Title	Snow Gum Dieback Mapping Kosciuszko National Park Resorts 2021 VIS_ID 4847
Abstract	There has been a rapid expansion of dieback in alpine snow gums (Eucalyptus niphophila) across Kosciuszko National Park (KNP) in recent years, particularly between 1600m and 1800m. Other snow gum species E. lacrimans and E. debeuzevillei have also been impacted. A scoping plan was formulated by the NSW National Parks & Wildlife Service (NPWS) to map dieback for all snow gum species which occur within sub-alpine and alpine vegetation communities. Snow gum dieback presents considerable risks for ecological degradation, park visitor safety, water supply and energy generation. NPWS sought assistance from the DPIE Science, Economics and Insights Division to map the severity of snow gum dieback using imagery and tools at their disposal. This dataset was developed for Milestone 1 of the scoping plan: mapping of the current extent and severity of snow gum dieback within alpine resort areas of KNP that have not been impacted by the 2003 fires. Thredbo, Perisher and Charlottes resorts were mapped. Selwyn was not mapped due to severe fire damage in the 2019-20 fires. In the case of Thredbo, the KRVA 2003 provided an initial footprint and required minor editing. The KRVA 2003 was inaccurate for Perisher and Charlottes and polygons were created from scratch. VIS_ID 4847

Resource locator

Data Quality Statement	Name: Data Quality Statement Protocol: WWW:DOWNLOAD-1.0-http--download Description: Data quality statement for Snow Gum Dieback Mapping Kosciuszko National Park Resorts 2021 Function: download
Report	Name: Report Protocol: WWW:DOWNLOAD-1.0-http--download Description: Snow Gum Dieback Mapping Kosciuszko Resorts April 2021 Report Function: download
Download Package	Name: Download Package Protocol: WWW:DOWNLOAD-1.0-http--download Description: Data (Shapefile) Function: download

Unique resource identifier

Code	4a28ef9f-4544-4562-8743-071db7bc875e

Presentation form	Map digital
Edition	1
Dataset language	English

Metadata standard

Name	ISO 19115

Edition	2016
Dataset URI	https://datasets.seed.nsw.gov.au/dataset/4a28ef9f-4544-4562-8743-071db7bc875e
Purpose	Climate change and vegetation adaption research
Status	Completed

Spatial representation

Type	vector
Geometric Object Type	surface
Geometric Object Count	2230

Spatial reference system

Code identifying the spatial reference system	4283

Spatial resolution	50 cm

Topic category

Keyword set

keyword value	VEGETATION ECOLOGY-Landscape WATER-Hydrology
Originating controlled vocabulary	
Title	ANZLIC Search Words
Reference date	2008-05-16

Geographic location

West bounding longitude	148.262421
East bounding longitude	148.583771
North bounding latitude	-36.493436
South bounding latitude	-36.364158
NSW Place Name	Kosciuszko National Park

Vertical extent information

Minimum value	-100
Maximum value	2228
Coordinate reference system	
Authority code	urn:ogc:def:cs:EPSG::
Code identifying the coordinate reference system	5711

Temporal extent

Begin position	2021-04-15
End position	N/A

Dataset reference date

Resource maintenance

Maintenance and update frequency	As needed
Contact info	
Contact position	Data Broker
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Responsible party role	pointOfContact

Lineage

Digital imagery and spatial data used

- Aerometrex 10cm 2D imagery 27/04/2020
- ADS 50cm 3D imagery Kosciuszko 07/02/2011
- ADS 50cm 2D imagery Kosciuszko 07/02/2011, Jacobs River 23/02/2011
- 2003 fire boundaries
- Alpine resort boundaries
- Kosciusko vegetation types 2003 (KRVA 2003)

Mapping

API (Air Photo Interpretation) was completed in ArcGIS using 2011 (ADS) and 2020 (Aerometrex) digital imagery. This allowed comparison of dieback severity change over 9 years. Due to time constraints, mapping using pre-2000 imagery could not occur. A visual guide for the 5 levels of dieback severity was developed in consultation with NPWS staff and was used to calibrate mapping. The 5 levels of severity were sourced from the original 2019 NPWS scoping plan: - Nil: little to no dieback observed - Isolated: dieback of scattered and isolated snow gums, often amongst boulder fields - Moderate: mix of dieback and some healthy trees, many branches with no leaves, only small numbers of trees with mostly full leaf cover - Severe: most trees significantly impacted, most branches with few or no leaves, many dead trees Three separate ArcGIS shapefiles were originally produced for Thredbo, Perisher and Charlottes, all with identical fields: - Sev_2011: Nil, Iso, Mod, Sev, Fire - Sev_2020: Nil, Iso, Mod, Sev, Fire - Comments: observations other than severity including burned by 2003 fires, replanted snow gum, seedling/crown regrowth, E.stellulata, vegetation removal The initial shapefile footprint was created for each resort area using 2011 ADS imagery in a 3D environment (Planar hardware, StereoAnalyst software). This allowed greater precision due to the ability to perceive vegetation boundaries more clearly in 3D. In the case of Thredbo, the KRVA 2003 provided an initial footprint and required minor editing. The KRVA 2003 was inaccurate for Perisher and Charlottes and polygon creation from scratch was completed. Dieback severity was first attributed in 3D using the 2011 imagery, then in 2D using the 2020 imagery. Individual polygons were split if severity class varied between 2011 and 2020 imagery. The final 3 shapefiles were clipped to the resort boundaries.

Future fieldwork 3 fieldwork sites were rapidly visually examined in Charlottes and Perisher and appeared to validate API. However further field inspection is required via a planned systematic inventory to validate this API over the 3 resort areas.

Limitations on public access

Responsible party

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Responsible party role	pointOfContact

Metadata point of contact

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Responsible party role	pointOfContact

Metadata date

2024-02-26T13:00:36.715027

Metadata language