

# Maki

Planet Systems



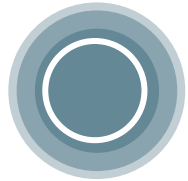
**8<sup>TH</sup>**  
INTERNATIONAL  
**WILDLAND FIRE**  
**CONFERENCE**

16-19 May 2023

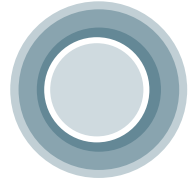




# Outline



Corporate Carbon and Maki Planet Systems



Background on Exporting the Australian success story of Savanna Fire Management Carbon Credits



The International Savanna Fire Management Initiative



# Corporate Carbon

Delivering climate solutions from project development to sale of credits





# Corporate Carbon: Core business activities

## PROJECT DEVELOPMENT SERVICES

- develop projects
- advisory
- audit management
- reporting
- risk management
- off-taker

## CARBON TRADING & EXECUTION

- risk management
- supply of offsets

## PROJECT OWNERSHIP

- 'build own operate' projects
- maintain property portfolio
- combining carbon & farming operations

## INCUBATING NEW BUSINESSES



# Maki Planet Systems: Overview

A subsidiary of Corporate Carbon established specifically to deliver the commercialisation of Savanna Fire Management (SFM) internationally.



- Maki Planet Systems (MPS) are a subsidiary company of Corporate Carbon who are Australia's leading SFM project developer.
- MPS are well positioned to be the "first mover" to establish a dominant market share in the African market which is 10x size of the Australian SFM market (8.3m carbon credits p.a.)
- By 2030, MPS are have a target of generating 3m carbon credits p.a. and are aiming to support the entire global SFM industry through the use and adoption of their proprietary automated calculation, reporting and fire monitoring tools.

## Key Focus Areas

### Methodology

Develop & Implement methodology to award carbon credits (VERRA / etc)

### Projects

Develop SFM projects in conjunction with ISFMI and local partners.

### Carbon Credits

Creation and delivery of carbon credits

### UN SDG

Structure projects to deliver co-benefits in support of UN SDG

### Develop Tools

Develop proprietary automated calculation, reporting and fire monitoring tools.



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# ISFMI: An NGO promoting fire management globally

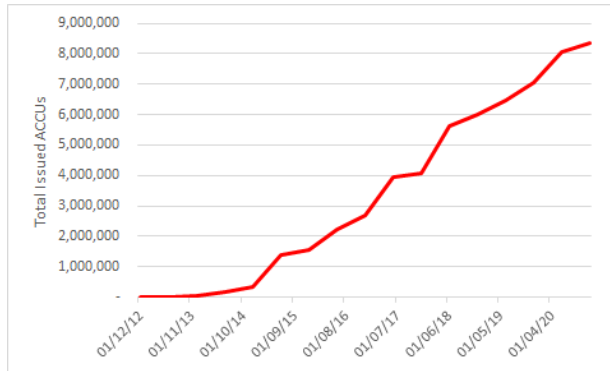


Supported by





# ISFMI: Taking Australia's model to Africa & beyond



**Left:** The total Number of issued carbon credits in Australia - this graph shows the success of the industry, and how quickly it can grow with the right frameworks and support.



## Background

- Over the last 10 years, International Savanna Fire Management Initiative (ISFMI) have been working hard to prove and have ultimately demonstrated that the savanna burning methods are globally applicable and a relevant nature based solution.
- ISFMI also found widespread international interest in SFM especially with the Australian methods because the carbon credits they produce are highly credible, reliable, transparent and not exposed to some of the other risks that other methodologies may have.
- ISFMI is an NGO founded and supported in Australia the Australian government's Department of Foreign Affairs & Trade, Kimberley Land Council, ALFA, Aboriginal Carbon Fund, 321 Fire Mozambique, Indonesian National Carbon Accounting System, IRDNC Namibia, the International Indigenous Peoples Forum on Climate Change (IIPFCC), Charles Darwin University, UNESCO, UNDP, Pollination Group and Corporate Carbon.

## ISFMI are currently focusing on:

- Implementing a series of pilot sites
- Developing the framework for:
  - Sharing of the Australian experience
  - Confirming the science for new geographies (peer reviewed R&D)
  - Pilot site preparation
  - Learning exchanges
  - Raising awareness with indigenous people, donors and international processes



