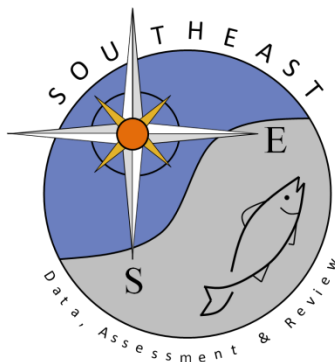


Estimating post-release mortality and capture stress of blacktip sharks in the Gulf of Mexico recreational fishery

John Mohan

SEDAR65-DW21

12/6/19



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ESTIMATING POST-RELEASE MORTALITY AND CAPTURE STRESS OF BLACKTIP SHARKS IN THE GULF OF MEXICO RECREATIONAL FISHERY

John Mohan

Assistant Research Scientist

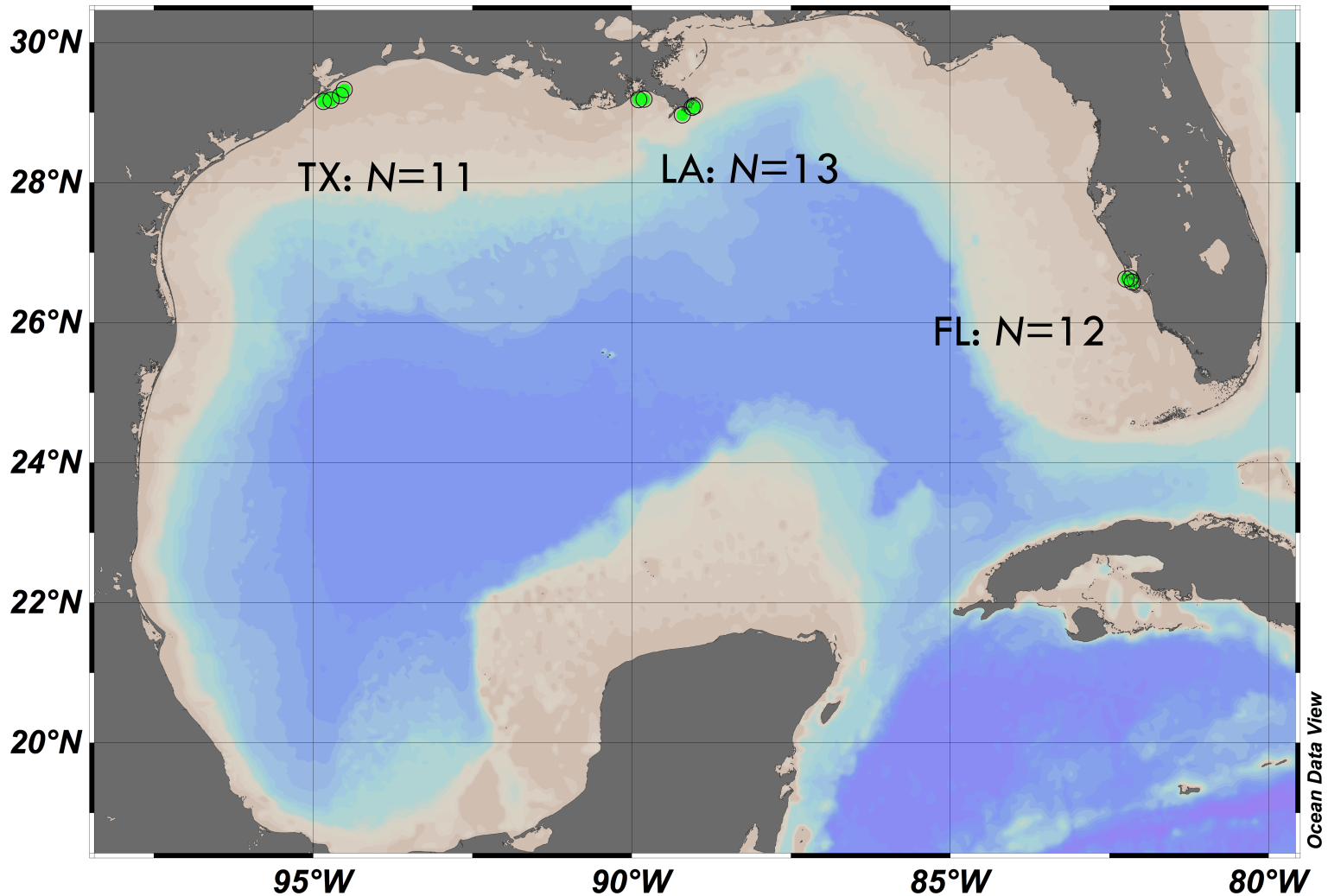
Texas A&M University at Galveston

jmohan@tamu.edu

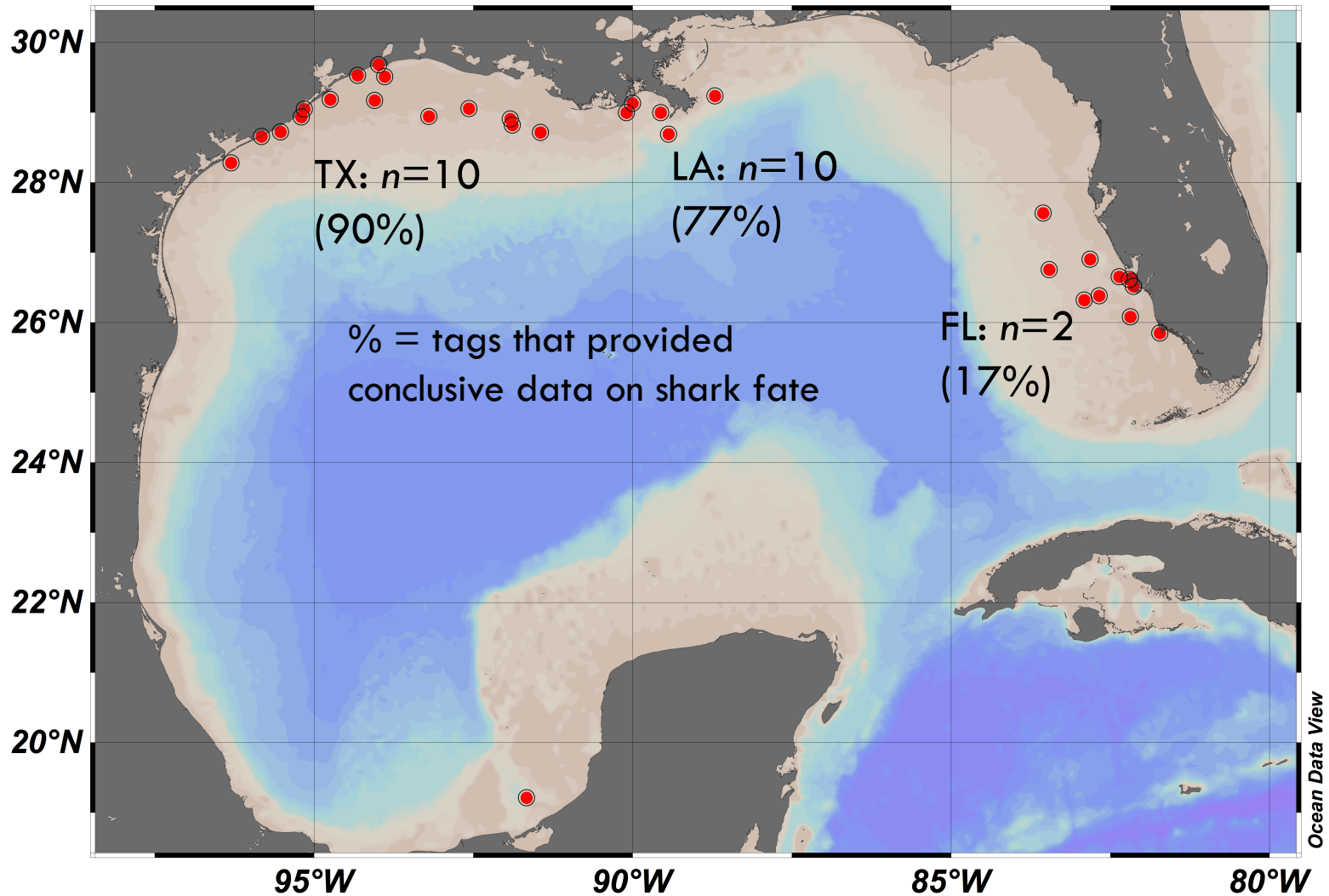
30 October 2019

SEDAR65 – Atlantic blacktip shark data workshop

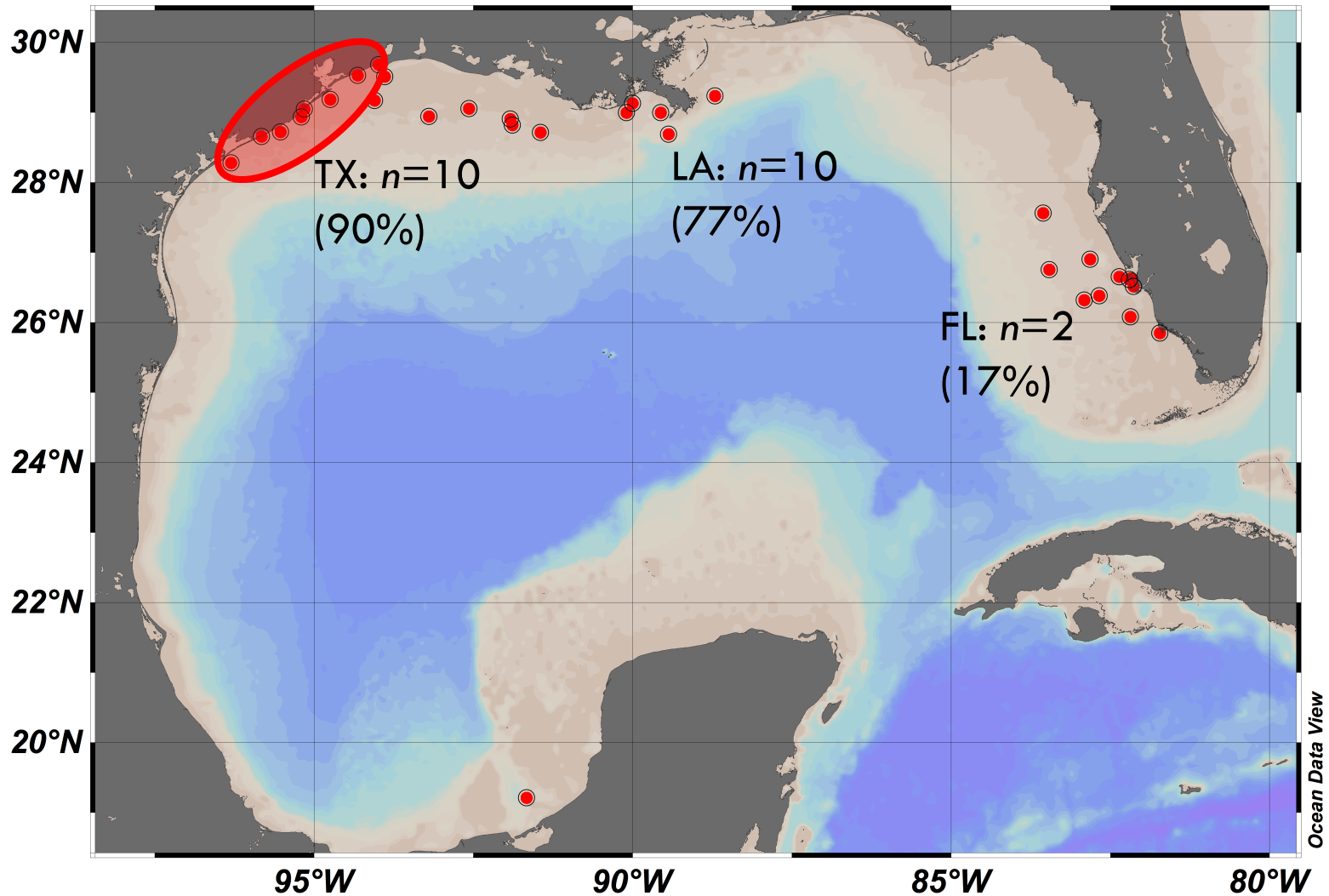
Tag deployment



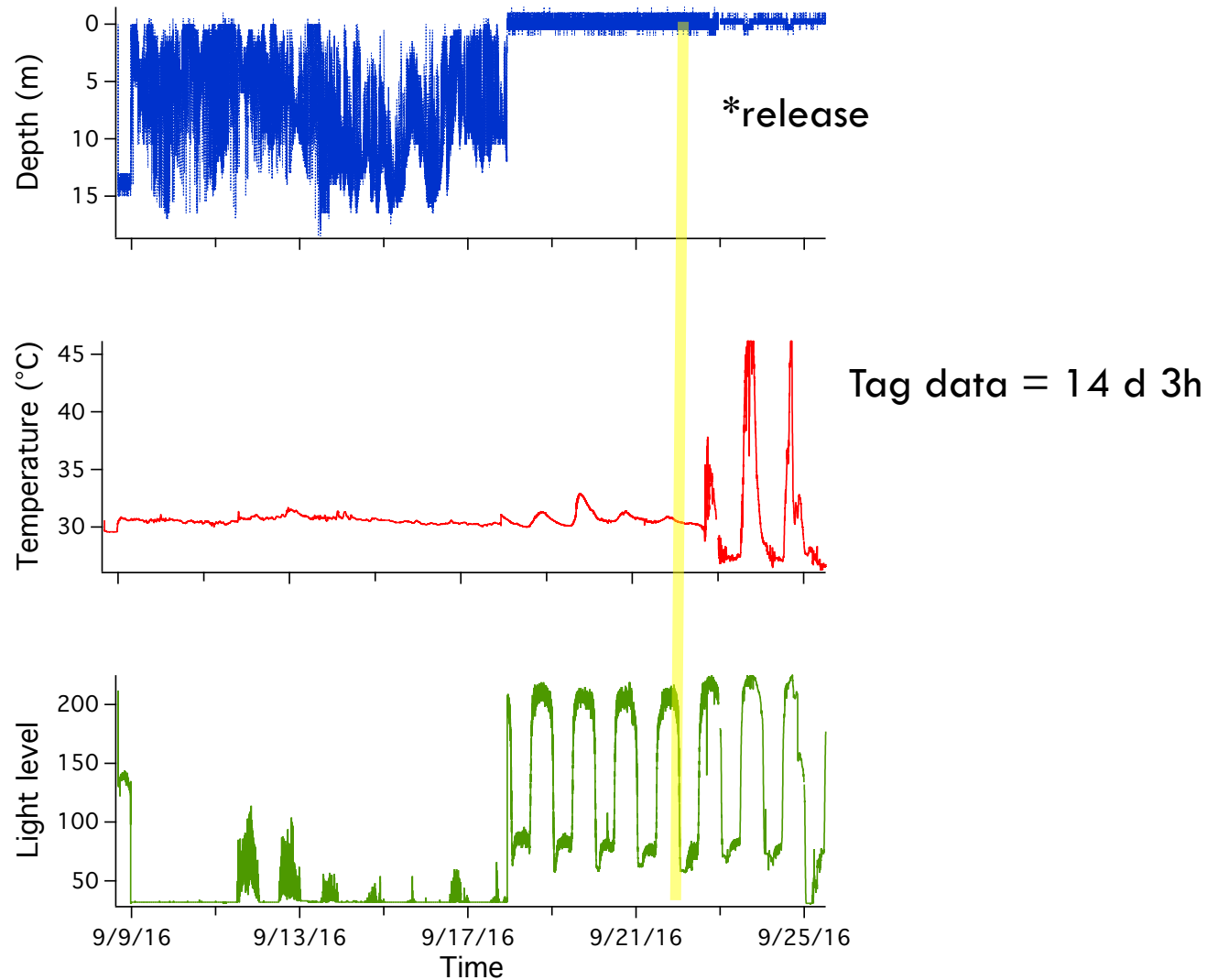
Tag release (first transmission)



