

# COLLABORATIVE RESEARCH SURVEY ON MARINE FISHERIES RESOURCES AND ENVIRONMENT IN THE GULF OF THAILAND 2018

## Mapping of underwater habitat from low-cost sonar imagery and Geographic Information System

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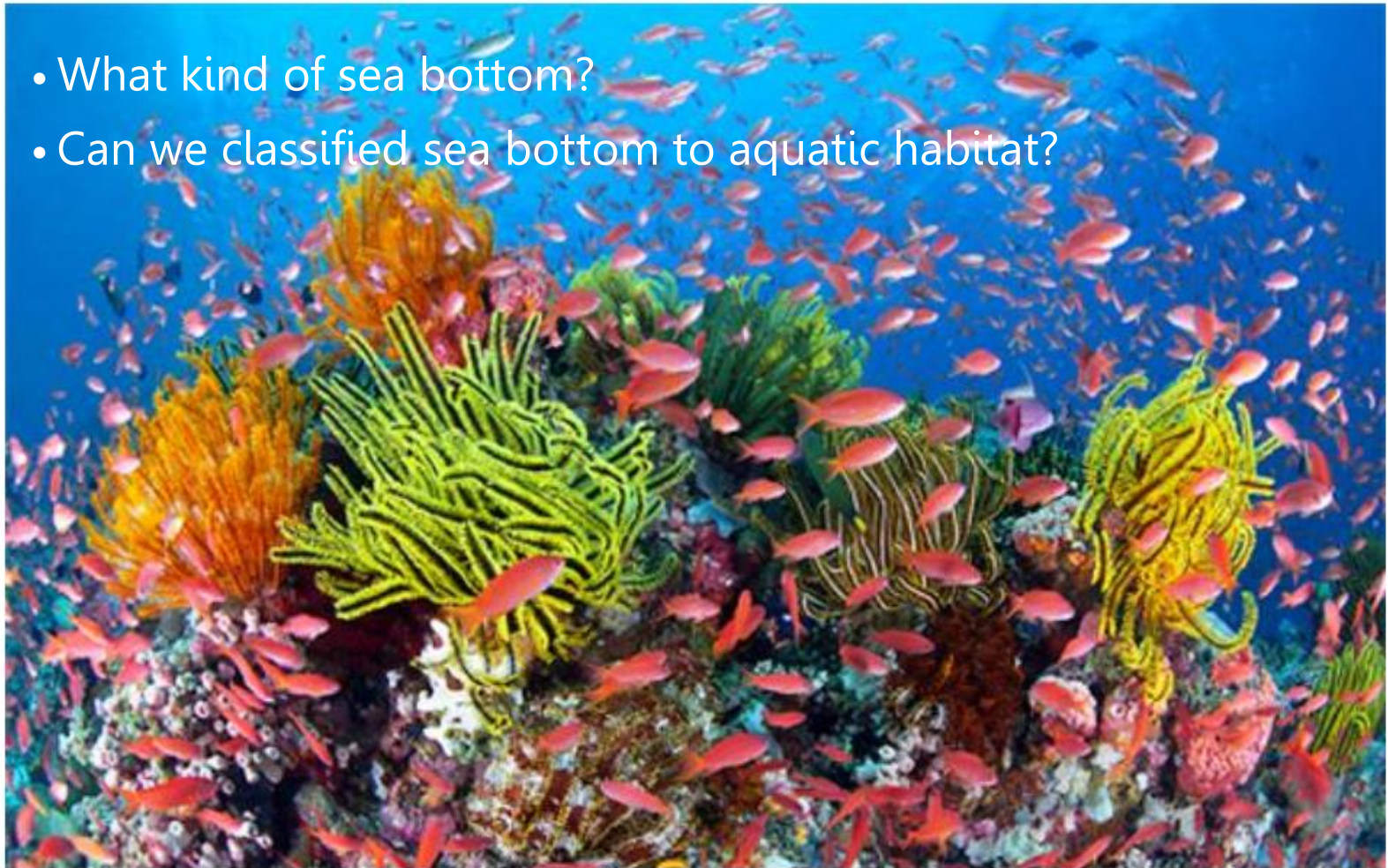
Supported by Southeast Asian Fisheries Development Center Training Department, Samut Prakan, Thailand

# Outline

- 1. Background and Objective
- 2. Method
- 3. Result
- 4. Conclusion

# Background of Research

- What kind of sea bottom?
- Can we classified sea bottom to aquatic habitat?



