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CubeSats deliver daily crop water use at 3 m resolution

Bruno Jose Luis Aragon Solorio, Matteo G. Ziliani, and Matthew F. McCabe
King Abdullah University of Science and Technology, Water Desalination and Reuse Center, Thuwal, Saudi Arabia
(bruno.aragonsolorio@kaust.edu.sa)

Precision agriculture needs accurate information on crop water use (via evaporation) at high spatiotemporal resolutions. Conventional satellite missions have traditionally required a compromise between having high spatial resolution retrievals occasionally; or coarse resolution captures regularly. The development of CubeSats is relaxing the need for such a compromise by monitoring the Earth at high spatiotemporal resolutions. Here, we show the results of using Planet's daily CubeSat imagery to derive evaporation at 3 m spatial resolution over three agricultural fields in Nebraska USA. Our results indicate that the derived evaporation estimates can provide accurate information on crop water use when evaluated against eddy covariance measurements (r^2 of 0.86-0.89; mean absolute error between 0.06-0.08mm/h) and deliver new insights to enhance water security efforts and in-field decision making.