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Assessment of Multiplatform Satellite Image Frequency for Crop Health Monitoring

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Imagery products are critical for digital agriculture as they help delivering value and insights to growers. Use of publicly available satellite data feeds by digital agriculture companies helps keeping imagery services affordable for broader base of farmers. Optimal use of public and private imagery data sources plays a critical role in the success of image based services for agriculture.

At the Climate Corporation we have established a program focused on intelligence about satellite image coverage and frequency expected in different geographies and times of the year which is becoming critical for global expansion of the company. In this talk we report the results of our analysis on publicly available imagery data sources for key agricultural regions of the globe. Also, we demonstrate how these results can guide commercial imagery acquisition decisions on the case study in Brazil, where some growers run the risk of going through the growing season without receiving imagery from one satellite if relying on a single source of satellite imagery. The study clearly shows the validity of approaches taken as the results matched with factual image deliveries to single digits of percent cover on regional level. Also, our analysis clearly captured realistic temporal and spatial details of changes in image frequency from addition of alternative satellite imagery sources to the production stream. The optimization in imagery acquisitions enables filling data gaps for research and development. In the meantime, it contributes to delivering greater value for growers in Crop Health Monitoring and other image based service.