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## LAMPIRAN

Lampiran 1. Riwayat hidup dalam bentuk ATS

### Muhammad Alif Muqorrabin

Makassar, Sulawesi Selatan | [LinkedIn](#) | [Email](#)

#### RIWAYAT PENDIDIKAN

<b>Panaga School (Rampayoh &amp; Teraja)</b>	<b>Brunei Darussalam, Seria</b> <i>Tahun Lulus: 2014</i>
<b>International School of Brunei (ISB) Brunei Darussalam, Bandar Seri Begawan</b>	<i>Tahun Lulus: 2015</i>
<b>Fairview International School (Kuala Lumpur Campus) Lumpur</b>	<b>Malaysia, Kuala Lumpur</b> <i>Tahun Lulus: 2016</i>
<b>SMA Laboratorium UM</b> <i>International Class Program (ICP)</i>	<b>Indonesia, Kota Malang</b> <i>Tahun Lulus: 2019</i>
<ul style="list-style-type: none"> <li>● Nilai GCSE Untuk Mathematics dan English as Second Level: B</li> <li>● Lomba Video Terbaik</li> </ul>	
<b>Universitas Hasanuddin</b> <i>S.Kel pada Jurusan Ilmu Kelautan</i>	<b>Makassar</b> <i>Tahun Lulus: May-2024</i>
<ul style="list-style-type: none"> <li>● IPK: 3,52</li> <li>● Organisasi: Keluarga Mahasiswa Jurusan Ilmu Kelautan Fakultas Ilmu Kelautan dan Perikanan (KEMA JIK FIKP) Unhas, Unit Tenis Lapangan Mahasiswa (UTILMA) Unhas, Penerbitan Kampus identitas Unhas.</li> </ul>	

#### PENGALAMAN ORGANISASI

<b>Badan Pengurus Harian KEMA Jurusan Ilmu Kelautan dan Perikanan (KEMAJIK-FIKP UH)</b> <i>Anggota Hubungan Masyarakat (HUMAS)</i>	<b>Makassar</b> <i>November 2021–Agustus 2022</i>
<ul style="list-style-type: none"> <li>● Memiliki tupoksi berupa komunikasi, menjaga hubungan komunikasi baik dalam dan eksternal lembaga.</li> <li>● Membantu mengawasi HUMAS kepanitiaan yang diadakakan oleh KEMAJIK-FIKP UH.</li> <li>● Menjadi stakeholder dalam beberapa kegiatan dan mengkoordinir pembuatan Tabloid Bahari Edisi I.</li> <li>● Berperan sebagai webmaster sehingga menjaga kestabilan, meppercantik dan mengupload tulisan di website <a href="https://ilmukelautanunhas.wordpress.com/">https://ilmukelautanunhas.wordpress.com/</a>.</li> </ul>	
<b>Penerbitan Kampus <i>identitas</i> Universitas Hasanuddin</b> <i>Reporter (Kru)</i>	<b>Makassar</b> <i>Agustus 2021-Desember 2023</i>
<ul style="list-style-type: none"> <li>● Setelah menjalani proses Magang di <i>identitas</i>, diangkat menjadi reporter yang memiliki tanggung jawab seperti membuat berita buat majalah cetak dan juga website (online).</li> <li>● Mengambil foto maupun video buat keperluan redaksi.</li> <li>● Melakukan dan membantu kegiatan diluar redaksi seperti diskusi dan pelatihan.</li> </ul>	

**Penerbitan Kampus *identitas* Universitas Hasanuddin****Makassar***Redaktur (Editor)**December 2022-December 2024*

- Setelah menjalani beberapa waktu menjadi reporter, dilanjut menjadi redaktur pada beberapa rubrik yakni Kronik & identitas English.
- Tupoksi redaktur meliputi mengusulkan, menagih, menyunting naskah.

**Perhimpunan Pers Mahasiswa Indonesia Nasional****Nasional***Koordinator Badan Pengurus Advokasi**November 2023-2025*

- Menghimpun, mengkaji dan mengawal isu terkait pers mahasiswa baik secara pribadi maupun lembaga. Selain isu pers mahasiswa, isu lainnya berupa isu nasional maupun isu pers secara internasional dan nasional.
- Membantu secara langsung maupun tidak langsung lembaga/individu pers mahasiswa terkait peliputan atau organisasi.

