



**prisma**scienza

# OVERSEE

GLOBAL ECV MULTISENSOR MAPPING FOR  
COASTAL ECOSYSTEM SERVICES PROTECTION

**Prof. Andrea Taramelli – IUSS Pavia**

**Earth Technology Expo, Firenze 15 Ottobre 2021**

# Consortium



**IUSS**

Scuola Universitaria Superiore Pavia

PRIME



**ISPRA**

Istituto Superiore per la Protezione  
e la Ricerca Ambientale



**Università  
degli Studi  
di Ferrara**

SUBCONTRACTORS



Consiglio Nazionale  
delle Ricerche

**JPL** Jet Propulsion Laboratory  
California Institute of Technology

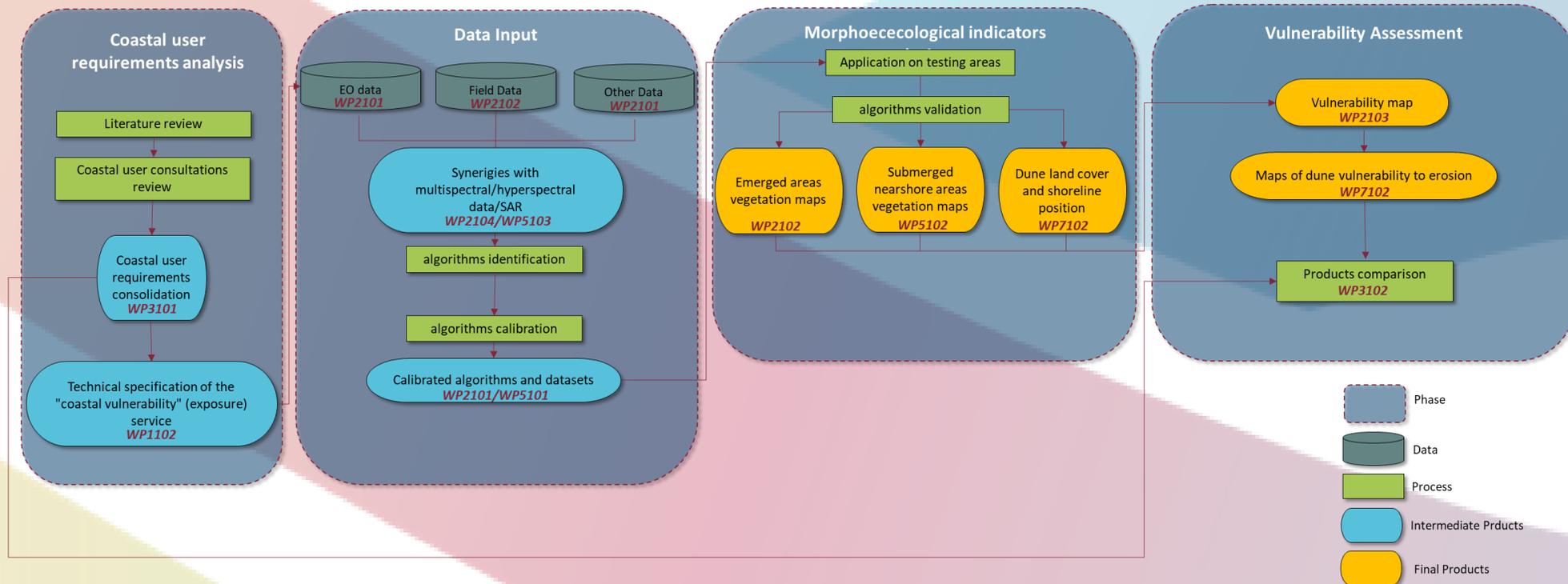
**Godard**  
SPACE FLIGHT CENTER



INKIND