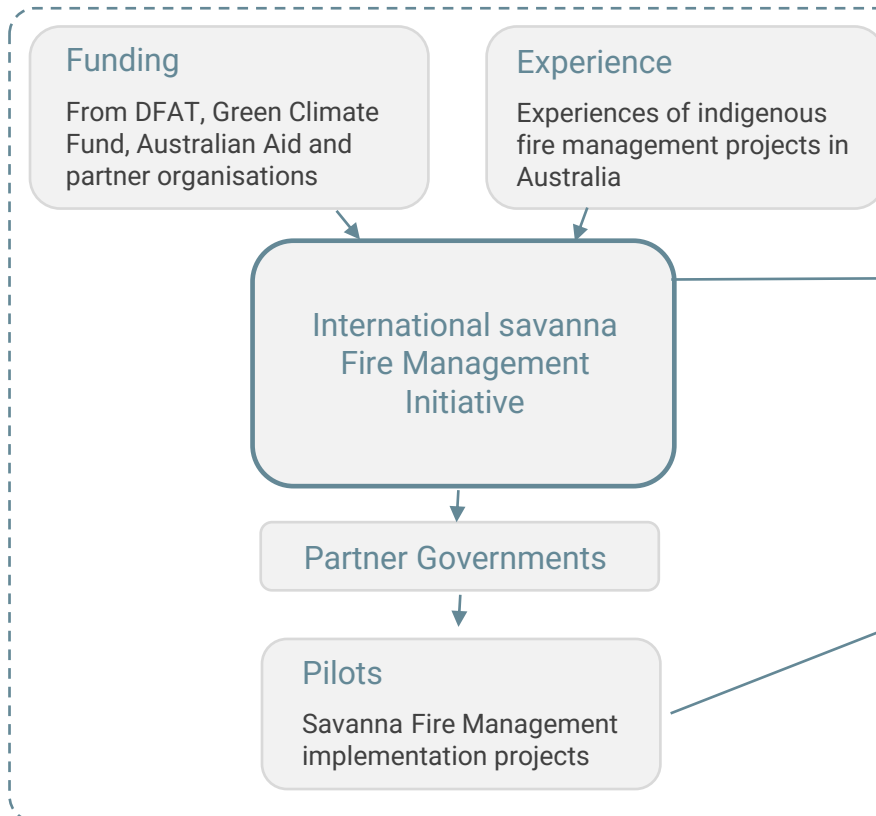
# ISFMI: Progress & Outlook

ISFMI have made significant progress with governments, pilots and secured funding and partnerships from key groups based in Australia and in related SFM markets

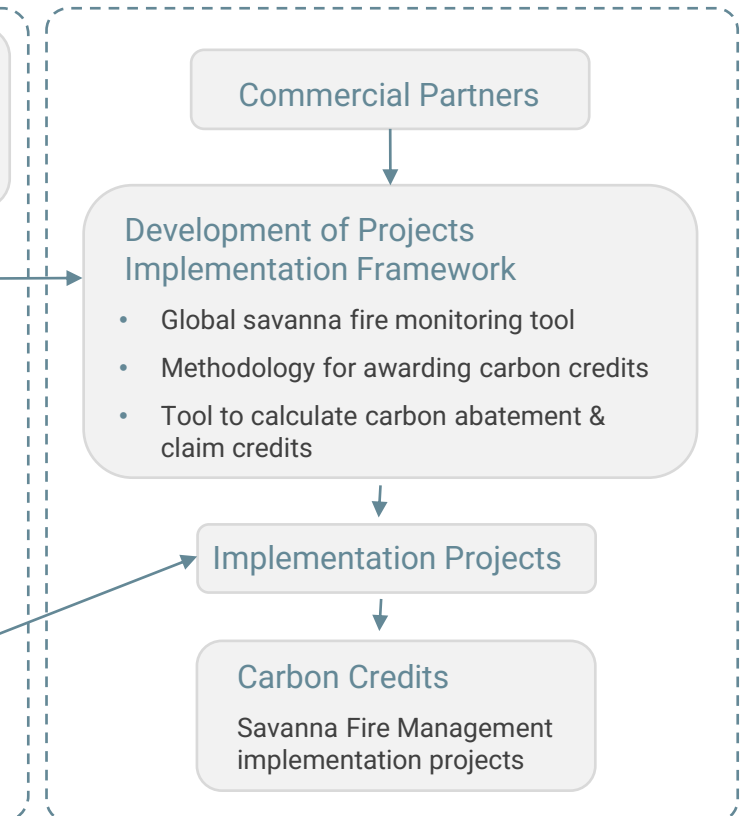
## Background

- Started in Africa with Botswana Pilot
- Implementations now being rolled out across:
  - Angola, Mozambique, Zimbabwe and Zambia
  - Brazil, Mexico, Guatemala, Belize
  - Indonesia, Timor Leste and Papua New Guinea
- SFM is ready for commercialisation!

## Progress to date



## Next steps



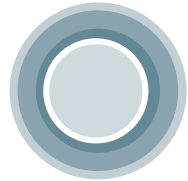
# Outline



Corporate Carbon and Maki Planet Systems



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# The Savanna Fire Global Emissions Problem

The emissions from savanna fires are a truly global issue effecting many countries and communities across the world.

## Global Footprint

- Savannas make up 1/6 of the global land surface and support 10% of the human population
- 65% of biomass burning comes from Savannas
- 3.5-4.5m km<sup>2</sup> of savannas burn each year
- 6% of global fossil fuel emissions

