

- 1) Abera, T. A., J. Heiskanen, P. Pellikka, M. Rautiainen, and E. E. Maeda, 2019: Clarifying the role of radiative mechanisms in the spatio-temporal changes of land surface temperature across the Horn of Africa. *Remote Sensing of Environment*, **221**, 210-224, doi:10.1016/j.rse.2018.11.024.
- 2) Abrell, J., P. Eser, J. B. Garrison, J. Savelsberg, and H. Weigt, 2019: Integrating economic and engineering models for future electricity market evaluation: A Swiss case study. *Energy Strategy Reviews*, **25**, 86-106, doi:10.1016/j.esr.2019.04.003.
- 3) Alabi, T. R., P. O. Adebola, A. Asfaw, D. De Koeyer, A. Lopez-Montes, and R. Asiedu, 2019: Spatial Multivariate Cluster Analysis for Defining Target Population of Environments in West Africa for Yam Breeding. *International Journal of Applied Geospatial Research (IJAGR)*, **10**, 1-30, doi:10.4018/IJAGR.2019070104.
- 4) Alexandri, G., A. K. Georgoulas, P. Zanis, E. Katragkou, A. Tsikerdekis, K. Kourtidis, and C. Meleti, 2015: On the ability of RegCM4 regional climate model to simulate surface solar radiation patterns over Europe: an assessment using satellite-based observations. *Atmospheric Chemistry and Physics*, **15**, 13195-13216, doi:10.5194/acp-15-13195-2015.
- 5) Alexandri, G., and Coauthors, 2017: A high resolution satellite view of surface solar radiation over the climatically sensitive region of Eastern Mediterranean. *Atmospheric Research*, **188**, 107-121, doi:10.1016/j.atmosres.2016.12.015.
- 6) Amato, F., F. Martellozzo, B. Murgante, and G. Nolè, 2016: Urban Solar Energy Potential in Europe. *Computational Science and Its Applications -- ICCSA 2016: 16th International Conference, Beijing, China, July 4-7, 2016, Proceedings, Part III*, O. Gervasi, and Coauthors, Eds., Springer International Publishing, 443-453.
- 7) Babar, B., R. Graversen, and T. Boström, 2019: Solar radiation estimation at high latitudes: Assessment of the CMSAF databases, ASR and ERA5. *Solar Energy*, **182**, 397-411, doi:10.1016/j.solener.2019.02.058.
- 8) Barkhordarian, A., H. von Storch, E. Zorita, and J. J. Gómez-Navarro, 2016: An attempt to deconstruct recent climate change in the Baltic Sea basin. *Journal of Geophysical Research: Atmospheres*, **121**, 13,207-213,217, doi:10.1002/2015JD024648.
- 9) Blunden, J., and D. S. Arndt, 2020: State of the Climate in 2019. *Bulletin of the American Meteorological Society*, **101**, S1-S429, doi:10.1175/2020BAMSStateoftheClimate.1.
- 10) Bocca, A., L. Bergamasco, M. Fasano, L. Bottaccioli, E. Chiavazzo, A. Macii, and P. Asinari, 2018: Multiple-Regression Method for Fast Estimation of Solar Irradiation and Photovoltaic Energy Potentials over Europe and Africa, **11**, 3477.
- 11) Bojanowski, J. S., A. Vrieling, and A. K. Skidmore, 2014: A comparison of data sources for creating a long-term time series of daily gridded solar radiation for Europe. *Solar Energy*, **99**, 152-171, doi:10.1016/j.solener.2013.11.007.
- 12) Brancucci Martínez-Anido, C., M. Vandenbergh, L. de Vries, C. Alecu, A. Purvins, G. Fulli, and T. Huld, 2013: Medium-term demand for European cross-border electricity transmission capacity. *Energy Policy*, **61**, 207-222, doi:10.1016/j.enpol.2013.05.073.
- 13) Brinckmann, S., J. Trentmann, and B. Ahrens, 2013: Homogeneity Analysis of the CM SAF Surface Solar Irradiance Dataset Derived from Geostationary Satellite Observations. *Remote Sensing*, **6**, 352-378, doi:10.3390/rs6010352.
- 14) Buffat, R., S. Grassi, and M. Raubal, 2018: A scalable method for estimating rooftop solar irradiation potential over large regions. *Applied Energy*, **216**, 389-401, doi:10.1016/j.apenergy.2018.02.008.

- 15) Buffat, R., A. Froemelt, N. Heeren, M. Raubal, and S. Hellweg, 2017: Big data GIS analysis for novel approaches in building stock modelling. *Applied Energy*, **208**, 277-290, doi:10.1016/j.apenergy.2017.10.041.
- 16) Cabos, W., and Coauthors, 2017: The South Atlantic Anticyclone as a key player for the representation of the tropical Atlantic climate in coupled climate models. *Climate Dynamics*, **48**, 4051-4069, doi:10.1007/s00382-016-3319-9.
- 17) Calbó, J., J.-A. González, and A. Sanchez-Lorenzo, 2017: Building global and diffuse solar radiation series and assessing decadal trends in Girona (NE Iberian Peninsula). *Theoretical and Applied Climatology*, **129**, 1003-1015, doi:10.1007/s00704-016-1829-3.
- 18) Calvo Sánchez, J., G. Morales Martín, and J. Polo, 2018: Acquisition and Analysis of Meteorological Data. *Wind Field and Solar Radiation Characterization and Forecasting: A Numerical Approach for Complex Terrain*, R. Perez, Ed., Springer International Publishing, 3-39.
