Circulation Model. *J. Adv. Model. Earth Syst.*, 7, doi:10.1002/2015MS000571.
- Li Y., D. W. J. Thompson and S. Bony, 2015: The influence of cloud radiative effects on the large-scale atmospheric circulation. *J. Climate*, 28, 7263-7278.
- Muller, C. and S. Bony, 2015: What favors convective aggregation, and why? *Geophys. Res. Lett.*, 42, 5626–5634, doi:10.1002/2015GL064260. Supplementary Material.
- Sherwood, S.C., S. Bony, O. Boucher, C. Bretherton, P. Forster, J. Gregory, and B. Stevens, 2015: Adjustments in the forcing-feedback framework for understanding climate change. *Bull. Amer. Meteor. Soc.*, 96, 217-228, <http://dx.doi.org/10.1175/BAMS-D-13-00167.1>.
- Stephens, G., S. Bony and B. Stevens, 2015: Clouds, Circulation and Climate Sensitivity Grand Challenge and GEWEX. *GEWEX News*, 25, 8-9, May 2015.
- Tuinenburg, O. A., C. Risi, J.L. Lacour, M. Schneider, A. Wiegeler, J. Worden, N. Kurita, J.P. Duvel, N. Deutscher, S. Bony, P.F. Coheur and C. Clerbaux, 2015: Moist processes during MJO events as diagnosed from water isotopic measurements from the IASI satellite, *J. Geophys. Res.*, 120, 10619–10636, doi:10.1002/2015JD023461
- Webb, M. J., A. P. Lock, A. Bodas-Salcedo, S. Bony, J. N. S. Cole, T. Koshiro, H. Kawai, C. Lacagnina, F. M. Selten, R. Roehrig, and B. Stevens, 2015 : The diurnal cycle of marine cloud feedback in climate models. *Climate Dynamics*, 44:1419–1436, doi:10.1007/s00382-014-2234-1
- Webb, M. J., A. P. Lock, C. S. Bretherton, S. Bony, J. N. S. Cole, A. Idelkadi, S. M. Kang, T. Koshiro, H. Kawai, T. Ogura, R. Roehrig, Y. Shin, T. Mauritsen, S. S. Sherwood, J. Vial, M. Watanabe, M. D. Woelfle, M. Zhao, 2015: The impact of parametrized convection on cloud feedback. *Philosophical Transactions A*, 373, 20140414. <http://dx.doi.org/10.1098/rsta.2014.0414>

2014 :

- Fermepin, S. and S. Bony, 2014 : Influence of low-cloud radiative effects on tropical circulation and precipitation. *J. Adv. Model. Earth Syst.*, 6, 513–526, doi:10.1002/2013MS000288.

- Li, Y., D. W. J. Thompson, G. L. Stephens and S. Bony, 2014 : A global survey of the linkages between cloud vertical structure and large-scale climate, *J. Geophys. Res.*, 119, 3770-3792, doi: 10.1002/2013JD020669.
- Ma, H.-Y., S. Xie, S. A. Klein, K. D. Williams, J. S. Boyle, S. Bony, H. Douville, S. Fermepin, B. Medeiros, S. Tyteca, M. Watanabe, and D. Williamson, 2014 : On the correspondence between mean forecast errors and climate errors in CMIP5 models. *J. Climate*, 27(4), 1781-1798.
- Medeiros, B., B. Stevens and S. Bony, 2014 : Using aqua-planets to understand the robust response of comprehensive climate models to forcing. *Climate Dynamics*, doi:10.1007/s00382-014-2138-0, pp 1-21, in press (Apr 2014).
- Meehl, G. A., R. Moss, K. E. Taylor, V. Eyring, R. J. Stouffer, S. Bony and B. Stevens, 2014 : Climate Model Intercomparisons : Preparing for the Next Phase. *EOS*, 95, No 9, 77-78.
- Sherwood, S. C., S. Bony and J.-L. Dufresne, 2014 : Spread in model estimates of climate sensitivity traced to atmospheric convective mixing. *Nature*, 505, 37-42, doi:10.1038/nature12829. [News and Views]
- Stevens, B., S. Bony, D. Frierson, C. Jakob, M. Kageyama, R. Pincus, T. Shepherd, S. Sherwood, P. Siebesma, A. Sobel, M. Watanabe and M. Webb, 2014: "Cloud, Circulation and Climate Sensitivity: Ringberg workshop report", WCRP Report No. 8/2014, May 2014.
- Voigt, A., S. Bony, J.-L. Dufresne, and B. Stevens, 2014: The radiative impact of clouds on the shift of the inter-tropical convergence zone, *Geophys. Res. Lett.*, 41, 4308-4315, doi: 10.1002/2014GL060354.

