Automated detection and enumeration of marine wildli (UAS) and thermal imagery

Scientific Reports

7, 45127

DOI: 10.1038/srep45127

Citation Report

#	Article	IF	Citations
1	The Use of Unmanned Aerial Systems in Marine Mammal Research. Remote Sensing, 2017, 9, 543.	4.0	87
2	Exploring the feasibility of unmanned aerial vehicles and thermal imaging for ungulate surveys in forests - preliminary results. International Journal of Remote Sensing, 2018, 39, 5504-5521.	2.9	93
3	A computer vision for animal ecology. Journal of Animal Ecology, 2018, 87, 533-545.	2.8	261
4	The potential for unmanned aerial vehicles (UAVs) to conduct marine fauna surveys in place of manned aircraft. ICES Journal of Marine Science, 2018, 75, 1-8.	2.5	120
5	Integrating Drone Imagery into High Resolution Satellite Remote Sensing Assessments of Estuarine Environments. Remote Sensing, 2018, 10, 1257.	4.0	75
6	Recording animal vocalizations from a UAV: bat echolocation during roost re-entry. Scientific Reports, 2018, 8, 7779.	3.3	21
7	Looking Without Landingâ€"Using Remote Piloted Aircraft to Monitor Fur Seal Populations Without Disturbance. Frontiers in Marine Science, 2018, 5, .	2.5	38
8	Detection errors in wildlife abundance estimates from Unmanned Aerial Systems (<scp>UAS</scp>) surveys: Synthesis, solutions, and challenges. Methods in Ecology and Evolution, 2018, 9, 1864-1873.	5.2	59
9	Unoccupied Aircraft Systems in Marine Science and Conservation. Annual Review of Marine Science, 2019, 11, 439-463.	11.6	133
10	Principles and practice of acquiring drone-based image data in marine environments. Marine and Freshwater Research, 2019, 70, 952.	1.3	146
11	Use of unmanned aerial vehicles (UAVs) and photogrammetric image analysis to quantify spatial proximity in beef cattle. Journal of Unmanned Vehicle Systems, 2019, 7, 194-206.	1.2	16
12	Mini-Unmanned Aerial Vehicle-Based Remote Sensing: Techniques, applications, and prospects. IEEE Geoscience and Remote Sensing Magazine, 2019, 7, 29-63.	9.6	114
13	Challenges of collecting blow from small cetaceans. Ecosphere, 2019, 10, e02901.	2.2	18
14	Drones for Conservation in Protected Areas: Present and Future. Drones, 2019, 3, 10.	4.9	149
15	Doctor Drone: Non-invasive Measurement of Humpback Whale Vital Signs Using Unoccupied Aerial System Infrared Thermography. Frontiers in Marine Science, 2019, 6, .	2.5	29
16	Aerial-trained deep learning networks for surveying cetaceans from satellite imagery. PLoS ONE, 2019, 14, e0212532.	2.5	42
17	Thermal Infrared Imaging from Drones Offers a Major Advance for Spider Monkey Surveys. Drones, 2019, 3, 34.	4.9	49
18	Surveying Wild Animals from Satellites, Manned Aircraft and Unmanned Aerial Systems (UASs): A Review. Remote Sensing, 2019, 11, 1308.	4.0	81