## Social Impact

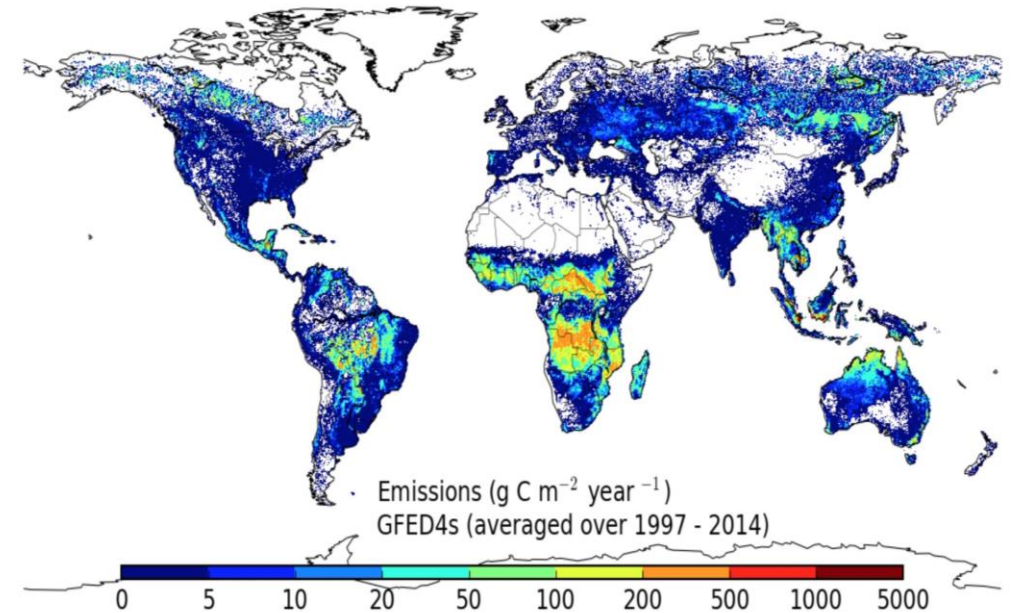
- Significant portion of these savanna landscapes are under communal land tenure
- Wildfire smoke alone kills 340,00 people p.a.
- Strong public support for fire management after California and SE Australian bushfires.

## Huge Economic Cost

- USD \$2.4bn economic losses to savanna fires
- USD \$146-191 billion of ecosystem services are destroyed each year

## Significant GHG Emissions

- Gross global fire emissions 3-8Gt CO<sub>2</sub> -e/yr
- Net after vegetation growth 2Gt CO<sub>2</sub> -e/yr as CH<sub>4</sub> and N<sub>2</sub>O
- Abatement potential from high intensity burning countries is 96.8Mt CO<sub>2</sub> -e/yr



Above: Global Savanna CO<sub>2</sub> emissions per year averaged over 1997-2014

Source : Emissions mitigation opportunities for savanna countries from early dry season fire management Published in Nature Communications by Geoffrey J. Lipsett-Moore et al.





# Savanna Fire Management: Co-benefits

“Co-benefits” that can be achieved through the introduction of SFM

- Savanna Fire Management (SFM) projects also have co-benefits such as improving biodiversity, reinvigorating cultural ties to country, improving food security and health, enhancing human capital, and helping remote communities adapt to climate change.
- These co-benefits strongly align with a number of the UN’s Sustainable Development Goals



## Cultural

- Supports the handing down of traditional ecological knowledge and values from elders to future generations to fulfil cultural obligations to care for the ecosystem
- Acknowledging indigenous rights and interests as a priority
- Looking after sacred sites
- Builds on both traditional and western knowledge

## Environmental

- Promotes biodiversity
- Burning savanna the right way, reducing carbon emissions and wildfires
- Better control pests and weeds
- Management and reduction of risk of tourists damaging environment
- Facilitates other land management activities

## Social

- Jobs for local people
- Community members discuss and involved in projects.
- Greater community cohesion through working together.
- Provides meaningful employment training opportunities in very remote areas, where jobs are often scarce

## Economic

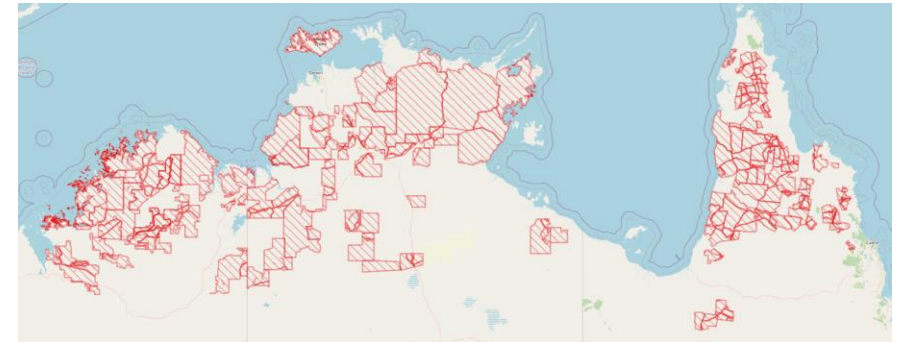
- Enabling direct investment into the management of indigenous lands and biodiversity
- Supporting rural and regional economies via employment and career development opportunities
- Partnerships stimulate more local economy independence and reduced government funding requirements



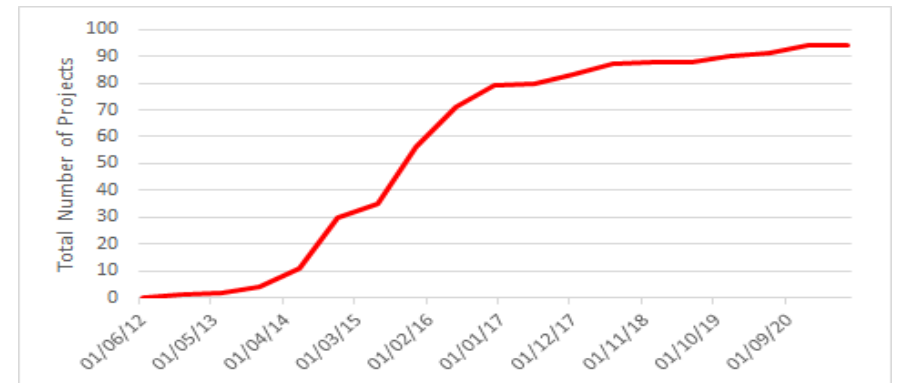
# Savanna Fire Management: Co-benefits

The evolution of the SFM practices and development of methodology have resulted significant economic benefits and widespread adoption across savanna regions in Australia

