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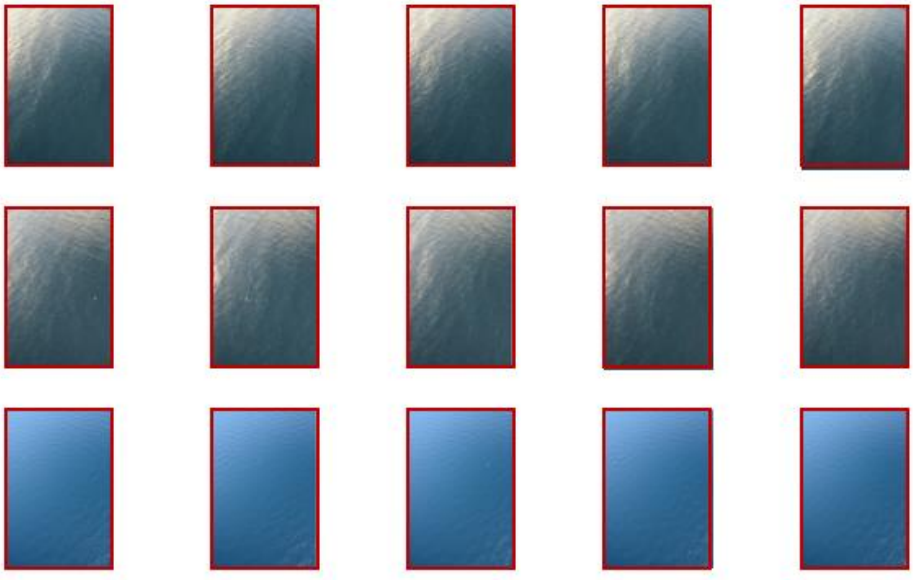
Time-Saving Marine Mammal Detection from Airborne Imagery

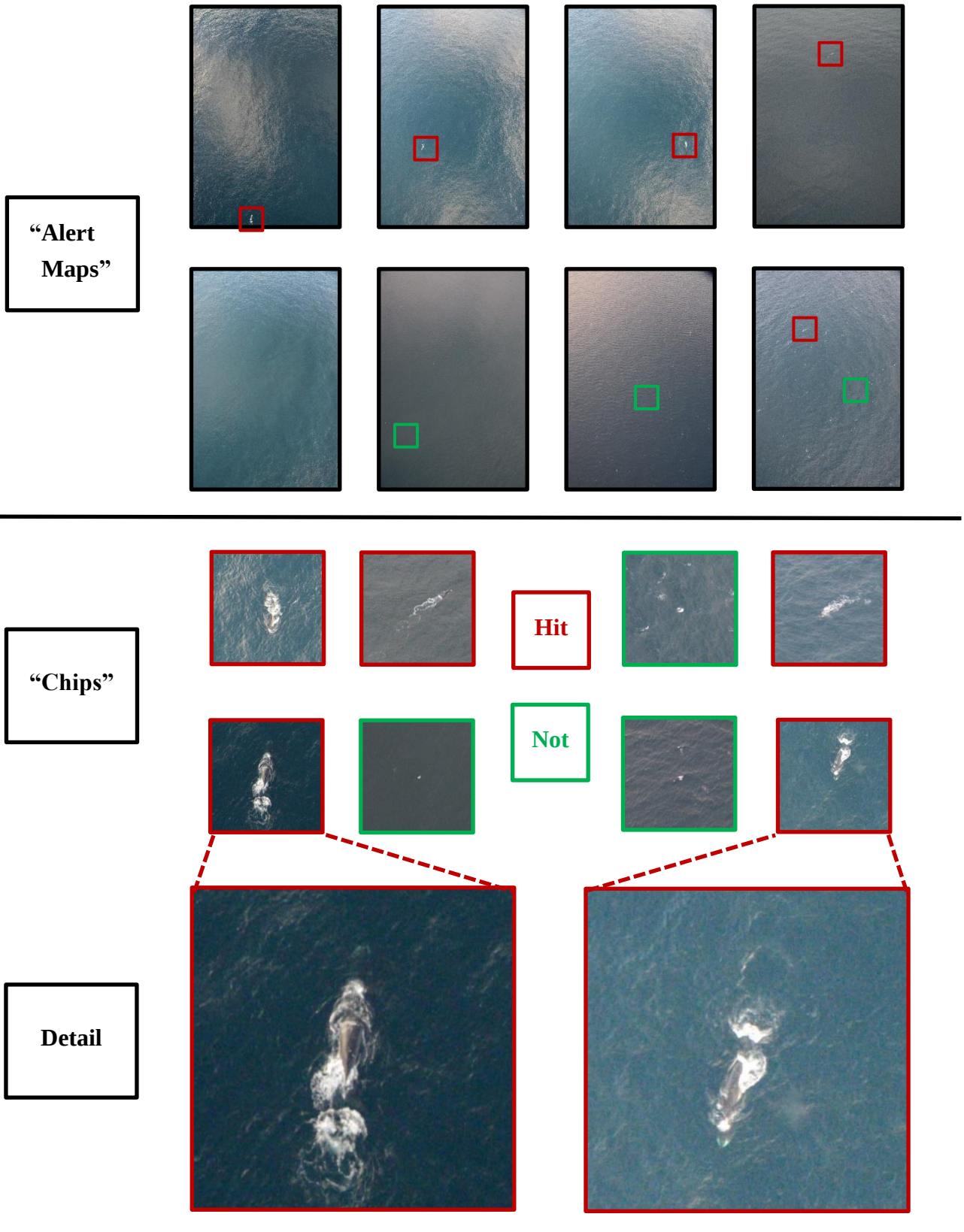
Shell Oil had surveyed whale activity in order to get oil exploration permits. Their high resolution cameras captured images from an aircraft flying at an altitude of 1,000 ft. Shell used marine biologist analysts to find whales like the one shown here within images like those shown below. The analysts looked for whales by tediously zooming in on the images.

Shell aircraft made over 80 flights during the survey. Aircraft cameras captured over 10,000 images during each flight. The time that analysts took to find marine mammals manually from the images averaged 18 observer-weeks per flight! Looking for whales manually from all 80 survey flights would have taken about three analyst-years. They simply didn't have enough time to finish the job.

Shell asked Brainlike to deliver a computing product that would save time and money by pinpointing whale locations. The product automatically identified only target "alert maps" and "chips" like those shown on the next page and presented them to observers for validation. The amount of time the observers took to find whales within these maps averaged four hours per flight —50 times faster than before.



Beyond saving analysis time and money, finding whales and other target events quickly can enable observers to initiate action immediately, *during* data collection. Piloted aircraft and drone ground control systems can readily produce and display alerts like those shown on the next page during or immediately after flights. For more information, feel free to contact us.



*Images and results kindly supplied and funded by Shell Oil