#	Article	IF	Citations
19	Monitoring large and complex wildlife aggregations with drones. Methods in Ecology and Evolution, 2019, 10, 1024-1035.	5.2	65
20	Detecting â€˜poachersâ€™ with drones: Factors influencing the probability of detection with TIR and RGB imaging in miombo woodlands, Tanzania. Biological Conservation, 2019, 233, 109-117.	4.1	20
21	Applications of Unmanned Aerial Vehicles to Survey Mesocarnivores. Drones, 2019, 3, 28.	4.9	23
22	Reliability of marine faunal detections in drone-based monitoring. Ocean and Coastal Management, 2019, 174, 108-115.	4.4	69
23	Automated detection of koalas using low-level aerial surveillance and machine learning. Scientific Reports, 2019, 9, 3208.	3.3	58
24	Estimating kangaroo density by aerial survey: a comparison of thermal cameras with human observers. Wildlife Research, 2019, 46, 639.	1.4	35
25	Applying Unoccupied Aircraft Systems to Study Human Behavior in Marine Science and Conservation Programs. Frontiers in Marine Science, 2019, 6, .	2.5	8
26	Beach safety: can drones provide a platform for sighting sharks?. Wildlife Research, 2019, 46, 701.	1.4	66
27	Marine Bird Detection Based on Deep Learning using High-Resolution Aerial Images. , 2019, , .		9
28	Using virtual reality and thermal imagery to improve statistical modelling of vulnerable and protected species. PLoS ONE, 2019, 14, e0217809.	2.5	8
29	Hot monkey, cold reality: surveying rainforest canopy mammals using drone-mounted thermal infrared sensors. International Journal of Remote Sensing, 2019, 40, 407-419.	2.9	82
30	Optimizing observing strategies for monitoring animals using drone-mounted thermal infrared cameras. International Journal of Remote Sensing, 2019, 40, 439-467.	2.9	74
31	Bears habituate to the repeated exposure of a novel stimulus, unmanned aircraft systems. , 2019, 7, coy067.		42
32	A convolutional neural network for detecting sea turtles in drone imagery. Methods in Ecology and Evolution, 2019, 10, 345-355.	5.2	94
33	Nonlinear reactionâ€“diffusion process models improve inference for population dynamics. Environmetrics, 2020, 31, e2604.	1.4	11
34	Comparison of sampling precision for nearshore marine wildlife using unmanned and manned aerial surveys. Journal of Unmanned Vehicle Systems, 2020, 8, 30-43.	1.2	33
35	Operational Protocols for the Use of Drones in Marine Animal Research. Drones, 2020, 4, 64.	4.9	78
36	A framework for multiscale intertidal sandflat mapping: A case study in the Whangateau estuary. ISPRS Journal of Photogrammetry and Remote Sensing, 2020, 169, 242-252.	11.1	4

#	Article	IF	Citations
37	New technologies in the mix: Assessing Nâ€mixture models for abundance estimation using automated detection data from drone surveys. Ecology and Evolution, 2020, 10, 8176-8185.	1.9	11
38	A Semi-Automated Method for Estimating AdÃ©lie Penguin Colony Abundance from a Fusion of Multispectral and Thermal Imagery Collected with Unoccupied Aircraft Systems. Remote Sensing, 2020, 12, 3692.	4.0	13
39	An experimental approach to evaluate the potential of drones in terrestrial mammal research: a gregarious ungulate as a study model. Royal Society Open Science, 2020, 7, 191482.	2.4	36
40	Wild boar recognition using convolutional neural networks. Concurrency Computation Practice and Experience, 2021, 33, e6010.	2.2	2
41	Remotely Piloted Aircraft System (RPAS)-Based Wildlife Detection: A Review and Case Studies in Maritime Antarctica. Animals, 2020, 10, 2387.	2.3	22
42	Unmanned Aerial Vehicle Control through Domain-Based Automatic Speech Recognition. Computers, 2020, 9, 75.	3.3	16
43	Autonomous Deployment of Underwater Acoustic Monitoring Devices Using an Unmanned Aerial Vehicle: The Flying Hydrophone. Sensors, 2020, 20, 6064.	3.8	5
44	Evaluating the Use of Drones Equipped with Thermal Sensors as an Effective Method for Estimating Wildlife. Wildlife Society Bulletin, 2020, 44, 434-443.	1.6	43
45	Calibrating and adjusting counts of harbor seals in a tidewater glacier fjord to estimate abundance and trends 1992 to 2017. Ecosphere, 2020, 11, e03111.	2.2	7
46	Accurate Non-Disturbance Population Survey Method of Nesting Colonies in the Reedbed with Georeferenced Aerial Imagery. Sensors, 2020, 20, 2601.	3.8	2
47	Evaluating the Efficacy and Optimal Deployment of Thermal Infrared and True-Colour Imaging When Using Drones for Monitoring Kangaroos. Drones, 2020, 4, 20.	4.9	21
48	Unoccupied Aircraft Systems (UAS) for Marine Ecosystem Restoration. Frontiers in Marine Science, 2020, 7, .	2.5	21
49	Estimation of free-roaming domestic dog population size: Investigation of three methods including an Unmanned Aerial Vehicle (UAV) based approach. PLoS ONE, 2020, 15, e0225022.	2.5	20
50	Dual visibleâ€thermal camera approach facilitates drone surveys of colonial marshbirds. Remote Sensing in Ecology and Conservation, 2021, 7, 214-226.	4.3	25
51	Using UAVâ€mounted thermal cameras to detect the presence of nesting nightjar in upland clearâ€fell: A case study in South Wales, UK. Ecological Solutions and Evidence, 2021, 2, e12052.	2.0	6
52	Development of an Unmanned Aerial System for Maritime Environmental Observation. IEEE Access, 2021, 9, 132746-132765.	4.2	3
53	Revue des applications et de lâ€™utilitÃ© des drones en conservation de la faune. Le Naturaliste Canadien, 0, 145, 3-34.	0.2	0
54	Ears in the Sky: Potential of Drones for the Bioacoustic Monitoring of Birds and Bats. Drones, 2021, 5, 9.	4.9	12