- Australia is the only developed economy that accounts for emissions from the burning of tropical savanna in its national accounts.
- SFM in tropical north Australia savanna is covered by approved methods under Australia's Emissions Reduction Fund (ERF).
- Australia has codified the learnings from indigenous traditional fire management into an Emissions Reduction Fund methodology which sets out rules for participation and calculation carbon credits
- The methodologies build upon early work undertaken by Traditional Owners in Australia in projects such as the West Arnhem Land Fire Abatement (WALFA) Project
- Today there are 94 Savanna Fire Projects in Australia and about 1.7million Australian Carbon Credit Units (ACCUs) issued each year
- 11.4m carbon credits created to date.
- Those projects will continue to produce ACCUs for the next 20-25yrs
- ACCUs are eligible Australian units under the Kyoto and Paris Agreements
- Future growth will come from the accounting of additional carbon pools, and increases in the price of ACCUs



**Above:** The current projects in northern Australia under the ERF



**Above:** The amount registered projects in Australia have plateaued in the last few years indicating market saturation.



# SFM in Australia: Measurement

## The development of effective measurement process and supporting technologies

The implementation of a robust scientific measurement process utilising satellite imagery and sophisticated calculation tools have are key success factors for SFM in Australia.

**Measurement Process**

- Vegetation mapping
- Remote sensing of fire extent and intensity
- Performance compared against historical baselines

**NAFI - North Australian and Rangelands Fire Information website**

- A resource that provides information on active fires (hotspots), burnt areas and fire scars provided by multiple satellites who provide a number of images per day.
- The data helps fire managers across the region respond to current fires, plan their fire management and then assess and report on their fire management.
- SMERF – Savanna Monitoring Evaluation Reporting Framework has also been developed as an alternative to NAFI. It enables the evaluating of the effects of fire, and whether the fire regimes need to be improved or not from an ecological perspective

**SavBAT - Savanna Burning Abatement Tool**

- The SavBAT automates the processes and mathematical equations required to estimate the net abatement for projects registered under SFM determinations of the ERF
- SavBAT uses monthly fire scar maps from NAFI with user supplied project data and Years-Since-Last-Burnt maps to enable the calculations, record keeping and compliance so one can report in minimal time and effort



Above: A NAFI fire map



**About SavBAT 3**

Version 3 of the Savanna Burning Abatement Tool (SavBAT 3) automates GIS processes and mathematical calculations required to estimate net abatement in accordance with two Emissions Reduction Fund (ERF) savanna fire management methodology determinations.

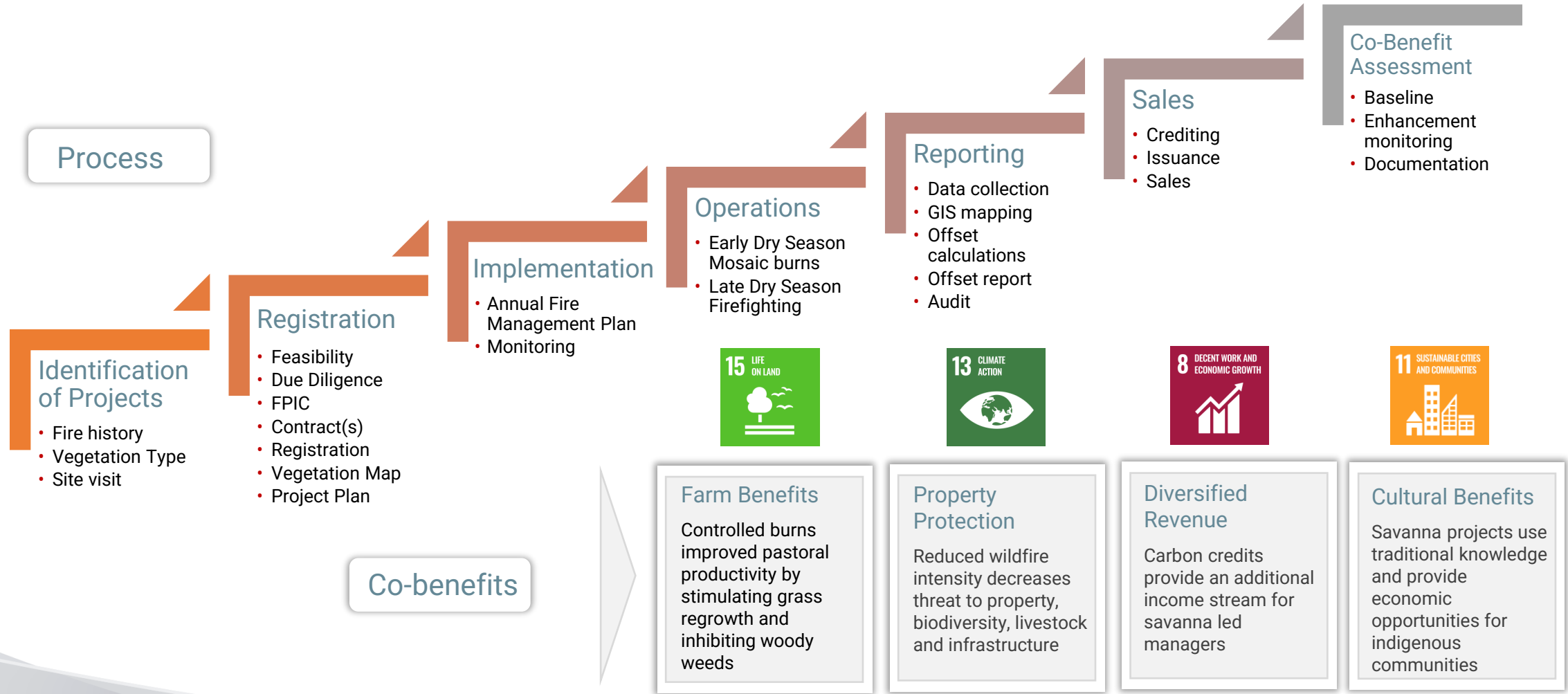
The determinations are:

- Carbon Credits (Carbon Farming Initiative—Savanna Fire Management—Sequestration and Emissions Avoidance) Methodology Determination 2018; and
- Carbon Credits (Carbon Farming Initiative—Savanna Fire Management—Emissions Avoidance) Methodology Determination 2018.

Above: The SavBAT website where you can find the necessary calculation tools.

# SFM in Australia: Methodology Process

The established process to develop SFM carbon credits and maximise co-benefits





# Highest available standards of SFM

SFM can be structured as recognised best practice carbon credit projects

## World best practice methodologies

- The Clean Energy Regulator develops methods with industry, end-users, scientists and technical experts
- The Emissions Reduction Assurance Committee. Legislated Offset Integrity Standard
  1. Additionality
  2. Measurable and verifiable
  3. Eligible carbon abatement under Paris
  4. Evidence-based
  5. Net of Project emissions
  6. Conservative estimates



## Carbon Industry Code of Conduct promotes

- Market integrity
- Consumer protection
- Appropriate interaction with stakeholders incl. Native Title holders & landholders
- Minimum operating requirements
- International leadership on carbon project development.
- Industry best practice
- Independently monitored



## Environmental NGOs strongly support SFM

- WWF
  - ThOxfam
  - e Nature Conservancy
- Some even operate SFM projects
- Australian Wildlife Conservancy
  - Bush Heritage
  - Steve Irwin Wildlife Reserve/Australia Zoo



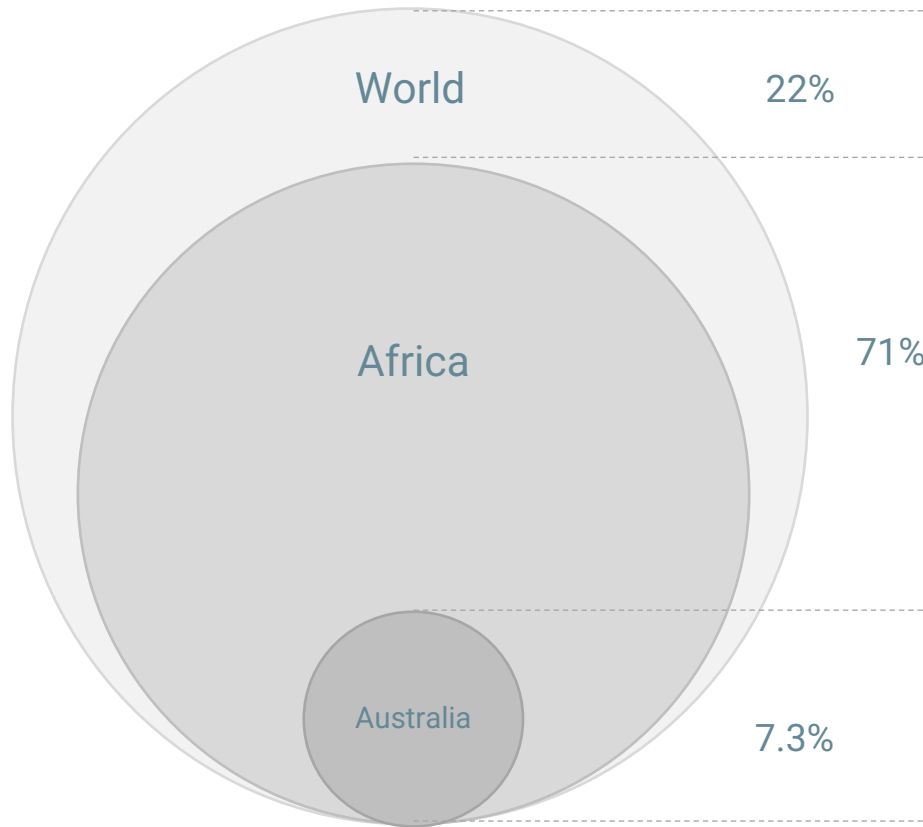
## Free Prior Informed Consent

- Work with established channels
- Engage early
- Allow decisions in their own time
- Be aware of and respect the cultural context
- Build relationships and trust through early and ongoing communication
- Access to independent advice
- FPIC throughout the life of the project



