

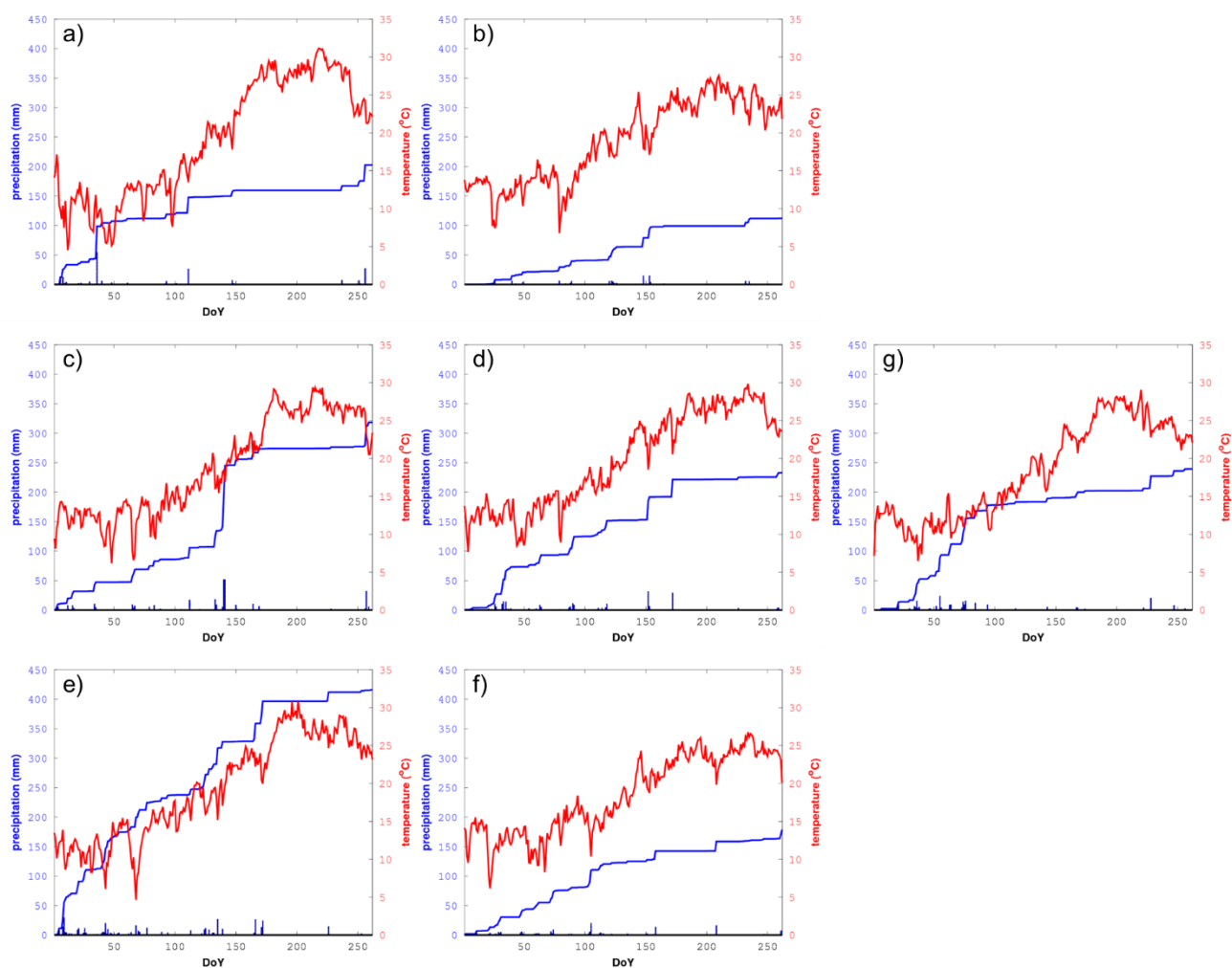


Figure 1. Daily precipitation, cumulative precipitation and mean air temperature during vegetation period for years: (a) 2003; (b) 2007; (c) 2008; (d) 2009 (e) 2010 (f) 2011; (g) 2015.