- 19) Casanueva, A., and Coauthors, 2020: Escalating environmental summer heat exposure—a future threat for the European workforce. *Regional Environmental Change*, **20**, 40, doi:10.1007/s10113-020-01625-6.
- 20) Chapman, C. A., K. Valenta, T. R. Bonnell, K. A. Brown, and L. J. Chapman, 2018: Solar radiation and ENSO predict fruiting phenology patterns in a 15-year record from Kibale National Park, Uganda. *Biotropica*, **50**, 384-395, doi:10.1111/btp.12559.
- 21) Couto, A., and A. Estanqueiro, 2020: Exploring Wind and Solar PV Generation Complementarity to Meet Electricity Demand. *Energies*, **13**, 4132.
- 22) Danso, D. K., S. Anquetin, A. Diedhiou, and R. Adamou, 2020: Cloudiness Information Services for Solar Energy Management in West Africa. *Atmosphere*, **11**, 857.
- 23) De Felice, M., M. B. Soares, A. Alessandri, and A. Troccoli, 2019: Scoping the potential usefulness of seasonal climate forecasts for solar power management. *Renewable Energy*, **142**, 215-223, doi:10.1016/j.renene.2019.03.134.
- 24) De Felice, M., I. Gonzalez Aparicio, T. Huld, S. Busch, and I. Hidalgo Gonzalez, 2019: Analysis of the water-power nexus in the West African Power Pool - Water-Energy-Food-Ecosystems project. Publications Office of the European Union.
- 25) de la Vara, A., and Coauthors, 2020: On the impact of atmospheric vs oceanic resolutions on the representation of the sea surface temperature in the South Eastern Tropical Atlantic. *Climate Dynamics*, **54**, 4733-4757, doi:10.1007/s00382-020-05256-9.
- 26) Dirksen, M., W. H. Knap, G.-J. Steeneveld, A. A. M. Holtslag, and A. M. G. K. Tank, 2020: Downscaling daily air-temperature measurements in the Netherlands. *Theoretical and Applied Climatology*, doi:10.1007/s00704-020-03313-1.
- 27) Dorado-Liñán, I., A. Sanchez-Lorenzo, E. Gutiérrez Merino, O. Planells, I. Heinrich, G. Helle, and E. Zorita, 2016: Changes in surface solar radiation in Northeastern Spain over the past six centuries recorded by tree-ring $\delta^{13}C$. *Climate Dynamics*, **47**, 937-950, doi:10.1007/s00382-015-2881-x.
- 28) Duvenhage, D. F., A. C. Brent, W. H. L. Stafford, and O. Craig, 2019: Water and CSP – A preliminary methodology for strategic water demand assessment, **2126**, 220002, doi:10.1063/1.5117761.
- 29) Fabian, M., Y. Uetani, and S. Darula, 2018: Monthly luminous efficacy models and illuminance prediction using ground measured and satellite data. *Solar Energy*, **162**, 95-108, doi:10.1016/j.solener.2017.12.056.

- 30) Fattori, F., N. Anglani, I. Staffell, and S. Pfenninger, 2017: High solar photovoltaic penetration in the absence of substantial wind capacity: Storage requirements and effects on capacity adequacy. *Energy*, **137**, 193-208, doi:10.1016/j.energy.2017.07.007.
- 31) Fillol, E., T. Albarelo, A. Primerose, L. Wald, and L. Linguet, 2017: Spatiotemporal indicators of solar energy potential in the Guiana Shield using GOES images. *Renewable Energy*, **111**, 11-25, doi:10.1016/j.renene.2017.03.081.
- 32) Fragkos, K., and Coauthors, 2019: Assessment of the total precipitable water from a sun photometer, microwave radiometer and radiosondes at a continental site in southeastern Europe. *Atmos. Meas. Tech.*, **12**, 1979-1997, doi:10.5194/amt-12-1979-2019.
- 33) Gaetani, M., T. Huld, E. Vignati, F. Monforti-Ferrario, A. Dosio, and F. Raes, 2014: The near future availability of photovoltaic energy in Europe and Africa in climate-aerosol modeling experiments. *Renewable and Sustainable Energy Reviews*, **38**, 706-716, doi:10.1016/j.rser.2014.07.041.
- 34) Ganora, D., C. Dorati, T. A. Huld, A. Udias, and A. Pistocchi, 2019: An assessment of energy storage options for large-scale PV-RO desalination in the extended Mediterranean region. *Scientific Reports*, **9**, 16234, doi:10.1038/s41598-019-52582-y.
- 35) Gasparovic, I., M. Gasparovic, D. Medak, and M. Zrinjski, 2019: Analiza prostornih podataka o solarnom potencijalu za Hrvatsku. *Geodetski list*, **73**, 25 - 44.
- 36) Gašparović, I., M. Gašparović, and D. Medak, 2018: Determining and analysing solar irradiation based on freely available data: A case study from Croatia. *Environmental Development*, **26**, 55-67, doi:10.1016/j.envdev.2018.04.001.
- 37) Gracia Amillo, A., L. Ntsangwane, T. Huld, and J. Trentmann, 2018: Comparison of satellite-retrieved high-resolution solar radiation datasets for South Africa. *Journal of Energy in Southern Africa*, **29**, 63-76, doi:10.17159/2413-3051/2017/v29i2a3376.
