Recommended SDSM papers on adaptation and decision support

The following papers are highly recommended because they fulfil the often stated brief of downscaling to provide information about future climate risks and adaptation outcomes at the local scale. For convenience, these papers have been grouped by sector of interest. Please let us know if you are aware of other studies like these, especially for missed sectors.

Agriculture

Asgari, A., Darzi-Naftchali, A., Saberali, S.F. and Nadi, M., 2022. Assessing DSSAT performance for predicting yield and water productivity of rainfed canola in a subsurface-drained field. *Theoretical and Applied Climatology*, **149**,1659-1670.

Babel, M.S. and Turyatunga, E., 2015. Evaluation of climate change impacts and adaptation measures for maize cultivation in the western Uganda agro-ecological zone. *Theoretical and Applied Climatology*, **119**, 239-254.

Dharmarathna, W.R.S.S., Herath, S. and Weerakoon, S.B., 2014. Changing the planting date as a climate change adaptation strategy for rice production in Kurunegala district, Sri Lanka. *Sustainability Science*, **9**, 103-111.

Rezaie, B., Hosseinpanahi, F., Siosemardeh, A., Darand, M. and Bannayan, M., 2022. Shifting the sowing date of winter wheat as a strategy for adaptation to climate change in a Mediterranean-type environment. *International Journal of Plant Production*, 1-16.

Shayanmehr, S., Rastegari Henneberry, S., Sabouhi Sabouni, M. and Shahnoushi Foroushani, N., 2020. Climate change and sustainability of crop yield in dry regions food insecurity. *Sustainability*, **12**, 9890.

Whitehead, P.G., Wilby, R.L., Butterfield, D. and Wade, A.J., 2006. Impacts of climate change on in-stream nitrogen in a lowland chalk stream: an appraisal of adaptation strategies. *Science of the Total Environment*, **365**, 260-273.

Flood risk management

Herath, S.M., Sarukkalige, P.R. and Nguyen, V.T.V., 2016. A spatial temporal downscaling approach to development of IDF relations for Perth airport region in the context of climate change. *Hydrological Sciences Journal*, **61**, 2061-2070.

Kristvik, E., Kleiven, G.H., Lohne, J. and Muthanna, T.M., 2018. Assessing the robustness of raingardens under climate change using SDSM and temporal downscaling. *Water Science and Technology*, **77**, 1640-1650.

Wilby, R.L., Dawson, C.W., Murphy, C., Connor, P.O. and Hawkins, E., 2014. The statistical downscaling model-decision centric (SDSM-DC): conceptual basis and applications. *Climate Research*, **61**, 259-276.

Human health

Aboubakri, O., Khanjani, N., Jahani, Y., Bakhtiari, B. and Mesgari, E., 2020. Projection of mortality attributed to heat and cold; the impact of climate change in a dry region of Iran, Kerman. *Science of The Total Environment*, **728**, 138700.

Water resources

Abdulla, F. and Al-Shurafat, A.W., 2020. Assessment of the Impact of Potential Climate Change on the Surface Water of a Trans-boundary Basin: Case Study Yarmouk River. *Procedia Manufacturing*, **44**, 172-179.

Adham, A., Wesseling, J.G., Abed, R., Riksen, M., Ouessar, M. and Ritsema, C.J., 2019. Assessing the impact of climate change on rainwater harvesting in the Oum Zessar watershed in Southeastern Tunisia. *Agricultural Water Management*, **221**, 131-140.

Ayt Ougougdal, H., Yacoubi Khebiza, M., Messouli, M. and Lachir, A., 2020. Assessment of future water demand and supply under IPCC climate change and socio-economic scenarios, using a combination of models in Ourika Watershed, High Atlas, Morocco. *Water*, **12**, 1751.

Klaas, D.K., Imteaz, M.A., Sudiayem, I., Klaas, E.M. and Klaas, E.C., 2020. Assessing climate changes impacts on tropical karst catchment: Implications on groundwater resource sustainability and management strategies. *Journal of Hydrology*, **582**, p.124426.

Moghaddasi, M., Anvari, S. and Akhondi, N., 2022. A trade-off analysis of adaptive and non-adaptive future optimized rule curves based on simulation algorithm and hedging rules. *Theoretical and Applied Climatology*, **148**, 65-78.

Wang, Z., Zhao, X., Wang, J., Song, N. and Han, Q., 2023. Agricultural water allocation with climate change based on gray wolf optimization in a semi-arid region of China. *PeerJ*, **11**, p.e14577.

Yates, D.N., Miller, K.A., Wilby, R.L. and Kaatz, L., 2015. Decision-centric adaptation appraisal for water management across Colorado's continental divide. *Climate Risk Management*, **10**, 35-50.

Youn, S.G., Chung, E.S., Kang, W.G. and Sung, J.H., 2012. Probabilistic estimation of the storage capacity of a rainwater harvesting system considering climate change. *Resources, Conservation and Recycling*, **65**, 136-144.

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