

Contemporary fire regimes of the arid Carnarvon Basin region of Western Australia

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Supplementary Material

Table S1. Beard (1996) vegetation associations classified into vegetation groups.

Beard Vegetation Association	Vegetation group
17; Shrublands; <i>Acacia rostellifera</i> thicket	Heathland
18; Low woodland; mulga (<i>Acacia aneura</i>)	Mulga Woodland
18.3; Low woodland; mulga (<i>Acacia aneura</i>)	Mulga Woodland
36; Shrublands; thicket, <i>Acacia-casuarina</i> alliance	<i>Acacia</i> Shrubland
36.3; Shrublands; thicket, <i>Acacia-casuarina</i> alliance	<i>Acacia</i> Shrubland
43; Low forest; mangroves (Kimberley) or thicket; mangroves (Pilbara)	Other
49.4; Shrublands; mixed heath	Heathland
95; Hummock grasslands, shrub steppe; <i>Acacia</i> & <i>Grevillea</i> over <i>Triodia basedowii</i>	Hummock Grassland
95.1; Hummock grasslands, shrub steppe; <i>Acacia</i> & <i>Grevillea</i> over <i>Triodia basedowii</i>	Hummock Grassland
112; Hummock grasslands, shrub steppe; <i>Acacia ligulata</i> over <i>Triodia plurinervata</i>	Hummock Grassland
112.1; Hummock grasslands, shrub steppe; <i>Acacia ligulata</i> over <i>Triodia plurinervata</i>	Hummock Grassland
125; Bare areas; salt lakes	Other
127; Bare areas; mud flats	Other
129; Bare areas; rock outcrops	Other
158; Hummock grasslands, shrub steppe; kanji over <i>Triodia basedowii</i>	Hummock Grassland
160; Shrublands; snakewood & <i>Acacia victoriae</i> scrub	<i>Acacia</i> Shrubland
160.1; Shrublands; snakewood & <i>Acacia victoriae</i> scrub	<i>Acacia</i> Shrubland
160.2; Shrublands; snakewood & <i>Acacia victoriae</i> scrub	<i>Acacia</i> Shrubland
162; Shrublands; snakewood scrub	<i>Acacia</i> Shrubland
165; Low woodland; mulga & snakewood (<i>Acacia ermaea</i>)	Mulga Woodland
166; Low woodland; mulga & <i>Acacia victoriae</i>	Mulga Woodland
167.1; Shrublands; <i>Acacia victoriae</i> & snakewood open scrub	<i>Acacia</i> Shrubland
168; Shrublands; mulga, <i>Acacia victoriae</i> & snakewood scrub	<i>Acacia</i> Shrubland
182; Low woodland; mulga & bowgada (<i>Acacia ramulosa</i>)	Mulga Woodland
183; Low woodland; mulga, <i>Acacia victoriae</i> & snakewood	Mulga Woodland
184; Shrublands; mulga & bowgada scrub	<i>Acacia</i> Shrubland
184.2; Shrublands; mulga & bowgada scrub	<i>Acacia</i> Shrubland
184.3; Shrublands; mulga & bowgada scrub	<i>Acacia</i> Shrubland
186; Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> open scrub	<i>Acacia</i> Shrubland
186.1; Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> open scrub	<i>Acacia</i> Shrubland
200; Mosaic: Low woodland over scrub; mulga over bowgada scrub / Shrublands; bowgada & grevillea scrub on sandhills	<i>Acacia</i> Shrubland
205; Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub	<i>Acacia</i> Shrubland
205.1; Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub	<i>Acacia</i> Shrubland
205.2; Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub	<i>Acacia</i> Shrubland
205.3; Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub	<i>Acacia</i> Shrubland
205.4; Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub	<i>Acacia</i> Shrubland
205.5; Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub	<i>Acacia</i> Shrubland
206.1; Shrublands; bowgada & grevillea scrub	<i>Acacia</i> Shrubland
206.2; Shrublands; bowgada & grevillea scrub	<i>Acacia</i> Shrubland
208; Mosaic: Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub / Shrublands; bowgada & grevillea scrub	<i>Acacia</i> Shrubland