# The Immediate African Opportunity

The majority of global savanna CO2 emissions are domiciled in Africa



- The rest of the world make up 22% of global emissions from savanna with South America 12%, SE and Equatorial Asia 5.9% and others in Central & North America and parts of Asia

- Africa accounts for 71% of global CO2 emissions.
- One of the most promising regions for Africa is the Southern African savanna region called the Kavango-Zambezi (KAZA) sub-region that includes parts of Angola, Botswana, Namibia, Zambia and Zimbabwe.
- Proposals for SFM implementation activities have been developed for the KAZA sub-region, and the area in and around the Bwabwata National Park in North East Namibia

- Australia accounts for 7.3% of global emissions
- The majority of the savanna terrain is situated on the northern band across the top of Australia and nearly all of the region employs methods to manage emissions



# The Immediate African Opportunity

The majority of global savanna CO2 emissions are domiciled in Africa

- The priority geographies are based on who has the greater emissions reduction potential coupled with some analysis and testing ISFMI have done. They focused on savanna with terrain similar to Australia's to ensure a greater chance of success with the existing strategy set.
- When determining geographies – savanna terrain, rainfall, government regulation, biodiversity and the types indigenous communities are all very salient points. ISFMI have identified as the Kavango-Zambezi (KAZA) Sub-Region that incorporates Angola, Botswana, Namibia, Zambia and Zimbabwe as the most comparable to the Australian context and most feasible to the methodology. By just securing one of some of these countries, MPS will be working with an addressable market far greater than Australia's.

**Below:** Priority geographies for MPS diagram showing varying levels of priority

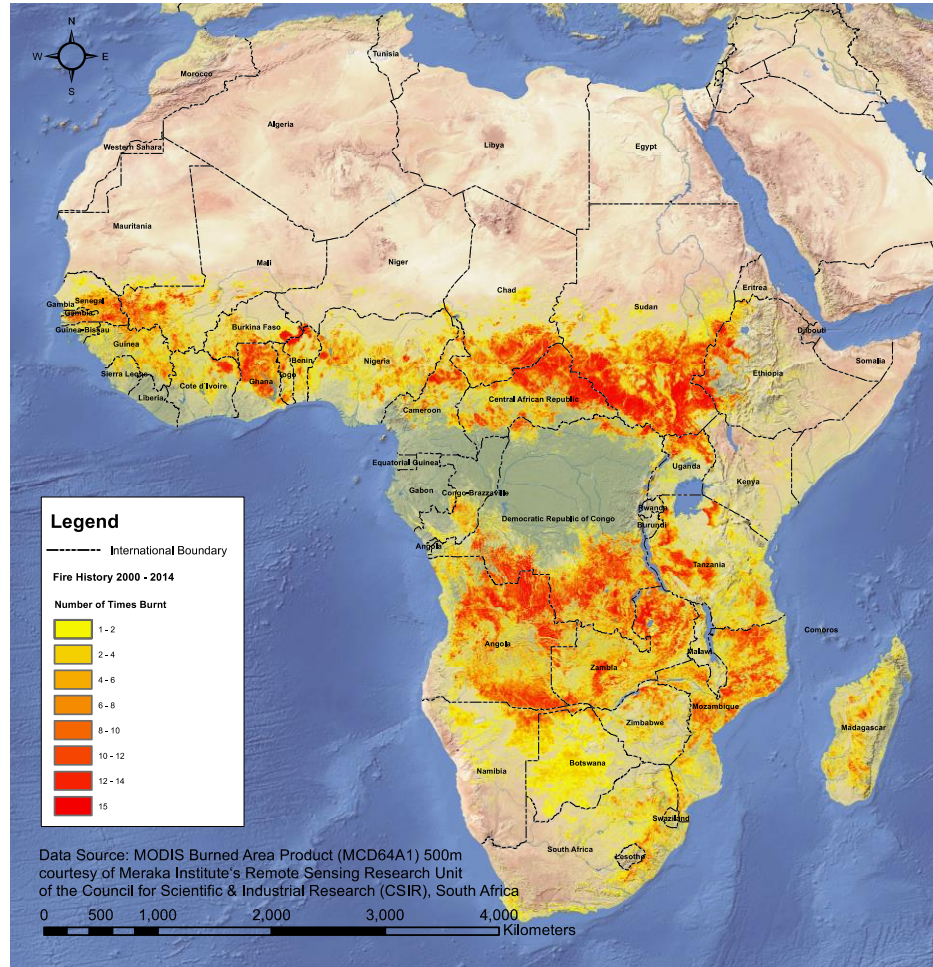


**Table 4 African least developed countries (LDCs) suitable for piloting EDS savanna burning where LDS emissions >50,000 tCO<sub>2</sub>-e yr<sup>-1</sup> and Protected Areas >1000 km<sup>2</sup>**