- 38) Gstöhl, U., and S. Pfenninger, 2020: Energy self-sufficient households with photovoltaics and electric vehicles are feasible in temperate climate. *PLOS ONE*, **15**, e0227368, doi:10.1371/journal.pone.0227368.
- 39) Gutiérrez, C., M. Á. Gaertner, O. Perpiñán, C. Gallardo, and E. Sánchez, 2017: A multi-step scheme for spatial analysis of solar and photovoltaic production variability and complementarity. *Solar Energy*, **158**, 100-116, doi:10.1016/j.solener.2017.09.037.
- 40) Gutiérrez, C., S. Somot, P. Nabat, M. Mallet, M. Á. Gaertner, and O. Perpiñán, 2018: Impact of aerosols on the spatiotemporal variability of photovoltaic energy production in the Euro-Mediterranean area. *Solar Energy*, **174**, 1142-1152, doi:10.1016/j.solener.2018.09.085.
- 41) Hagemann, S., A. Loew, and A. Andersson, 2013: Combined evaluation of MPI-ESM land surface water and energy fluxes. *Journal of Advances in Modeling Earth Systems*, **5**, 1-28, doi:10.1029/2012ms000173.
- 42) Hailu, B. T., E. E. Maeda, J. Heiskanen, and P. Pellikka, 2015: Reconstructing pre-agricultural expansion vegetation cover of Ethiopia. *Applied Geography*, **62**, 357-365, doi:10.1016/j.apgeog.2015.05.013.
- 43) Hakuba, M. Z., D. Folini, A. Sanchez-Lorenzo, and M. Wild, 2013: Spatial representativeness of ground-based solar radiation measurements. *Journal of Geophysical Research: Atmospheres*, **118**, 8585-8597, doi:10.1002/jgrd.50673.
- 44) Hakuba, M. Z., D. Folini, G. Schaepman-Strub, and M. Wild, 2014: Solar absorption over Europe from collocated surface and satellite observations. *Journal of Geophysical Research: Atmospheres*, **119**, 3420-3437, doi:10.1002/2013jd021421.
- 45) Hakuba, M. Z., D. Folini, A. Sanchez-Lorenzo, and M. Wild, 2014: Spatial representativeness of ground-based solar radiation measurements-Extension to the full

Meteosat disk. *Journal of Geophysical Research: Atmospheres*, **119**, 11760 - 11771, doi:10.1002/2014jd021946.

- 46) Hannak, L., P. Knippertz, A. H. Fink, A. Kniffka, and G. Pante, 2017: Why Do Global Climate Models Struggle to Represent Low-Level Clouds in the West African Summer Monsoon? *Journal of Climate*, **30**, 1665-1687, doi:10.1175/jcli-d-16-0451.1.
- 47) Hoffmann, H., P. Baranowski, J. Krzyszczak, M. Zubik, C. Sławiński, T. Gaiser, and F. Ewert, 2017: Temporal properties of spatially aggregated meteorological time series. *Agricultural and Forest Meteorology*, **234-235**, 247-257, doi:10.1016/j.agrformet.2016.12.012.
- 48) Holzkämper, A., D. Fossati, J. Hiltbrunner, and J. Fuhrer, 2014: Spatial and temporal trends in agro-climatic limitations to production potentials for grain maize and winter wheat in Switzerland. *Regional Environmental Change*, **15**, 109-122, doi:10.1007/s10113-014-0627-7.
- 49) Huld, T., 2017: PVMAPS: Software tools and data for the estimation of solar radiation and photovoltaic module performance over large geographical areas. *Solar Energy*, **142**, 171-181, doi:10.1016/j.solener.2016.12.014.
- 50) Huld, T., R. Müller, and A. Gambardella, 2012: A new solar radiation database for estimating PV performance in Europe and Africa. *Solar Energy*, **86**, 1803-1815, doi:10.1016/j.solener.2012.03.006.
- 51) Huld, T., M. Moner-Girona, and A. Kriston, 2017: Geospatial Analysis of Photovoltaic Mini-Grid System Performance. *Energies*, **10**, 218, doi:10.3390/en10020218.
- 52) Huld, T., E. Paietta, P. Zangheri, and I. Pinedo Pascua, 2018: Assembling Typical Meteorological Year Data Sets for Building Energy Performance Using Reanalysis and Satellite-Based Data. *Atmosphere*, **9**, 53.
- 53) Journée, M., R. Müller, and C. Bertrand, 2012: Solar resource assessment in the Benelux by merging Meteosat-derived climate data and ground measurements. *Solar Energy*, **86**, 3561-3574, doi:10.1016/j.solener.2012.06.023
- 54) Journée, M., C. Demain, and C. Bertrand, 2013: Sunshine duration climate maps of Belgium and Luxembourg based on Meteosat and in-situ observations. *Advances in Science and Research*, **10**, 15-19, doi:10.5194/asr-10-15-2013.
- 55) Kahru, M., R. Elmgren, and O. P. Savchuk, 2016: Changing seasonality of the Baltic Sea. *Biogeosciences*, **13**, 1009-1018, doi:10.5194/bg-13-1009-2016.
- 56) Kaiser-Weiss, A. K., and Coauthors, 2019: Added value of regional reanalyses for climatological applications. *Environmental Research Communications*, **1**, 071004, doi:10.1088/2515-7620/ab2ec3.