208.1; Mosaic: Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub / Shrublands; bowgada & grevillea scrub	<i>Acacia</i> Shrubland
209.1; Shrublands; <i>Acacia sclerosperma</i> & minnieritchie scrub	<i>Acacia</i> Shrubland
221; Succulent steppe; saltbush	Succulent Shrubland
224.1; Shrublands; waterwood & <i>Acacia victoriae</i> scrub	<i>Acacia</i> Shrubland
226; Mosaic: Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub / Succulent steppe; samphire	<i>Acacia</i> Shrubland
229; Mosaic: Shrublands; bowgada and associated spp scrub / Shrublands; bowgada & grevillea scrub	<i>Acacia</i> Shrubland
240.2; Succulent steppe with open scrub; scattered <i>Acacia sclerosperma</i> & bowgada over saltbush & bluebush	Succulent Shrubland
242; Succulent steppe with scrub; snakewood over saltbush	Succulent Shrubland
243; Shrublands; bowgada & minnieritchie scrub	<i>Acacia</i> Shrubland
244; Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> scrub	<i>Acacia</i> Shrubland
244.1; Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> scrub	<i>Acacia</i> Shrubland
244.2; Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> scrub	<i>Acacia</i> Shrubland
245; Mosaic: Shrublands; bowgada & minnieritchie scrub / Succulent steppe; saltbush & bluebush	<i>Acacia</i> Shrubland
246.1; Hummock grasslands, low tree steppe; <i>Eucalyptus dongarraensis</i> & <i>E. foecunda</i> over <i>Triodia plurinervata</i>	Hummock Grassland
248.1; Shrublands; bowgada scrub with scattered red mallee & <i>Eucalyptus</i> sp.	<i>Acacia</i> Shrubland
260; Mosaic: Shrublands tree-heath between sandhills; <i>Banksia ashbyi</i> , <i>Grevillea gordoniana</i> , <i>Acacia</i> spp., <i>Melaleuca</i> and mallee / Shrublands; scrub-heath	Heathland
264; Low woodland; <i>Acacia victoriae</i> & snakewood	<i>Acacia</i> Woodland
264.1; Low woodland; <i>Acacia victoriae</i> & snakewood	<i>Acacia</i> Woodland
264.2; Low woodland; <i>Acacia victoriae</i> & snakewood	<i>Acacia</i> Woodland
265; Low woodland; <i>Acacia sclerosperma</i> & <i>A. victoriae</i>	<i>Acacia</i> Woodland
265.1; Low woodland; <i>Acacia sclerosperma</i> & <i>A. victoriae</i>	<i>Acacia</i> Woodland
267.1; Succulent steppe with open scrub; scattered <i>Acacia sclerosperma</i> & <i>A. victoriae</i> over saltbush & bluebush	Succulent Shrubland
269.3; Low woodland over scrub; mulga over bowgada scrub	Mulga Woodland
281; Shrublands; mulga & bowgada open scrub	<i>Acacia</i> Shrubland
282.1; Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> sparse scrub	<i>Acacia</i> Shrubland
283.1; Shrublands; <i>Acacia sclerosperma</i> , bowgada & <i>A. victoriae</i> scrub	<i>Acacia</i> Shrubland
283; Shrublands; <i>Acacia sclerosperma</i> , bowgada & <i>A. victoriae</i> scrub	<i>Acacia</i> Shrubland
283.2; Shrublands; <i>Acacia sclerosperma</i> , bowgada & <i>A. victoriae</i> scrub	<i>Acacia</i> Shrubland
284.1; Mosaic: Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub / Shrublands; snakewood & <i>Acacia victoriae</i> scrub	<i>Acacia</i> Shrubland
301; Hummock grassland; shrub steppe; mixed scrub, hard spinifex (<i>Triodia basedowii</i>) with dwarf shrubs	Hummock Grassland
301.1; Hummock grassland; shrub steppe; mixed scrub, hard spinifex (<i>Triodia basedowii</i>) with dwarf shrubs	Hummock Grassland
303.1; Sparse succulent steppe; bluebush with very sparse snakewood shrubs	Succulent Shrubland
304; Sparse low woodland; <i>Acacia victoriae</i> & snakewood in scattered groups	<i>Acacia</i> Woodland
307; Low woodland; bowgada & <i>Acacia subtessarogona</i>	<i>Acacia</i> Woodland
307.1; Low woodland; bowgada & <i>Acacia subtessarogona</i>	<i>Acacia</i> Woodland
308; Mosaic: Shrublands; <i>Acacia sclerosperma</i> sparse scrub / Succulent steppe; saltbush & bluebush	Succulent Shrublands