# Objective of Research

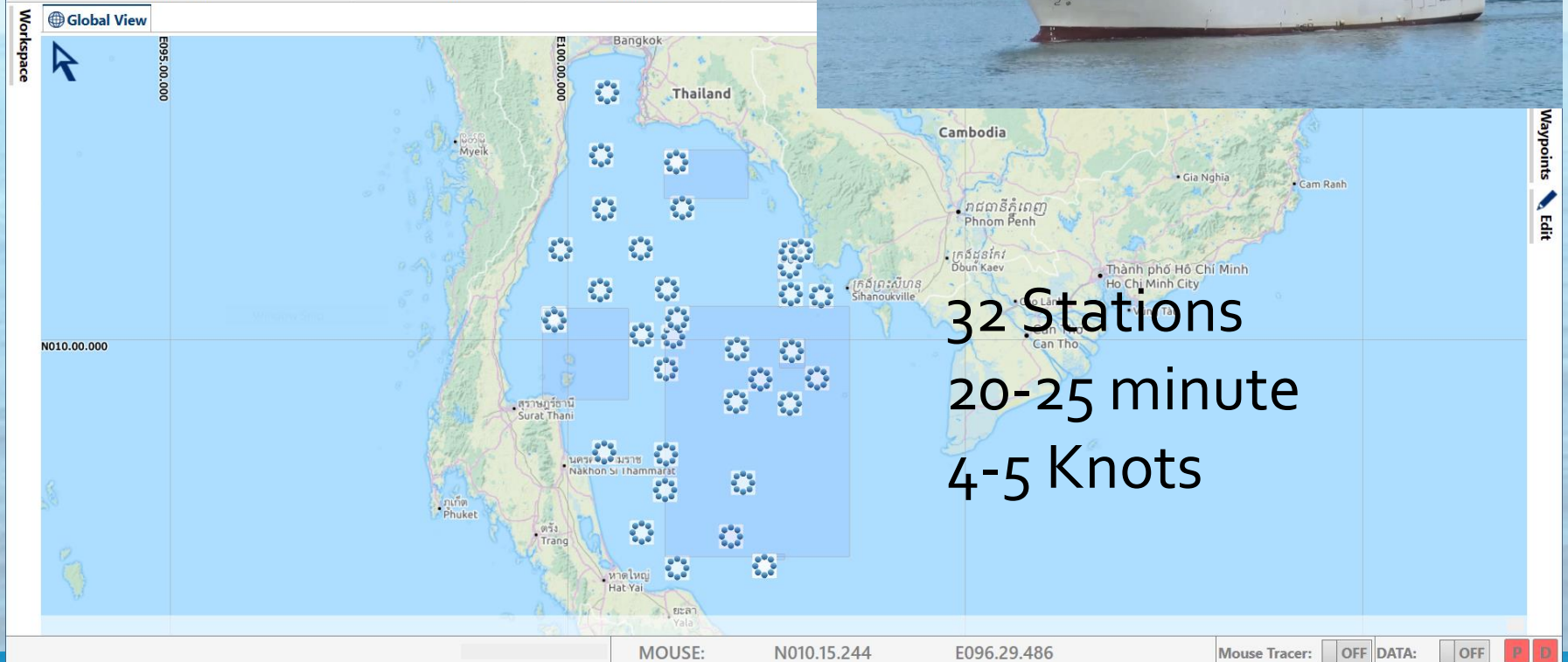
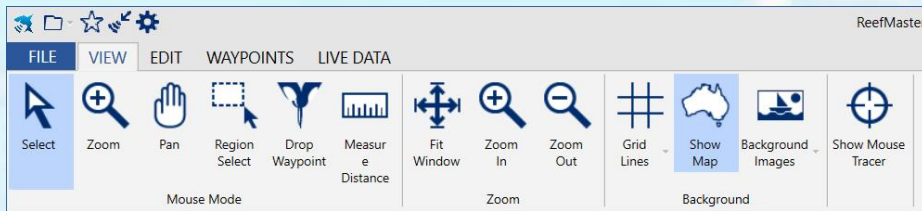
- Assessment of low-cost method to do habitat mapping.