Tag release (first transmission)

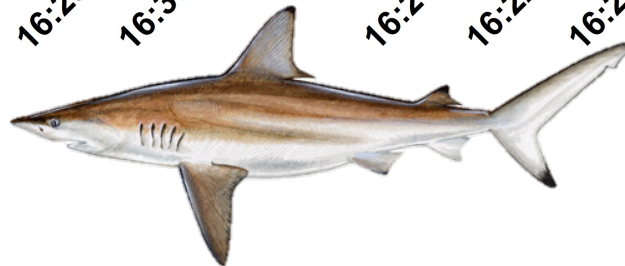
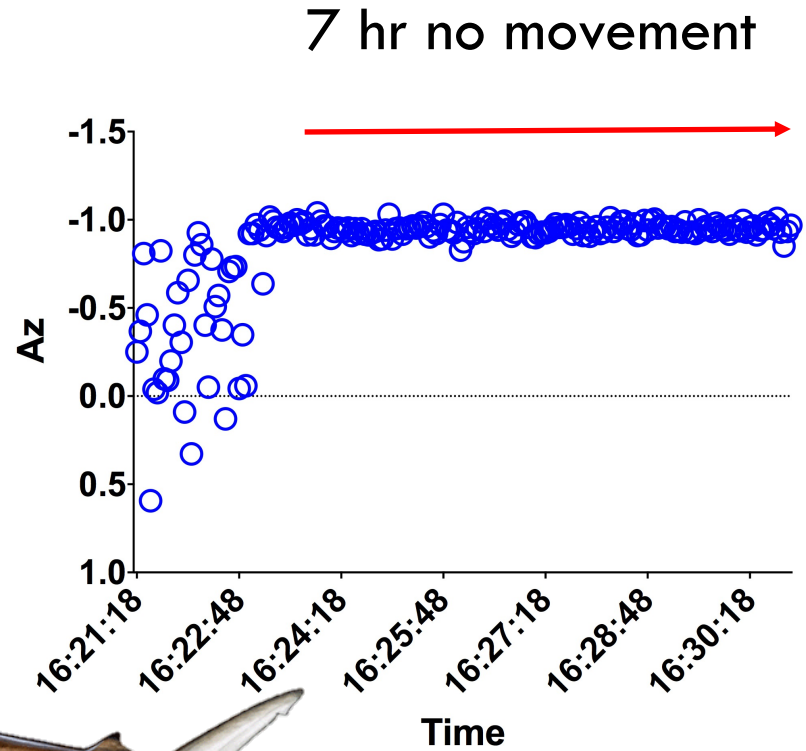
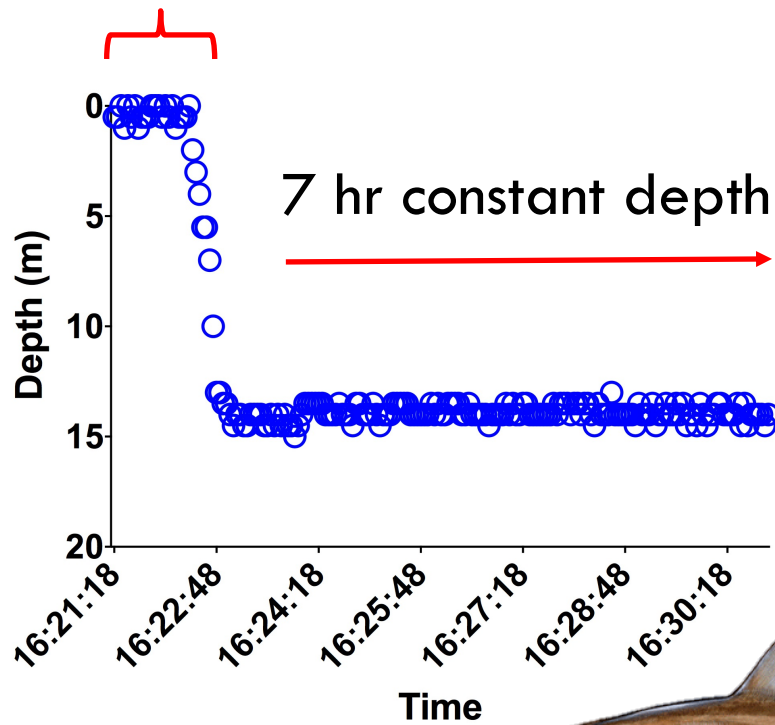