308.1; Mosaic: Shrublands; <i>Acacia sclerosperma</i> sparse scrub / Succulent steppe; saltbush & bluebush	Succulent Shrublands
320; Shrublands; bowgada & <i>Acacia victoriae</i> scrub	<i>Acacia</i> Shrubland
321.1; Mosaic: Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub / Succulent steppe; saltbush & bluebush	Succulent Shrublands
323.1; Shrublands; <i>Acacia sclerosperma</i> , bowgada & snakewood scrub	<i>Acacia</i> Shrubland
325; Succulent steppe; saltbush & samphire	Succulent Shrubland
325.2; Succulent steppe; saltbush & samphire	Succulent Shrubland
328; Succulent steppe with scrub; waterwood & <i>Acacia sclerosperma</i> over saltbush & samphire	Succulent Shrubland
329.1; Shrublands; dwarf waterwood (<i>Acacia coriacea</i>) shrubs on recent dunes	<i>Acacia</i> Shrubland
342; Mosaic: Low woodland; waterwood / Shrublands; <i>Acacia sclerosperma</i> & bowgada scrub	<i>Acacia</i> Shrubland
344.1; Mosaic: Shrublands; bowgada scrub and associated spp / Shrublands; <i>Acacia sclerosperma</i> , bowgada & <i>A. victoriae</i> scrub	<i>Acacia</i> Shrubland
345; Mosaic: Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> patchy scrub, barren / Succulent steppe; saltbush & bluebush	Succulent Shrublands
345.1; Mosaic: Shrublands; <i>Acacia sclerosperma</i> & <i>A. victoriae</i> patchy scrub, barren / Succulent steppe; saltbush & bluebush	Succulent Shrublands
346.1; Mosaic: Shrublands; <i>Acacia sclerosperma</i> , <i>A. victoriae</i> & snakewood scrub / Shrublands; patches of low mixed scrub	<i>Acacia</i> Shrubland
347.1; Mosaic: Shrublands; <i>Acacia sclerosperma</i> , <i>A. victoriae</i> & snakewood scrub patches / Succulent steppe; bluebush	Succulent Shrublands
349; Mosaic: Shrublands; bowgada scrub with scattered mulga / Shrublands; bowgada & grevillea scrub	<i>Acacia</i> Shrubland
349.1; Mosaic: Shrublands; bowgada scrub with scattered mulga / Shrublands; bowgada & grevillea scrub	<i>Acacia</i> Shrubland
360; Shrublands; bowgada scrub with scattered mulga	<i>Acacia</i> Shrubland
361.1; Shrublands; bowgada & minnieritchie scrub with scattered mulga	<i>Acacia</i> Shrubland
362; Mosaic: Shrublands; bowgada & minnieritchie scrub with scattered mulga / Scattered groups of saltbush/bluebush	<i>Acacia</i> Shrubland
363.1; Shrublands; bowgada scrub with scattered cypress pine	<i>Acacia</i> Shrubland
364; Shrublands; bowgada scrub with scattered eucalypts & cypress pine	<i>Acacia</i> Shrubland
365; Shrublands; bowgada & jam scrub with scattered York gum & red mallee	<i>Acacia</i> Shrubland
368.1; Shrublands tree-heath between sandhills; <i>Banksia ashbyi</i> , <i>Grevillea gordoniana</i> , <i>Acacia</i> spp., <i>Melaleuca</i> and mallee	Heathland
380; Shrublands; scrub-heath on sandplain	Heathland
380.3; Shrublands; scrub-heath on sandplain	Heathland
383; Shrublands; <i>Acacia rostelifera</i> scrub-heath	Heathland
384.1; Shrublands; mallee & <i>Acacia</i> thicket on coastal dunes (central west)	Heathland
386; Low woodland; York gum	Other
387; Shrublands; <i>Melaleuca cardiophylla</i> thicket	Heathland
401.1; Mosaic: Shrublands; scrub-heath on coastal association on yellow sandplain / Shrublands; <i>Acacia</i> patchy scrub	Heathland
402.1; Shrublands; heath on coastal limestone	Heathland
405; Shrublands; <i>Acacia sclerosperma</i> , bowgada & jam scrub	<i>Acacia</i> Shrubland
406.1; Shrublands; <i>Acacia</i> , casuarina, <i>Eucalyptus eudesmioides</i> , <i>Banksia ashbyi</i> & other mixed species thicket	Heathland
407.1; Low woodland over scrub; <i>Allocasuarina huegeliana</i> over jam scrub	<i>Acacia</i> Woodland