# Equipment's and Method of Research

- Lowrance Structure Scan 455 MHz

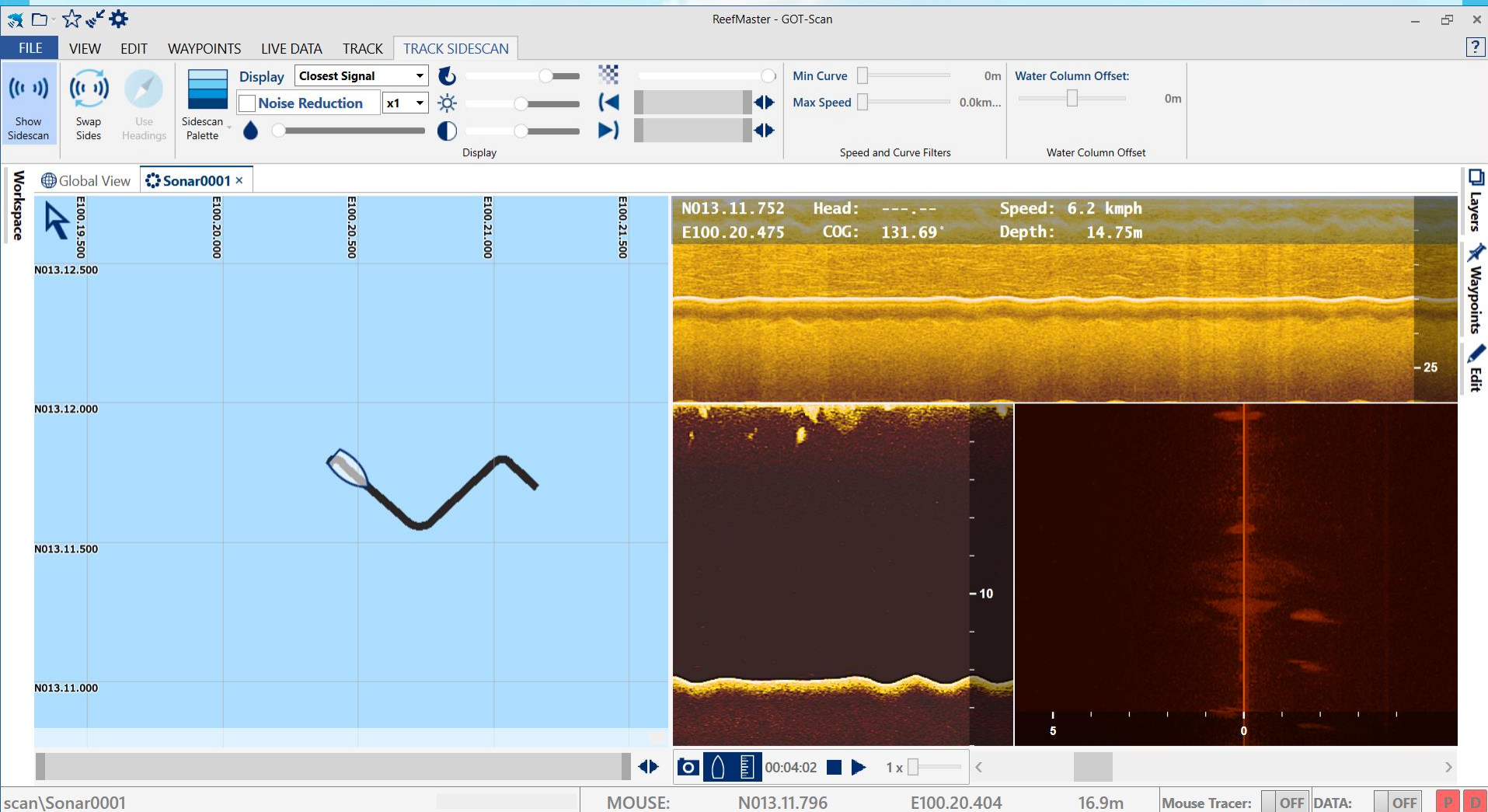


# Equipment's and Method of Research

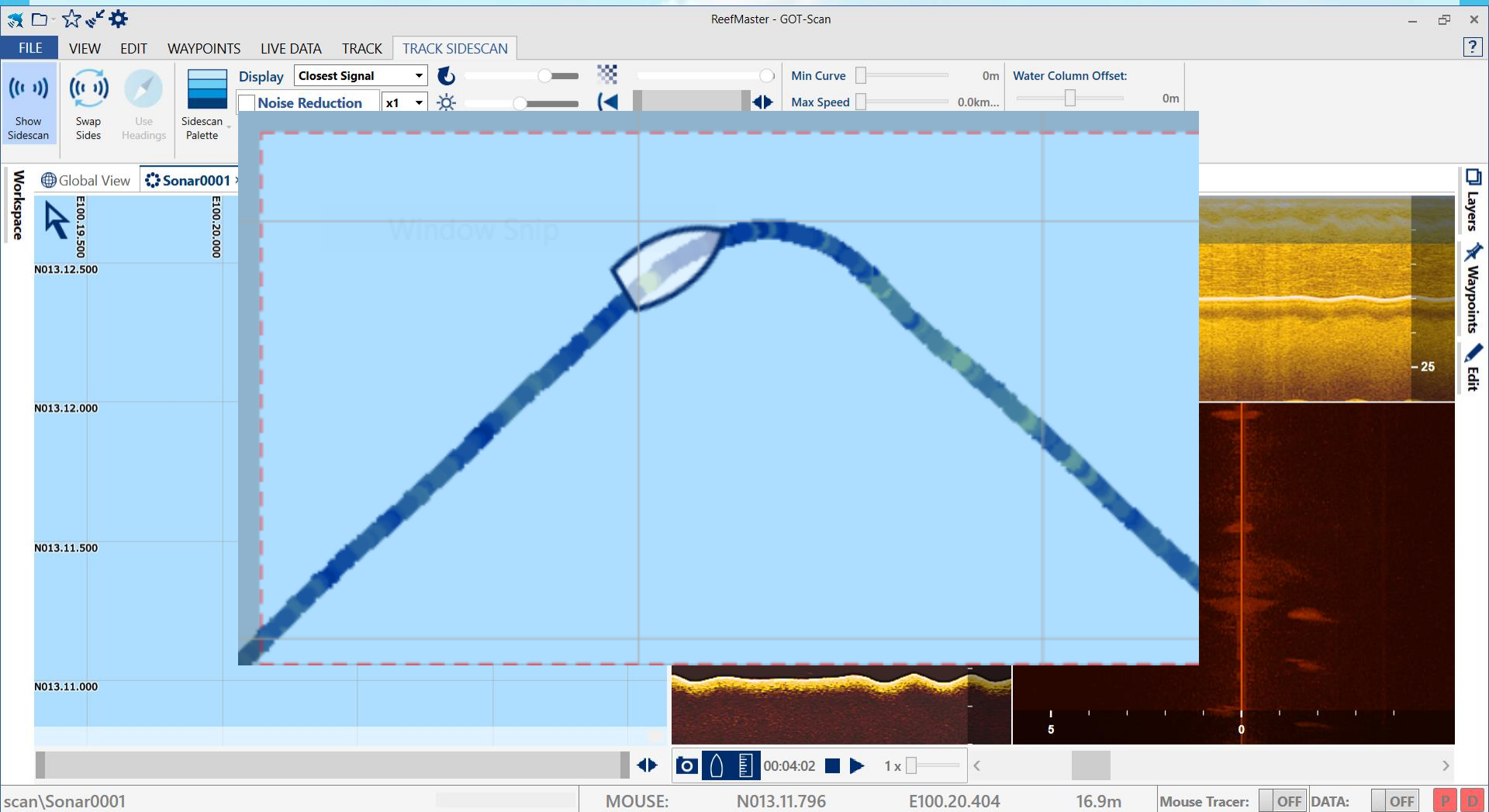


32 Stations  
20-25 minute  
4-5 Knots

# Analyzed data by ReefMaster-2.0



# Analyzed data by ReefMaster-2.0





# Demo

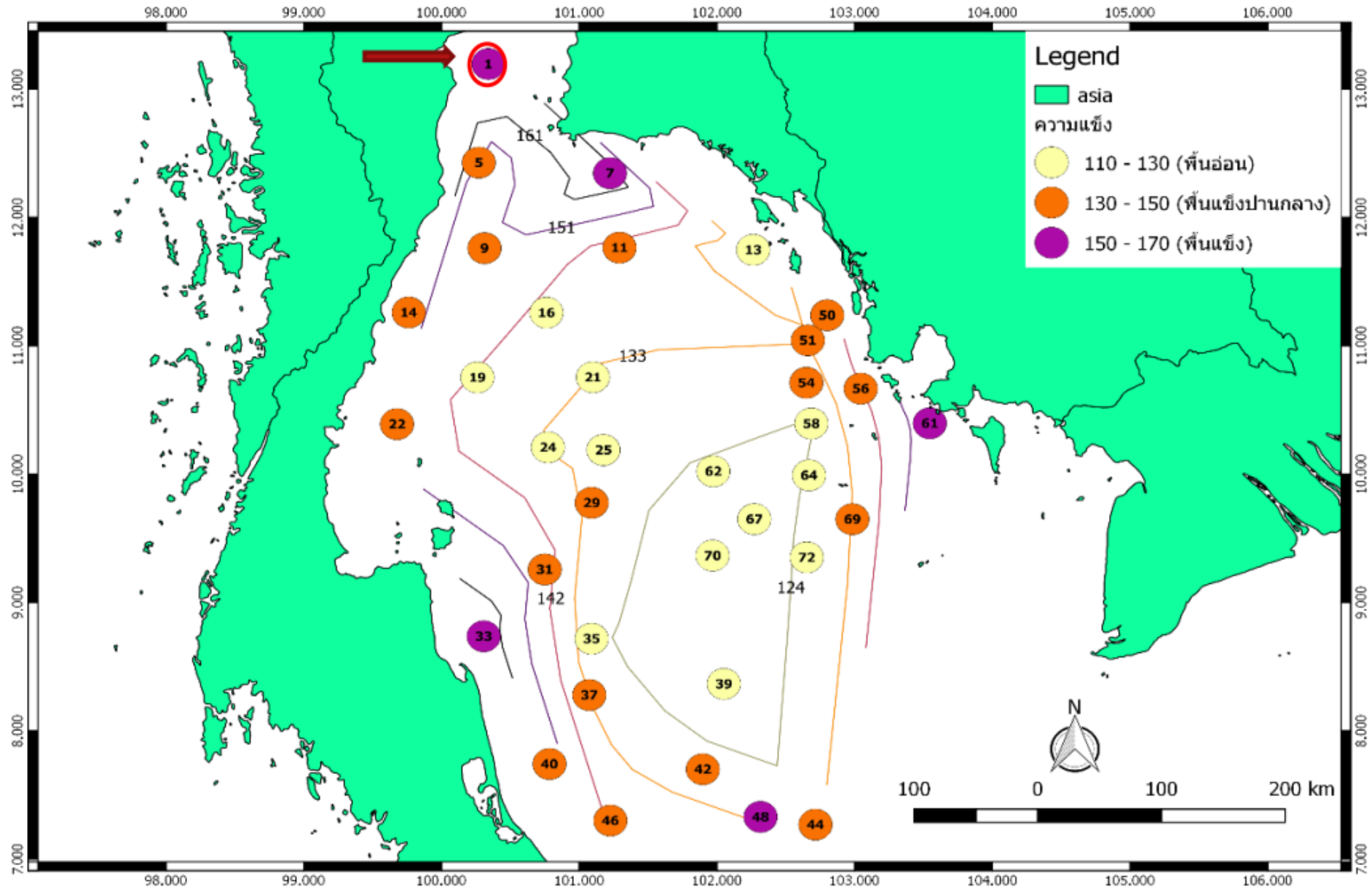
- Analyzed by ReefMaster-2.0

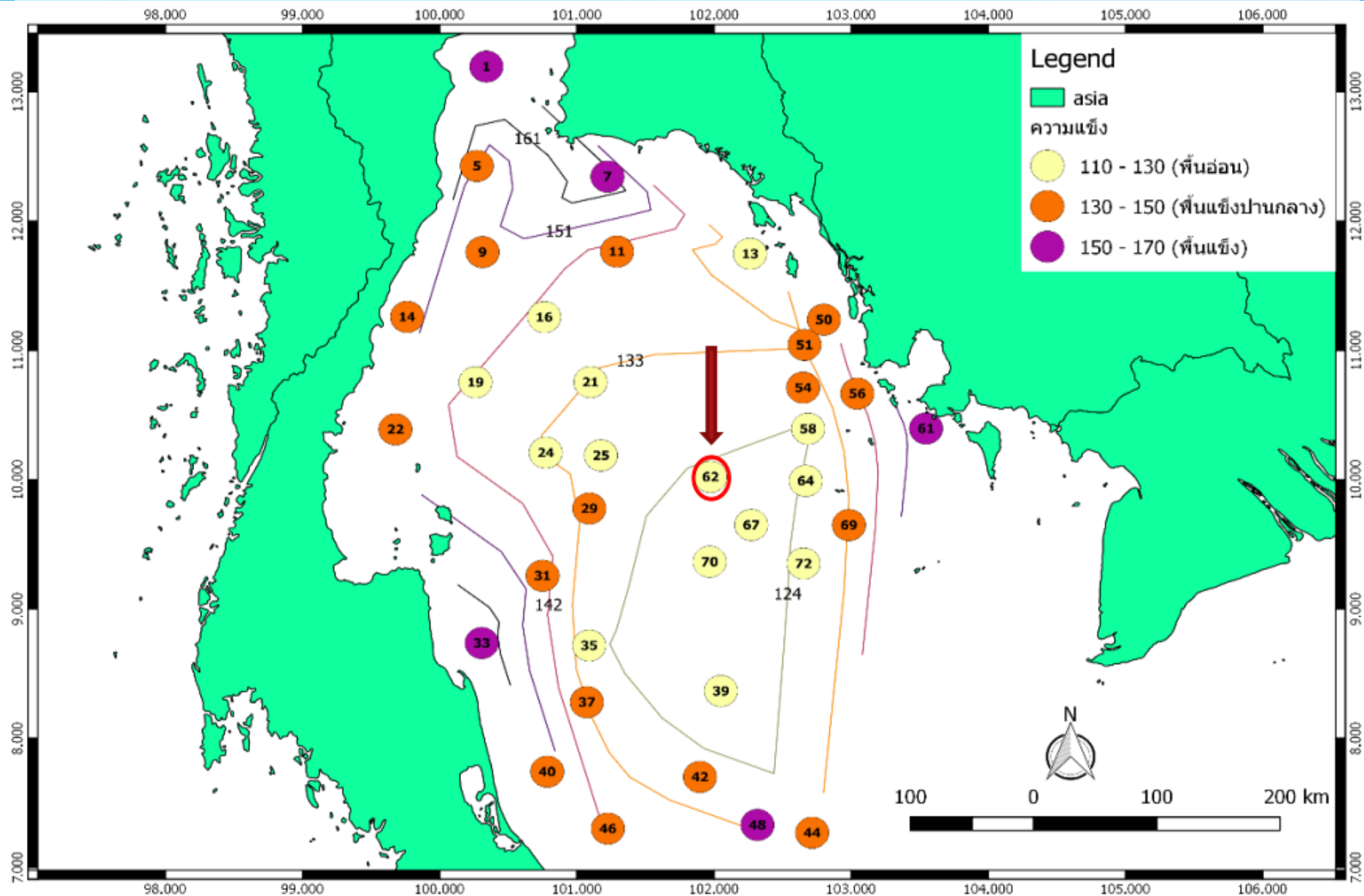
# Result of Research

- Bottom analyzed

X	Y	TrackName	Depth	HardnessE1	HardnessPSV	X	Y	TrackName	Depth	HardnessE1	HardnessPSV	