TX08 – female in poor condition



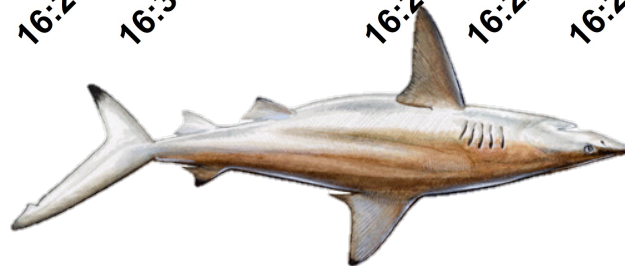
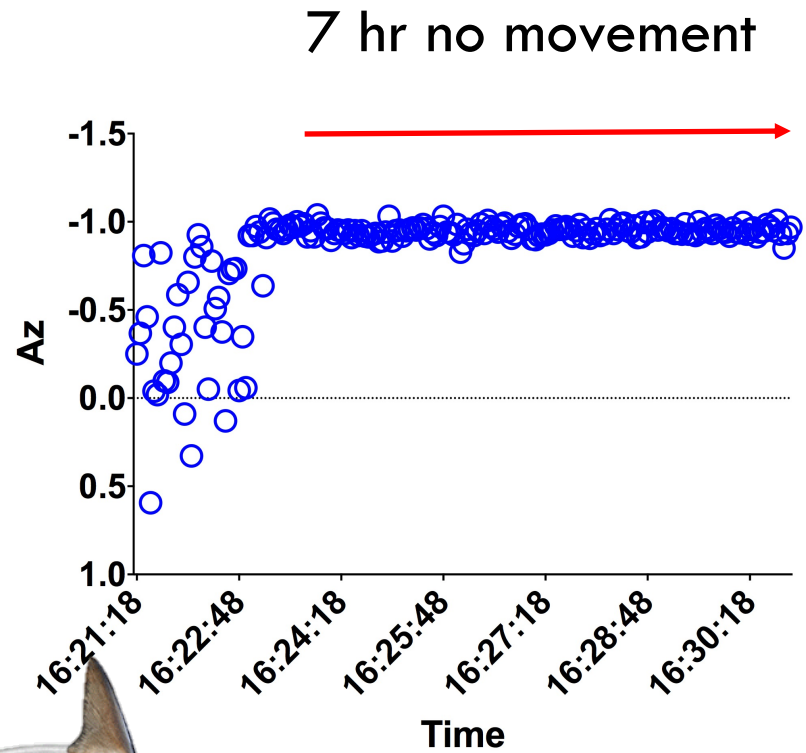
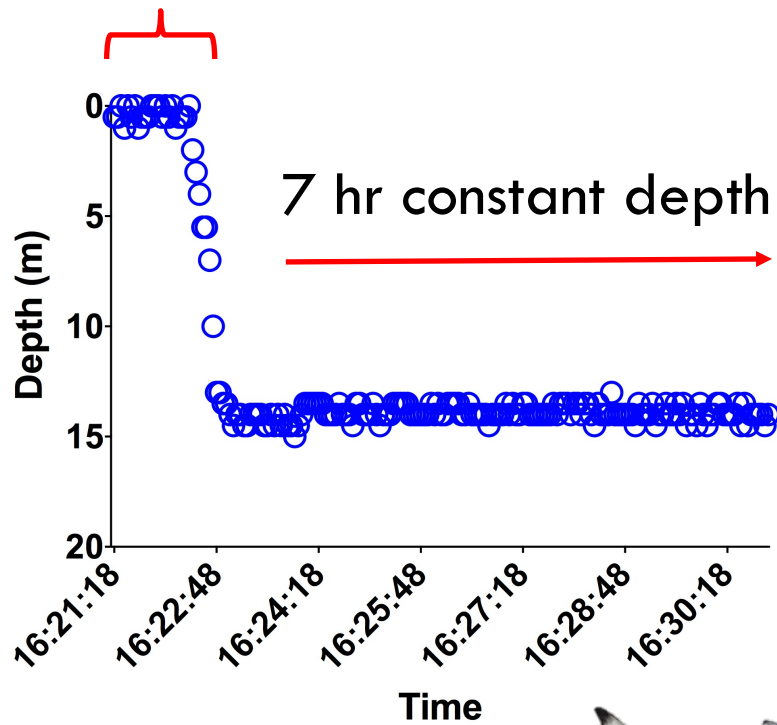
TX08 – (first 9 min)

1 min 40 seconds

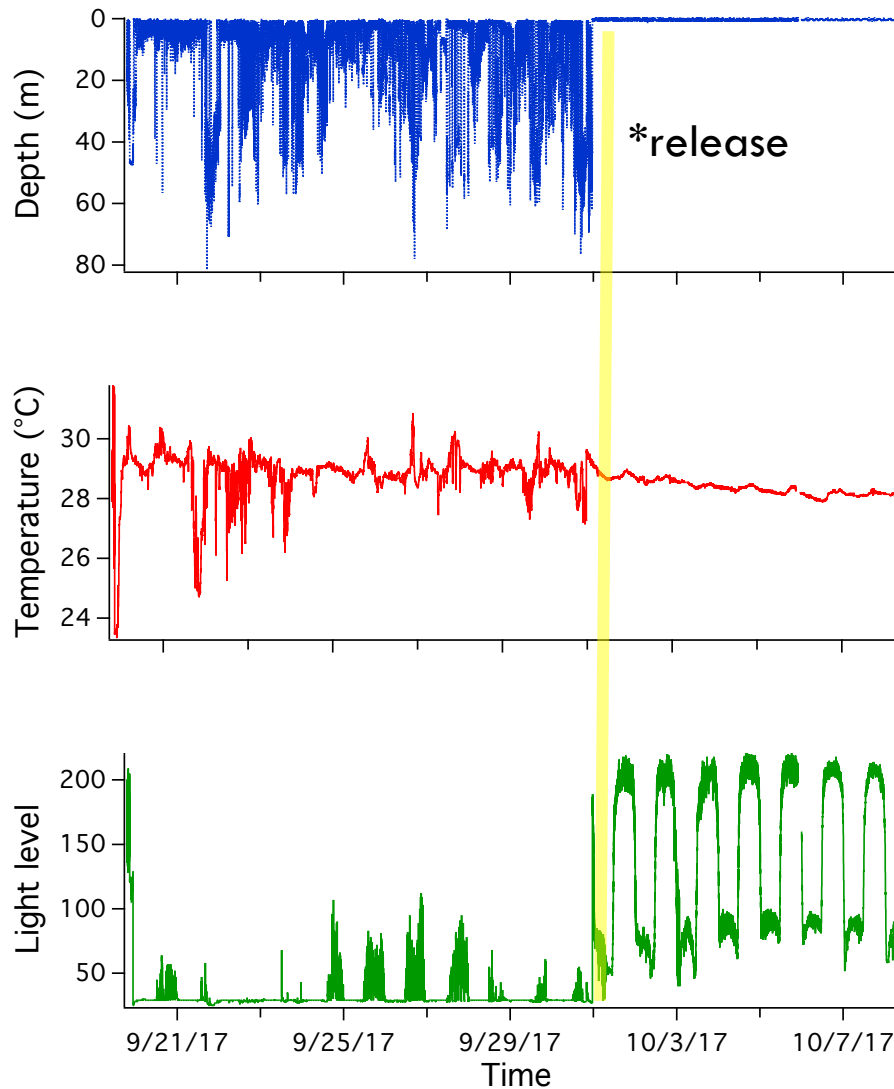


TX08 – (first 9 min)