408; Shrublands; scrub-heath on coastal association, yellow sandplain	Heathland
658; Shrublands; <i>Acacia sclerosperma</i> & snakewood scrub (also with some waterwood)	<i>Acacia</i> Shrubland
658.1; Shrublands; <i>Acacia sclerosperma</i> & snakewood scrub (also with some waterwood)	<i>Acacia</i> Shrubland
676; Succulent steppe; samphire	Succulent Shrubland
676.21; Succulent steppe; samphire	Succulent Shrubland
676.6; Succulent steppe; samphire	Succulent Shrubland
676.7; Succulent steppe; samphire	Succulent Shrubland
676.8; Succulent steppe; samphire	Succulent Shrubland
984.2; Mosaic: Shrublands; <i>Acacia</i> & <i>Melaleuca</i> scrub / Succulent steppe; saltbush	Succulent Shrubland
1100.1; Hummock grassland; dwarf shrub Steppe; mixed ericoid shrubs & spinifex	Hummock Grassland
1101; Shrublands; <i>Acacia ligulata</i> x <i>rostellifera</i> thicket	Heathland
1102.2; Mosaic: Shrublands; mixed heath / Shrublands; <i>Acacia</i> patchy scrub	Heathland
1104.1; Mosaic: Shrublands; scrub-heath / Shrublands; <i>Acacia rostellifera</i> & <i>Melaleuca cardiophylla</i> thickets	Heathland
1106.1; Mosaic: Shrublands; scrub-heath / Shrublands; <i>Acacia</i> various species scrub	Heathland
1107; Open low woodland; <i>Eucalyptus oraria</i>	Heathland
1271; Bare areas; claypans	Other
1271.1; Bare areas; claypans	Other
1322.1; Shrublands; <i>Acacia sclerosperma</i> , <i>A. victoriae</i> & snakewood scrub	<i>Acacia</i> Shrublands
1325; Succulent steppe with very open low trees; coolebah over saltbush & samphire	Succulent Shrublands
1325.1; Succulent steppe with very open low trees; coolebah over saltbush & samphire	Succulent Shrublands
1423.1; Shrublands; scrub-heath in Shark Bay area, mainly <i>Acacia</i> spp.	<i>Acacia</i> Shrublands
2081; Shrublands; bowgada and associated spp. scrub	<i>Acacia</i> Shrublands
2081.3; Shrublands; bowgada and associated spp. scrub	<i>Acacia</i> Shrublands
2081.5; Shrublands; bowgada and associated spp. scrub	<i>Acacia</i> Shrublands
2081.6; Shrublands; bowgada and associated spp. scrub	<i>Acacia</i> Shrublands
2081.7; Shrublands; bowgada and associated spp. scrub	<i>Acacia</i> Shrublands
2081.8; Shrublands; bowgada and associated spp. scrub	<i>Acacia</i> Shrublands
2081.9; Shrublands; bowgada and associated spp. scrub	<i>Acacia</i> Shrublands
2685; Shrublands; <i>Acacia quadrimarginea</i> & jam scrub on greenstone	<i>Acacia</i> Shrublands
3432; Mosaic: Low woodland; waterwood / Shrublands; <i>Acacia sclerosperma</i> , <i>A. victoriae</i> & <i>A. subtessarogona</i> scrub	<i>Acacia</i> Shrublands
3432.1; Mosaic: Low woodland; waterwood / Shrublands; <i>Acacia sclerosperma</i> , <i>A. victoriae</i> & <i>A. subtessarogona</i> scrub	<i>Acacia</i> Shrublands

Table S2. Classifications of vegetation associations into vegetation groups and their descriptions.