100.3399	13.19627		1	14.56	4.09	169.93	102.0495	8.366257	39	70.35	4.686938	114.452
100.2696	12.4278		5	23.02	15.61	143.67	100.7834	7.742154	40	23.47	16.56	143.2085
101.2225	12.34522		7	26.61	1.87	167.57	101.8967	7.701158	42	58.66	3.86	135.9915
100.3114	11.7612		9	34.44	13.82891	149.7422	102.715	7.270024	44	50.69	6.689968	130.3276
101.2921	11.7654		11	51.86	3.43	139.23	101.2256	7.301584	46	35.3	5.404905	140.3743
102.2623	11.74825		13	40.83	5.07	126.26	102.3161	7.330165	48	40.18	24.51	151.9077
99.76129	11.26019		14	37.02	12.06	133.64	102.8001	11.23873	50	28.23	21.07	138.2333
100.7613	11.25868		16	50.77	7.98	129.92	102.6594	11.04345	51	39.23	16.01	133.212
100.2599	10.75443		19	53.23	9.29	126.15	102.6489	10.71306	54	47.09	17.54969	131.9191
101.0987	10.75559		21	61.46	5.5	122.41	103.044	10.66687	56	28.16	19.12119	138.9
99.67616	10.39004		22	42.39	1.75906	144.655	102.685	10.39491	58	49.46	15.71	123.2411
100.7722	10.20971		24	59.71	9.79	114.96	103.5454	10.39685	61	21.67	10.35	157.22
101.1749	10.18904		25	62.98	5.471704	127.1042	101.973	10.02266	62	69.46	6.37889	110.4715
101.0896	9.777654		29	60.99	4.770236	130.2501	102.6682	9.991909	64	52.17	15.72	122.05
100.749	9.257854		31	35.21	15.98	141.1355	102.2709	9.650522	67	65.92	5.788651	117.6688
100.3053	8.737266		33	19.86	4.470006	166.6559	102.983	9.649695	69	49.37	9.85975	132.32
101.0889	8.718281		35	47.88	8.821628	125.1015	101.9675	9.366137	70	68.32	4.451835	111.1671
101.0724	8.279507		37	43.02	6.389212	132.2508	102.6516	9.352352	72	61.06	9.224357	116.4325