1 min 40 seconds

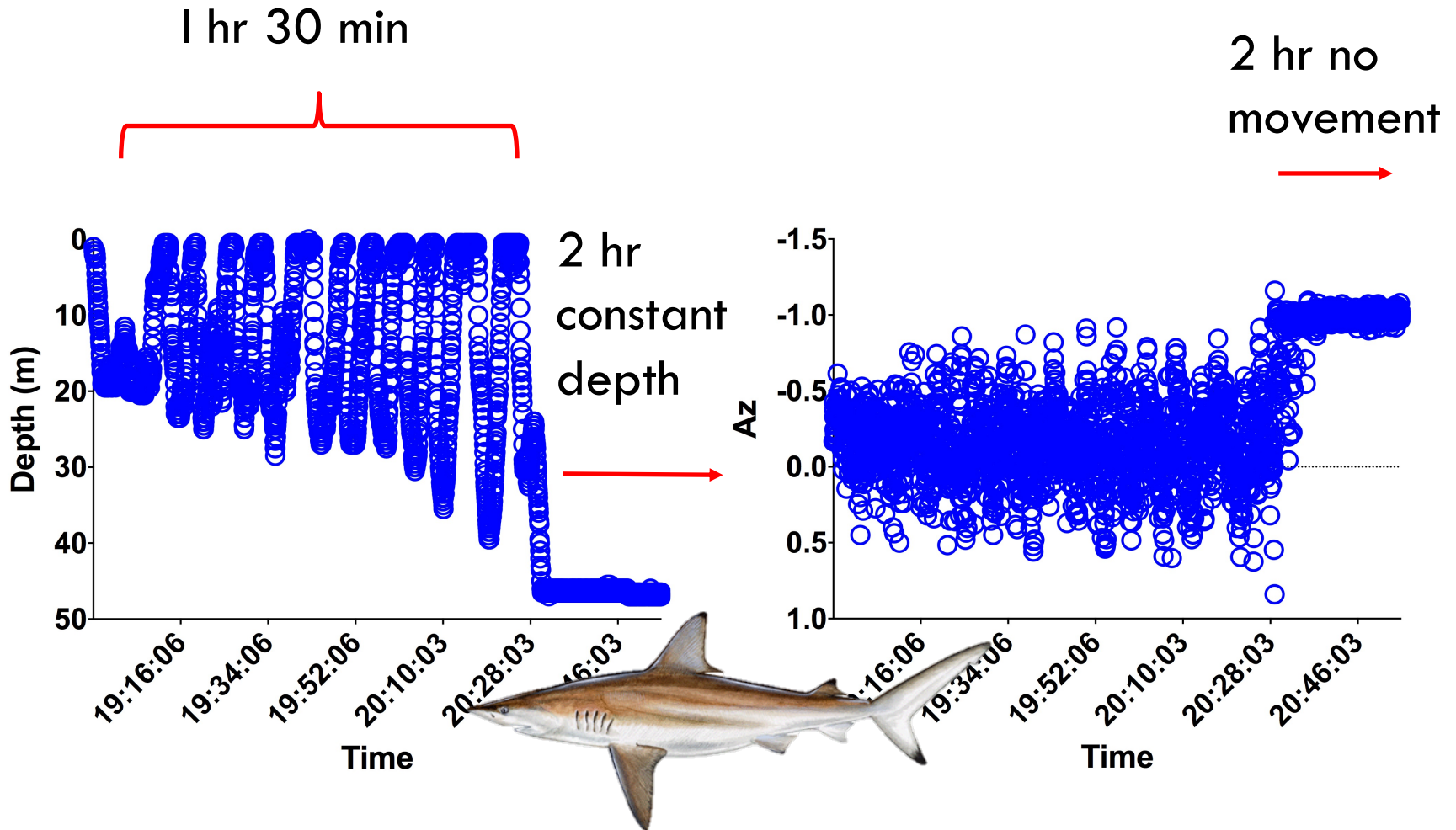


LA22 – female in fair condition

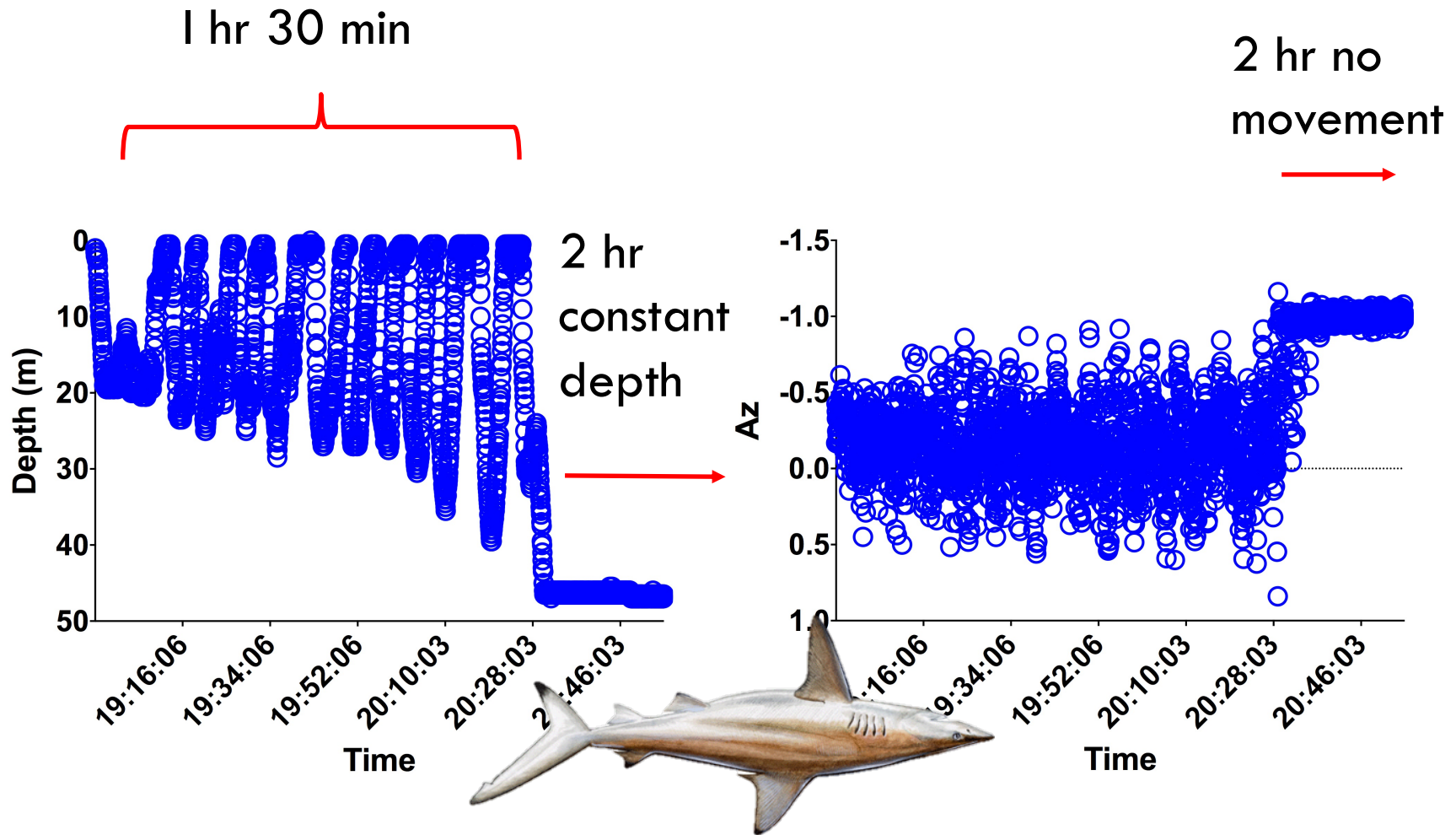


Tag data = 14 d 3h

LA22 – (first 2 hr)

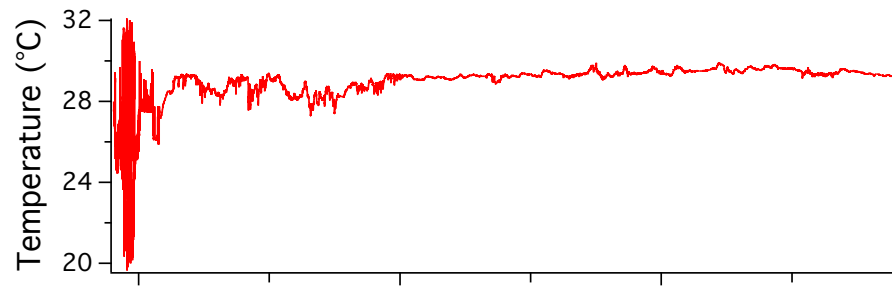
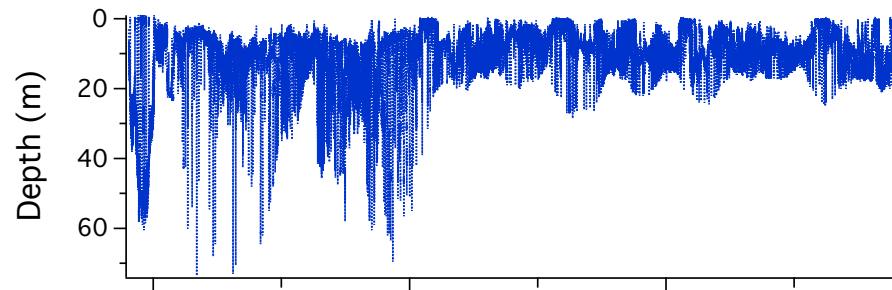