#	Article	IF	Citations
55	Small Unmanned Aircraft Systems Acoustic Analysis for Noninvasive Marine Mammal Response: An Exploratory Field Study. International Journal of Aviation, Aeronautics, and Aerospace, 0, , .	0.2	0
56	Applications, databases and open computer vision research from drone videos and images: a survey. Artificial Intelligence Review, 2021, 54, 3887-3938.	15.7	43
57	Enumerating Whiteâ€Tailed Deer Using Unmanned Aerial Vehicles. Wildlife Society Bulletin, 2021, 45, 97-108.	0.8	15
58	Automated detection of wildlife using drones: Synthesis, opportunities and constraints. Methods in Ecology and Evolution, 2021, 12, 1103-1114.	5.2	48
59	Marine mammal conservation: over the horizon. Endangered Species Research, 2021, 44, 291-325.	2.4	71
60	Droneâ€based thermal remote sensing provides an effective new tool for monitoring the abundance of roosting fruit bats. Remote Sensing in Ecology and Conservation, 2021, 7, 461-474.	4.3	17
61	Evaluating new technology for biodiversity monitoring: Are drone surveys biased?. Ecology and Evolution, 2021, 11, 6649-6656.	1.9	17
67	Drones and deep learning produce accurate and efficient monitoring of large-scale seabird colonies. Condor, 2021, 123, .	1.6	16
71	Identifying optimal wavelengths to maximise the detection rates of marine fauna from aerial surveys. Biological Conservation, 2021, 257, 109102.	4.1	10
73	Feasibility Analyses of Real-Time Detection of Wildlife Using UAV-Derived Thermal and RGB Images. Remote Sensing, 2021, 13, 2169.	4.0	20
74	An Evaluation of the Factors Affecting â€˜Poacherâ€™ Detection with Drones and the Efficacy of Machine-Learning for Detection. Sensors, 2021, 21, 4074.	3.8	10
75	Steps to build a DIY low-cost fixed-wing drone for biodiversity conservation. PLoS ONE, 2021, 16, e0255559.	2.5	6
76	Improving Animal Monitoring Using Small Unmanned Aircraft Systems (sUAS) and Deep Learning Networks. Sensors, 2021, 21, 5697.	3.8	17
77	The behavioral responses of a nocturnal burrowing marsupial (Lasiorhinus latifrons) to drone flight. Ecology and Evolution, 2021, 11, 12173-12181.	1.9	6
78	Drone Nest Searching Applications Using a Thermal Camera. Wildlife Society Bulletin, 2021, 45, 371.	0.8	5
79	Monitoring of free-range rabbits using aerial thermal imaging. Smart Agricultural Technology, 2021, 1, 100002.	5.4	5
81	The Drone Revolution of Shark Science: A Review. Drones, 2021, 5, 8.	4.9	66
82	When you can't see the koalas for the trees: Using drones and machine learning in complex environments. Biological Conservation, 2020, 247, 108598.	4.1	11