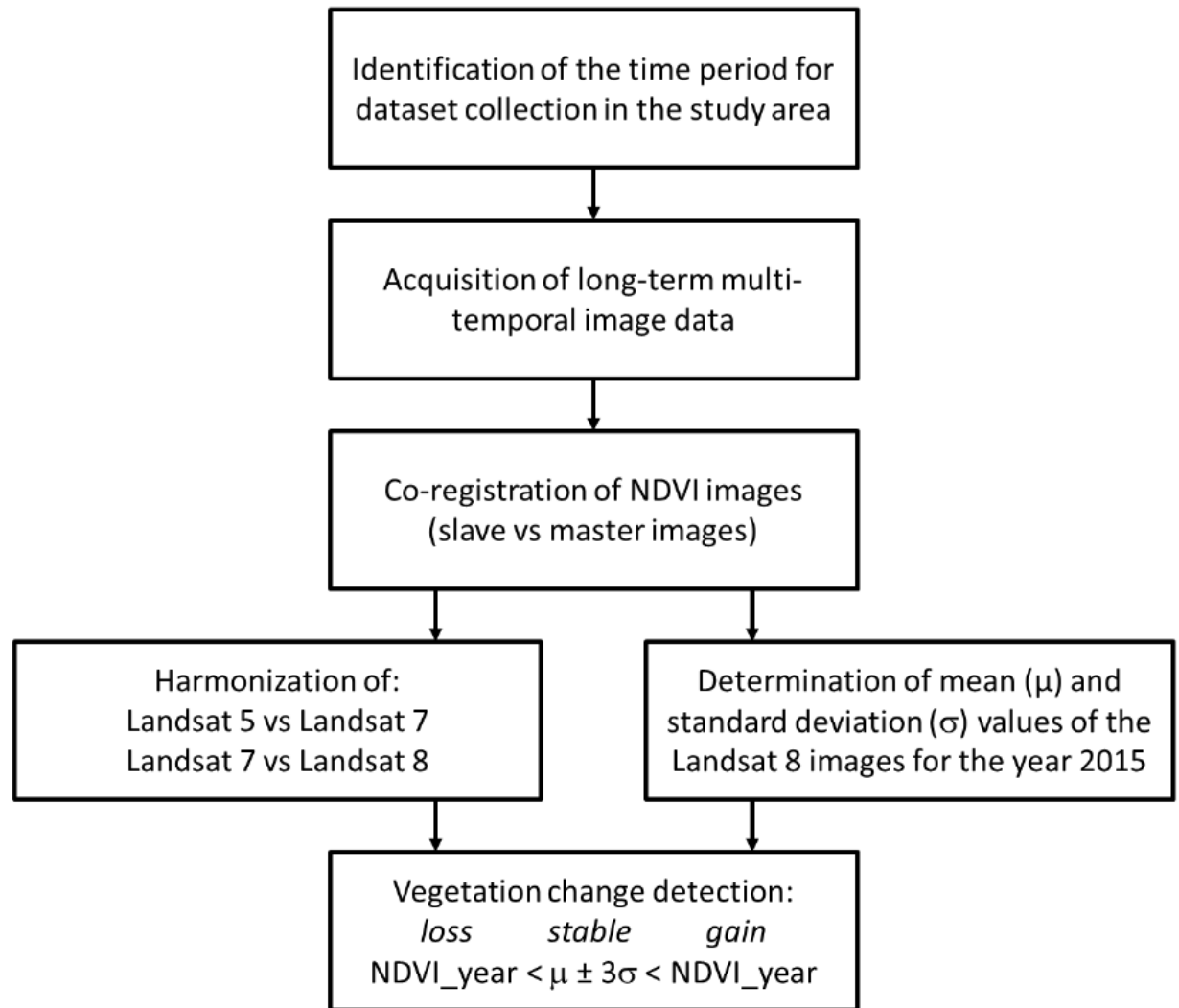


Figure S2. Flowchart of the methodological approach.