Country	Mean EDS (tCO <sub>2</sub> -e yr <sup>-1</sup> )	% Mean LDS (tCO <sub>2</sub> -e yr <sup>-1</sup> )	% Mean total (tCO <sub>2</sub> -e yr <sup>-1</sup> )	Mean diff (tCO <sub>2</sub> -e yr <sup>-1</sup> )	PAs >1000 km <sup>2</sup> (N)	Total area of PAs >1000 km <sup>2</sup>		
Congo DRC	15,984,653	38	26,217,522	62	42,202,175	10,232,869	11	111,468
Angola	8,668,539	26	24,361,431	74	33,029,970	15,692,892	6	43,419
Central African Republic	2,283,416	11	19,391,928	89	21,675,344	17,108,511	12	84,014
Zambia	2,801,045	14	17,293,619	86	20,094,664	14,492,575	44	169,939
Mozambique	6,073,121	39	9,417,789	61	15,490,910	3,344,668	19	76,585
Sudan	8,854,451	65	4,756,153	35	13,610,604	-4,098,299	10	71,632
Tanzania	1,926,648	19	7,958,423	81	9,885,071	6,031,774	38	262,369
Guinea	1,622,061	37	2,734,593	63	4,356,654	1,112,532	4	40,380
Ethiopia	1,156,666	34	2,248,009	66	3,404,675	1,091,343	21	88,659
Uganda	1,037,038	45	1,281,073	55	2,318,111	244,035	6	11,317
Mali	700,574	41	1,021,034	59	1,721,608	320,460	2	11,815
Benin	1,023,387	75	341,300	25	1,364,687	-682,087	10	22,633
Senegal	738,830	77	218,938	23	957,768	-519,892	4	13,455
Togo	476,413	63	278,359	37	754,772	-198,053	1	1,536
Malawi	308,234	43	412,799	57	721,033	104,565	2	4,033
Burkina Faso	566,833	81	136,732	19	703,566	-430,101	5	8,553
Guinea-Bissau	24,875	7	344,745	93	369,620	319,870	2	2,408
Total	54,246,783		118,414,448		172,661,231	64,167,661	197	1,024,212



# African Abatement Opportunity



Southern Africa Target Countries	Early Dry Season (EDS) Emissions	Late Dry Season (LDS) Emissions	Total Emissions	Total Potential Abatement of 50% Annual Emissions
Angola	7.628	26.949	34.577	17.2885
Botswana	0.069	1.127	1.196	0.598
Mozambique	0.868	19.137	20.005	10.0025
Namibia	0.077	1.187	1.264	0.632
Zambia	2.807	19.496	22.303	11.1515
Zimbabwe	0.098	1.569	1.667	0.8335
<b>Total</b>	<b>11.547</b>	<b>69.465</b>	<b>81.012</b>	<b>40.506</b>

*Units Mt CO2-e pa*





# Next Steps: The path to African SFM development

## Immediate execution focus

### Further development of pilot sites

After “proof of concept site” in Botswana, pilot sites are on the agenda. ISFMI already has close links with governments in key SFM target countries including Namibia, Zambia, Botswana, Zimbabwe, Angola, Mozambique, Brazil, Belize, Mexico, Indonesia, and Timor-Leste, with others on the radar

### Seed funding for SFM projects

None of the various communities and governments that the ISFMI worked with have the resources to develop viable proposals for SFM projects without some seed funding. This needs to be secured particularly in often uncertain market backdrops

### Development of monitoring, reporting & verification

It is necessary to develop the framework for measuring the affect or impact of better fire management. Monitoring, reporting and verification (MRV) procedures based on the methods developed by the Govt of Australia and NAFI. As a result, an MRV tool is under development to service any region in the world.

### Developing an international method

Developing an international methodology through, for example, Verra or Plan Vivo to enhance and promote demand for SFM credits.

## Scaling up

### Executing carbon credit offtake

Securing and executing offtake from international groups will give the initiative further validation and the economic support to drive adoption and expansion to additional jurisdictions.

### Implementation at scale

Expand to other geographies. Overcoming barriers to uptake across diverse communities towards saturation uptake in each country

### Information exchanges between projects

Regular exchanges between SFM projects to allow for market intelligence to be exchanged and to address the asymmetry in capacities between the suppliers and buyers.