2013 :

- Bony S., B. Stevens, I. Held, J. Mitchell, J.-L. Dufresne, K. Emanuel, P. Friedlingstein, S. Griffies and C. Senior, 2013 : Carbon Dioxide and Climate : Perspectives on a Scientific Assessment. Monograph on Climate Science for Serving Society: Research, Modeling and Prediction Priorities, Springer, G.R. Asrar and J.W. Hurrell (eds.), pp 391-413, DOI 10.1007/978-94-007-6692-1_14, Springer. http://link.springer.com/biblioplanets.gate.inist.fr/chapter/10.1007/978-94-007-6692-1_14
- Bony S., G. Bellon, D. Klocke, S. Sherwood, S. Fermepin, and S. Denvil, 2013 : Robust direct effect of carbon dioxide on tropical circulation and regional precipitation, *Nature Geoscience*, 6, 447-451, doi:10.1038/ngeo1799. Supplementary information. Press release Nature-Asia.
- Briant F. and S. Bony, 2013 : Interpretation of the positive low-cloud feedback predicted by a climate model under global warming. *Climate Dynamics*, 40, 2415-2431, DOI 10.1007/s00382-011-1279-7.
- Dufresne, J-L et al., 2013 : Climate change projections using the IPSL-CM5 Earth System Model: from CMIP3 to CMIP5, *Climate Dynamics*, 40, 2123-2165, DOI 10.1007/s00382-012-1636-1.
- Hourdin F., J-Y Grandpeix, C. Rio, S. Bony, A. Jam, F. Cheruy, N. Rochetin, L. Fairhead, A. Idelkadi, I. Musat, J-L Dufresne, M-P. Lefebvre, A. Lahellec, R. Roehrig, 2013 : LMDZ5B: the atmospheric component of the IPSL climate model with revisited parameterizations for clouds and

convection, *Climate Dynamics*, 40, 2193-2222, DOI 10.1007/s00382-012-1343-y.

- Hourdin F., M-A Foujols, F. Codron, V. Guemas, J-L Dufresne, S. Bony, S. Denvil, L.Guez, F. Lott, J. Ghattas, P. Braconnot, O. Marti, Y. Meurdesoif, L. Bopp, 2013 : Climate and sensitivity of the IPSL-CM5A coupled model: impact of the LMDZ atmospheric grid configuration, *Climate Dynamics*, 40, 2167-2192, DOI: 10.1007/s00382-012-1411-3.
- Stevens, B. and S. Bony, 2013 : Water in the atmosphere. *Physics Today*, June 2013, 29-34.
- Stevens, B. and S. Bony, 2013 : What are climate models missing?, *Science*, 340 (6136), 1053-1054, DOI: 10.1126/science.1237554.
- Tobin, I., S. Bony, C. E. Holloway, J.-Y. Grandpeix, G. Sèze, D. Coppin, S. J. Woolnough, and R. Roca, 2013 : Does convective aggregation need to be represented in cumulus parameterizations J. *Adv. Model. Earth Syst.*, 5, doi:10.1002/jame.20047.
- Vial, J., J.-L. Dufresne, and S. Bony, 2013 : On the interpretation of inter-model spread in CMIP5 climate sensitivity estimates. *Climate Dynamics*, 40, 2415-2431.
- Zhang, M. et al., 2013 : CGILS: Results from the First Phase of an International Project to Understand the Physical Mechanisms of Low Cloud Feedbacks in Single Column Models. *J. Adv. Model. Earth Syst.*, 5, 1–17, doi:10.1002/2013MS000246.