Vegetation group	Description	How groups were classified.	Location	% of study area
<i>Acacia</i> shrubland	The vegetation is mostly open to mid-dense shrublands ($\pm 2\text{m}$) on red sandplains and dunes dominated by <i>Acacia</i> with some <i>Callitris</i> and mallee (both very sparse) located on the Toolonga Plateau and Yalbalgo Plain. <i>Acacia ramulosa</i> and <i>A. linophylla</i> , referred to as bowgada by Beard, and <i>A. sclerosperma</i> dominated (Beard et al. 2013). Mulga (<i>Acacia aneura</i>) is absent from this vegetation group, or may occur as a minor element.	Consists of ‘shrub’ and ‘shrubland’ from the NVIS vegetation classification except where succulent shrubs are dominant or where coastal shrubland/heathland occurs.	Toolonga Plateau and Yalbalgo Plain – vast sandplains north and south of the Wooramel River.	53.7%
<i>Acacia</i> woodland	Consists of low open woodland with no mulga. The vegetation is low open woodland (2-4 m) on stony plains located mostly in the northern study area adjacent to <i>Acacia</i> Shrublands, and often with the same dominant species, mixed with <i>Acacia xiphophylla</i> (snakewood) and <i>A. victoriae</i> .	Consists of vegetation described as ‘tree’ or low open woodland.	Mostly in north of study area, adjacent to <i>Acacia</i> shrublands, with often same types of species dominating.	11.4%
Heathland	Comprises heathland and low scrub (<2m) of proteaceous heath on sandplain, <i>A. rostellifera</i> on coastal dunes and some sparse mallee shrublands located on the coastal plain north of Kalbarri.	Consists of ‘shrub’ with heath, tree-heath or coastal vegetation according to NVIS vegetation classification.	Coastal plain north of Kalbarri.	12.6%
Mulga woodland	Contains low mulga (<i>Acacia aneura s.l.</i>) woodland (2-8 m) with other <i>Acacia</i> species situated mostly west of the Murchison River along floodplains and creeklines, and on wash plains, stony plains and red loams. Mulga Woodland is the dominant vegetation on red loamy soil (Beard 1990) such as found in the very eastern edge of the study area and on the Yilgarn Craton, whereas the majority of the rest of the study area consists of sandy soils.	Consists of a ‘tree’ formation where mulga (<i>Acacia aneura sensu lato</i>) is dominant according to NVIS vegetation classification.	Mostly west of Murchison River but also along floodplains and creeklines. Usually on red loams and wash plains.	0.6%
Hummock grassland	Found on sandplains and dunes in the northern study area with isolated areas in the southern study area. The two main areas of hummock grassland in the northern study area are on sand	Consists of a ‘grass’ formation where hummock grass (<i>Triodia</i> spp; <1m) is included in	Sandplain and dunes most northern	4.4%

	dunes of the Kennedy Range where mid-dense <i>Triodia basedowii</i> occurs with scattered shrubs of <i>Grevillea</i> , <i>Hakea</i> and <i>Hibbertia</i> , and on the coastal plain on the west side of Lake Macleod where <i>T. basedowii</i> is also dominant with very sparse <i>Acacia</i> shrubs	the NVIS description with a sparse layer of trees and shrubs.	part of study area.	
Succulent shrubland	The vegetation contains samphire shrubland dominated by <i>Tecticornia</i> species around salt lakes as well as <i>Atriplex</i> species and <i>Maireana</i> species on mudflats and low floodplains, sometimes mixed with islands of <i>Acacia</i> shrubs (Beard et al. 2013). May include bare salt lake beds as well as fringing samphire in type 125.	Consists of ‘samphire shrub’ and ‘chenopod shrub’ (<1m) as well as mosaics of dominant succulent shrubs in the NVIS description.	Salt lakes and coastal mudflats, low floodplains.	13.7%
Other	Includes mangrove and other miscellaneous types such as bare areas (e.g., salt lake flats) and York gum woodlands.			3.6%

Table S3. Digital datasets used for mapping and spatial analyses.

Dataset	How the original dataset was utilised	Scale	Source
Pre-European vegetation	Vegetation associations were grouped into vegetation groups (7 groups, see Table S2).	1:250 000	Department of Agriculture and Food, WA, 2011
Temperature	Interpolated gridded weather data	0.05 X 0.05 degree grid cells	Qld Government; https://www.longpaddock.qld.gov.au/silo/
Rainfall	Interpolated gridded weather data	0.05 X 0.05 degree grid cells	Qld Government; https://www.longpaddock.qld.gov.au/silo/
Water courses	Used for mapping, but not analysis.	1:1 000 000	Department of Land Administration, 2002
Coastline	Used for mapping, but not analysis.	1:250 000	Department of Mines and Petroleum, 2008

Table S4. Percentage burnt of NVIS (National Vegetation Information System) vegetation associations. Burnt area represents total burnt across all years and may include some areas burnt twice.