**PENGALAMAN KEPIMPINAN & KEPANITIAAN****Dies Natalis ke-47 Penerbitan Kampus *identitas* Unhas****Makassar***Ketua Panitia**October-December 2021*

- Coordinated around 3 main events (nation wide competition, talkshow and night gathering) with around 30 people
- Main event which is night gathering was attended with around 80 people from different backgrounds such as campus officials, formal Hasanuddin University rector, Chairman of Student Executive Body from different faculties.

**Kampung Pesisir****Makassar***Koordinator Humas**February-July 2020*

- Mengoordinasikan sekitar 5 orang dengan jobdesk yang terdiri dari pembuatan pamflet, video, live report, pengantaran surat dan pembuatan desain sesuai permintaan panitia.
- Berhasil mengoordinasikan kegiatan dengan berbagai tantangan, salah satu terbesarnya adalah pandemi Covid-19 sehingga sebagian besar dilakukan secara daring.

**Kampung Pesisir****Makassar***Anggota Humas**2021*

- Melakukan pembuatan pamflet, live report, pembuatan merchandise dan permintaan sesuai panitia.
- Berhasil membantu menyelesaikan acara walaupun sementara pandemi Covid-19.

**PENGALAMAN ASISTEN LABORATORIUM****Pemetaan Pesisir dan Laut****Makassar***Anggota**September-December 2022*

- Mengoordinasikan kurang lebih 120 orang bersama asisten lainnya dengan mengajarkan mengenai pemetaan pesisir dan laut selama beberapa bulan. Materi yang diajarkan meliputi Penggunaan Alat Theodolite, Waterpass dan UAV dan pengukuran dan pengolahan data topografi.

**Akustik Kelautan****Makassar***Anggota**September-December 2022*

- Mengoordinasikan kurang lebih 120 orang bersama asisten lainnya dengan mengajarkan mengenai akustik kelautan selama beberapa bulan. Materi yang diajarkan meliputi penggunaan aplikasi SIMRAD EP500 serta pengolahan data akustik ikan.

**Survei Hidrografi****Makassar***Anggota**Maret-Juli 2023*

- Mengoordinasikan kurang lebih 30 orang bersama asisten lainnya dengan mengajarkan mengenai survei hidrografi selama beberapa bulan. Materi yang diajarkan meliputi penggunaan penggunaan alat waterpass; pengukuran dan pengolahan data topografi; penggunaan aplikasi Surfer.

**Pemetaan Pesisir dan Laut****Makassar***Anggota**Februari-Mei 2024*

- Mengoordinasikan kurang lebih 300 orang bersama asisten lainnya dengan mengajarkan mengenai pemetaan pesisir dan laut selama beberapa bulan. Materi yang diajarkan meliputi Penggunaan Alat Theodolite, Waterpass dan UAV dan pengukuran dan pengolahan data topografi.

**PELATIHAN & PRESTASI****Lomba GIS Supermap****Nasional***Ketua Tim**Juli-September 2023*

- Diberikan tugas untuk memaparkan hasil olah data GIS menggunakan aplikasi Supermap.
- Tim yang beranggota tiga orang dan dipimpin oleh ketua tim yakni saya sendiri memaparkan hasil pemetaan DAS di wilayah Bogor. Pemaparan terkait hasil pengolahan data di Supermap dapat dilihat di link berikut: <https://youtu.be/uzYKMOOrJBMo?si=DMNP7rJZYmtMbjBb>
- Karya tersebut berjudul Visualisation Watershed of Bogor Rivers.