2012 :

- Zhang, M., C. S. Bretherton, P. N. Blossey, F. Brient, S. Bony, and J.-C. Golaz, 2012 : The CGILS experimental design to investigate low cloud feedbacks in general circulation models by using single-column and large-eddy simulation models., *J. Adv. Model. Earth Syst.*, 4, M12001, 15pp, doi:10.1029/2012MS000182.
- Nam, C., S. Bony, J.-L. Dufresne and H. Chepfer, 2012 : The too few, too bright tropical low-cloud problem in CMIP5 models. *Geophys. Res. Lett.*, 39, L21801, doi:10.1029/2012GL053421.
- Tobin I., S. Bony and R. Roca, 2012 : Observational evidence for relationships between the degree of aggregation of deep convection, water vapor, surface fluxes and radiation, *J. Climate*, 25, 6885-6904, DOI: 10.1175/JCLI-D-11-00258.1.
- Brient, F. and S. Bony, 2012 : How may low-cloud radiative properties simulated in the current climate influence low-cloud feedbacks under global warming? *Geophys. Res. Lett.*, 39, L20807, doi:10.1029/2012GL053265.
- Risi C, D Noone , J Worden , C Frankenberg , G Stiller , M Kiefer , B Funke , K A Walker , P Bernath , M Schneider , D Wunch , V Sherlock , N Deutscher , D Griffith , P Wennberg , K Strong , D Smale , E Mahieu , S Barthlott , F Hase , O García , J Notholt , T Warneke , G Toon , D Sayres , S Bony , J Lee , D Brown , R Uemura , C Sturm, 2012a : Process-evaluation of tropospheric humidity simulated by general circulation models using water vapor isotopologues. Part 1: comparison between models and observations. *J. Geophys. Res.*, 117, D05303, doi:10.1029/2011JD01662.

- Risi C, D Noone , J Worden , C Frankenberg , G Stiller , M Kiefer , B Funke , K A Walker , P Bernath , M Schneider , S Bony , J Lee , D Brown , C Sturm, 2012b : Process-evaluation of tropospheric humidity simulated by general circulation models using water vapor isotopic observations. Part 2: using isotopic diagnostics to understand the mid and upper tropospheric moist bias in the tropics and subtropics. *J. Geophys. Res.*, 117, D05304, doi:10.1029/2011JD016623.
- Lacour, J.-L., C. Risi, L. Clarisse, S. Bony, D. Hurtmans, C. Clerbaux, and P.-F. Coheur, 2012 : Mid-tropospheric δD observations from IASI/MetOp at high spatial and temporal resolution. *Atmos. Chem. Phys.*, 12, 10817-10832, doi:10.5194/acp-12-10817-2012.

2011 :

- Bodas-Salcedo, A., M. J. Webb, S. Bony, H. Chepfer, J.-L. Dufresne, S. A. Klein, Y. Zhang, R. Marchand, J. M. Haynes, R. Pincus, and V. O. John, 2011 : COSP: satellite simulation software for model assessment. *Bull. Amer. Meteor. Soc.*, 92, 1023–1043, doi: 10.1175/2011BAMS2856.1.
- Bony S, M. Webb, C. Bretherton, S. Klein, P. Siebesma, G. Tselioudis and M. Zhang, 2011 : CFMIP: Towards a better evaluation and understanding of clouds and cloud feedbacks in CMIP5 models. *CLIVAR Exchanges, Special Issue on the WCRP Coupled Model Intercomparison Project – Phase 5 (CMIP5)*, pp 20-24, No. 56, Vol. 16, Issue No. 2, May 2011.
- Meehl, G. A. and S. Bony, 2011 : Introduction to CMIP5. *CLIVAR Exchanges, Special Issue on the WCRP Coupled Model Intercomparison Project – Phase 5 (CMIP5)*, pp 4-5, No. 56, Vol. 16, Issue No. 2, May 2011.
- Bony S, 2011: Estimation de la confiance dans les résultats de simulation, in *Le climat à découvert. Outils et méthodes en recherche climatique.*, Sous la direction de Catherine Jeandel et Rémy Mosseri, CNRS éditions, 288 pages, mai 2011, ISBN 978-2-271-07198-9, pp 239-241.
- Bony S, 2011: Cycle de l'eau : les nuages, in *Le climat à découvert. Outils et méthodes en recherche climatique.*, Sous la direction de Catherine Jeandel et Rémy Mosseri, CNRS éditions, 288 pages, mai 2011, ISBN 978-2-271-07198-9, pp 61-62.
- Bony S, D. Griggs, J. Marotzke, and H. Le Treut, 2011 : Role and terms of engagement for the WCRP Modelling Council, in *WCRP Modelling Coordination Meeting, 15-16 Nov 2010, Paris*, WCRP Series Report No. 133, WMO/TD-No1569.
- Overpeck, J.T., G.A. Meehl, S. Bony, and D.R. Easterling, 2011: Climate data challenges in the 21st century. *Science*, 331, 700-702. DOI:10.1126/science.1197869.

