

Capture	Orthorectification	Publication
2-3 people can map several square km in 1 day	Sorting photos can take >1 hour, stitching up to 1 day	Export from Cartagen Knitter generates a TMS or printable GeoTiff; only web access is needed.

Type	Kite	Balloon
Altitude	300m	1400m
Extent	several hundred meters	>1km is common
Control	hard to target imagery - difficult in winds <45kph or <10kph	very fine control on windless days - difficult in winds >10kph
Payload	<2 kg	<300g
Time constraints	best winds in early afternoon	lowest winds at dawn
Portability	foil kites pack down to 1 liter size	helium tank and fragility of balloon limit portability, access
Tether angle	poor, camera altitude as low as 1/5 of tether length	in windless conditions, flies vertically; very sensitive to wind
Durability	excellent, no consumables	very poor; balloons pop regularly
Cost per flight	none	\$15-35 per flight dependent on helium costs
Initial total cost of kit	\$60-400 depending on kite and tether material	\$100-500 depending on choice of balloon and tether material

Type	Cost	Typical # of uses	Permeability
5-foot polyurethane advertising balloon¹	\$US 140	hundreds?	Deflates 1-3% per day
8-foot² latex weather balloon	\$US 25	up to 10 if careful	remains inflated for several hours; this weakens the balloon
Trash bags	\$US 2	2-3	1-2 days if thicker (3 mil) plastic is used

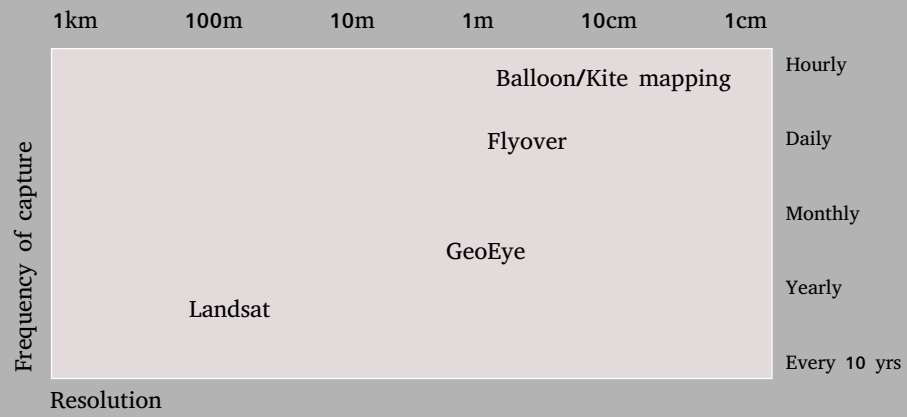
¹ Available from Southern Balloon Works, southernballoonworks.com

² '8-foot' denotes burst diameter, actual filled diameter during use is approximately 4 feet

Site	Criteria	Grassroots Mapping	Google Maps	Percent change
Juan Pablo II	Resolution			
	Recency			
	Roof count	107	66	+62%
San Ignacio Loyola	Resolution			
	Recency			
	Roof count			
Canta Gallo	Resolution	29cm	7cm	+411%
	Recency			
	Roof count			

Conditions	Balloon or Kite	# of images	Est. max altitude (ft)
	balloon	222	1500
	kite	184	
	kite	54	
	balloon	318	
steady wind grew to 20 mph	kite	200	1000
	balloon	118	
	balloon	182	
windy	balloon	100	350
very windy	kite		300
good wind	kite		1000
lots of wind	kite		1000
good wind	kite		1000
good	balloon	124	750
good	balloon		350
7-8 mph	balloon	362	300
poor wind	kite		500
very windy	both	213	1000/1000
good	balloon		800
	balloon	665	700
stormy	balloon		1000
low wind	kite		200
7-8 mph	balloon		400
very windy	kite		
windy	kite	472	350
low wind	both	166	
windy	kite	398	350
	kite	200	
mild steady wind	balloon	323	400
difficult wind	balloon	1000	500
	balloon	900	300-600
wind in wrong direction	balloon	50	500
	kite	325	
good wind	balloon	971	1000

Site	Coordinates	Date of cap- ture	Resolu- tion	Area Lead- er	Trip Esti- mate	Technique
Grand Isle State Park						
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TMS Tiled Map Service

GeoTIFF Geographic TIFF, or Geographic Tiled Image File Format

CHDK Canon Hacker Development Kit

KAP Kite Aerial Photography

BAP Balloon Aerial Photography

COFOPRI Organization for the Formalization of Informal Property

LABB Louisiana Bucket Brigade