**AFRICA REGIONAL WILDFIRE ASSESSMENT PROGRAM**

**Preamble:**

Often referred to as “The Fire Continent”, wildfires are common across Africa. Fire has been used by pastoralist and hunters for centuries and the vegetation has adapted to this norm. Many vegetation types now need periodic fires to maintain the ecological process and ensure biodiversity. Integrating the safe and beneficial use of fire into land management is paramount.

On the other hand, recent years have also seen devastating wildfires in many regions of Africa. Despite being a continent shaped by fire in many ways, the sheer scale and intensity of wildfires in recent years coupled with population growth and the loss of life, property, air quality, animals, and damage to the environment, specifically the excessive release of carbon into the atmosphere, continue to escalate. Wildfires are predicted to worsen in the coming years and decades, **the United Nations Environment Program (“UNEP”)** has warned in its annual Frontiers report released 17th February 2022. In 2021, Africa was the most affected continent due to wildfires, the UNEP report citied.

Wildfire (anthropogenic and wild alike) may simultaneously serve as an integral part of a healthy ecosystem while posing considerable threats to ecosystem integrity. Fire can be an effective tool for the restoration of degraded landscapes as well as a destructive force causing socioeconomic and ecological damage. Proper understanding and resources are necessary to effectively manage fire in any landscape.

The long history of multiple use management by the **United States Forest Service (“USFS”),** with relevant technical expertise related to fire ecology, forest and protected area management, ecologically-based planning, sustainable livelihoods including tourism, and environmental crime—position the agency well to work with our partners in Africa. With support from U.S. Agency for International Development (USAID) and the U.S. Department of State, the USFS provides technical expertise to strengthen the capacity of international partners on a range of fire-related issues. These experts work across all management tiers, from national-level policy, to communities, civil society, and the private sector. USFS provides technical assistance and capacity building related to wildfire in more than 50 countries around the world. In Africa, the USFS currently works in 15 countries including Angola, Botswana, Democratic Republic of Congo, Ethiopia, Kenya, Madagascar, Malawi, Morocco, Mozambique, Namibia, Rwanda, South Africa, Tunisia, Zambia and Zimbabwe.

This project is designed to assess the current state of wildfire patterns and management capacity in Africa, to summarise the current state of fire science knowledge in Africa, and to recommend and prioritise possible opportunities for USFS technical assistance in Africa. There is however no guarantee that the USFS will implement all or any of the recommendations and this survey is not intended to set any expectations for the responders.

Please respond to all the questions provided and where required add further detail to further explain your response.

**Definitions:**

* **Wildfire:** A wildland fire originating from an unplanned ignition, such as lightning, rock falls, volcanos, unauthorised and accidental human caused fires, and prescribed fires that are declared wildfires.
* **Wildland Fire:** Any non-structure fire that occurs in vegetation or natural fuels. Includes Wildfires and Prescribed Fires.
* **Institution:** Agency, ministry or other entity with authority and responsibility of a public character.
* **Fire/Fuel Break/Barrier:** A fuel barrier is a strip or block of land in which native vegetation has been reduced or modified so that surrounding fires can be controlled with preparation, control and safety.
* **Prescribed Fire:** A prescribed fire is a controlled application of fire mimicking natural fire on the landscape. When introduced under acceptable parameters, a prescribed fire can improve conditions such as wildlife habitat, increase plant diversity and reduce fuels lowering risk of destructive wildfire.

**Questions for South Africa Wildfire Assessments**

1. **Overview**
2. What Province do you live in?
   1. Eastern Cape
   2. Free State
   3. Gauteng
   4. KwaZulu Natal
   5. Limpopo
   6. Mpumalanga
   7. North West
   8. Northern Cape
   9. Western Cape
3. What district/metropolitan municipality do you live in?
   1. Alfred Nzo District Municipality
   2. Amajuba District Municipality
   3. Amathole District Municipality
   4. Bojanala Platinum District Municipality
   5. Buffalo City Metropolitan Municipality
   6. Cape Winelands District Municipality
   7. Capricorn District Municipality
   8. Central Karoo District Municipality
   9. Chris Hani District Municipality
   10. City of Cape Town Metropolitan Municipality
   11. City of Johannesburg Metropolitan Municipality
   12. City of Tshwane Metropolitan Municipality
   13. Dr Kenneth Kaunda District Municipality
   14. Dr Ruth Segomotsi Mompati District Municipality
   15. Ehlanzeni District Municipality
   16. Ekurhuleni Metropolitan Municipality
   17. eThekwini Metropolitan Municipality
   18. Fezile Dabi District Municipality
   19. Frances Baard District Municipality
   20. Eden District Municipality
   21. Gert Sibande District Municipality
   22. Harry Gwala District Municipality
   23. iLembe District Municipality
   24. Joe Gqabi District Municipality
   25. John Taolo Gaetsewe District Municipality
   26. King Cetshwayo District Municipality
   27. Lejweleputswa District Municipality
   28. Mangaung Metropolitan Municipality
   29. Mopani District Municipality
   30. Namakwa District Municipality
   31. Nelson Mandela Bay Metropolitan Municipality
   32. Ngaka Modiri Molema District Municipality
   33. Nkangala District Municipality
   34. OR Tambo District Municipality
   35. Overberg District Municipality
   36. Pixley ka Seme District Municipality
   37. Sarah Baartman District Municipality
   38. Sedibeng District Municipality
   39. Sekhukhune District Municipality
   40. Thabo Mofutsanyana District Municipality
   41. Ugu District Municipality
   42. uMgungundlovu District Municipality
   43. uMkhanyakude District Municipality
   44. uMzinyathi District Municipality
   45. uThukela District Municipality
   46. Vhembe District Municipality
   47. Waterberg District Municipality
   48. West Coast District Municipality
   49. West Rand District Municipality
   50. Xhariep District Municipality
   51. Mgcawu District Municipality
   52. Zululand District Municipality
   53. None of the above
4. Your profession – pick the most appropriate one
   1. Firefighter (general)
   2. Structural Firefighter
   3. Wildland Firefighter
   4. Volunteer Firefighter
   5. Forester
   6. Nature Conservator
   7. Politician
   8. Lawyer
   9. Scientist
   10. Lecturer
   11. Landowner
   12. Pilot
   13. Consultant
   14. Farmer
   15. Emergency Services
   16. Disaster Management
   17. Law Enforcement
   18. Retired
5. What are the three most **unwanted** effects of wildland fire in South Africa?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What are the three most **desirable effects** of wildland fire or prescribed fire in South Africa?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. What are three aspects of wildland fire management that are **most successful** in your country?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. What are three aspects of wildland fire management that could **use improvement** in your country?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. What are three aspects of wildland fire management that your country could share with other African countries?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Wildfire Summary**