- 57) Kariuki, B. W., and T. Sato, 2018: Interannual and spatial variability of solar radiation energy potential in Kenya using Meteosat satellite. *Renewable Energy*, **116**, 88-96, doi:10.1016/j.renene.2017.09.069.
- 58) Kaspar, F., M. Borsche, U. Pfeifroth, J. Trentmann, J. Drücke, and P. Becker, 2019: A climatological assessment of balancing effects and shortfall risks of photovoltaics and wind energy in Germany and Europe. *Adv. Sci. Res.*, **16**, 119-128, doi:10.5194/asr-16-119-2019.
- 59) Katragkou, E., and Coauthors, 2015: Regional climate hindcast simulations within EURO-CORDEX: evaluation of a WRF multi-physics ensemble. *Geoscientific Model Development*, **8**, 603-618, doi:10.5194/gmd-8-603-2015.
- 60) Kevin, U., and F. Charles, 2014: Planning for Large-Scale Wind and Solar Power in South Africa. UNU-WIDER.

- 61) Kniffka, A., P. Knippertz, and A. H. Fink, 2019: The role of low-level clouds in the West African monsoon system. *Atmos. Chem. Phys.*, **19**, 1623-1647, doi:10.5194/acp-19-1623-2019.
- 62) Knippertz, P., A. H. Fink, R. Schuster, J. Trentmann, J. M. Schrage, and C. Yorke, 2011: Ultra-low clouds over the southern West African monsoon region. *Geophysical Research Letters*, **38**, n/a-n/a, doi:10.1029/2011gl049278.
- 63) Kothe, S., U. Pfeifroth, R. Cremer, J. Trentmann, and R. Hollmann, 2017: A Satellite-Based Sunshine Duration Climate Data Record for Europe and Africa. *Remote Sensing*, **9**, 429.
- 64) Kothe, S., R. Hollmann, U. Pfeifroth, C. Träger-Chatterjee, and J. Trentmann, 2019: The CM SAF R Toolbox—A Tool for the Easy Usage of Satellite-Based Climate Data in NetCDF Format. *International Journal of Geo-Information*, **8**, 109.
- 65) Kötter, E., L. Schneider, F. Sehnke, K. Ohnmeiss, and R. Schröer, 2016: The future electric power system: Impact of Power-to-Gas by interacting with other renewable energy components. *Journal of Energy Storage*, **5**, 113-119, doi: 10.1016/j.est.2015.11.012.
- 66) Krähenmann, S., A. Obregon, R. Müller, J. Trentmann, and B. Ahrens, 2013: A Satellite-Based Surface Radiation Climatology Derived by Combining Climate Data Records and Near-Real-Time Data. *Remote Sensing*, **5**, 4693-4718, doi:10.3390/rs5094693.
- 67) Krähenmann, S., A. Walter, S. Brienem, F. Imbery, and A. Matzarakis, 2018: High-resolution grids of hourly meteorological variables for Germany. *Theoretical and Applied Climatology*, **131**, 899-926, doi:10.1007/s00704-016-2003-7.
- 68) Kulesza, K., 2020: Spatiotemporal variability and trends in global solar radiation over Poland based on satellite-derived data (1986–2015). *International Journal of Climatology*, doi:10.1002/joc.6596.
- 69) ———, 2020: Influence of air pressure patterns over Europe on solar radiation variability over Poland (1986–2015). *International Journal of Climatology*, *n/a*, doi:10.1002/joc.6689.
- 70) Labordena, M., A. Patt, M. Bazilian, M. Howells, and J. Lilliestam, 2017: Impact of political and economic barriers for concentrating solar power in Sub-Saharan Africa. *Energy Policy*, **102**, 52-72, doi:10.1016/j.enpol.2016.12.008.
- 71) Loew, A., J. Peng, and M. Borsche, 2016: High-resolution land surface fluxes from satellite and reanalysis data (HOLAPS v1.0): evaluation and uncertainty assessment. *Geoscientific Model Development*, **9**, 2499-2532, doi:10.5194/gmd-9-2499-2016.
- 72) Mackie, A., M. Wild, H. Brindley, D. Folini, and P. I. Palmer, 2020: Observed and CMIP5-Simulated Radiative Flux Variability Over West Africa. *Earth and Space Science*, **7**, e2019EA001017, doi:10.1029/2019ea001017.
- 73) Maclean, I. M. D., J. R. Mosedale, and J. J. Bennie: Microclima: An R package for modelling meso- and microclimate, **0**, 1 - 11, doi:10.1111/2041-210X.13093.
- 74) Matuszko, D., K. Bartoszek, J. Soroka, and S. Węglarczyk, 2019: Sunshine duration in Poland from ground- and satellite-based data. *International Journal of Climatology*, doi:10.1002/joc.6460.
- 75) ———, 2019: Variability and diversification of sunshine duration in Poland in the years 1971-2018, on the basis of ground- and satellite-based data (in polish). *Współczesne problemy klimatu Polski*, Instytut Meteorologii i Gospodarki Wodnej, Państwowy Instytut Badawczy, 53-65.
- 76) Mazorra Aguiar, L., J. Polo, J. M. Vindel, and A. Oliver, 2019: Analysis of satellite derived solar irradiance in islands with site adaptation techniques for improving the uncertainty. *Renewable Energy*, **135**, 98-107, doi:10.1016/j.renene.2018.11.099.