**ASEAN Geospatial Challenge 2024****Nasional***Ketua Tim**September 2023*

- Diberikan tema bebas untuk mengolah data geospasial dan memaparkan secara baik yang dapat memberikan sumbangsih kepada masyarakat secara umum.
- Tim yang beranggota empat orang termasuk saya memaparkan peta yang melihat rooftop sebagai salah satu lahan yang tidak dimanfaatkan di wilayah metropolitan, salah satu pemanfaatannya yang lagi digencorkan diluar negeri adalah *urban farming*. Kesesuaian lahan rooftop ini menggunakan beberapa metode seperti skoring dan berbagai jenis data spasial seperti suhu, lama penyinaran matahari, curah hujan dan lainnya. Studi kasus nya mengambil Provinsi Daerah Khusus Ibukota Jakarta sebagai contoh. Karya tersebut berjudul Projection of Agroclimatology Suitability for Rooftop Agriculture with Geospatial Approach in Central Jakarta, Indonesia.
- Dari 40+ pendaftar, diseleksi menjadi 10 tim dan salah satunya adalah tim kami bernama GACU (Geospatial Agrocomplex Coalition Unhas) yang dipaparkan ke panelis terdiri dari berbagai instansi seperti BIG dan kementerian terkait.



**Short Course QGIS Tematik Orthorektifikasi CSRT***Peserta***Nasional (Daring)***2 Juli 2023***Pelatihan SIG Tematik: Plugin QGIS Molusce x InVEST untuk Perhitungan Penyimpanan Karbon dan Prediksinya di Masa Depan***Peserta***Nasional (Daring)***16 Maret 2024***SKILLS & INTERESTS**

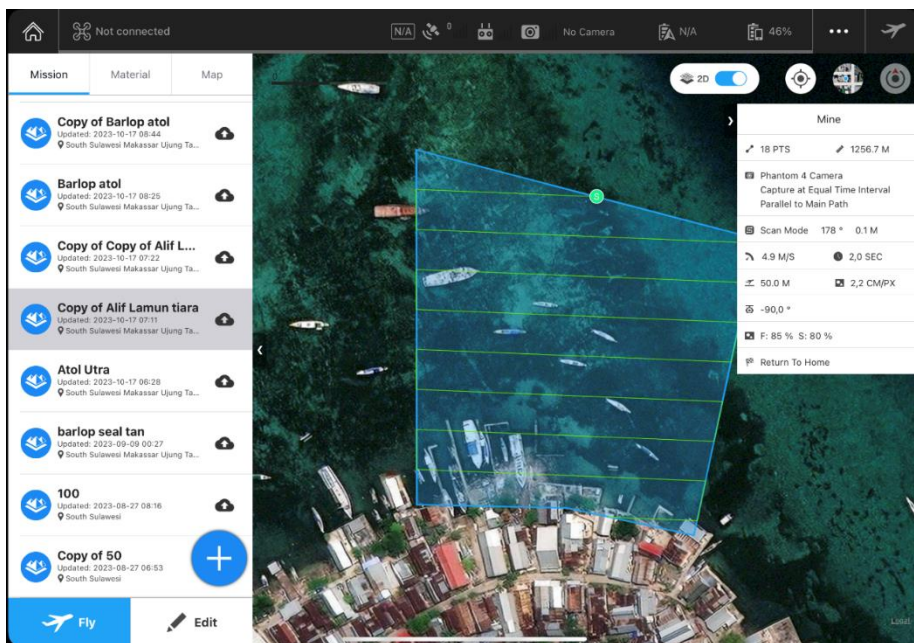
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**Skills:** Microsoft Office (Excel, Powerpoint, Word), Adobe (Premiere, Photoshop, Lightroom), Languages (English, Bahasa Indonesia).