#	Article	IF	Citations
84	The potential of unmanned aerial systems for sea turtle research and conservation: a review and future directions. Endangered Species Research, 2018, 35, 81-100.	2.4	82
85	Assessing the disturbance potential of small unoccupied aircraft systems (UAS) on gray seals (Halichoerus grypus) at breeding colonies in Nova Scotia, Canada. PeerJ, 2018, 6, e4467.	2.0	38
86	Thermal Sensor Calibration for Unmanned Aerial Systems Using an External Heated Shutter. Drones, 2021, 5, 119.	4.9	11
88	Modelling wildlife species abundance using automated detections from drone surveillance. , 0, , .		0
89	Utilizing unsupervised learning, multi-view imaging, and CNN-based attention facilitates cost-effective wetland mapping. Remote Sensing of Environment, 2021, 267, 112757.	11.0	12
90	Possibility of applying unmanned aerial vehicle and thermal imaging in several canopy cover class for wildlife monitoring â€“ preliminary results. E3S Web of Conferences, 2020, 211, 04007.	0.5	8
92	Wild boar Classification by Using a Fusion of Texture Analysis Methods. , 2020, , .		0
93	Evaluating the effectiveness of drones for quantifying invasive upside-down jellyfish (Cassiopea sp.) in Lake Macquarie, Australia. PLoS ONE, 2022, 17, e0262721.	2.5	2
94	Detecting spider monkeys from the sky using a high-definition RGB camera: a rapid-assessment survey method?. Biodiversity and Conservation, 2022, 31, 479-496.	2.6	6
95	Effectiveness of using drones and convolutional neural networks to monitor aquatic megafauna. African Journal of Ecology, 2022, 60, 544-556.	0.9	2
96	Evaluating the use of thermal imagery to count harbor seals in aerial surveys. Mammalian Biology, 0, , 1.	1.5	0
97	Spy in the sky: a method to identify pregnant small cetaceans. Remote Sensing in Ecology and Conservation, 2022, 8, 492-505.	4.3	14
98	Antler detection from the sky: deer sex ratio monitoring using droneâ€mounted thermal infrared sensors. Wildlife Biology, 2022, 2022, .	1.4	2
99	Development and validation of software that quantifies the larval mortality of Rhipicephalus (Boophilus) microplus cattle tick. Ticks and Tick-borne Diseases, 2022, 13, 101930.	2.7	2
100	Javan langur responses to the repeated exposure of ground survey and novel stimulus, unmanned aerial vehicles. IOP Conference Series: Earth and Environmental Science, 2021, 948, 012006.	0.3	1
101	Perspectives on the Use of Unmanned Aerial Vehicle Systems as Tools for Smallâ€Scale Fisheries Research and Management. Fisheries, 2022, 47, 78-89.	0.8	2
102	Review on methods used for wildlife species and individual identification. European Journal of Wildlife Research, 2022, 68, 1.	1.4	14
106	Investigating the thermal physiology of critically endangered North Atlantic right whales Eubalaena glacialis via aerial infrared thermography. Endangered Species Research, 0, , .	2.4	3

#	Article	IF	Citations
107	UAV remote sensing applications in marine monitoring: Knowledge visualization and review. Science of the Total Environment, 2022, 838, 155939.	8.0	83
108	Automated Detection of Koalas with Deep Learning Ensembles. Remote Sensing, 2022, 14, 2432.	4.0	3
109	Robust Algorithms for Drone-Assisted Monitoring of Big Animals in Harsh Conditions of Siberian Winter Forests: Recovery of European elk (Alces alces) in Salair Mountains. Animals, 2022, 12, 1483.	2.3	0
110	Remote sensing techniques for automated marine mammals detection: a review of methods and current challenges. PeerJ, 0, 10, e13540.	2.0	8
111	Opportunities and risks in the use of drones for studying animal behaviour. Methods in Ecology and Evolution, 2023, 14, 1864-1872.	5.2	18
112	Using piecewise regression to identify biological phenomena in biotelemetry datasets. Journal of Animal Ecology, 2022, 91, 1755-1769.	2.8	5
113	An automated work-flow for pinniped surveys: A new tool for monitoring population dynamics. Frontiers in Ecology and Evolution, 0, 10, .	2.2	6
114	Evaluating Thermal and Color Sensors for Automating Detection of Penguins and Pinnipeds in Images Collected with an Unoccupied Aerial System. Drones, 2022, 6, 255.	4.9	6
115	Ground-based counting methods underestimate true numbers of a threatened colonial mammal: an evaluation using drone-based thermal surveys as a reference. Wildlife Research, 2023, 50, 484-493.	1.4	2
116	Context for Reproducibility and Replicability in Geospatial Unmanned Aircraft Systems. Remote Sensing, 2022, 14, 4304.	4.0	1
117	Automating sandhill crane counts from nocturnal thermal aerial imagery using deep learning. Remote Sensing in Ecology and Conservation, 2023, 9, 182-194.	4.3	1
118	Using computer vision, image analysis and UAVs for the automatic recognition and counting of common cranes (Grus grus). Journal of Environmental Management, 2023, 328, 116948.	7.8	16
119	Using Unoccupied Aerial Vehicles to estimate availability and group size error for aerial surveys of coastal dolphins. Remote Sensing in Ecology and Conservation, 2023, 9, 340-353.	4.3	4
120	Using Drones with Thermal Imaging to Estimate Population Counts of European Hare (Lepus) Tj ETQq1 1 0.784314 rgBT /Overlock 10	4.9	0
121	Quantifying detection probability of American woodcock (Scolopax minor) on transects sampled with thermal cameras. Wildlife Society Bulletin, 2023, 47, .	0.8	1
122	Artificial intelligence for automated detection of large mammals creates path to upscale drone surveys. Scientific Reports, 2023, 13, .	3.3	7
123	Automatic Recognition of Black-Necked Swan (Cygnus melancoryphus) from Drone Imagery. Drones, 2023, 7, 71.	4.9	3
124	UAS-Based Real-Time Detection of Red-Cockaded Woodpecker Cavities in Heterogeneous Landscapes Using YOLO Object Detection Algorithms. Remote Sensing, 2023, 15, 883.	4.0	3