- 77) Mazorra-Aguiar, L., and F. Díaz, 2018: Solar Radiation Forecasting with Statistical Models. *Wind Field and Solar Radiation Characterization and Forecasting: A Numerical Approach for Complex Terrain*, R. Perez, Ed., Springer International Publishing, 171-200.
- 78) Mialhe, P., and Coauthors, 2020: On the determination of coherent solar climates over a tropical island with a complex topography. *Solar Energy*, **206**, 508-521, doi:10.1016/j.solener.2020.04.049.
- 79) Miglietta, M. M., T. Huld, and F. Monforti-Ferrario, 2017: Local Complementarity of Wind and Solar Energy Resources over Europe: An Assessment Study from a Meteorological Perspective. *Journal of Applied Meteorology and Climatology*, **56**, 217-234, doi:10.1175/jamc-d-16-0031.1.
- 80) Monforti, F., T. Huld, K. Bódis, L. Vitali, M. D'Isidoro, and R. Lacal-Aránegui, 2014: Assessing complementarity of wind and solar resources for energy production in Italy. A Monte Carlo approach. *Renewable Energy*, **63**, 576-586, doi:10.1016/j.renene.2013.10.028.
- 81) Montero-Martín, J., M. Antón, J. Vaquero-Martínez, and A. Sanchez-Lorenzo, 2020: Comparison of long-term solar radiation trends from CM SAF satellite products with ground-based data at the Iberian Peninsula for the period 1985–2015. *Atmospheric Research*, **236**, 104839, doi:10.1016/j.atmosres.2019.104839.
- 82) Mueller, R., J. Trentmann, C. Träger-Chatterjee, R. Posselt, and R. Stöckli, 2011: The Role of the Effective Cloud Albedo for Climate Monitoring and Analysis. *Remote Sensing*, **3**, 2305-2320, doi:10.3390/rs3112305.
- 83) Müller, R., U. Pfeifroth, C. Träger-Chatterjee, J. Trentmann, and R. Cremer, 2015: Digging the METEOSAT Treasure—3 Decades of Solar Surface Radiation. *Remote Sensing*, **7**, 8067-8101, doi:10.3390/rs70608067.
- 84) Nabat, P., and Coauthors, 2020: Modulation of radiative aerosols effects by atmospheric circulation over the Euro-Mediterranean region. *Atmos. Chem. Phys.*, **20**, 8315-8349, doi:10.5194/acp-20-8315-2020.
- 85) Niermann, D., M. Borsche, A. K. Kaiser-Weiss, and F. Kaspar, 2019: Evaluating renewable-energy-relevant parameters of COSMO-REA6 by comparison with satellite data, station observations and other reanalyses. *Meteorologische Zeitschrift*, **28**, 347-360, doi:10.1127/metz/2019/0945.
- 86) Ntsangwane, L., B. Mabasa, V. Sivakumar, N. Zwane, K. Ncongwane, and J. Botai, 2019: Quality control of solar radiation data within the South African Weather Service solar radiometric network. *Journal of Energy in Southern Africa*, **30**, doi:10.17159/2413-3051/2019/v30i4a5586.
- 87) Obregón, A., H. Nitsche, M. Körber, A. Kreis, P. Bissolli, K. Friedrich, and S. Rösner, 2014: Satellite-based climate information within the WMO RA VI Regional Climate Centre on Climate Monitoring. *Advances in Science and Research*, **11**, 25-33, doi:10.5194/asr-11-25-2014.
- 88) Onyaga, C. O., S. W. Wanyonyi, and R. Stern, 2018: Assessing the Potential of Using Satellite Data on Radiation in the Analysis of Earth's Climate System to Complement the Scarce Radiation Data Measured from the Ground Stations. *Asian Journal of Probability and Statistics*, **2**, 1 - 21, doi:10.9734/AJPAS/2018/44511.
- 89) Pavlidis, V., E. Katragkou, A. Prein, A. K. Georgoulas, S. Kartsios, P. Zanis, and T. Karacostas, 2020: Investigating the sensitivity to resolving aerosol interactions in downscaling regional model experiments with WRFv3.8.1 over Europe. *Geosci. Model Dev.*, **13**, 2511-2532, doi:10.5194/gmd-13-2511-2020.

- 90) Perez-Astudillo, D., and D. Bachour, 2015: Variability of measured Global Horizontal Irradiation throughout Qatar. *Solar Energy*, **119**, 169-178, doi:10.1016/j.solener.2015.06.045.
- 91) Pfeifroth, U., A. Sanchez-Lorenzo, V. Manara, J. Trentmann, and R. Hollmann, 2018: Trends and Variability of Surface Solar Radiation in Europe based on Surface- and Satellite-based Data Records. *Journal of Geophysical Research: Atmospheres*, **123**, 1735-1754, doi:10.1002/2017JD027418.
- 92) Pfeifroth, U., and Coauthors, 2018: Satellite-based trends of solar radiation and cloud parameters in Europe. *Adv. Sci. Res.*, **15**, 31-37, doi:10.5194/asr-15-31-2018.
- 93) Pfenninger, S., and I. Staffell, 2016: Long-term patterns of European PV output using 30 years of validated hourly reanalysis and satellite data. *Energy*, **114**, 1251-1265, doi:10.1016/j.energy.2016.08.060.
- 94) Philippon, N., and Coauthors, 2019: The light-deficient climates of western Central African evergreen forests. *Environmental Research Letters*, **14**, 034007, doi:10.1088/1748-9326/aaf5d8.