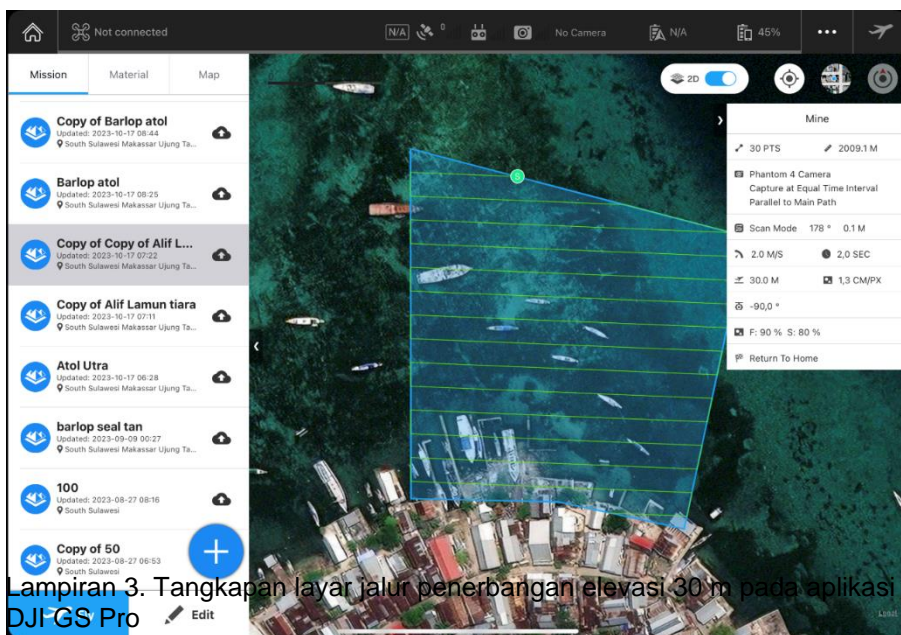
**Aplikasi RS-GIS:** QGIS, Arcmap, SAGA, Pix4Dmapper, Avenza Google Earth Engine (Pemula)

**Interests:** Data Analisis, Pemetaan dan Eksplorasi Laut, Journalisme, Menulis, Membaca, Olahraga

Lampiran 2. Tangkapan layar jalur penerbangan elevasi 50 m pada aplikasi DJI GS Pro



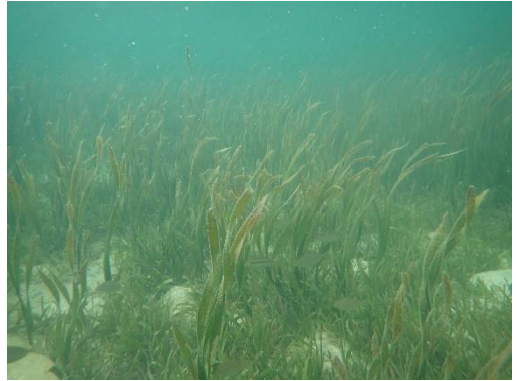
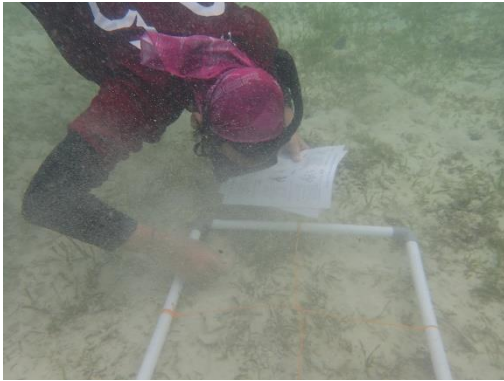
Lampiran 3. Tangkapan layar jalur penerbangan elevasi 30 m pada aplikasi DJI GS Pro



Lampiran 4. Nilai rata-rata DN dari Band 2 (Hijau) pada setiap titik dengan kelas tutupan lamun

<b>Hasil UAV 50m</b>		<b>Hasil UAV 30m</b>	
Average of Bands 2	Kelas Tutupan	Average of Bands_2	Kelas Tutupan
135	1	134	1
124	1	130	1
134	1	133	1
142	1	124	1
110	1	157	1
125	1	127	1
120	1	107	1
144	1	118	1
120	2	126	2
93	2	82	2
110	2	112	2
104	2	102	2
117	2	112	2
97	2	104	2
83	2	77	2
111	2	116	2
73	3	63	3
97	3	83	3
79	3	84	3
115	3	105	3
111	3	85	3
84	3	89	3
78	3	52	3
47	4	47	4
44	4	45	4
50	4	44	4
49	4	40	4
48	4	28	4
51	4	31	4
56	4	49	4
55	4	45	4

