Journal of Limnology
CNR - Water Research Institute (IRSA) - Verbania Pallanza - Italy

JOURNAL OF LIMNOLOGY

DOI: 10.4081/jlimnol.2026.2281

SUPPLEMENTARY MATERIAL

Enhancing shallow water habitat mapping with high-resolution pansharpened PRISMA imagery data

Lodovica Panizza,[1*] Mariano Bresciani,[1] Alessia Tricomi,[2] Federica Braga,[3] Andrea Pellegrino,[1,4] Alice Fabbretto,[1] Riccardo Musto,[5] Cecilia Sciarretta,[6] Claudia Giardino[1]

[1]National Research Council–Institute for Electromagnetic Sensing of the Environment (CNR-IREA), Milan
[2]e-GEOS S.p.A., Rome
[3]National Research Council-Institute of Marine Sciences (CNR-ISMAR), Venice
[4]Department of Engineering, Sapienza University of Rome
[5]Leonardo Labs (Leonardo S.p.A.), Rome
[6]Telespazio/e-GEOS S.p.A., Rome, Italy

*Corresponding author: panizza.l@irea.cnr.it

Key words: inland water; imaging spectroscopy; high-resolution; bio-optical model; pansharpening; macrophytes.

Note: The publisher is not responsible for the content or functionality of any supporting information supplied by the authors. Any queries should be directed to the corresponding author for the article.

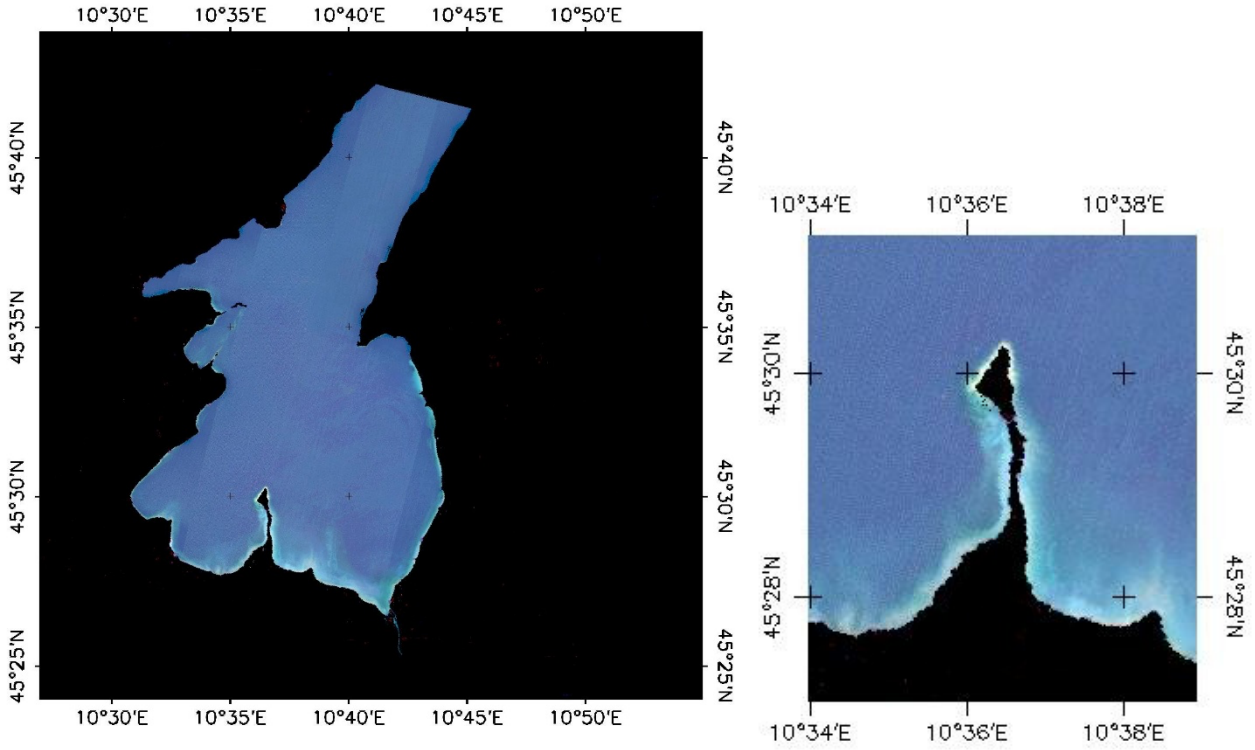


Fig. S1. PRISMA pansh product. Entire image on the left, and a zoom on the area investigated on the right.

		Truth Data							
		Dreissena spp.	Rocks	Mud	Dense Macrophy	Moderate Macrophy	Sparse Macrophy	Mixed pixels	Total
Classifier results	*Dreissena* spp.	2	0	0	0	0	0	0	2
	Rocks	0	3	0	0	0	0	0	3
	Mud	0	0	3	0	1	0	0	4
	Dense Macrophytes	0	0	0	4	0	0	0	4
	Moderate Macrophytes	0	0	1	1	4	2	0	8
	Sparse Macrophytes	0	1	0	0	0	4	0	5
	Mixed pixels	0	0	0	0	0	0	6	6
	Total	2	4	4	5	5	6	6	32
	OA	80%							

Fig. S2. Confusion matrix for the 5 m spatial resolution PRISMA pansh classified product.

		Truth Data							
		Dreissena spp.	Rocks	Mud	Dense Macrophy	Moderate Macrophy	Sparse Macrophy	Mixed pixels	Total
Classifier results	*Dreissena* spp.	2	0	0	0	0	0	0	2
	Rocks	0	1	0	0	0	0	0	1
	Mud	0	1	3	0	0	0	0	4
	Dense Macrophytes	0	0	0	4	0	1	0	5
	Moderate Macrophytes	0	0	1	1	3	1	1	7
	Sparse Macrophytes	0	1	0	0	1	4	0	6
	Mixed pixels	0	1	0	0	1	0	5	7
	Total	2	4	4	5	5	6	6	32
	OA	68%							

Fig. S3. Confusion matrix for the 10 m spatial resolution PRISMA pansh classified product.

		Truth Data							
		Dreissena spp.	Rocks	Mud	Dense Macrophy	Moderate Macrophy	Sparse Macrophy	Mixed pixels	Total
Classifier results	*Dreissena* spp.	1	0	0	0	0	0	0	1
	Rocks	0	1	0	1	0	0	0	2
	Mud	0	0	1	0	1	0	0	2
	Dense Macrophytes	0	0	0	1	0	0	0	1
	Moderate Macrophytes	0	0	0	1	3	1	0	5
	Sparse Macrophytes	0	2	0	1	0	4	0	7
	Mixed pixels	1	1	3	1	1	1	6	14
	Total	2	4	4	5	5	6	6	32
	OA	52%							

Fig. S4. Confusion matrix for the 30 m spatial resolution PRISMA pansh classified product.