# Planned Activities: Flow and Interrelations

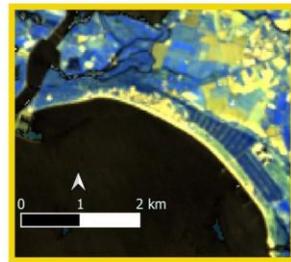
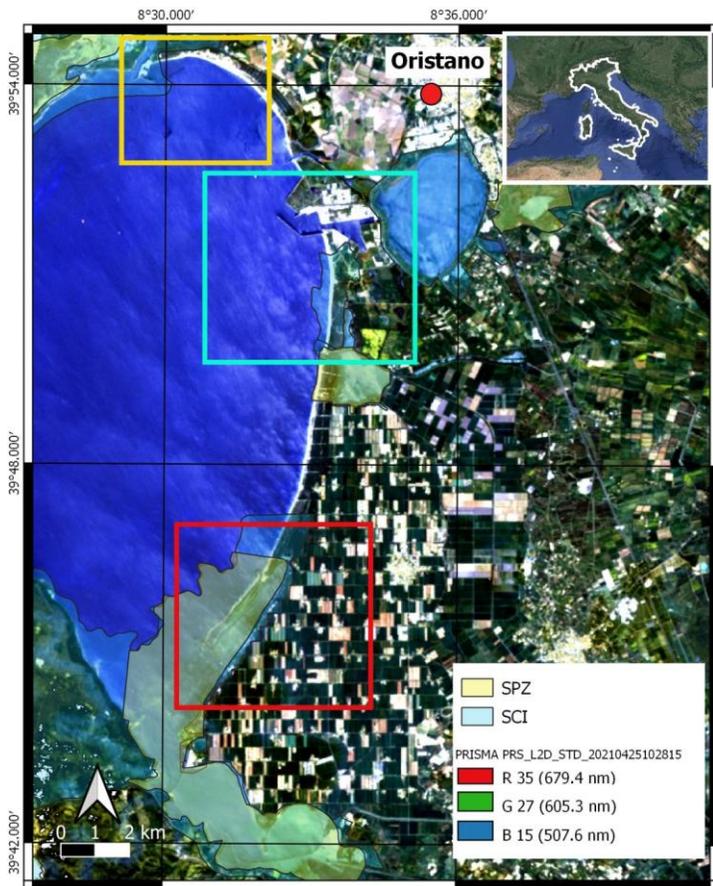


## Main Goal:

The identification of **ecological** and **morphological indicators** and /or sets of indicators based on **EO multisensor data** to:

- evaluate and identify **emerged** and **submerged land cover coastal changes**
- predict most **vulnerable areas** to flood and erosion process related to both natural and anthropogenic pressures

# Pilot Test Site: Gulf of Oristano (Italy)



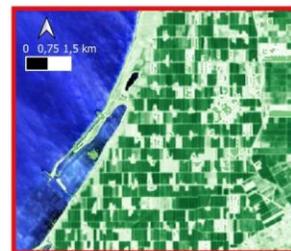
## Beach Dune System

- R 121 (2118.9 nm)
- G 61 (1554.5 nm)
- B 53 (865.9 nm)