Lampiran 5. Dokumentasi di Lapangan



## Lampiran 6. Script tools OBIA di SAGA GIS

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <toolchain saga-version="2.2.4">
3   <group>imagery_segmentation</group>
4   <identifier>obia</identifier>
5   <name>Object Based Image Segmentation</name>
6   <author>O.Conrad (c) 2014</author>
7   <menu absolute="TRUE">Imagery|Segmentation</menu>
8   <description>
9     This [[i]]Object Based Image Segmentation[[/i]] tool chain combines a number of tools
10  for an easy derivation of geo-objects as polygons and is typically applied to satellite imagery. Segmentation is
11  done using a 'Seeded Region Growing Algorithm'. Optionally the resulting polygons can be grouped by an unsupervised
12  classification (k-means cluster analysis) or supervised classification (needs classified feature samples as
13  additional input), both is performed on the basis of zonal feature grid statistics for each polygon object.
14  </description>
15  <reference>
16    <authors>Adams, R. & Bischof, L.</authors>
17    <year>1994</year>
18    <title>Seeded Region Growing</title>
19    <where>IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol.16, No.6,
20  p.641-647.</where>
21  </reference>
22  <reference>
23    <authors>Bechtel, E., Ringeler, A. & Boehner, J.</authors>
24    <year>2008</year>
25    <title>Segmentation for Object Extraction of Trees using MATLAB and SAGA</title>
26    <where>In: Boehner, J., Blaschke, T., Montanarella, L. [Eds.]: SAGA - Seconds Out.
27  Hamburger Beitrage zur Physischen Geographie und Landschaftsoekologie, 19:59-70.</where>
28    <link>http://sourceforge.net/projects/saga-gis/files/SAGA%20-
29  %20Documentation/HBPL19/hbpl19_01.pdf/download?use_mirror=freefr</link>
30    <link_text>online</link_text>
31  </reference>
32  </parameters>
33  <option varname="GRID_SYSTEM" type="grid system">
34    <name>Grid System</name>
35  </option>
36  <input varname="FEATURES" type="grid list" parent="GRID_SYSTEM">
37    <name>Features</name>
38  </input>
39  <option varname="NORMALIZE" type="boolean" parent="FEATURES">
40    <name>Normalize</name>
41    <value>FALSE</value>
42  </option>
43  <output varname="OBJECTS" type="shapes">
44    <name>Segments</name>
45    <output_name>Segments</output_name>
46  </output>
47  <option varname="SEEDS_BAND_WIDTH" type="double">
48    <name>Band Width for Seed Point Generation</name>
49    <description>Increase band width to get less seed
50  points.</description>
51    <value>2</value>
52  </option>
53  <option varname="RGA_NEIGHBOUR" type="choice">
54    <name>Neighbourhood</name>
55    <choices>4 (Neumann)|8 (Moore)</choices>
56    <value>0</value>
57  </option>
58  <option varname="RGA_METHOD" type="choice">
59    <name>Distance</name>
60    <choices>feature space and position|feature space</choices>
61    <value>1</value>
62  </option>
63  <option varname="RGA_SIG_1" type="double" parent="RGA_METHOD">
64    <name>Variance in Feature Space</name>
65    <value min="0">1</value>
66  </option>
67  <option varname="RGA_SIG_2" type="double" parent="RGA_METHOD">
68    <condition value="0" type="!">RGA_METHOD</condition>
69    <value min="0">1</value>
70    <name>Variance in Position Space</name>
71  </option>
72  <option varname="RGA_SIMILARITY" type="double" parent="RGA_METHOD">
73    <name>Similarity Threshold</name>
74    <value min="0">0</value>
75  </option>
76  <option varname="MAJORITY_RADIUS" type="integer">
77    <name>Generalization</name>
78    <description>Applies a majority filter with given search radius to the
79  segments grid. Is skipped if set to zero.</description>
80    <value>1</value>
81  </option>
82  <option varname="CLASSIFICATION" type="choice">
83    <name>Classification</name>
84    <choices>none|cluster analysis|supervised classification</choices>
85    <value>0</value>
86  </option>
87  <option varname="SPLIT_POLYGONS" type="choice" parent="CLASSIFICATION">
88    <condition value="0" type="!">CLASSIFICATION</condition>
89    <name>Split Distinct Polygon Parts</name>
90    <choices>no|yes</choices>
91    <value>yes</value>
92  </option>
93  <option varname="NCLUSTER" type="integer" parent="CLASSIFICATION">
94    <condition value="1" type="!">CLASSIFICATION</condition>
95    <name>Number of Clusters</name>
96    <value>10</value>
97  </option>
98  <option varname="CLASSIFIER" type="choice" parent="CLASSIFICATION">

```