- 95) Pistocchi, A., C. Dorati, T. A. Huld, and F. Salas Herrero, 2018: Hydro-economic assessment of the potential of PV-RO desalinated seawater supply in the Mediterranean region: Modelling concept and analysis of water transport costs. Publications Office of the European Union.
- 96) Plain, N., B. Hingray, and S. Mathy, 2019: Accounting for low solar resource days to size 100% solar microgrids power systems in Africa. *Renewable Energy*, **131**, 448-458, doi:10.1016/j.renene.2018.07.036.
- 97) Polo, J., and R. Perez, 2019: Solar Radiation Modeling from Satellite Imagery. *Solar Resources Mapping: Fundamentals and Applications*, J. Polo, L. Martín-Pomares, and A. Sanfilippo, Eds., Springer International Publishing, 183-197.
- 98) Posselt, R., R. Mueller, R. Stöckli, and J. Trentmann, 2011: Spatial and Temporal Homogeneity of Solar Surface Irradiance across Satellite Generations. *Remote Sensing*, **3**, 1029-1046, doi:10.3390/rs3051029.
- 99) Posselt, R., R. W. Mueller, R. Stöckli, and J. Trentmann, 2012: Remote sensing of solar surface radiation for climate monitoring — the CM-SAF retrieval in international comparison. *Remote Sensing of Environment*, **118**, 186-198, doi:10.1016/j.rse.2011.11.016.
- 100) Posselt, R., R. Mueller, J. Trentmann, R. Stockli, and M. A. Liniger, 2014: A surface radiation climatology across two Meteosat satellite generations. *Remote Sensing of Environment*, **142**, 103-110, doi:10.1016/j.rse.2013.11.007.
- 101) Psiloglou, B. E., H. D. Kambezidis, D. G. Kaskaoutis, D. Karagiannis, and J. M. Polo, 2020: Comparison between MRM simulations, CAMS and PVGIS databases with measured solar radiation components at the Methoni station, Greece. *Renewable Energy*, **146**, 1372-1391, doi:10.1016/j.renene.2019.07.064.
- 102) Quante, M., and Coauthors, 2016: Introduction to the Assessment—Characteristics of the Region. *North Sea Region Climate Change Assessment*, M. Quante, and F. Colijn, Eds., 1-52.
- 103) Raynaud, D., B. Hingray, B. François, and J. D. Creutin, 2018: Energy droughts from variable renewable energy sources in European climates. *Renewable Energy*, **125**, 578-589, doi:10.1016/j.renene.2018.02.130.
- 104) Raynaud, D., B. Hingray, I. Zin, S. Anquetin, S. Debionne, and R. Vautard, 2017: Atmospheric analogues for physically consistent scenarios of surface weather in Europe and Maghreb. *International Journal of Climatology*, **37**, 2160-2176, doi:10.1002/joc.4844.

- 105) Rieger, D., and Coauthors, 2017: Impact of the 4 April 2014 Saharan dust outbreak on the photovoltaic power generation in Germany. *Atmos. Chem. Phys.*, **17**, 13391-13415, doi:10.5194/acp-17-13391-2017.
- 106) Riihelä, A., T. Carlund, J. Trentmann, R. Müller, and A. V. Lindfors, 2015: Validation of CM SAF Surface Solar Radiation Datasets over Finland and Sweden. *Remote Sensing*, **7**, 6663-6682, doi:10.3390/rs70606663.
- 107) Robledo, J., J. Leloux, E. Lorenzo, and C. A. Gueymard, 2019: From video games to solar energy: 3D shading simulation for PV using GPU. *Solar Energy*, **193**, 962-980, doi:10.1016/j.solener.2019.09.041.
- 108) Rodrigues, R. R., A. S. Taschetto, A. Sen Gupta, and G. R. Foltz, 2019: Common cause for severe droughts in South America and marine heatwaves in the South Atlantic. *Nature Geoscience*, doi:10.1038/s41561-019-0393-8.
- 109) Rodriguez-Galiano, V. F., M. Sanchez-Castillo, J. Dash, P. M. Atkinson, and J. Ojeda-Zujar, 2016: Modelling interannual variation in the spring and autumn land surface phenology of the European forest. *Biogeosciences*, **13**, 3305-3317, doi:10.5194/bg-13-3305-2016.
- 110) Salazar, G., C. Gueymard, J. B. Galdino, O. de Castro Vilela, and N. Fraidenraich, 2020: Solar irradiance time series derived from high-quality measurements, satellite-based models, and reanalyses at a near-equatorial site in Brazil. *Renewable and Sustainable Energy Reviews*, **117**, 109478, doi:10.1016/j.rser.2019.109478.
- 111) Sanchez-Lorenzo, A., M. Wild, and J. Trentmann, 2013: Validation and stability assessment of the monthly mean CM SAF surface solar radiation dataset over Europe against a homogenized surface dataset (1983–2005). *Remote Sensing of Environment*, **134**, 355-366, doi:10.1016/j.rse.2013.03.012.
- 112) Sanchez-Lorenzo, A., J. Trentmann, and M. Wild, 2013: Validation of monthly surface solar radiation over Europe derived from the CM SAF dataset against homogenized GEBA series (1983-2005). *AIP Conference Proceedings*, **1531**, 432-435, doi:10.1063/1.4804799.
- 113) Sanchez-Lorenzo, A., and Coauthors, 2015: Reassessment and update of long-term trends in downward surface shortwave radiation over Europe (1939-2012). *Journal of Geophysical Research: Atmospheres*, **120**, 9555-9569, doi:10.1002/2015jd023321.