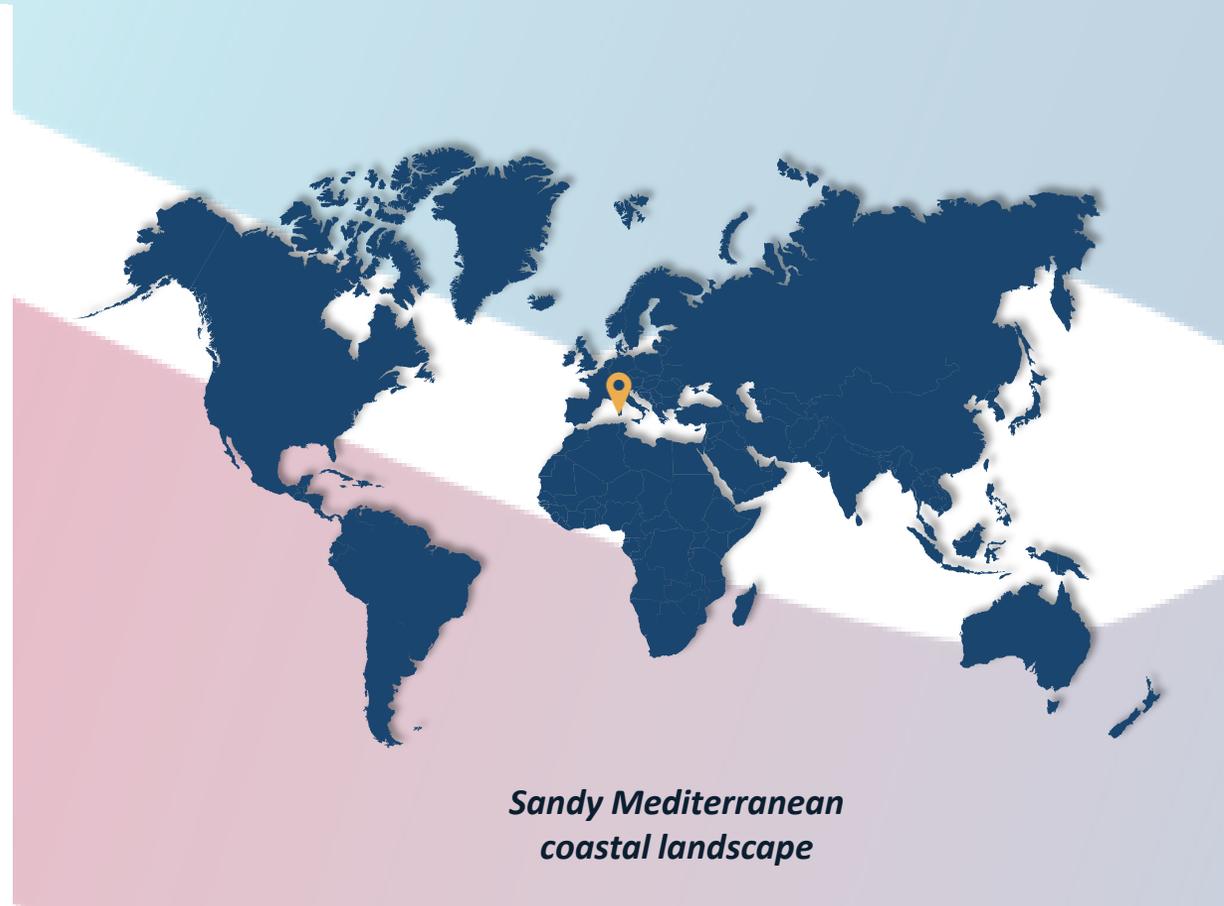
## Coastal water

- NDWI
- 0.05
  - 0.05
  - 0.07
  - 0.15
  - 1

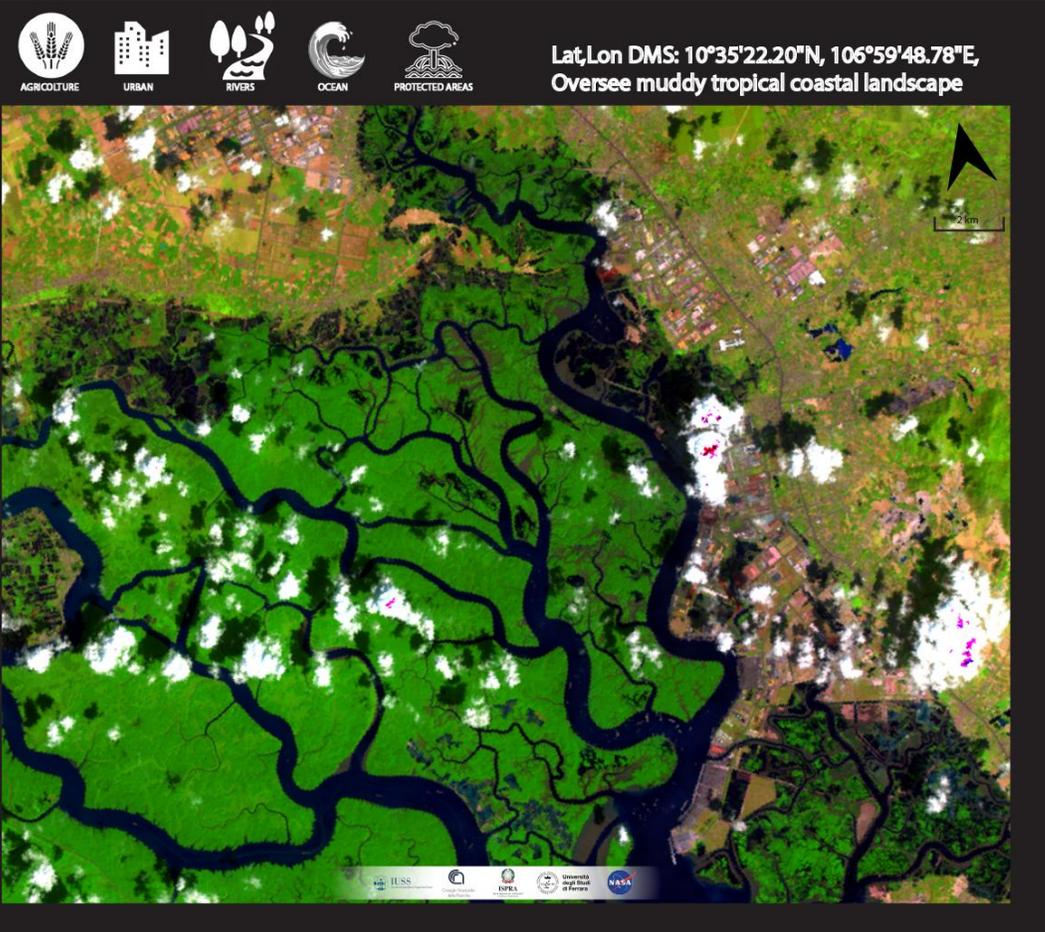


## Agroecosystem

- SAVI
- 0.2
  - 0.4
  - 0.6
  - 0.8



# Pilot Test Site: Saigon-dong Nai Delta (Vietnam)



*Muddy Tropical coastal landscapes*



# First KOM and 2022 Field Campaign Planning



**First KOM**  
November 2021  
Gulf of Oristano  
(Italy)



## Field Campaign Overview

1. Gulf of Oristano, Sardegna, Italy 



15 days: 6<sup>th</sup>-20<sup>th</sup> March

| March '22 |    |    |    |    |    |    |
|-----------|----|----|----|----|----|----|
| S         | M  | T  | W  | T  | F  | S  |
|           |    | 1  | 2  | 3  | 4  | 5  |
| 6         | 7  | 8  | 9  | 10 | 11 | 12 |
| 13        | 14 | 15 | 16 | 17 | 18 | 19 |
| 20        | 21 | 22 | 23 | 24 | 25 | 26 |
| 27        | 28 | 29 | 30 | 31 |    |    |

15 days: 2<sup>nd</sup>-16<sup>th</sup> May

| May '22 |    |    |    |    |    |    |
|---------|----|----|----|----|----|----|