```

100         <condition value="2" type="">CLASSIFICATION</condition>
101         <name>Method</name>
102         <choices>Binary Encoding|Parallelepiped|Minimum Distance|Mahalanobis
103 Distance|Maximum Likelihood|Spectral Angle Mapping</choices>
104         <value>2</value>
105     </option>
106     <input varname="SAMPLES" type="table" parent="CLASSIFIER">
107         <name>Training Samples</name>
108         <description>Training samples for supervised classification. Provide a
109 class identifier in the first field followed by sample data corresponding to the selected feature
110 attributes</description>
111     </input>
112 </parameters>
113
114 <tools>
115     <tool library="imagery segmentation" tool="2" name="Seed Generation">
116         <option id="SEED TYPE">0</option>
117         <option id="METHOD">0</option>
118         <option id="BAND WIDTH" varname="TRUE">SEEDS_BAND_WIDTH</option>
119         <option id="NORMALIZE" varname="TRUE">NORMALIZE</option>
120         <input id="FEATURES">FEATURES</input>
121         <output id="SEED GRID">SEED_GRID</output>
122     </tool>
123
124     <tool library="imagery segmentation" tool="3" name="Simple Region Growing">
125         <option id="NORMALIZE" varname="TRUE">NORMALIZE</option>
126         <option id="NEIGHBOUR" varname="TRUE">RGA_NEIGHBOUR</option>
127         <option id="METHOD" varname="TRUE">RGA_METHOD</option>
128         <option id="SIG_1" varname="TRUE">RGA_SIG_1</option>
129         <option id="SIG_2" varname="TRUE">RGA_SIG_2</option>
130         <option id="THRESHOLD" varname="TRUE">RGA_SIMILARITY</option>
131         <option id="REFRESH">FALSE</option>
132         <option id="LEAFSIZE">25</option>
133         <input id="SEEDS">SEED_GRID</input>
134         <input id="FEATURES">FEATURES</input>
135         <output id="SEGMENTS">SEGMENTS_GRID</output>
136     </tool>
137
138     <condition value="0" type="less" variable="MAJORITY_RADIUS">
139         <tool library="grid filter" tool="6" name="Majority Filter">
140             <option id="KERNEL TYPE">1</option>
141             <option id="KERNEL RADIUS"
142 varname="TRUE">MAJORITY_RADIUS</option>
143             <option id="THRESHOLD">0.0</option>
144             <input id="INPUT">SEGMENTS_GRID</input>
145         </tool>
146     </condition>
147
148     <tool library="shapes_grid" tool="6" name="Vectorising Grid Classes">
149         <option id="CLASS_ALL">1</option>
150         <option id="SPLIT">0</option>
151         <option id="ALLVERTICES">FALSE</option>
152         <input id="GRID">SEGMENTS_GRID</input>
153         <output id="POLYGONS">SEGMENTS</output>
154     </tool>
155
156     <tool library="shapes_grid" tool="2" name="Grid Statistics for Polygons">
157         <option id="METHOD" ></option>
158         <option id="NAMING" >1</option>
159         <option id="COUNT" >FALSE</option>
160         <option id="MIN" >FALSE</option>
161         <option id="MAX" >FALSE</option>
162         <option id="RANGE" >FALSE</option>
163         <option id="SUM" >FALSE</option>
164         <option id="MEAN" >TRUE</option>
165         <option id="VAR" >FALSE</option>
166         <option id="STDDEV" >FALSE</option>
167         <input id="GRIDS" >FEATURES</input>
168         <input id="POLYGONS">SEGMENTS</input>
169         <output id="RESULT" >OBJECTS</output>
170     </tool>
171
172     <!-- Classification | Cluster Analysis -->
173     <condition value="1" type="" variable="CLASSIFICATION">
