FOREST LEARNING

She Maps

DRONES IN FORESTRY

CASE STUDY
Student Response Booklet

Mike Sutton
Case Study

NAME: _____

Video 1 - Drones for Forest and Fire Management video

Fire mapping

1. How are drones useful for fire mapping?

2. What information do thermal cameras provide that regular drone cameras can't?

Hazard reduction burning

3. What is the process Mike and his team uses for hazard reduction burning?

Boundary mapping

4. What is an orthomosaic and how is it useful for boundary mapping?

Mike Sutton
Case Study

NAME: _____

Compliance

5. List some examples of areas that Mike and his team work to identify and protect within their managed forests.

3D point cloud mapping

6. What is a Photogrammetric point cloud and how is it useful?

7. Name two ways that Mike and his team use this technology for mapping within forestry.

MapApp

8. Mike and his team created an app called MapApp. What can it do?

9. How is it useful?

10. What digital systems does it use and connect with?

Mike Sutton Case Study

NAME: _____

Video 2 - The Digital Forester Podcast interview of Mike Sutton

Watch the following segments from the video, take notes, draw diagrams and answer the questions. Pause the video as required as you compile your case study.

Video segment: 2:39-7:13 (4:34)

11. How did Mike start in Forestry?

12. Where did he do his forestry degree?

13. What Australian states has Mike worked in?

Video segment: 8:39-16:23 (7:44)

14. What did Mike use for data collection in the field before computers were used?

15. When Mike started using technology, what did he use and what language was it programmed in?

16. Mike always strived to see how sustainable forest management could be done more efficiently. What are some of the ways he has done that with remote sensing technologies?

17. Mike works for Forestry Corporation of New South Wales. What does the corporation do and who owns it?

18. Mike mentions that the forests are mostly along the east coast of Australia, east of the Great Dividing Range due to higher rainfall areas. What different timbers can be found in those forests?

19. What is special about Eucalypt forests and their response to fires?

Mike Sutton
Case Study

NAME: _____

Video segment: 16:53-19:27 (2:34)

20. What technology did Mike say made the biggest impact on forestry management?

Video segment: 19:43-23:03 (3:20)

21. Mike mentioned Forestry Corp NSW's work in performing ecological surveys for native forest planning and their need to be hierarchical in nature. None of the digital products on the market could do what Mike needed. What did his team end up developing and what was it used for?

Video segment: 23:04-28:04 (5:00)

22. What were the issues with the version 2 app which required it to be updated for version 3?

23. What additions have been made to improve version 3 of the app?

24. Where are the data stored?

25. What are the benefits of this decision?

26. Mike and Kevin discuss UI/UX and SDK. Describe what the abbreviations stand for.

Video segment: 30:13-31:25 (1:12)

27. What are the compliance documents that Mike talks about having to manage through Plan Portal, their Content Management System (CMS), and which agencies and users can view the various documents?

Mike Sutton
Case Study

NAME: _____

Video segment: 34:29-41:11 (6:42)

28. **How does Mike and his team use LiDAR?**

29. **How has LiDAR been helpful?**

30. **What difference has LiDAR made to topographical mapping?**

Video segment: 41:48-45:17 (3:29)

31. **Describe Mike's journey with drones. How did he start and what was his process?**

Mike Sutton
Case Study

NAME: _____

Video segment: 45:25-47:45 (2:20)

32. Draw a diagram to show how the DLoc app connects to show the location of the drone rather than the location of the iPad in the forest.

Video segment: 59:15-1:04:42 (5:27)

33. Mike talked about emerging technologies such as a 'virtual plot' and says we are nearly there using technologies such as LiDAR, VR technology, Hovermap and point cloud technologies. Explain what they are trying to achieve with the technologies.

Additional notes from research:

THANK YOU!

This unit of work has been brought to you by She Maps and was developed in partnership with ForestLearning. You can find out more about ForestLearning at forestlearning.edu.au

We hope that you love our resources, and that you are excited for what we will release next! To see more She Maps resources check out our Teacher resources page.

1300 895 785 | hello@shemaps.com | www.shemaps.com

WHAT DO YOU NEED?

We're always looking for recommendations for topics or themes for drone and geospatial teaching resources. If you've got something in mind, then please email

programs@shemaps.com

FOREST LEARNING

She Maps

Australian Geography Teachers' Association Limited

AGTA Awards

Winner 2022

Category:
Digital/Online Resource

Resource:

Years 5-6 Drones in Forestry
Years 9-10 Drones in Forestry

Publisher:
ForestLearning and She Maps

This certificate has been presented in recognition of the quality of the product in terms of its:

❖ currency
❖ authenticity
❖ application of contemporary understandings about how students learn
❖ the use of cutting-edge production, and
❖ contemporary and innovative style in supporting geographical education in Australian schools.

