**Decadal Remote Sensing Analysis of Seagrass Changes in Palu Bay, Central Sulawesi**

**Supplementary Material – Visual Record**

**1. Description of the six field study sites**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | |  | Station 1.  Site: Kabonga Kecil, Donggala District.  Brief description:  Dense residential development along the coast, no remaining mangrove ecosystem, fringing coral reef, around 125 m from the Kabonga tourism view-point (*anjungan*) seafront development. | | |  | Station 2.  Site: Kabonga Kecil, Donggala District.  Brief description:  Dense residential development behind the fringing mangrove ecosystem. Mangrove island separated from the shore and fringing coral reefs. | | |  | Station 3.  Site: Levuto Island, Kabonga Besar, Donggala District  Brief description:  No residential development, mangrove and coral reef ecosystems present. | | |  | Station 4.  Site: Kabonga besar, Donggala District  Brief description:  No residential development, the area is used for mangrove tourism. Fringin coral reefs present, relatively sheltered due to the small islands in front of the site. | | |  | | Station 5.  Site: Baiya, Palu City  Brief description:  Relatively sparse residential development, area used for coastal/beach tourism, mangroves and fringing coral reefs present. | |  | | Station 6.  Site: Mamboro, Palu City  Brief description:  Limited residential development, shrimp hatchery belonging to the Provincial Marine and Fisheries Service, no mangroves. Fringing reef prior to 2018 tsunami. | |

**2. Participatory Rapid Appraisal (PRA)**

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| --- | --- |
| PRA activities in Mamboro Village | PRA activities in Taipa Village |
| PRA activities in Buluri Village | PRA activities in Silae Village |

**3. Examples of anthropogenic impacts in Palu Bay**

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| --- | --- |
| Several anthropogenic activities along Donggala Regency to Palu City | Numerous anthropogenic activities in Donggala Regency (western zone) |
| Anthropogenic activities in the form of coastal stockpiling for Pertamina ship docks in Loli Saluran Village (western zone) | Anthropogenic activities in the form of rock mining and coastal stockpiling in Donggala Regency of western zone |
| Anthropogenic activities in the form of coastal stockpiling for container ship docks in Loli Tasiburi Village (western zone) | Anthropogenic activities in the form of coastal stockpiling for the construction of a barge dock in coastal of Palu Bay (western zone) |
| Anthropogenic activities in the form of coastal stockpiling for the construction of a barge dock in Palu Bay of western zone | Rock mining activities in Watusampu Village (western zone) |

**4. Subsidence from the 2018 earthquake**

|  |  |
| --- | --- |
| Buluri Village (Musayyadah Tis'in) | Silae Village (Patria & Putra, 2020) |

**5. Confusion Matrix**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Live coral | | Dead coral | Seagrass | Sand | Number of rows | | User Accuracy |
| Live coral | 5 | | 0 | 2 | 0 | | 7 | 71.43 |
| Dead coral | 1 | | 5 | 0 | 3 | | 9 | 55.56 |
| Seagrass | 1 | | 2 | 18 | 0 | | 21 | 85.71 |
| Sand | 0 | | 0 | 3 | 28 | | 31 | 90.32 |
| *Number of rows* | 7 | | 7 | 23 | 31 | | 70 |  |
| *Producer accuracy* | 71.43 | | 71.43 | 78.26 | 90.32 | |  |  |
| Overall accuracy K | | 80% | | | | | | |