#	Article	IF	Citations
125	Context understanding in computer vision: A survey. Computer Vision and Image Understanding, 2023, 229, 103646.	4.7	7
126	Animal detection using thermal imaging and a UAV. Aircraft Engineering and Aerospace Technology, 2023, ahead-of-print, .	1.2	1
128	The broad scale impact of climate change on planning aerial wildlife surveys with drone-based thermal cameras. Scientific Reports, 2023, 13, .	3.3	5
129	Experimental verification of seafloor crustal deformation observations by UAV-based GNSS-A. Scientific Reports, 2023, 13, .	3.3	2
130	Using Drones to Determine Chimpanzee Absences at the Edge of Their Distribution in Western Tanzania. Remote Sensing, 2023, 15, 2019.	4.0	0
131	Flying Robot Technology (Drone) Trends: A Review in the Building and Construction Industry. , 2023, 16, 47-68.		1
132	Integrated animal monitoring system with animal detection and classification capabilities: a review on image modality, techniques, applications, and challenges. Artificial Intelligence Review, 2023, 56, 1-51.	15.7	1
133	Fusion of visible and thermal images improves automated detection and classification of animals for drone surveys. Scientific Reports, 2023, 13, .	3.3	6
134	Scanning sympatric sika deer and Japanese serows using drones: A methodological trial in Mt. Asama, Central Japan. Grassland Science, 2023, 69, 277-283.	1.1	0
135	CE-RetinaNet: A Channel Enhancement Method for Infrared Wildlife Detection in UAV Images. IEEE Transactions on Geoscience and Remote Sensing, 2023, 61, 1-12.	6.3	3
136	Growth and opportunities for drone surveillance in pinniped research. Mammal Review, 2024, 54, 1-12.	4.8	2
137	Evaluating threats to South Shetland Antarctic fur seals amidst population collapse. Mammal Review, 2024, 54, 30-46.	4.8	1
138	A software pipeline for automated wildlife population sampling. Frontiers in Conservation Science, 0, 4, .	1.9	0
140	Unmanned Aerial Vehicles (UAVs) in Marine Mammal Research: A Review of Current Applications and Challenges. Drones, 2023, 7, 667.	4.9	0
141	A Novel Scouring Method to Monitor Nocturnal Mammals Using Uncrewed Aerial Vehicles and Thermal Camerasâ€"A Comparison to Line Transect Spotlight Counts. Drones, 2023, 7, 661.	4.9	2
142	A Semantically Informed Benchmark Dataset for Computer Vision in Aviation Systems. , 2023, , .		0
143	Burrow-Nesting Seabird Survey Using UAV-Mounted Thermal Sensor and Count Automation. Drones, 2023, 7, 674.	4.9	0
144	Utility of Spectral Filtering to Improve the Reliability of Marine Fauna Detections from Drone-Based Monitoring. Sensors, 2023, 23, 9193.	3.8	2

#	Article	IF	Citations
145	LidarBoX: a 3D-printed, open-source altimeter system to improve photogrammetric accuracy for off-the-shelf drones. , 0, , .		0
146	Airborne imagery does not preclude detectability issues in estimating bird colony size. Scientific Reports, 2024, 14, .	3.3	0
147	Non-invasive monitoring of endangered Ladoga ringed seal (Pusa hispida ladogensis) (Carnivora:) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 6	0.4	0
148	Feasibility study of UAV based ecological monitoring and habitat assessment of cervids in the floating meadows of Keibul Lamjao National Park in Manipur, India. Measurement: Journal of the International Measurement Confederation, 2024, 229, 114411.	5.0	0
149	Combining Multi-View UAV Photogrammetry, Thermal Imaging, and Computer Vision Can Derive Cost-Effective Ecological Indicators for Habitat Assessment. Remote Sensing, 2024, 16, 1081.	4.0	0