2010 :

- Risi C, S Bony, F Vimeux, C Frankenberg, D Noone and J Worden, 2010 : Understanding the Sahelian water budget through the isotopic composition of water vapor and precipitation. *J. Geophys. Res.*, 115, D24110, doi:10.1029/2010JD014690.
- Landais A., C. Risi, S. Bony, F. Vimeux, L. Descroix, S. Falourd, and A. Bouygues, 2010 : Combined measurements of ^{17}O excess and d-excess in African monsoon precipitation: implications

for evaluating convective parameterizations. *Earth Planet. Sci. Lett.*, 298, 104-112.

- Risi C, S Bony, F Vimeux and J Jouzel, 2010 : Water stable isotopes in the LMDZ4 General Circulation Model: model evaluation for present day and past climates and applications to climatic interpretations of tropical isotopic records. *J. Geophys. Res.*, 115, D12118, doi:10.1029/2009JD013255.
- Risi, C., A. Landais, S. Bony, J. Jouzel, V. Masson-Delmotte, and F. Vimeux, 2010: Understanding the 17O-excess glacial-interglacial variations in Vostok precipitation, *J. Geophys. Res.*, 115, D10112, doi:10.1029/2008JD011535.
- Risi C, S Bony, F Vimeux, M Chong and L Descroix, 2010: Evolution of the water stable isotopic composition of the rain sampled along Sahelian squall lines. *Quat. J. Roy. Meteor. Soc.*, 136 (S1), 227-242.
- Chepfer, H., S. Bony, D. Winker, G. Cesana, J. L. Dufresne, P. Minnis, C. J. Stubenrauch, and S. Zeng, 2010: The GCM-Oriented CALIPSO Cloud Product (CALIPSO-GOCCP), *J. Geophys. Res.*, 115, D00H16, doi:10.1029/2009JD012251.

2009 :

- Marti O, P Braconnot, J-L Dufresne, J Bellier, R Benshila, S Bony, P Brockmann, P Cadule, A Caubel, F Codron, N de Noblet, S Denvil, L Fairhead, T Fichefet, M-A Foujols, P Friedlingstein, H Goosse, J-Y Grandpeix, E Guilyardi, F Hourdin, G Krinner, C Lévy, G Madec, J Mignot, I Musat, D Swingedouw and C Talandier, 2009 : Key features of the IPSL ocean atmosphere model and its sensitivity to atmospheric resolution. *Climate Dynamics*, 34(1), pp 1-26, 10.1007/s00382-009-0640-6.
- Bony S, 2009: Why are cloud-radiation interactions so critical for climate modeling ? In ECMWF Seminar Series on "Parameterization of subgrid physical processes", ECMWF, Reading, UK, Sept 2008, pp 205-222.
- Illingworth A., and S. Bony, 2009: Observational Strategies at Meso and Large Scales to Reduce Critical Uncertainties in Future Changes of Cloud Properties. Peer-reviewed book chapter for *Clouds in the Perturbed Climate System: Their Relationship to Energy Balance, Atmospheric Dynamics, and Precipitation*. pp 511-530, Heintzenberg, J., and R. J. Charlson, eds., *Ernst Strüngmann Forum Report, vol. 2, Cambridge, MA: The MIT Press*.
- Quaas J., S. Bony, W. D. Collins, L. Donner, A. J. Illingworth, A. Jones, U. Lohmann, M. Satoh, S. E. Schwartz, W.-K. Tao, and R. Wood, 2009: Current Understanding and Quantification of Clouds in the Changing Climate System and Strategies for Reducing Critical Uncertainties. Peer-reviewed book chapter for *Clouds in the Perturbed Climate System: Their Relationship to Energy Balance, Atmospheric Dynamics, and Precipitation*. pp 557-573, Heintzenberg, J., and R. J. Charlson, eds., *Ernst Strüngmann Forum Report, vol. 2, Cambridge, MA: The MIT Press*.