174         <tool library="table tools" tool="28" name="Cluster Analysis (Table)">
175             <option
176 id="FIELDS">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, 32</option>
177             <option id="METHOD">1</option>
178             <option id="NCLUSTER" varname="TRUE">NCLUSTER</option>
179             <option id="NORMALISE"
180 varname="TRUE">NORMALIZE</option>
181             <input id="INPUT" >OBJECTS</input>
182             <output id="RESULT_SHAPES">CLASSES</output>
183         </tool>
184
185         <tool library="grid gridding" tool="0" name="Shapes to Grid">
186             <option id="OUTPUT">2</option>
187             <option id="MULTIPLE">1</option>
188             <option id="POLY TYPE">1</option>
189             <option id="GRID TYPE">9</option>
190             <option id="TARGET DEFINITION">1</option>
191             <input id="INPUT">CLASSES</input>
192             <option id="FIELD">CLUSTER</option>
193             <output id="GRID">SEGMENTS_GRID</output>
194         </tool>
195
196         <tool library="shapes_grid" tool="6" name="Vectorising Grid Classes">
197             <option id="CLASS_ALL">1</option>
198             <option id="SPLIT"
199 varname="TRUE">SPLIT_POLYGONS</option>
200             <option id="ALLVERTICES">FALSE</option>
201             <input id="GRID">SEGMENTS_GRID</input>

```



Lampiran 7. Data tutupan, kerapatan lamun in situ serta koordinatnya

ID Updated	Kerapatan Lamun								Tutupan Lamun								TLK	Koord. X	Koord. Y
	Cr	Cs	Hp	Ho	Hu	Ea	Si	Th	Cr	Cs	Hp	Ho	Hu	Ea	Si	Th			
1	17	18			20				25	15			10				50	758280,156	9441875
3	28					13		32	20					15		50	85	758280,32	9441886
4		42						30		60						25	85	758281,391	9441891
6	34					6		13	60					5		5	70	758281,871	9441901
8	10							25	10							15	25	758283,765	9441910
9																		758280,705	9441917
10	18			7	36	9		22	20			5	5	2		10	42	758282,242	9441922
12					28	14		11					10	5		5	20	758280,115	9441931
13	10			15	20	7	22	13	5			1	15	5	5	5	36	758282,283	9441936
15		4		13	18	10	10			2		5	10	5	3		25	758279,909	9441946
16					44		10	10					7		4	10	21	758279,332	9441952
17					12	16	15						5	3	5		13	758280,018	9441955
18		8			23					3			7				10	758281,006	9441960
19	6	4					4		5	5					1		11	758280,334	9441966
21	17	39				5	19		15	15				5	4		39	758279,524	9441976
22	17								5								5	758306,654	9441980
23																		758305,639	9441976
24					52								15				15	758307,395	9441969
25																		758307,752	9441965
26		17								3							3	758309,316	9441961
27	13			35	56			33	10			5	15			10	40	758307,999	9441956
28	13								3								3	758307,327	9441950
29	11	6							5	5							10	758307,862	9441946
30	10						28	8	15						15	5	35	758307,972	9441941
31		15		13	38		7	16		7		5	10		5	10	37	758305,254	9441939
32	18	13		8		3	33		15	10		5		3	15		48	758307,409	9441932
33	10								3								3	758307,231	9441925



34	55	24						16	25	10					10	45	758308,479	9441920		
35	28	34							15	10						25	758308,191	9441917		
36	30								15							15	758308,273	9441911		
37	22					15		15	15					20		10	45	758308,658	9441907	
38	30	26				9			20	15				25			60	758307,821	9441902	
39	60					10		15	50					10		5	65	758308,864	9441896	
40	30								15								15	758311,883	9441891	
41	23								10								10	758311,951	9441885	
42	35								10								10	758314,078	9441880	
43																		758310,744	9441874	
44	20				45				10				10				20	758332,398	9441876	
46	23								5								5	758331,808	9441890	