- 114) Sanchez-Lorenzo, A., and Coauthors, 2017: Trends in downward surface solar radiation from satellites and ground observations over Europe during 1983–2010. *Remote Sensing of Environment*, **189**, 108-117, doi:10.1016/j.rse.2016.11.018.
- 115) Sawadogo, W., B. J. Abiodun, and E. C. Okogbue, 2020: Impacts of global warming on photovoltaic power generation over West Africa. *Renewable Energy*, **151**, 263-277, doi:10.1016/j.renene.2019.11.032.
- 116) Sawadogo, W., and Coauthors, 2020: Current and future potential of solar and wind energy over Africa using the RegCM4 CORDEX-CORE ensemble. *Climate Dynamics*, doi:10.1007/s00382-020-05377-1.
- 117) Schindler, D., H. D. Behr, and C. Jung, 2020: On the spatiotemporal variability and potential of complementarity of wind and solar resources. *Energy Conversion and Management*, **218**, 113016, doi:10.1016/j.enconman.2020.113016.
- 118) Schwarz, M., D. Folini, M. Z. Hakuba, and M. Wild, 2017: Spatial Representativeness of Surface-Measured Variations of Downward Solar Radiation. *Journal of Geophysical Research: Atmospheres*, **122**, doi:10.1002/2017JD027261.
- 119) ———, 2018: From Point to Area: Worldwide Assessment of the Representativeness of Monthly Surface Solar Radiation Records, **123**, doi:10.1029/2018JD029169.

- 120) Singh, J., and A. Kruger, 2017: Is the summer season losing potential for solar energy applications in South Africa? *Journal of Energy in Southern Africa*, **28**, 52-60, doi:10.17159/2413-3051/2017/v28i2a1673.
- 121) Singh Doorga, J. R., K. R. Dhurmea, S. Rughooputh, and R. Boojhawon, 2019: Forecasting mesoscale distribution of surface solar irradiation using a proposed hybrid approach combining satellite remote sensing and time series models. *Renewable and Sustainable Energy Reviews*, **104**, 69-85, doi:10.1016/j.rser.2018.12.055.
- 122) Sinitssyn, A. V., and S. K. Gulev, 2018: Comparative Analysis of Satellite Databases of Incoming Short-Wavelength Fluxes to the World Ocean Surface. *Oceanology*, **58**, 635-640, doi:10.1134/s0001437018050168.
- 123) Szabó, S., K. Bódis, T. Huld, and M. Moner-Girona, 2013: Sustainable energy planning: Leapfrogging the energy poverty gap in Africa. *Renewable and Sustainable Energy Reviews*, **28**, 500-509, doi:10.1016/j.rser.2013.08.044.
- 124) Tang, C., B. Morel, M. Wild, B. Pohl, B. Abiodun, and M. Bessafi, 2019: Numerical simulation of surface solar radiation over Southern Africa. Part 1: Evaluation of regional and global climate models. *Climate Dynamics*, **52**, 457-477, doi:10.1007/s00382-018-4143-1.
- 125) Tang, C., B. Morel, M. Wild, B. Pohl, B. Abiodun, C. Lennard, and M. J. C. D. Bessafi, 2019: Numerical simulation of surface solar radiation over Southern Africa. Part 2: projections of regional and global climate models, **53**, 2197-2227, doi:10.1007/s00382-019-04817-x.
- 126) Träger-Chatterjee, C., R. W. Müller, and J. Bendix, 2013: Analysis of extreme summers and prior late winter/spring conditions in central Europe. *Natural Hazards and Earth System Science*, **13**, 1243-1257, doi:10.5194/nhess-13-1243-2013.
- 127) Träger-Chatterjee, C., R. W. Müller, and J. Bendix, 2014: Analysis and Discussion of Atmospheric Precursor of European Heat Summers. *Advances in Meteorology*, **2014**, 1-11, doi:10.1155/2014/427916.
- 128) Träger-Chatterjee, C., R. W. Müller, J. Trentmann, and J. Bendix, 2010: Evaluation of ERA-40 and ERA-interim re-analysis incoming surface shortwave radiation datasets with mesoscale remote sensing data. *Meteorologische Zeitschrift*, **19**, 631-640, doi:10.1127/0941-2948/2010/0466.
- 129) Trolliet, M., and Coauthors, 2018: Downwelling surface solar irradiance in the tropical Atlantic Ocean: a comparison of re-analyses and satellite-derived data sets to PIRATA measurements. *Ocean Sci.*, **14**, 1021-1056, doi:10.5194/os-14-1021-2018.
- 130) Urbich, I., J. Bendix, and R. Müller, 2019: The Seamless Solar Radiation (SESORA) Forecast for Solar Surface Irradiance—Method and Validation. *Remote Sensing*, **11**, 2576.
- 131) Urraca, R., A. Sanz-Garcia, and I. Sanz-Garcia, 2020: BQC: A free web service to quality control solar irradiance measurements across Europe. *Solar Energy*, **211**, 1-10, doi:10.1016/j.solener.2020.09.055.
- 132) Urraca, R., T. Huld, F. J. Martinez-de-Pison, and A. Sanz-Garcia, 2018: Sources of uncertainty in annual global horizontal irradiance data. *Solar Energy*, **170**, 873-884, doi:10.1016/j.solener.2018.06.005.