LA22 – (first 2 hr)

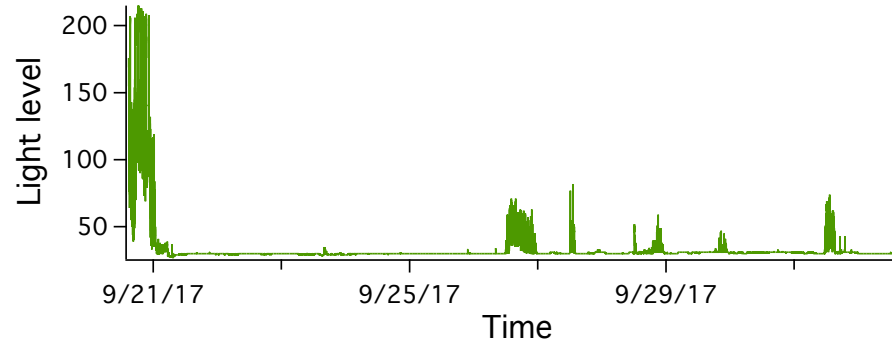


LA27 – female in fair condition

sPAT
survivorship
tag

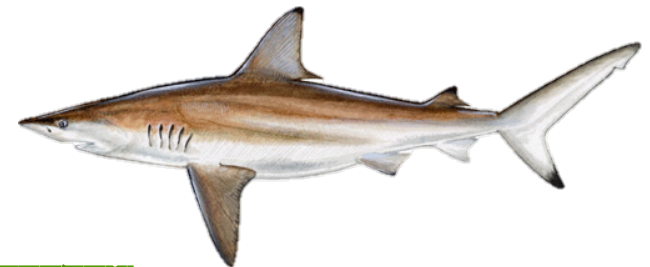
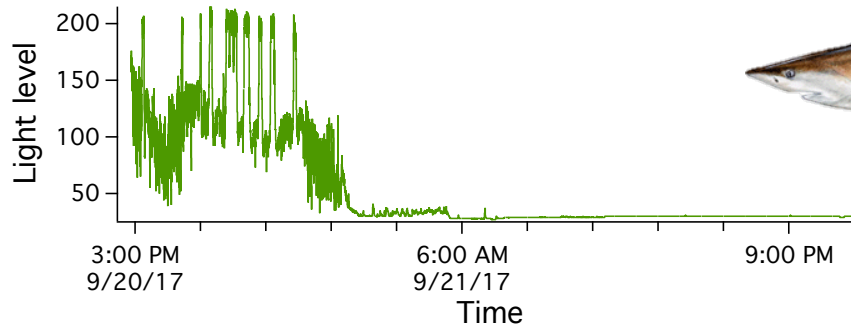
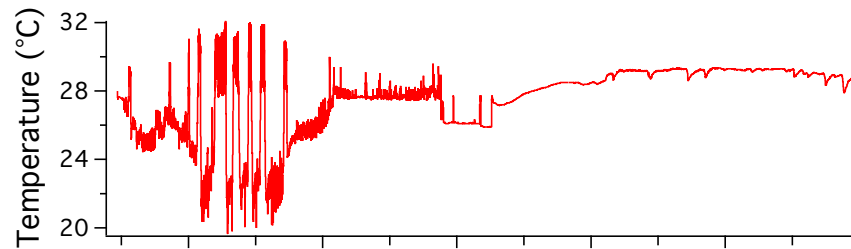
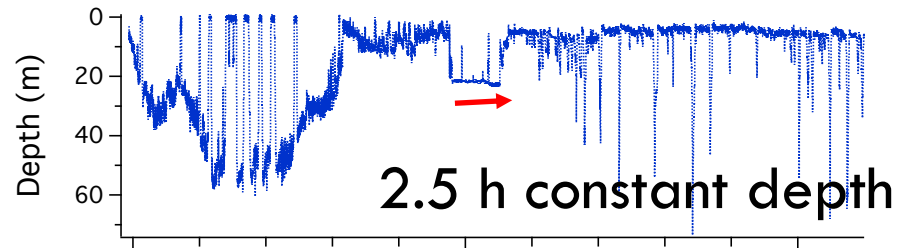


Tag data = 18 d 11h



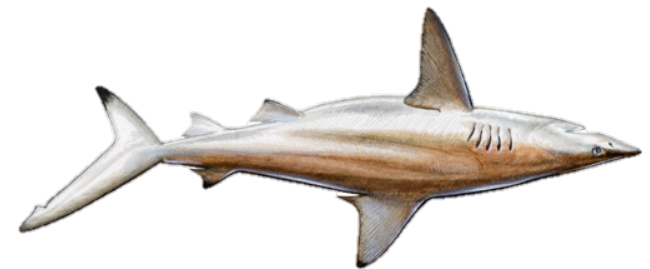
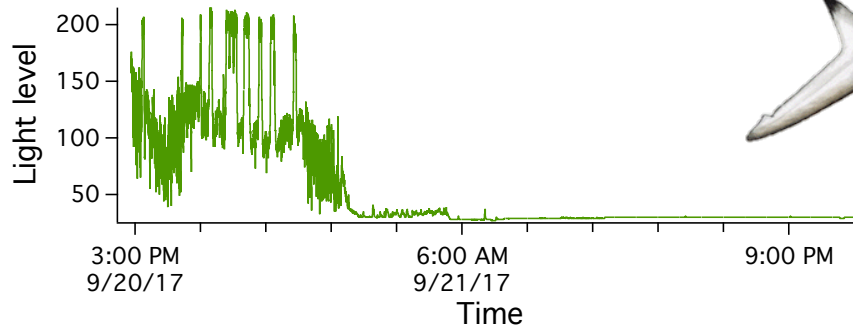
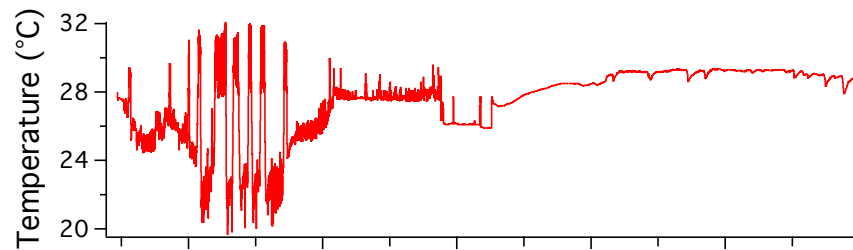
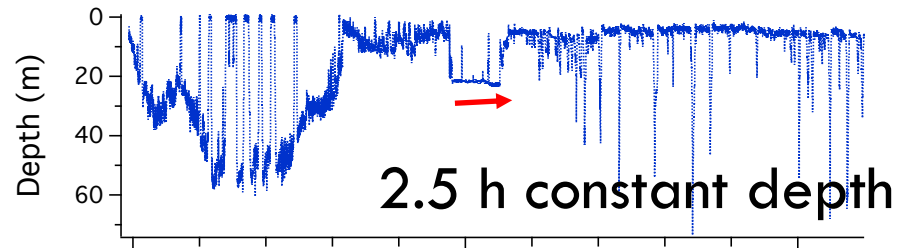
LA27 – first 36 hours