| S       | M  | T  | W  | T  | F  | S  |
|         | 1  | 2  | 3  | 4  | 5  | 6  |
| 7       | 8  | 9  | 10 | 11 | 12 | 13 |
| 14      | 15 | 16 | 17 | 18 | 19 | 20 |
| 21      | 22 | 23 | 24 | 25 | 26 | 27 |
| 28      | 29 | 30 | 31 |    |    |    |

2. Saigon-Dong Nai Delta, Vietnam 



20<sup>th</sup> June-4<sup>th</sup> July

| June '22 |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|
| S        | M  | T  | W  | T  | F  | S  |
|          |    |    | 1  | 2  | 3  | 4  |
| 5        | 6  | 7  | 8  | 9  | 10 | 11 |
| 12       | 13 | 14 | 15 | 16 | 17 | 18 |
| 19       | 20 | 21 | 22 | 23 | 24 | 25 |
| 26       | 27 | 28 | 29 | 30 |    |    |

| July '22 |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|
| S        | M  | T  | W  | T  | F  | S  |
|          |    |    |    |    | 1  | 2  |
| 3        | 4  | 5  | 6  | 7  | 8  | 9  |
| 10       | 11 | 12 | 13 | 14 | 15 | 16 |
| 17       | 18 | 19 | 20 | 21 | 22 | 23 |
| 24       | 25 | 26 | 27 | 28 | 29 | 30 |
| 31       |    |    |    |    |    |    |