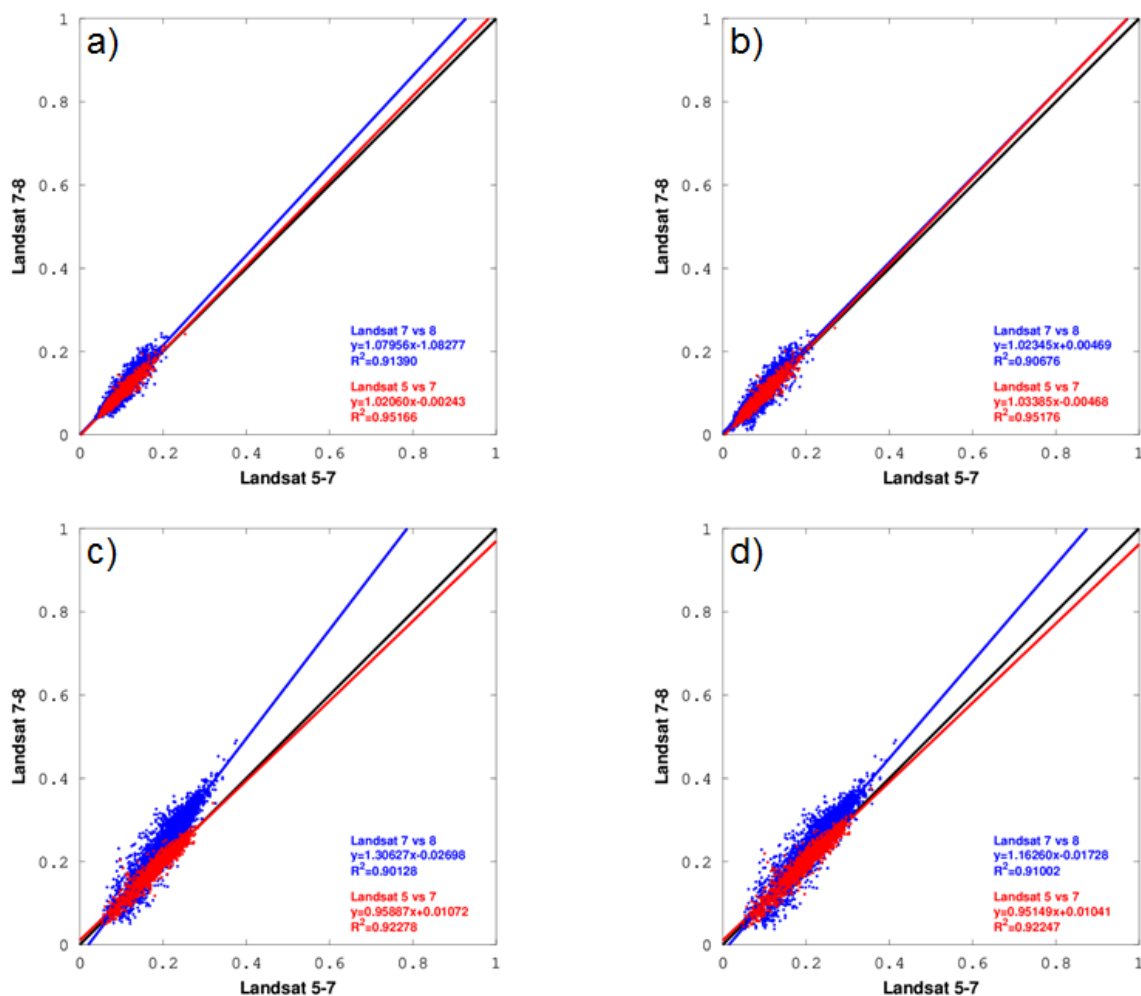


Figure S3. Scatter plots of spectral reflectance bands (a) top of atmosphere (TOA) ρ_{red} ; (b) surface reflectance (SR) ρ_{red} ; (c) TOA ρ_{nir} ; (d) SR ρ_{nir} . Red lines show linear regression of the Thematic Mapper (TM) data (2011, day of year (DoY) 226) against Enhanced Thematic Mapper (ETM+) data (2011, DoY 234) while blue lines show regression of the ETM+ data (2015, DoY 156 and 252) against the Operational Land Imager (OLI) data (2015, DoY 157 and 253). Black lines are 1:1 lines background for reference. The regression equation and determination coefficient (R^2) are shown.

Table S1. Number and percentage of pixel masked out in each datasets of Pianosa Island.

Date	Sensor	Path/Row	DoY	N pixels	[%]	Scene Identifier
11/07/1999	ETM+	193/030	192	403	3.44	LE71930301999192EDC00
05/08/1999	ETM+	192/030	217	3727	31.89	LE71920301999217EDC00
21/08/1999	ETM+	192/031	233	755	6.46	LE71920311999233NSG00
08/08/2003	TM	192/030	220	43	0.36	LT51920302003220MTI01
17/07/2007	ETM+	193/030	198	5533	47.34	LE71930302007198ASN00
02/08/2007	ETM+	193/030	214	4095	35.04	LE71930302007214ASN00
12/09/2007	ETM+	192/030	255	3082	26.37	LE71920302007255ASN00
19/07/2008	ETM+	193/030	201	5353	45.80	LE71930302008201ASN00
04/08/2008	ETM+	193/030	217	7932	67.87	LE71930302008217ASN00
13/08/2008	ETM+	192/030	226	7177	61.41	LE71920302008226ASN00
29/08/2008	ETM+	192/030	242	3553	30.40	LE71920302008242ASN00
30/09/2008	ETM+	192/030	274	7614	65.15	LE71920302008274EDC00
30/07/2009	TM	193/030	211	21	0.17	LT51930302009211MOR00
10/07/2010	TM	192/030	191	333	2.84	LT51920302010191MOR00
14/08/2011	TM	192/030	226	39	0.33	LT51920302011226MOR00
22/08/2011	ETM+	192/030	234	3243	27.75	LE71920302011234ASN00
05/06/2015	ETM+	193/030	156	4020	34.40	LE71930302015156NSG00
16/07/2015	ETM+	192/030	197	3461	29.61	LE71920302015197NSG00
09/09/2015	ETM+	192/031	252	3124	26.73	LE71930302015252NSG00
06/06/2015	OLI	192/030	157	162	1.38	LC81920302015157LGN00
13/06/2015	OLI	193/030	164	6542	55.98	LC81930302015164LGN00
22/06/2015	OLI	192/031	173	1154	9.87	LC81920312015173LGN00
29/06/2015	OLI	193/030	180	2	0.01	LC81930302015180LGN00
08/07/2015	OLI	192/030	189	90	0.77	LC81920302015189LGN00
24/07/2015	OLI	192/030	205	1127	9.64	LC81920302015205LGN00
31/07/2015	OLI	193/030	212	550	4.70	LC81930302015212LGN00
09/08/2015	OLI	192/030	221	1427	12.21	LC81920302015221LGN00
16/08/2015	OLI	193/030	228	5876	50.28	LC81930302015228LGN00
25/08/2015	OLI	192/030	237	52	0.44	LC81920302015237LGN00
01/09/2015	OLI	193/030	244	0	0	LC81930302015244LGN00
10/09/2015	OLI	192/031	253	0	0	LC81920312015253LGN00