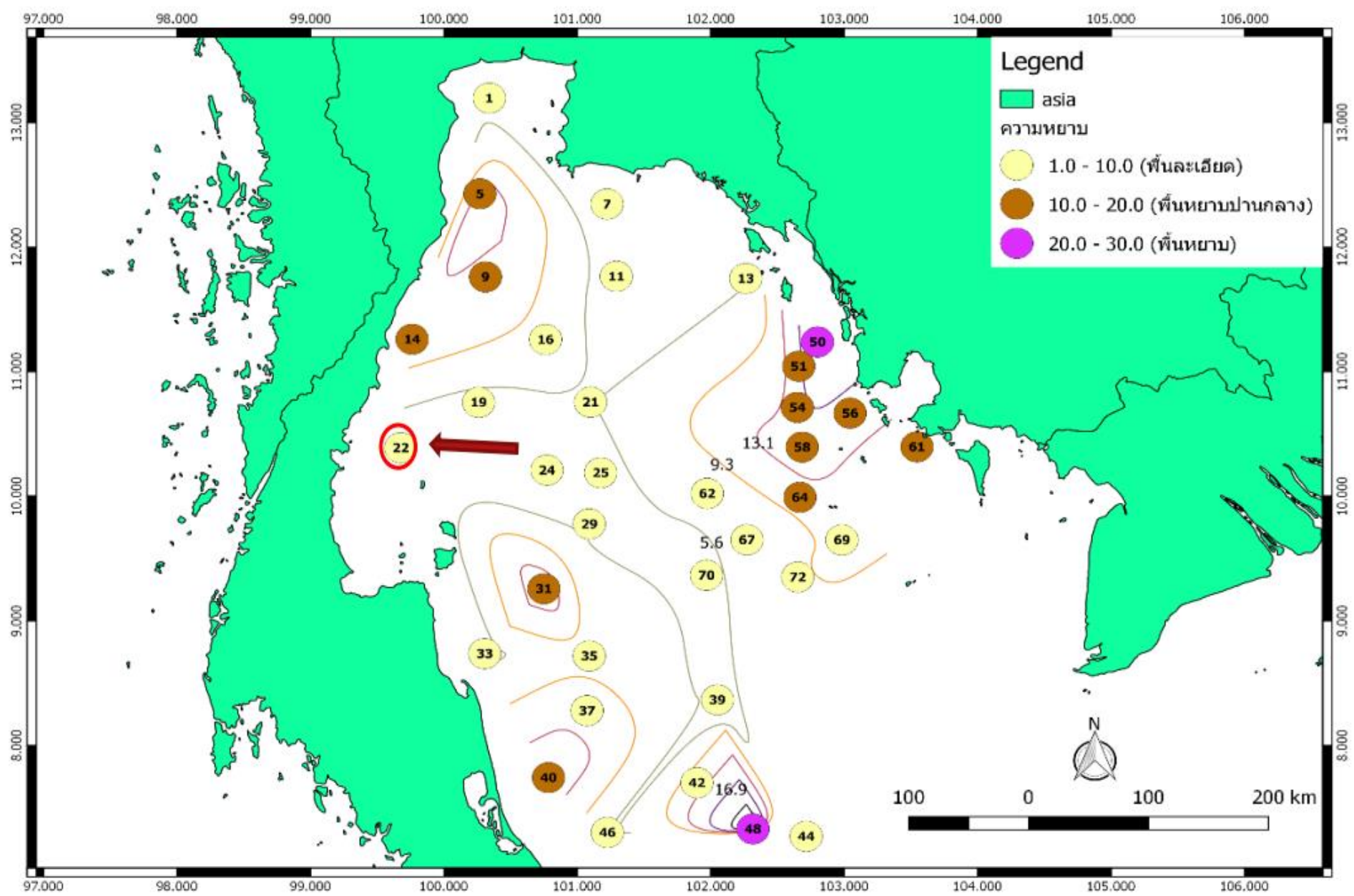
<b>Hardness PSV</b>	<b>ลักษณะพื้นที่องทะเล Bottom Character</b>
<b>110-130</b>	<b>พื้นอ่อน Soft Bottom</b>
<b>130-150</b>	<b>พื้นแข็งปานกลาง Medium hard Bottom</b>
<b>150-170</b>	<b>พื้นแข็ง Hard Bottom</b>

