

Core Information Products and Essential Agricultural Variables for GEOGLAM																
	Spatial Res	Spectral Range	Cloud Free Obs. Frequency	Extent of Obs	Within Season Crop Mask	Within Season Crop Type Mask	Crop (Type) Area Indicator	Crop Condition Indicators	Current Crop Phenology & Ag Practices	Biomass, LAI, fAPAR, fCover, NDVI, Height	Within Season Yield Forecast	End of Season Yield Estimation	Soil Moisture	ET, Water Use, Water Productivity LST	Usual Crop Calendars	Field delineation
Target Product Update Frequency:					Monthly	Monthly	Mid of Season	Weekly	Weekly	Weekly	Monthly	End of Season	Daily	Daily	Every 5 years	Every 3 years
Coarse Resolution Sampling (>30m)																
1	100 - 1000 m	optical	Twice daily	Wall-to-Wall				X		L	L	L			L	
2	50-500 m	optical	2-5 per week	Cropland extent	X	X		X	L	L	L	L		X	L	
3	5-25 km	passive microwave	Daily	Wall-to-Wall				X		X	X	X	X	X		
4	30-100m	thermal	2 to 7 per week	Cropland extent		X		X		X	X	X	X	X		
Moderate Resolution Sampling (10 to 30m)																
5	10-30m	VIS NIR + Red Edge + SWIR	Weekly	Cropland Extent	X	X	M/L	X	X	X	X	X		X	X	L
6	10-30m	SAR dual polarization	2-4 per week	Cropland extent	X	X	M/L		X	X	X	X	X	X	X	L
7	10-30m	SAR coherence	2-4 per week	Cropland extent	X	X	M/L		X	X	X	X	X	X	X	L
8	10-30m	SAR Multifrequency	Weekly	Cropland extent	X	X	M/L		X				X		X	
Fine Resolution Sampling (5 to 10m)																
9	5-10m	VIS NIR + Red Edge + SWIR	Weekly	Cropland Extent	X	X	X	X	X	X	X	X		X		L
10	5-10m	SAR dual polarization	2-4 per week	Cropland extent (cloudy & rice)	M/S	M/S	X		M/S	X			X	X		
Very Fine Resolution Sampling (<5m)																
11	< 5m	VIS NIR	3/year (2 in + 1 out of season)	Cropland extent every 3 years	S	S	M/S									M/S
12	< 5m	VIS NIR	1 to 2 per 3 years	Cropland extent												M/S
13	< 3m	VIS NIR	1 to 2 per month	Refined Sample of All Fields	S	S	X				X	X				M/S
14	<5m	SAR Multifrequency	Weekly	Cropland extent (cloudy)					X	X			X			

*** Addendum**

Optical: 700-1400 nm (VIS NIR) + 1400-3000 nm (SWIR) + 8000-14000 nm (thermal)
 Optimal bandwidths and channel locations to-be-articulated; 1900, 2000, 2100 broadly useful for soil classification (applications in precision management)
 Passive Microwave: emphasis on continuity (SMAP, AMSR-E, SMOS, TRMM)
 SAR: C-band is highest priority, followed by X and L-band

**** Field Sizes (indicated in gray section)**

X = All sizes
 S = < 1.5 ha
 M = 1.5 - 15 ha
 L = > 15 ha

***** General Guidance**

Latency: <2 days for most products and applications
 Pre-processing levels: all to a minimum of terrain-corrected surface reflectance
 Cirrus band must be included for atmospheric adjustment + bands for efficient cloud screening