47																		758331,602	9441886	
49					30								5				5	758333,125	9441899	
50																		758333,015	9441905	
51	33				42			10	15				10			15	40	758331,122	9441909	
52	20			5	90				5			1	10				16	758333,729	9441916	
53	25		60						10		50						60	758337,105	9441919	
55	40						25	15	25						10	10	45	758336,062	9441930	
56	35						25		15						10		25	758333,331	9441935	
58	25						30		15						10		25	758342,772	9441945	
59	17		6					3	3		1					1	5	758349,016	9441952	
60	25			30				3	3			10					5	18	758346,656	9441958
62	20						30	10	15						15	10	40	758347,74	9441966	
63	28								10								10	758331,039	9441970	
64	30						28	10	13						10	10	33	758329,777	9441975	
65	20			10	25				10			3	10				23	758332,137	9441981	
70	15								10	10							10	20	758351,994	9441947
71																		758355,562	9441940	
72	88								30								30	758359,706	9441935	
73	20							30	15							40	55	758356,371	9441929	

75	29		20					5		3					8	758364,44	9441921
76	30						20	10					10		20	758352,323	9441914
77	15			46	18			7			5	10			22	758354,862	9441910
79		19			60				12			20			32	758359,034	9441900
80	45							20							20	758359,898	9441895
81	20							5							5	758357,428	9441889
82	35							15							15	758356,248	9441885
84					45							15			15	758355,63	9441876
85		6			160				1			35			36	758354,025	9441872
86																758354,354	9441863
87	23				96			10				20			30	758355,246	9441866
88	60						40	25	35				5	15	55	758376,475	9441860
89	55						50		30				10		40	758376,736	9441865
90	35				20		20		20			5	5		30	758375,446	9441872
91					15							2			2	758376,16	9441886
92				20	13						5	5			10	758376,201	9441891
93	23	26			13			10	10			5			25	758376,297	9441896
94	18	12			12			10	10			5			25	758376,256	9441901
95	20	12			26	12		20	5			15	15		55	758376,228	9441906
96	13		18		20	3		5		10		10	1		26	758376,16	9441911
97		14	10	8	12				5	3	1	5			14	758374,705	9441951
98																758376,077	9441916

Keterangan:

TLK = Tutupan Lamun Keseluruhan

Baris Merah = Tutupan 0% alias tergolong Pasir

Koord. = Koordinat

## Lampiran 8. Perhitungan kerapatan lamun

$$\frac{(17+28+34+10+18+10+6+17+17+13+13+11+10+18+10+55+28+30+22+30+60+30+23+35+20+23+33+20+25+40+35+25+17+25+20+28+30+20+15+88+20+29+30+15+45+20+35+23+6+55+35+23+18+20+13) \times 4}{80}$$

$$Cr = \frac{(1450) \times 4}{80}$$

$$Cr = \frac{5800}{80}$$

$$Cr = 72,5 \text{ ind/m}^2$$

$$Cs = \frac{(18+42+4+8+4+39+17+6+15+13+24+34+26) \times 4}{80}$$

$$Cs = \frac{(339) \times 4}{80}$$

$$Cs = \frac{1356}{80}$$

$$Hp = \frac{(60+6+20+18+10) \times 4}{80}$$

$$= \frac{(114) \times 4}{80}$$

$$= \frac{456}{80}$$

$$Ho = \frac{(7+15+13+35+13+8+5+30+10+46+20+8) \times 4}{80}$$

$$= \frac{(210) \times 4}{80}$$

$$= \frac{840}{80}$$

$$Si = \frac{(22+10+10+15+4+19+28+7+33+25+25+30+30+28+20+40+50+20) \times 4}{80}$$

$$= \frac{(416) \times 4}{80}$$

$$= \frac{1664}{80}$$

$$\begin{aligned}
 \text{Hu} &= \frac{(20+36+28+20+18+44+12+23+52+56+38+45+30+42+90+25+18+60+45+160+96+20+15+13+13+12+26+20+12) \times 4}{80} \\
 &= \frac{(1089) \times 4}{80} \\
 &= \frac{4356}{80}
 \end{aligned}$$

$$\begin{aligned}
 \text{Th} &= \frac{(32+30+13+25+22+11+13+10+33+8+16+16+15+15+10+15+3+3+10+10+10+30+25) \times 4}{80} \\
 &= \frac{(375) \times 4}{80} \\
 &= \frac{1500}{80}
 \end{aligned}$$

$$\text{Th} = 18,75 \text{ ind/m}^2$$

$$\begin{aligned}
 \text{Ea} &= \frac{(13+6+9+14+7+10+16+5+3+15+9+10+12+3) \times 4}{80} \\
 &= \frac{(132) \times 4}{80} \\
 &= \frac{528}{80}
 \end{aligned}$$

















