Table S1. Confusion Matrix and Change Detection Quantitative Evaluation (%) on the First Dataset.

Method			Result (number of pixels)		Accuracy (%)
			change	unchanged	
CD_PCA_Kmeans		change	23,261	3,311	FA = 4.34, MA = 12.46, OE = 4.76
		unchanged	21,571	475,133	
CD_MLS		change	22,707	3,865	FA = 7.6, MA = 14.55, OE = 7.95
	Ground Truth	unchanged	37,733	458,971	
Semi_FCM		change	24,130	2,442	FA = 8.71, MA = 9.19, OE = 8.73
		unchanged	43,248	453,456	
The proposed		change	24,703	1,869	FA = 3.29, MA = 7.03, OE = 3.48
		unchanged	16,318	480,386	

Table S2. Confusion Matrix and Change Detection Quantitative Evaluation (%) on the Second Dataset.

Method			Result (number of pixels)		Accuracy (%)
			change	unchanged	
CD_PCA_Kmeans		change	28,240	6,826	FA = 2.52, MA = 19.47, OE = 3.35
		unchanged	17,059	660,375	
CD_MLS		change	27,771	7,295	FA = 7.48, MA = 20.8, OE = 8.13
	Ground Truth	unchanged	50,641	626,793	
Semi_FCM		change	29,750	5,316	FA = 8.53, MA = 15.16, OE = 8.86
		unchanged	57,788	619,646	
The proposed		change	28,797	6,269	FA = 1.87, MA = 17.9, OE = 2.66
		unchanged	12,676	664,758	

Table.3. Confusion Matrix and Change Detection Quantitative Evaluation (%) on the Mexico Dataset

Method			Result (number of pixels)		Accuracy (%)
			change	unchanged	
CD_PCA_Kmeans		change	22,965	2,624	FA = 0.78, MA = 10.3, OE = 1.71
		unchanged	1,847	234,708	
CD_MLS		change	22,554	3,035	FA = 0.58, MA = 11.9, OE = 1.68
	Ground Truth	unchanged	1,367	235,188	
Semi_FCM		change	21,757	3,832	FA = 0.41, MA = 15.0, OE = 1.83
		unchanged	968	235,587	
The proposed		change	24,379	1,210	FA = 1.08, MA = 4.73, OE = 1.43
		unchanged	2,547	234,008	

Table S4. Confusion Matrix and Change Detection Quantitative Evaluation (%) on the Sardinia Island dataset

Method			Result (number of pixels)		Accuracy (%)
			change	unchanged	
CD_PCA_Kmeans		change	6490	1136	FA = 1.26,
		unchanged	1461	114513	MA = 14.9, OE = 2.1
CD_MLS	Ground Truth	change	6876	750	FA = 2.64,
		unchanged	3065	112909	MA = 9.83, OE = 3.09
Semi_FCM		change	6874	752	FA = 1.77,
		unchanged	2048	113926	MA = 9.86, OE = 2.27
The proposed		change	7021	605	FA = 1.48,
		unchanged	1722	114252	MA = 7.93, OE = 1.88