2008 :

- Risi C, S Bony, F Vimeux, L. Descroix, B. Ibrahim, E. Lebreton, I. Mamadou, B. Sultan, 2008 : What controls the isotopic composition of the African monsoon precipitation? Insights from event-based precipitation collected during the 2006 AMMA field campaign ?, *Geophys. Res. Lett.*, 35, L24808, doi:10.1029/2008GL035920.
- Bony S, M Webb, B Stevens, C Bretherton, S Klein and G Tselioudis, 2008: CFMIP-GCSS plans for advancing assessments of cloud-climate feedbacks. *GEWEX News*, 18, No. 4, pp 10-12, Nov 2008.
- Chepfer H, S Bony, D Winker, M Chiriaco, J-L Dufresne and G. Sèze, 2008: Use of CALIPSO lidar observations to evaluate the cloudiness simulated by a climate model. *Geophys. Res. Lett.*, 35, L15704, doi:10.1029/2008GL034207.
- Risi C, S Bony and F Vimeux, 2008: Influence of convective processes on the isotopic composition ($\delta^{18}\text{O}$ and δD) of precipitation and water vapor in the tropics: Part 2. Physical interpretation of the Amount Effect. *J. Geophys. Res.*, 113, D19306, doi:10.1029/2008JD009943. [AGU Research Highlight: "Explaining isotope composition of tropical rains"]
- Bony S, C Risi and F Vimeux, 2008: Influence of convective processes on the isotopic composition ($\delta^{18}\text{O}$ and δD) of precipitation and water vapor in the tropics: Part 1. Radiative-convective equilibrium and TOGA-COARE simulations. *J. Geophys. Res.*, 113, D19305, doi:10.1029/2008JD009942. [AGU Research Highlight: "Isotopes illuminate atmospheric convection"]
- Dufresne J-L and S Bony, 2008: An assessment of the primary sources of spread of global warming estimates from coupled ocean-atmosphere models. *J. Climate*, 21 (19), 5135-5144.
- Joussaume S, S Bony, P Braconnot, J-L Dufresne, P Friedlingstein, S Planton et L Terray, 2008: Météo incertaine pour 2050. *La Recherche*, Numéro spécial "Objectif Terre 2050", No. 415 (janvier 2008).

2007 :

- Bony S and J-L Dufresne, 2007: Processus régissant la sensibilité climatique. *La Météorologie*, 56 (février 2007), 29-32.
- Bony S and J-L Dufresne, 2007: L'emballlement climatique. *Sciences et Avenir*, Hors Série, 150 (avril 2007), 18-22.
- Bony S, 2007: Cloud radiative feedbacks in GCMs: a challenge for the simulation of climate variability and climate sensitivity. Proceedings of the ECMWF workshop on "Cloud parameterizations in large-scale models", ECMWF, Reading, United Kingdom, 11-13 Nov 2006, pp 9-18.
- Randall, D.A., R.A. Wood, S. Bony, R. Colman, T. Fichet, J. Fyfe, V. Kattsov, A. Pitman, J. Shukla, J. Srinivasan, R.J. Stouffer, A. Sumi and K.E. Taylor, 2007: Climate Models and Their Evaluation. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin,

M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

- Braconnot P, F Hourdin, S Bony, J-L Dufresne, J-Y Grandpeix and O Marti, 2007: Impact of different convective cloud schemes on the simulation of the tropical seasonal cycle with a coupled ocean-atmosphere model, *Climate Dynamics*, 10.1007/s00382-007-0244-y.