### Linking carbon markets

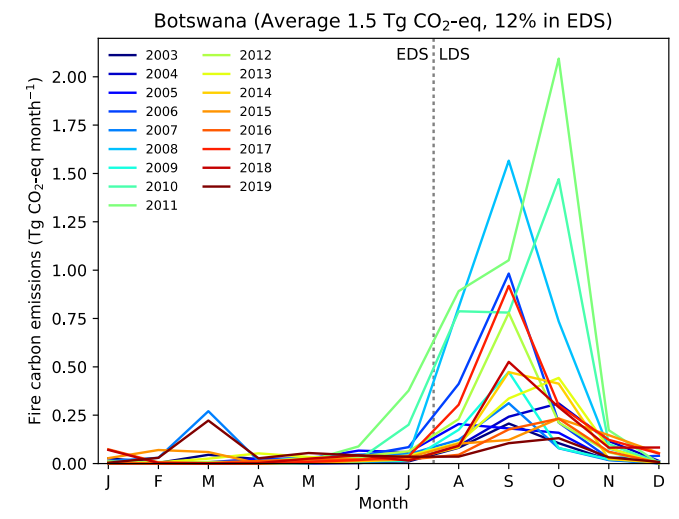
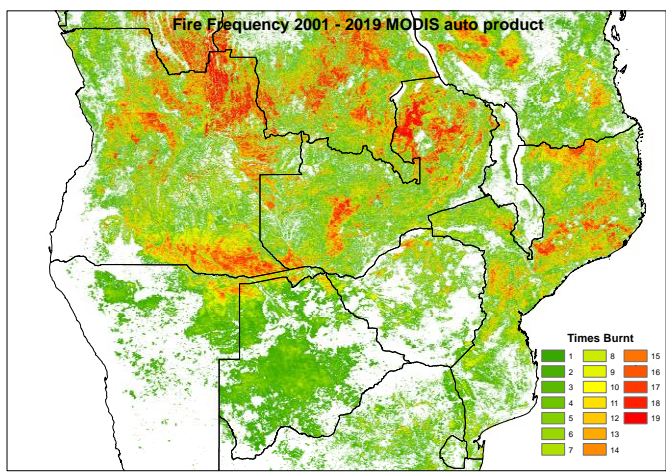
Supporting efforts to link carbon markets and allow the use of international credits thereby allowing SFM projects in developing countries to access carbon markets in developed countries.



# Pilot Projects Underway: Botswana

There are a number of key initiatives to support the implementation of successful pilots:

- Method Development
- Fire Management Program for Pilot Sites
- Platform for MRV
- Exchange Programme
- Legal and Policy Assessment
- ISFMI Network






Title	Methodology for Emissions Reduction Through Traditional Fire Management
Concept Type	Concept note is for a new methodology
Date of Issue	DD-Month-YYYY this version of the concept note issued
Sectoral Scope	Sectoral Scope 14
Developer	ISFMI Pty Ltd
Prepared By	Prof Jeremy Russell-Smith, Cameron Yates, Robin Beatty, Catherine Monagle, Sam Johnston
Contact	Jeremy.Russell-Smith@odu.edu.au

Journal of Environmental Management

Journal Knowledge

**Opportunities and challenges for savanna burning emissions abatement in southern Africa**

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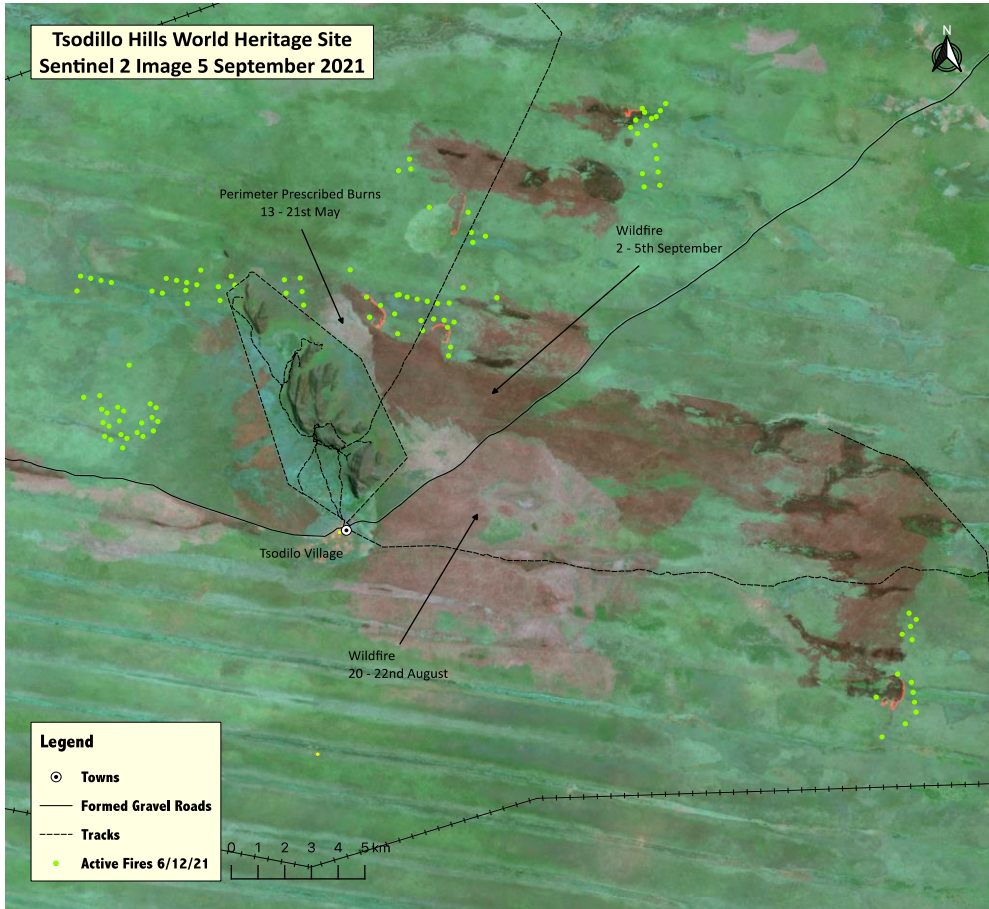
**ARTICLE INFO**

**ABSTRACT**



# Pilot Project: Tsodilo Hills

There are currently two pilots underway – Tsodilo Hills and Chobe National Park



# Maki

## Planet Systems

More information and enquiries

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