14 hours movement 

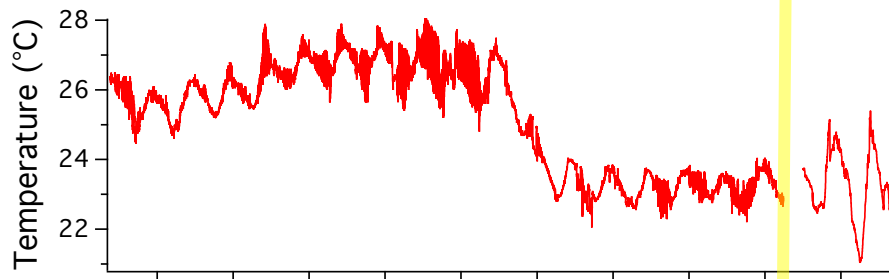
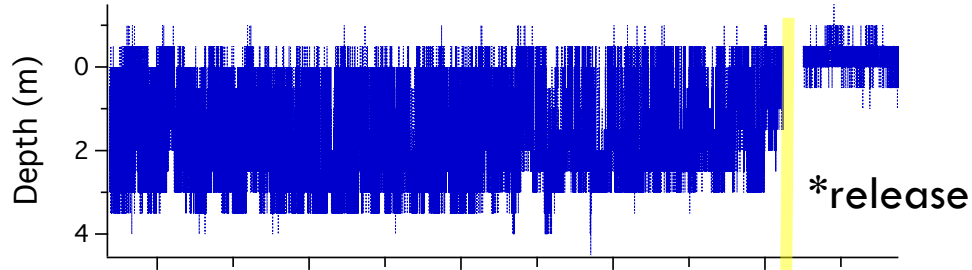


LA27 – first 36 hours

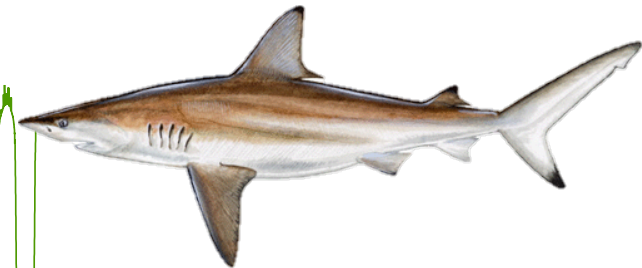
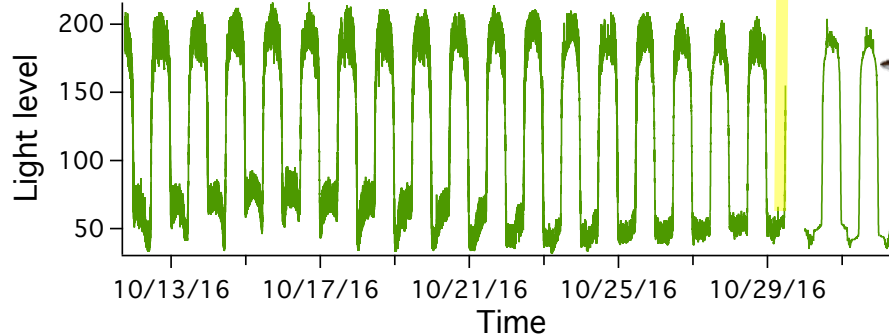
14 hours movement 



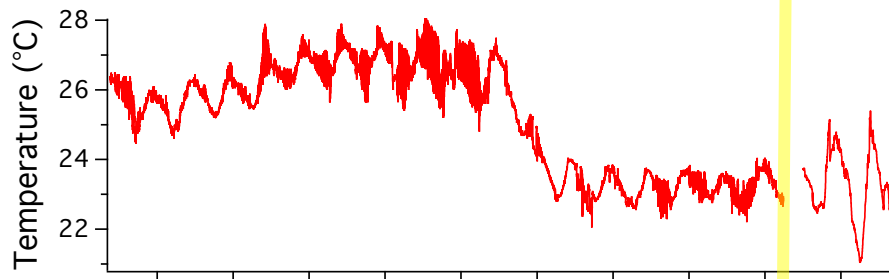
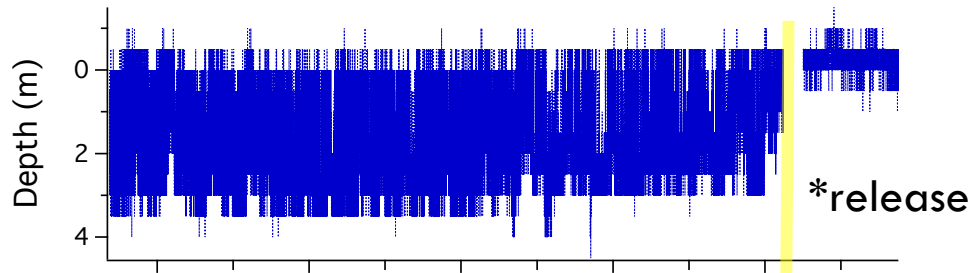
FL08 female in good condition



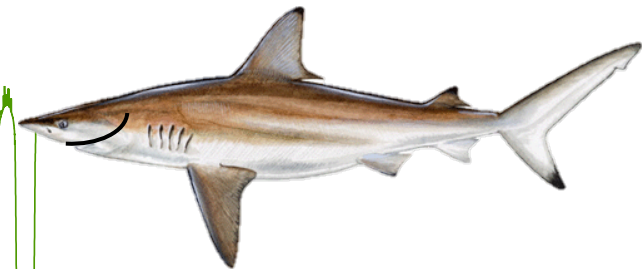
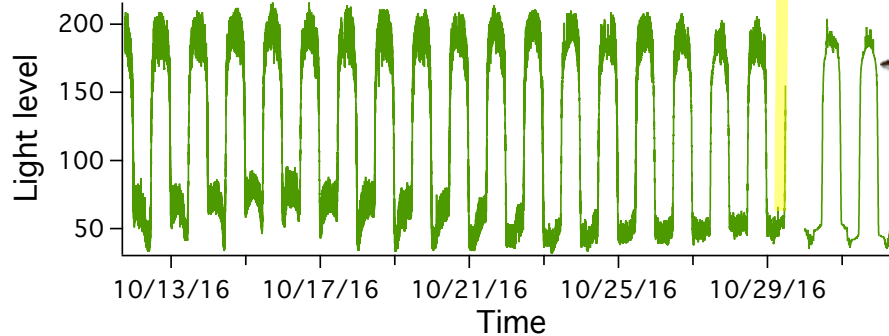
Days at liberty = 17 d 18h



FL08 female in good condition



Days at liberty = 17 d 18h



Post-release summary

- 36 tags deployed; 14 tags no data/ unclear data
 - ▣ 9 tags recovered – high resolution archived datasets
- 5 mortalities = 5 ingested tags, 17 survivors
 - ▣ Immediate mortality occurred **22 s** to **1.5 m** post-release
 - ▣ Delayed mortality occurred **1.5 – 14 h** post-release
- Region specific mortality rates
 - ▣ TX: 3/10 sharks = 30%
 - ▣ LA: 2/10 sharks = 20%
 - ▣ FL: 0/2 sharks = 0%
- Post-release mortality rate of **23%** (5 of 22) for blacktips in recreational charter fisheries

Why regional differences?