Northern study area				Southern study area			
SA Code	Total area in study area	Burnt area	Percentage burnt	SA Code	Total area in study area	Burnt area	Percentage burnt
18	3.68	0.00	0.0	17	506.03	143.84	28.4
43	5.66	0.00	0.0	18.3	1.39	0.00	0.0
95	91.39	0.00	0.0	36	144.02	27.29	18.9
95.1	886.71	729.69	82.3	36.3	148.53	5.81	3.9
125	2011.82	4.13	0.2	49.4	6.54	4.58	70.1
129	81.07	9.36	11.5	112	2.20	0.00	0.0
158	326.76	37.39	11.4	112.1	43.53	0.00	0.0
160	1594.01	13.88	0.9	125	1.46	0.00	0.0
162	1922.91	106.40	5.5	127	2.46	0.00	0.0
165	138.83	0.00	0.0	129	46.36	0.00	0.0
166	5.99	0.00	0.0	160	0.84	0.00	0.0
167.1	12.65	0.00	0.0	160.1	8.03	0.00	0.0
168	183.27	0.00	0.0	160.2	35.87	0.00	0.0
182	37.19	0.00	0.0	184	1.70	0.00	0.0
183	42.20	0.00	0.0	200	3.50	0.00	0.0
184	1.93	0.00	0.0	205	18.78	0.00	0.0
184.2	2.06	0.00	0.0	205.3	36.93	0.00	0.0
184.3	144.78	0.00	0.0	205.4	2298.69	38.00	1.7
186	73.13	7.22	9.9	206.1	5.21	0.00	0.0
186.1	135.54	0.00	0.0	206.2	198.81	0.00	0.0
205	32.77	0.00	0.0	208	69.90	4.19	6.0
205.1	70.75	0.00	0.0	208.1	214.48	0.00	0.0
205.2	208.62	0.14	0.1	209.1	144.28	0.00	0.0
205.3	63.78	34.25	53.7	221	147.45	0.00	0.0
205.5	115.18	0.00	0.0	224.1	825.20	0.00	0.0
244	3.25	0.00	0.0	226	4.68	0.00	0.0
244.1	583.62	0.33	0.1	229	80.94	0.00	0.0
244.2	201.16	0.00	0.0	240.2	1.53	0.00	0.0
264	299.64	0.00	0.0	242	23.84	0.00	0.0
264.1	42.30	0.00	0.0	243	1070.57	0.00	0.0
264.2	2328.23	106.24	4.6	244	43.98	0.00	0.0
265	2.18	0.00	0.0	245	21.63	0.00	0.0
265.1	103.27	0.00	0.0	246.1	145.16	0.00	0.0
267.1	135.01	3.27	2.4	248.1	374.00	0.00	0.0
269.3	171.42	0.00	0.0	260	191.96	48.93	25.5
281	7.94	0.00	0.0	283	18.99	0.00	0.0
282.1	120.68	0.00	0.0	283.2	75.28	1.05	1.4
283.1	69.67	0.00	0.0	342	14.52	0.00	0.0
283.2	81.99	7.40	9.0	347.1	0.08	0.00	0.0
284.1	504.53	0.06	0.0	349.1	16.26	0.00	0.0

