KEMENTERIAN SUMBER ASLI DAN ALAM SEKITAR

JABATAN TAMAN LAUT MALAYSIA

Seminar Penyelidikan 2018

JABATAN TAMAN LAUT MALAYSIA

IYOR 2018

INTERNATIONAL YEAR OF THE REEF

Conserving Malaysia's National Treasure

Dirasmikan Oleh:
YBHG. DATO' SRI AZIZAN BIN AHMAD
Ketua Setiausaha
Kementerian Sumber Asli Dan Alam Sekitar

18 – 19 APRIL 2018
HOTEL SWISS-INN
SUNGAI PETANI, KEDAH DARUL AMAN

ISI KANDUNGAN

SINOPSIS SEMINAR PENYELIDIKAN JTLM 2018

- Seminar Penyelidikan JTLM 2018 merupakan Seminar Kali ke-8 dianjurkan oleh JTLM. Seminar yang pertama adalah pada tahun 2011.
- Tema pada 2018 adalah *'Conserving Malaysia's National Treasure'* bersempena dengan sambutan *International Year of Reef* (IYOR), 2018.
- Sebanyak 8 projek dan 2 ekspedisi penyelidikan telah dijalankan dibeberapa pulau Taman Laut yang merangkumi pelbagai bidang penyelidikan.
- Penglibatan hampir 100 orang penyelidik daripada universiti tempatan, Institusi Penyelidikan, Agensi Kerajaan dan Pertubuhan Bukan Kerajaan (NGOs).
- 15 kertas kajian akan dibentangkan oleh penyelidik.

SINOPSIS IYOR 2018

- *The International Coral Reef Initiative* (ICRI) telah menetapkan 2018 sebagai International Year of the Reef (IYOR) kali ke-3 selepas pengisytiharannya secara rasmi pada tahun 1997.
- Sambutan IYOR merupakan kempen global yang bertujuan untuk meraih kesedaran awam tentang kepentingan terumbu karang dan sumbangan kepada kehidupan yang lebih berkualiti.
- NRE melalui JTLM telah merancang pelbagai program dan aktiviti sepanjang IYOR 2018 sebagai salah satu komitmen kepada program yang didokong oleh ICRI yang mana Malaysia menjadi ahli dalam organisasi tersebut sejak 2015.

6 ATUR CARA

19 APRIL 2018 (KHAMIS)		
SESI 3		
0845	Taklimat Urusetia	
0900 – 0930	Pembentangan 6	Kajian *Lessons-Learned*: Amalan Terbaik, Kegagalan Dan Kejayaan Kejayaan MPA Sedia Ada Oleh: Dr Jafni A. Ibrahim, UUM
0930 – 1000	Pembentangan 7	Laporan Kajian Gugusan Kepulauan Sembilan, Perak Oleh: Prof Madya Dr. Nor Hasni binti Osman, UUM
1000 – 1030	Rehat	
1030 – 1100	Pembentangan 8	*Reviewing and Documenting the Functions of the No-Take Zone in Malaysia (Pulau Tioman And Pulau Redang)* Oleh: Prof Dr Ahmad Shuib, UPM
1100 – 1130	Pembentangan 9	*Measurement of the Success of the No-Take Zones in Malaysia: In Fish Population Perspective* Oleh: Dr Rumeaida Mat Piah, UMT
1130 – 1200	Pembentangan 10	*Coral Bleaching Monitoring using Drone Aerial Photo in Selected Areas in Tioman Islands, Pahang* Oleh: Dr Zuhairi Ahmad, UIAM
1200 – 1230	Sesi Soal Jawab	
1230 – 1240	Penyampaian Sijil Penghargaan Kepada Pembentang	
1240 – 1400	Rehat dan Makan Tengahari	

CORAL BLEACHING MONITORING USING DRONE AERIAL PHOTO IN SELECTED AREAS IN TIOMAN ISLAND, PAHANG

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Abstract: In 2016, coral reefs in the world experienced the biggest coral bleaching event ever recorded. As a result of the event, very large areas were bleached. Tioman Island was reported to experience the episodes of bleaching, but the recovery process was not known. This research focused on the current state of corals in the island and to investigate the reliability of using a drone as unmanned aerial vehicle (UAV) for coral bleaching monitoring. The approach of the study was to use the low altitude aerial drone imagery for coral bleaching surveys in combination with Remote Sensing and GIS tools. Sampling sites were fixed at the Renggis, Soyak, Salang, Batu Malang and Tulai at the western part of the island which are known as hot spot for tourists. Bathymetry of the areas was determined, and low altitude drone flights were made twice (morning and evening flight) at every site. Following the drone flight paths, three underwater transect lines were established at every site for underwater video recording. Data were analysed from the drone images and separation was made between coral cover, substrate and water (ISODATA). Marking of possible bleaching was done (based on the B band) using vector coral and Sequential Maximum Angle Convex Cone (SMACC). Results from underwater video analysis using Coral Point Count with Excel Extension (CPCe) were then compared with drone data. Highest sea surface temperature (SST) recorded in 2017 was 31 °C (in May) and lowest temperature was 27°C (in January) which was entirely lower than 2016. There is no significant effect of SST towards bleaching as monitored by CVT and drone in 2017 for all sampling stations. Most of the bleaching from August to October occurred in patches (compared to the whole area such as during 2016 bleaching). The hypothesis that results from drone methods has no difference than CVT for monitoring the patterns of coral bleaching was accepted at 4 stations and rejected at 2 stations. Conclusively, drone was successfully showed the bleaching points in the study area, thus the method is potentially contributing to the bleaching monitoring activities (reduce manpower; reduce cost over large coverage; for the purpose of ad-hoc monitoring; baselines study). If compared to satellite images, drone images may lack in suitable spectral for coral identification, but yet drone images allow continuous non-scheduled time for image acquisitions with high resolutions.