Louisiana: net landing

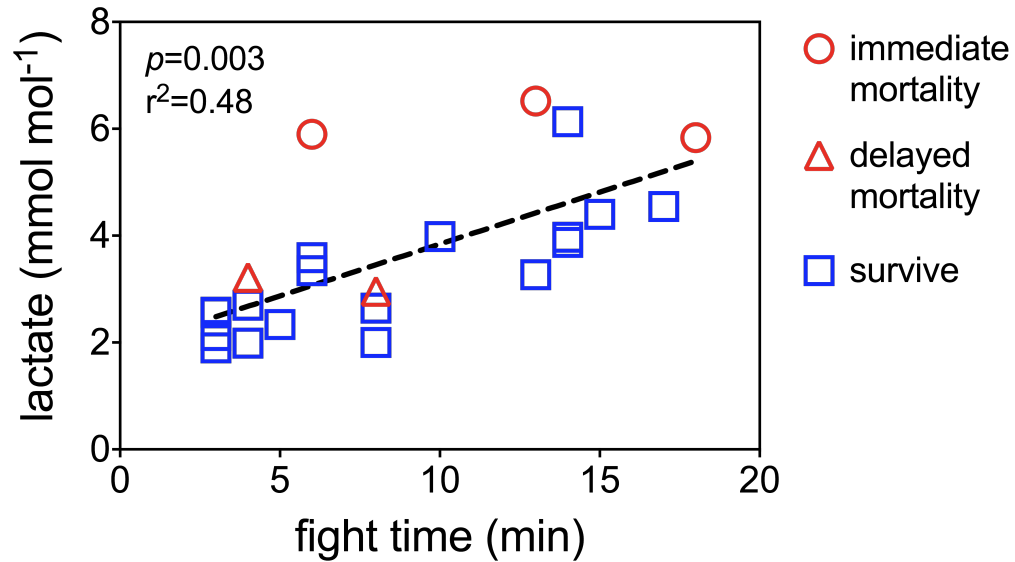


Texas: head rope landing = gill damage?

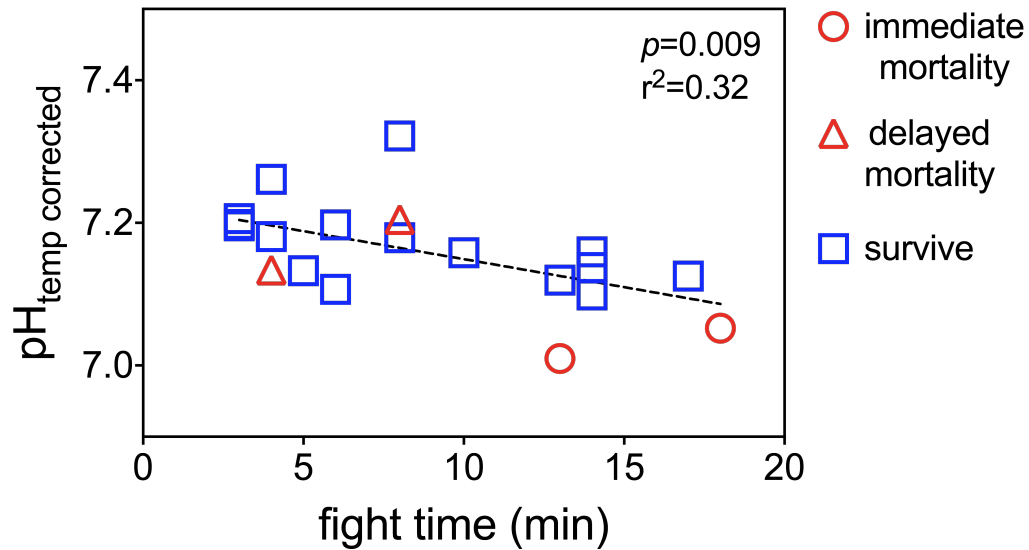


Florida:
water clarity?
predator density? tag style?

Blood chemistry – lactate

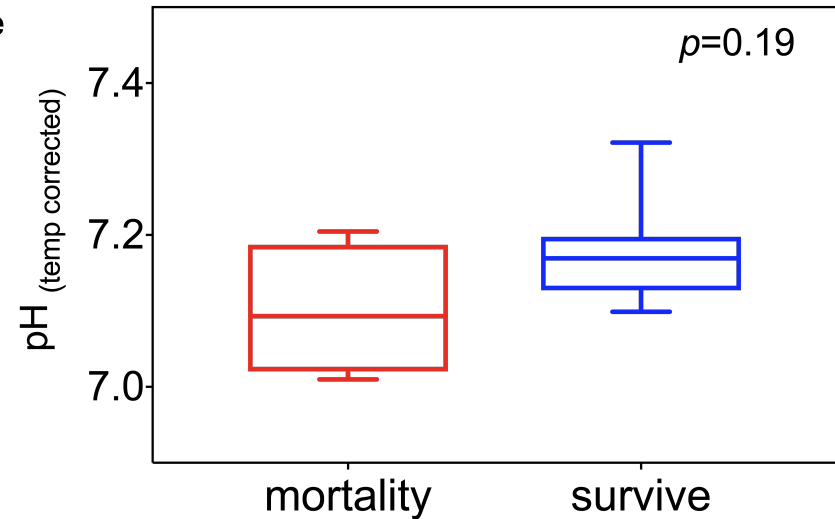
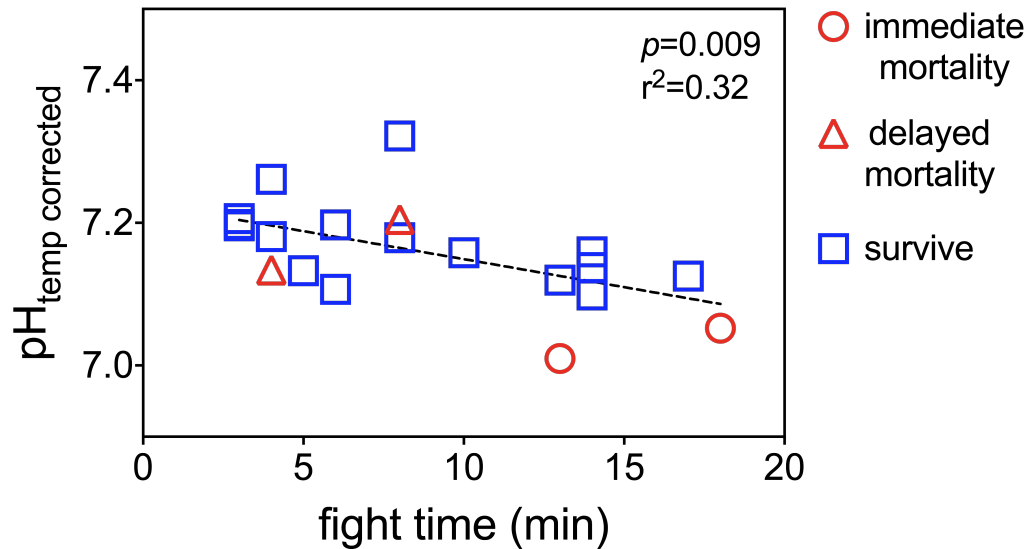


Blood chemistry – pH



*pH unavailable for 1 mortality

Blood chemistry – pH



No significant difference in blood chemistry between survivors and mortalities