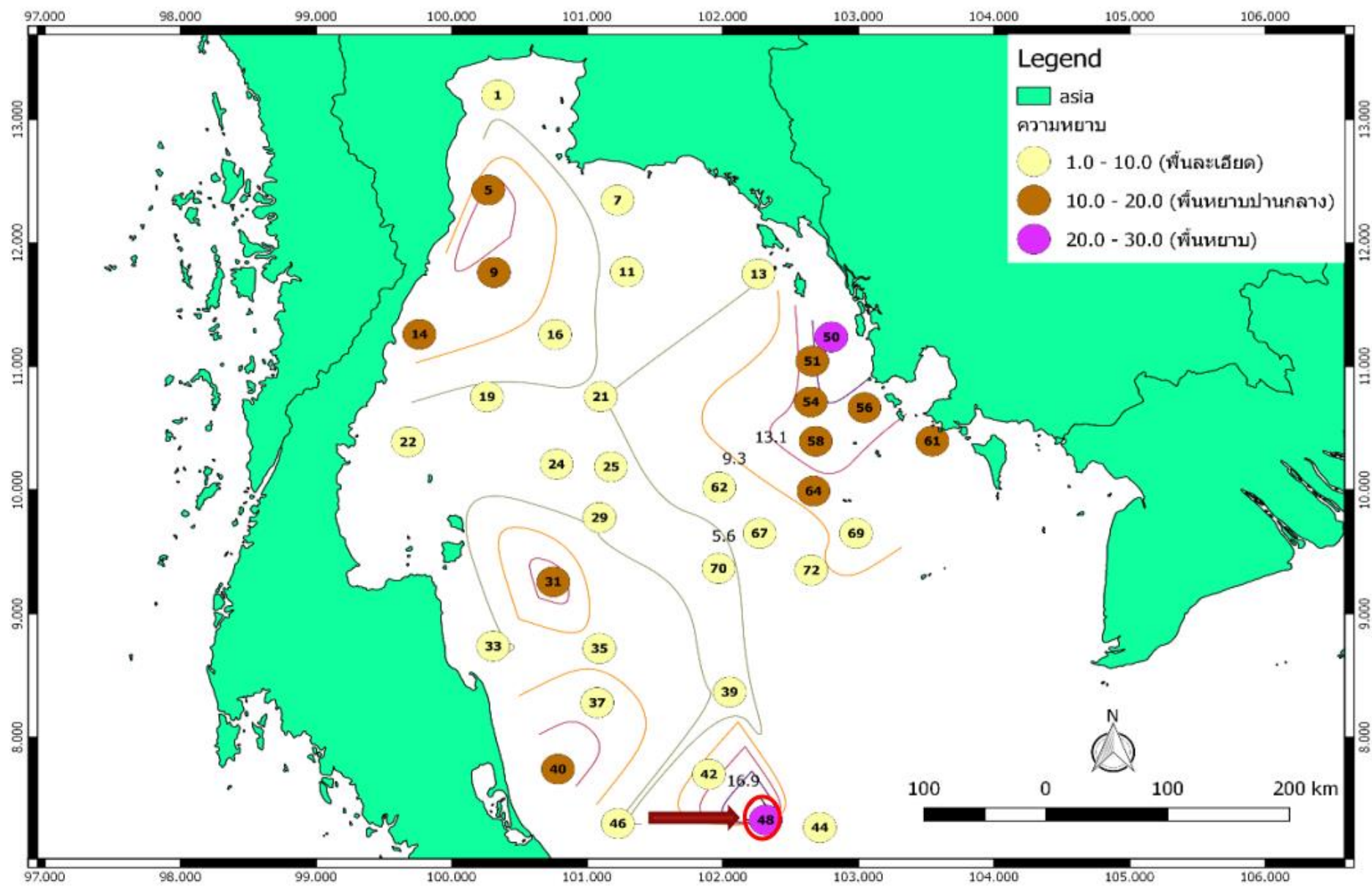




# Texture of bottom

<b>Hardness E1</b>	<b>ลักษณะพื้นท้องทะเล Bottom Character</b>
<b>1-10</b>	<b>พื้นละเอียด Fine element Bottom</b>
<b>10-20</b>	<b>พื้นหยาบปานกลาง Medium rough element Bottom</b>
<b>20-30</b>	<b>พื้นหยาบ Rough element Bottom</b>









# Conclusion and Discussion

- **32 Stations cover GOT scanned by low-cost structure scanner can describe some bottom character.**
- **The solution could extract some feature of bottom to give information of habitat.**
- **The solution is not good for wide area like the Gulf of Thailand.**



วิทยาลัยการประมงปัตตานี  
 SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER  
 FISHING WORKSHOP

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