1. What types of fuel burn most often in wildland fires in your area?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Please identify 3 – 4 biomes that, in your opinion, burn most frequently?
   1. A picture containing text, map, atlas

      Description automatically generatedSour Grassland
   2. Coastal Grassland
   3. Sweet Grassland
   4. Moist Grassland
   5. Arid Woodland
   6. Sparse Arid Woodland
   7. Thicket
   8. Grassy Nama Karoo
   9. Nama Karoo
   10. Fynbos
   11. Renosterveld
   12. Forest
3. For wildfires caused by humans, what are the two main causes?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. For fires that are set intentionally, what is the expected benefit?
   1. Unrest
   2. Grazing
   3. Hunting
   4. Fuel Management
   5. Invasive Alien Management
   6. Arson
   7. Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What ecological **benefits** result from wildland fire (e.g. species, ecosystem processes, etc)?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What **negative** ecological effects result from wildland fire?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Is wildland fire related research adequate in your country?
   1. Yes
   2. No - If not, which topics could use further study?
      1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Are there official processes for investigating the origin and cause of wildland fires in your province?
   1. Yes
   2. No
9. **Risk Reduction**
10. Is there a national or regional wildland fire prevention and fire management program or plan?
    1. Yes
    2. No
11. Are rural and Indigenous communities included in the fire prevention program?
    1. Yes
    2. No
12. Does your community use fuel barriers (fuel/fire breaks), either made by machines or by hand, to protect against wildland fires?
    1. Yes
    2. No

**Readiness**

1. Are there annual operational plans or programs for fire management?
   1. Yes
   2. No
2. Is there a national training program / certification process for wildland fire response and management?
   1. Yes
   2. No
3. Are there personnel trained in wildland fire management in different topics and levels: basic, intermediate, and advanced?
   1. Yes
   2. No
4. **Response**
5. Are there sufficient personnel to deal with wildland fires?
   1. Yes
   2. No
6. Are wildland fire suppression brigades professionally trained and equipped?
   1. Yes
   2. No
7. What kind of equipment does your community have to fight wildfires (choose all applicable)?
   1. No Equipment
   2. Hand tools
   3. Backpack Pumps
   4. Portable Pumps
   5. Large Water Storage Tanks
   6. Structure Fire Engines
   7. Wildland Fire Engines
   8. Water Tenders (Tankers)
   9. Heavy Equipment ( Tractors, Dozers, etc.)
   10. Helicopters
   11. Fixed Wing Air Tankers (Bombers)
   12. Fixed Wing Command & Control Aircraft
   13. Drones
   14. Small Skid Units (Bakkie Sakkies)
   15. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Are firefighters equipped with fire protection materials by the government or the community (cotton jumpsuits, boots, gloves, flash hoods, goggles, helmets, etc.)?
   1. Yes
   2. No
9. Is there a coordinating agency or ministry for national and/or local emergencies (including non-fire emergencies)?
   1. Yes
   2. No
10. **Aerial Response**
11. Who decides to use/approve the use of aircraft?
    1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. Are Unmanned Aerial Systems (UAS)/drones/Robots used for wildland fire management purposes?
    1. Yes
    2. No
13. **Recovery**
14. Are there programs to support communities at high risk of being affected by wildland fires?
    1. Yes
    2. No
15. Are there restoration guidelines for ecosystems affected by wildland fires?
    1. Yes
    2. No
16. **Protected Areas**
17. Are wildland fires managed differently in protected natural areas?
    1. Yes - if so, how?
       1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. No
18. Is research carried out on the ecological effects of fire in the protected areas?
    1. Yes
    2. No
19. What is your opinion on the need for NPAs to have their own fire management plan to strengthen their management program?
    1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_