2006 :

- Bony S, R Colman, V M Kattsov, R P Allan, C S Bretherton, J-L Dufresne, A Hall, S Hallegatte, M M Holland, W Ingram, D A Randall, B J Soden, G Tselioudis and M J Webb, 2006: How well do we understand and evaluate climate change feedback processes ?, *J. Climate*, 19 (15), 3445-3482.
- Hourdin F, I. Musat, S. Bony, P. Braconnot, F. Codron, J.-L. Dufresne, L. Fairhead, M.-A. Filiberti, P. Friedlingstein, J.-Y. Grandpeix, G. Krinner, P. LeVan, Z.-X. Li, and F. Lott, 2006: The LMDZ general circulation model: climate performance and sensitivity to parameterized physics with emphasis on tropical convection. *Climate Dynamics*, 19 (15), 3445-3482, DOI: 10.1007/s00382-006-0158-0.
- Webb M J, C A Senior, D M H Sexton, W. J. Ingram, K D Williams, M A Ringer, B J McAvaney, R Colman, B J Soden, R Gudgel, T Knutson, S Emori, T Ogura, Y Tsushima, N Andronova, B Li, I Musat, S Bony and K Taylor, 2006: On the contribution of local feedback mechanisms to the range of climate sensitivity in two GCM ensembles, *Climate Dynamics*, 27 (1), 17-38, DOI: 10.1007/s00382-006-0111-2.
- Williams K D, M A Ringer, C A Senior, M J Webb, B J McAvaney, N Andronova, S Bony, J-L Dufresne, S Emori, R Gudgel, T Knutson, B Li, K Lo, I Musat, J Wegner, A Slingo and J F B Mitchell, 2006: Evaluation of a component of the cloud response to climate change in an intercomparison of climate models, *Climate Dynamics*, 26 (2-3), 145-165, DOI: 10.1007/s00382-005-0067-7.
- Zurovac-Jevtic D, S Bony and K A Emanuel, 2006: On the role of clouds and moisture in tropical waves: a two-dimensional model study, *J. Atmos. Sci.*, 63 (8), 2140-2155.
- Dufresne, J-L, D Salas y Mélia, S Denvil, S Tyteca, O Arzel, S Bony, P Braconnot, P Brockmann, P Cadule, A Caubel, F Chauvin, M Déqué, H Douville, L Fairhead, T Fichet, M-A Foujols, P Friedlingstein, J-F Gueremy, F Hourdin, A Idelkadi, C Levy, G Madec, P Marquet, O Marti, I Musat, S Planton, J-F Royer, D Swingedow, A Voldoire, 2006: Simulation de l'évolution récente et future du climat par les modèles du CNRM et de l'IPSL. *La Météorologie*, 55, 45-59.

2005 :

- Bony S and J-L Dufresne, 2005; Marine boundary layer clouds at the heart of tropical cloud feedback uncertainties in climate models, *Geophys. Res. Lett.*, 32, No. 20, L20806, doi:10.1029/2005GL023851. Supporting material
- Bony S and K A Emanuel, 2005: On the role of moist processes in tropical intraseasonal variability:

cloud-radiation and moisture-convection feedbacks. *J. Atmos. Sci.*, 62 (8), 2770-2789.