301	62.72	21.82	34.8	360	0.15	0.21	141.3
301.1	1091.97	880.58	80.6	361.1	0.40	0.00	0.0
303.1	779.30	0.17	0.0	362	47.92	0.00	0.0
304	125.15	3.89	3.1	363.1	2364.16	0.00	0.0
307	12.11	3.96	32.7	364	3312.63	280.91	8.5
307.1	4524.37	3264.57	72.2	365	283.60	33.63	11.9
308	17.80	0.00	0.0	368.1	3280.40	1261.25	38.4
308.1	4458.29	884.53	19.8	380	62.01	7.79	12.6
320	75.09	36.55	48.7	380.3	1924.79	1682.54	87.4
321.1	1485.89	282.73	19.0	383	71.97	5.88	8.2
323.1	57.03	0.00	0.0	384.1	39.56	31.05	78.5
325	487.72	24.39	5.0	386	22.69	0.00	0.0
325.2	21.71	0.00	0.0	387	67.03	0.38	0.6
328	102.14	1.07	1.0	401.1	290.94	280.20	96.3
329.1	253.15	77.75	30.7	402.1	37.20	27.08	72.8
342	2787.18	1778.07	63.8	405	21.80	0.00	0.0
344.1	2241.34	828.80	37.0	406.1	1520.96	1002.75	65.9
345	230.41	0.00	0.0	407.1	38.36	13.00	33.9
345.1	60.02	0.00	0.0	408	49.04	0.04	0.1
346.1	609.86	142.48	23.4	676	44.91	0.00	0.0
347.1	579.15	12.14	2.1	676.6	8.09	0.00	0.0
349	849.26	0.00	0.0	676.7	22.78	0.00	0.0
360	1.55	0.00	0.0	676.8	26.12	0.00	0.0
658	4.07	0.00	0.0	984.2	167.01	0.00	0.0
658.1	42.86	7.36	17.2	1100.1	233.02	0.00	0.0
676	24.14	1.79	7.4	1101	29.64	0.00	0.0
676.21	75.07	0.00	0.0	1102.2	36.37	0.00	0.0
1271	11.77	0.30	2.5	1104.1	131.21	0.00	0.0
1271.1	175.39	0.36	0.2	1106.1	27.95	0.00	0.0
1322.1	7.92	0.00	0.0	1107	7.13	0.00	0.0
1325	6.82	0.00	0.0	1271	14.80	0.00	0.0
1325.1	91.74	0.00	0.0	1322.1	4.05	0.00	0.0
2081	7.85	0.00	0.0	1423.1	277.51	0.00	0.0
2081.6	274.00	0.00	0.0	2081	2.16	0.00	0.0
2081.7	329.33	17.88	5.4	2081.3	363.26	2.27	0.6
2081.8	0.07	0.00	0.0	2081.5	109.87	0.00	0.0
2685	390.03	13.03	3.3	2081.8	17.94	0.00	0.0
3432	3.12	0.00	0.0	2081.9	6922.45	0.00	0.0
3432.1	1642.80	1395.26	84.9				

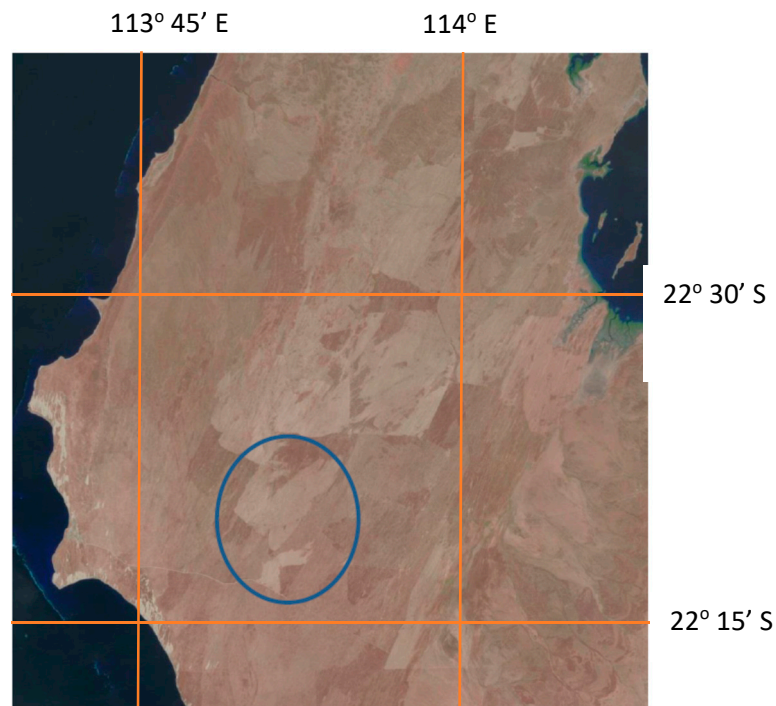


Figure S1. Satellite image from December 2002 showing an example of a fire scar in blue circle which were attributable to recent 2002 fires as this scar was not present in previous year (2001). Note: many other fire scars from 2002 and previous years can also be seen in this image. Location of image is southern Cape Range in the northern study area. Black areas to west of landmass is Indian Ocean, whilst black area in north-west corner is Exmouth Gulf. Image obtained from NASA Landsat Program. Full details of the images used and image analysis is available from <https://ro.ecu.edu.au/theses/1660/>