- 133) Urraca, R., J. Antonanzas, A. Sanz-Garcia, and F. J. Martinez-de-Pison, 2019: Analysis of Spanish Radiometric Networks with the Novel Bias-Based Quality Control (BQC) Method. *Sensors*, **19**, 2483.
- 134) Urraca, R., E. Martinez-de-Pison, A. Sanz-Garcia, J. Antonanzas, and F. Antonanzas-Torres, 2017: Estimation methods for global solar radiation: Case study evaluation of five different approaches in central Spain. *Renewable and Sustainable Energy Reviews*, **77**, 1098-1113, doi:10.1016/j.rser.2016.11.222.

- 135) Urraca, R., J. Antonanzas, A. Sanz-Garcia, A. Aldama, and F. J. Martinez-de-Pison, 2018: An algorithm based on satellite observations to quality control ground solar sensors: Analysis of Spanish meteorological networks. *Hybrid Artificial Intelligent Systems, HAIS 2018. Lecture Notes in Computer Science*, F. J. d. C. Juez, J. R. Villar, E. A. d. I. Cal, A. Herrero, H. Quintián, J. A. Sáez, and E. Corchado, Eds., Springer, Cham.
- 136) Urraca, R., T. Huld, A. Gracia-Amillo, F. J. Martinez-de-Pison, F. Kaspar, and A. Sanz-Garcia, 2018: Evaluation of global horizontal irradiance estimates from ERA5 and COSMO-REA6 reanalyses using ground and satellite-based data. *Solar Energy*, **164**, 339-354, doi:10.1016/j.solener.2018.02.059.
- 137) Urraca, R., T. Huld, A. V. Lindfors, A. Riihelä, F. J. Martinez-de-Pison, and A. Sanz-Garcia, 2018: Quantifying the amplified bias of PV system simulations due to uncertainties in solar radiation estimates. *Solar Energy*, **176**, 663-677, doi:10.1016/j.solener.2018.10.065.
- 138) Urraca, R., and Coauthors, 2017: Quality control of global solar radiation data with satellite-based products. *Solar Energy*, **158**, 49-62, doi:10.1016/j.solener.2017.09.032.
- 139) Urraca, R., and Coauthors, 2017: Extensive validation of CM SAF surface radiation products over Europe. *Remote Sensing of Environment*, **199**, 171-186, doi:10.1016/j.rse.2017.07.013.
- 140) Vernay, C., S. Pitaval, and P. Blanc, 2014: Review of Satellite-based Surface Solar Irradiation Databases for the Engineering, the Financing and the Operating of Photovoltaic Systems. *Energy Procedia*, **57**, 1383-1391, doi:10.1016/j.egypro.2014.10.129.
- 141) Victoria, M., and G. B. Andresen, 2019: Using validated reanalysis data to investigate the impact of the PV system configurations at high penetration levels in European countries. *Progress in Photovoltaics: Research and Applications*, doi:10.1002/pip.3126.
- 142) Vindel, J. M., A. A. Navarro, R. X. Valenzuela, and L. F. Zarzalejo, 2016: Temporal variability patterns in solar radiation estimations. *Journal of Atmospheric and Solar-Terrestrial Physics*, **143-144**, 1-7, doi:10.1016/j.jastp.2016.03.004.
- 143) Vindel, J. M., A. A. Navarro, R. X. Valenzuela, and L. Ramírez, 2016: Temporal scaling analysis of irradiance estimated from daily satellite data and numerical modelling. *Atmospheric Research*, **181**, 154-162, doi:10.1016/j.atmosres.2016.06.020.
- 144) Vindel, J. M., R. X. Valenzuela, A. A. Navarro, and L. F. Zarzalejo, 2018: Methodology for optimizing a photosynthetically active radiation monitoring network from satellite-derived estimations: A case study over mainland Spain. *Atmospheric Research*, **212**, 227-239, doi:10.1016/j.atmosres.2018.05.010.
- 145) Vitt, R., G. Laschewski, A. F. Bais, H. Diémoz, I. Fountoulakis, A.-M. Siani, and A. Matzarakis, 2020: UV-Index Climatology for Europe Based on Satellite Data. *Atmosphere*, **11**, 727, doi:10.3390/atmos11070727.
- 146) Wane, O., and Coauthors, 2018: A Multivariate Regression Model for the Assessment of Solar Radiation in the Senegalese Territories. *Innovation and Interdisciplinary Solutions for Underserved Areas*, C. M. F. Kebe, A. Gueye, and A. Ndiaye, Eds., Springer, 3 - 15.
- 147) Yang, C., H. Fraga, W. van Ieperen, H. Trindade, and J. A. Santos, 2019: Effects of climate change and adaptation options on winter wheat yield under rainfed Mediterranean conditions in southern Portugal. *Climatic Change*, doi:10.1007/s10584-019-02419-4.
- 148) Žák, M., J. Mikšovský, and P. Pišoft, 2015: CMSAF Radiation Data: New Possibilities for Climatological Applications in the Czech Republic. *Remote Sensing*, **7**, 14445-14457, doi:10.3390/rs71114445.
- 149) Zhao, G., S. Siebert, A. Enders, E. E. Rezaei, C. Yan, and F. Ewert, 2015: Demand for multi-scale weather data for regional crop modeling. *Agricultural and Forest Meteorology*, **200**, 156-171, doi:10.1016/j.agrformet.2014.09.026.