- Haeffelin M., L. Barthes, O. Bock, C. Boitel, S. Bony, D. Bouniol, H. Chepfer, M. Chiriaco, J. Delanoe, P. Drobinski, J-L. Dufresne, C. Flamant, M. Grall, A. Hodzic, F. Hourdin, F. Lapouge, A. Mathieu, Y. Morille, C. Naud, V. Noel, J. Pelon, C. Pietras, A. Protat, B. Romand, G. Scialom, R. Vautard, 2005: SIRTA, a ground-based atmospheric observatory for cloud and aerosol research. *Annales Geophysicae*, 23 (2), 253-275.
- Vimeux F., R. Gallaire, S. Bony, G. Hoffmann and J. C. Chiang, 2005: What are the climate controls on dD in precipitation in the Zongo Valley (Bolivia) ? Implications for the Illimani ice core interpretation, *Earth Planet. Sci. Lett.*, 240, 205-220, doi:10.1016/j.epsl.2005.09.03
- Zhang M H, W Y Lin, S A Klein, J T Bacmeister, S Bony, R T Cederwall, A D Del Genio, J J Hack, N G Loeb, U Lohmann, P Minnis, I Musat, R Pincus, P Stier, M J Suarez, M J Webb, J B Wu, S C Xie, M -S Yao and J H Zhang, 2005: Comparing Clouds And Their Seasonal Variations in 10 Atmospheric General Circulation Models With Satellite Measurements. *J. Geophys. Res.*, 110, D15S02, doi:10.1029/2004JD005021.

2004 :

- Bony S, J-L Dufresne, H Le Treut, J-J Morcrette and C Senior, 2004: On dynamic and thermodynamic components of cloud changes. *Climate Dynamics*, 22, 71-86. The original publication is available at springerlink.com.
- Bony S, 2004: Comment le débat scientifique a fait progresser l'expertise sur les rétroactions atmosphériques. Publication de l'IDDRI, *Science du changement climatique: Acquis et controverses*, 37-38.

Prior :

- Bony S and K A Emanuel, 2001: A parameterization of the cloudiness associated with cumulus convection; Evaluation using TOGA COARE data. *J. Atmos. Sci.*, 58, 3158-3183.
- Webb M, C Senior, S Bony and J-J Morcrette, 2001: Combining ERBE and ISCCP data to assess clouds in three climate models, *Climate Dynamics*, 17, 905-922.
- Bony S, W Collins and D Fillmore, 2000: Indian ocean low clouds during the winter monsoon, *J. Climate*, 13, 2028-2043.
- Barthelet P. et al., 1998: Simulations couplées globales des changements climatiques associés à une augmentation de la teneur atmosphérique en CO₂. *Compte-rendus de l'Académie des Sciences de Paris, Science de la Terre et des Planètes*, 326, 677-684.
- Bony S, K-M Lau and Y C Sud, 1997: Sea surface temperature and large-scale circulation influences on tropical greenhouse effect and cloud radiative forcing, *J. Climate*, 10, 2055-2077.
- Bony S, Y C Sud, K-M Lau, J Susskind and S Saha, 1997: Comparison and satellite assessment of DAO and NCEP/NCAR reanalyses over tropical ocean, *J. Climate*, 10, 1441-1462.

- Lau K-M, H T Wu and S Bony, 1997: The role of large-scale circulation in the relationship between tropical convection and sea surface temperature, *J. Climate*, 10, 381-392.
- Duvel J-P, S Bony and H Le Treut, 1997: Results of the AMIP diagnostic subproject on the clear-sky greenhouse effect sensitivity to sea surface temperature changes, *Climate Dynamics*, 13, 259-273.
- Cess R. D. et al., 1997: Comparison of the seasonal change in cloud radiative forcing from atmospheric general circulation models and satellite observations, *J. Geophys. Res.*, 102, 16593-16603.
- Bony S, J-Ph Duvel and H Le Treut, 1995: Observed Dependence of the Water Vapor and Clear-sky Greenhouse Effect on Sea Surface Temperature; Comparison with Climate Warming Experiments, *Climate Dynamics*, 11, 307-320.
- Le Treut H, Z-X Li and S Bony, 1994: Climate sensitivity: cloud and water feedbacks and their assessment, *NATO ASI Series, Springer-Verlag*, 25, 353-367.
- Bony S and J-Ph Duvel, 1994: Influence of the Vertical Structure of the atmosphere on the seasonal variation of precipitable water and greenhouse effect, *J. Geophys. Res.*, 99, 12963-12980.
- Bony S, H Le Treut, J-Ph Duvel and R S Kandel, 1992: Satellite validation of GCM-simulated annual cycle of the Earth radiation budget and cloud forcing, *J. Geophys. Res.*, 97, 18061-18081.