The ForestLearning and She Maps Drones in Forestry units dynamically engage with emerging technology for a contemporary learning experience for all students. The significant support and resourcing attached to the unit empowers teachers to implement contemporary geographic tools in their curriculum, underpinned by strong vocational links.

Presented at the 2022 AGTA Conference, Hobart, Tasmania, September 2022

Dr Susan Caldis
Chairperson of AGTA Board
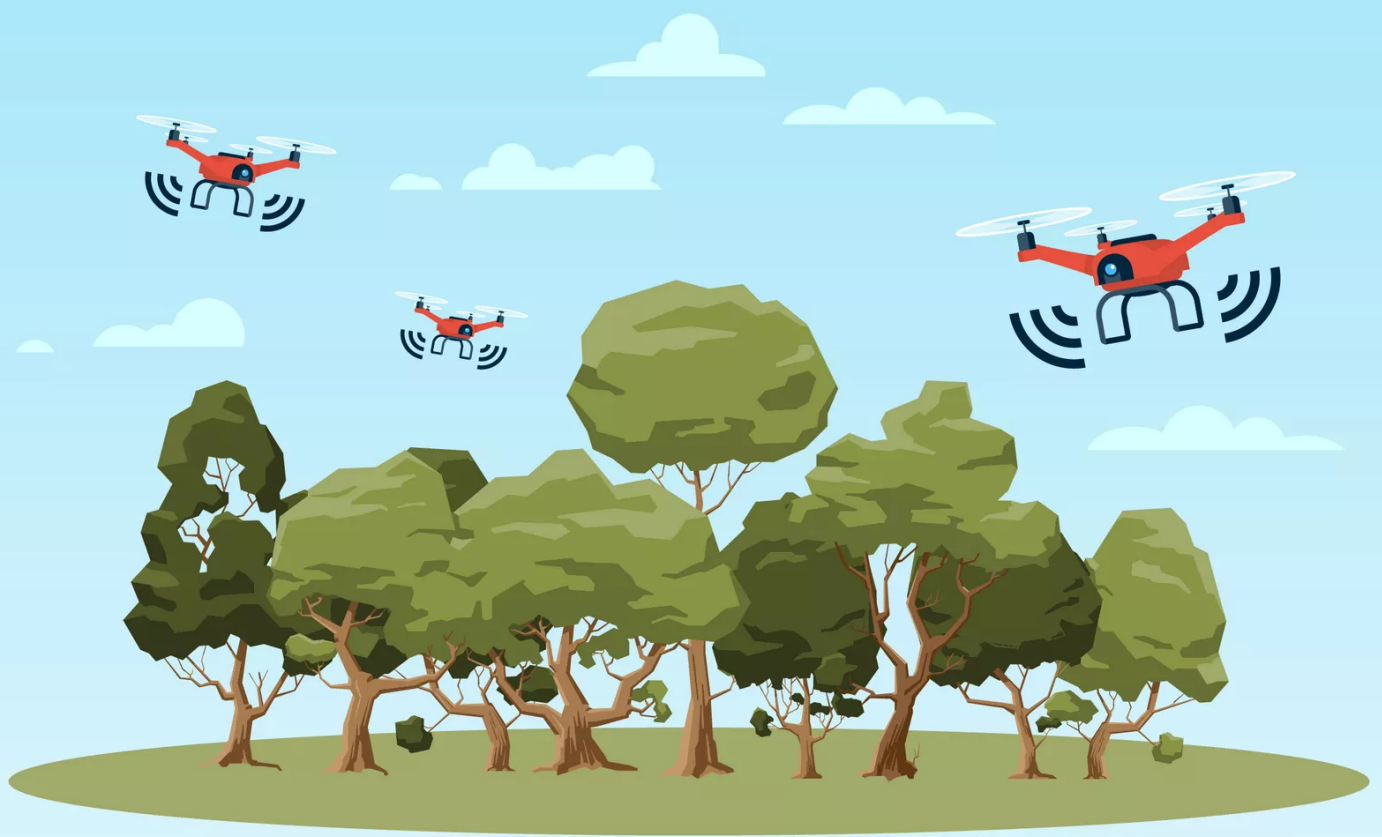
1300 895 795
hello@shemaps.com
www.shemaps.com