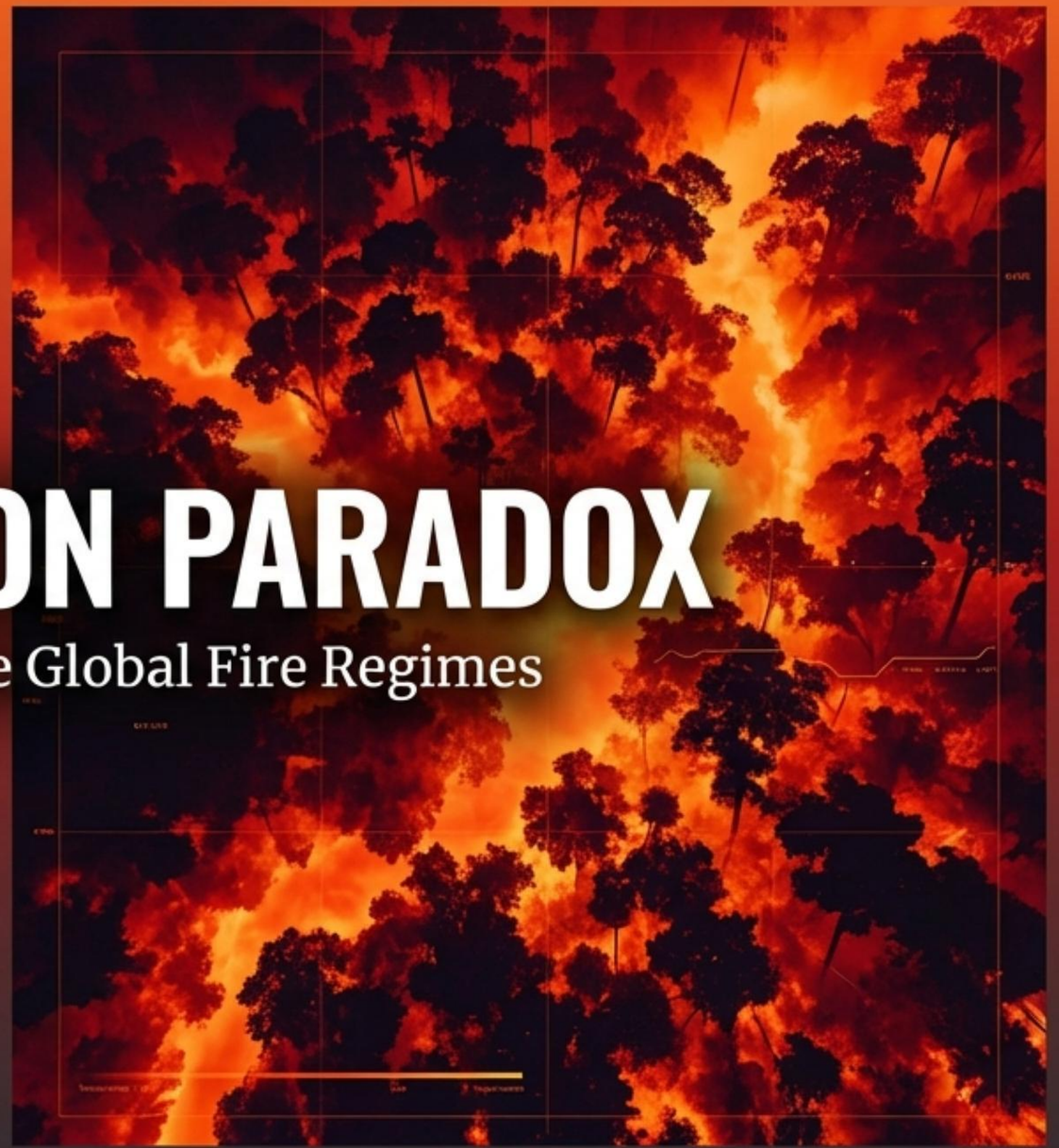
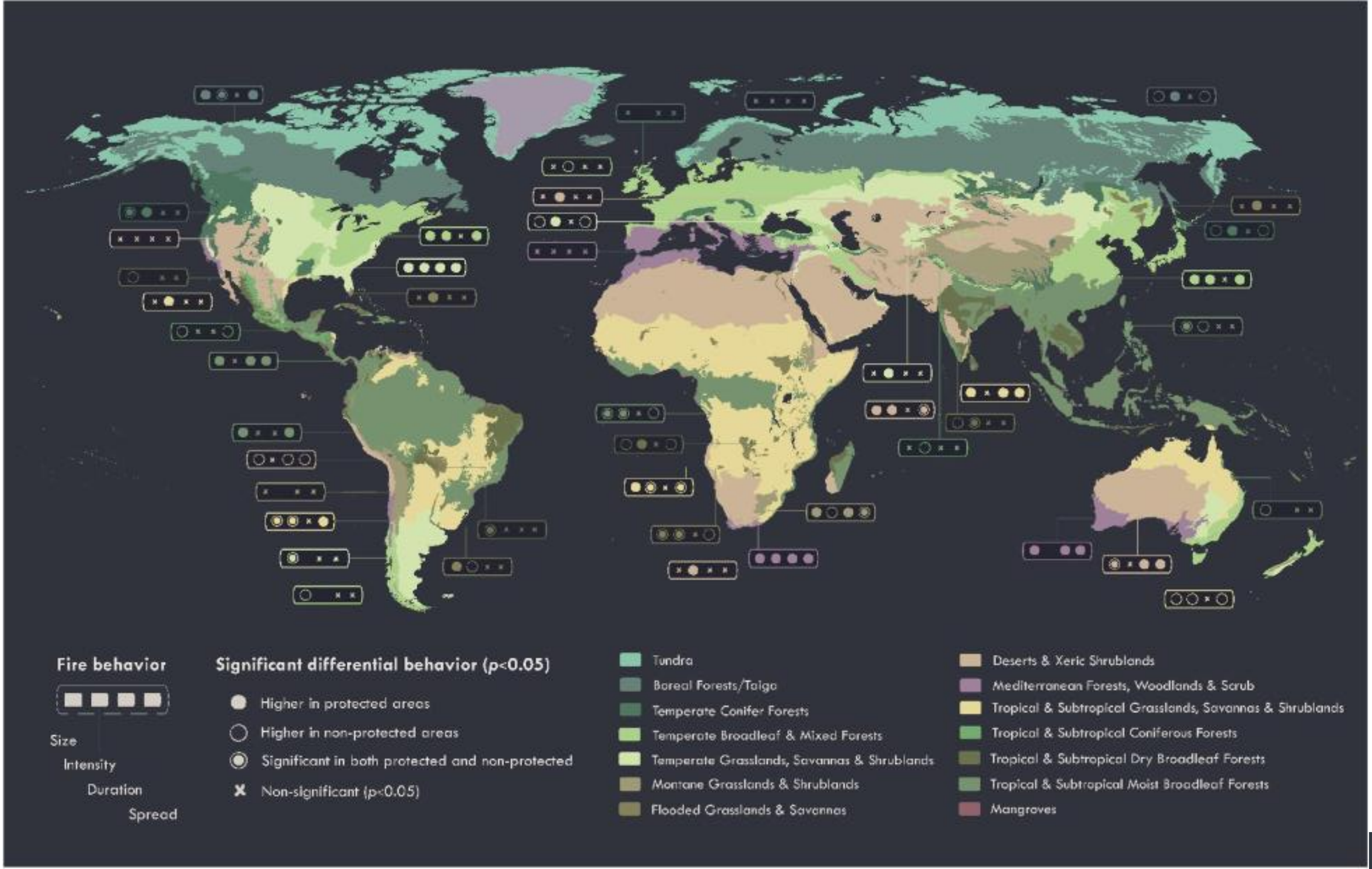


# THE PROTECTION PARADOX

## How Protected Areas Shape Global Fire Regimes

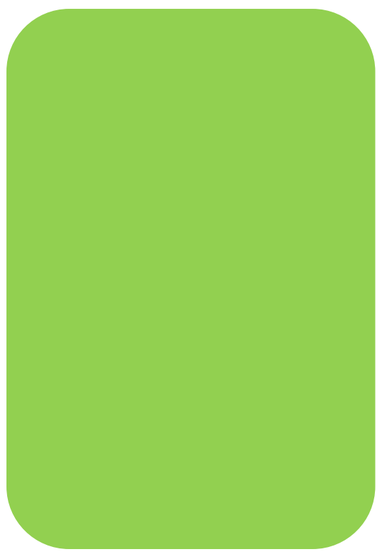
An analysis of 20 million fire events (2000–2020) | Cardil et al., 2026

# THE GLOBAL VIEW



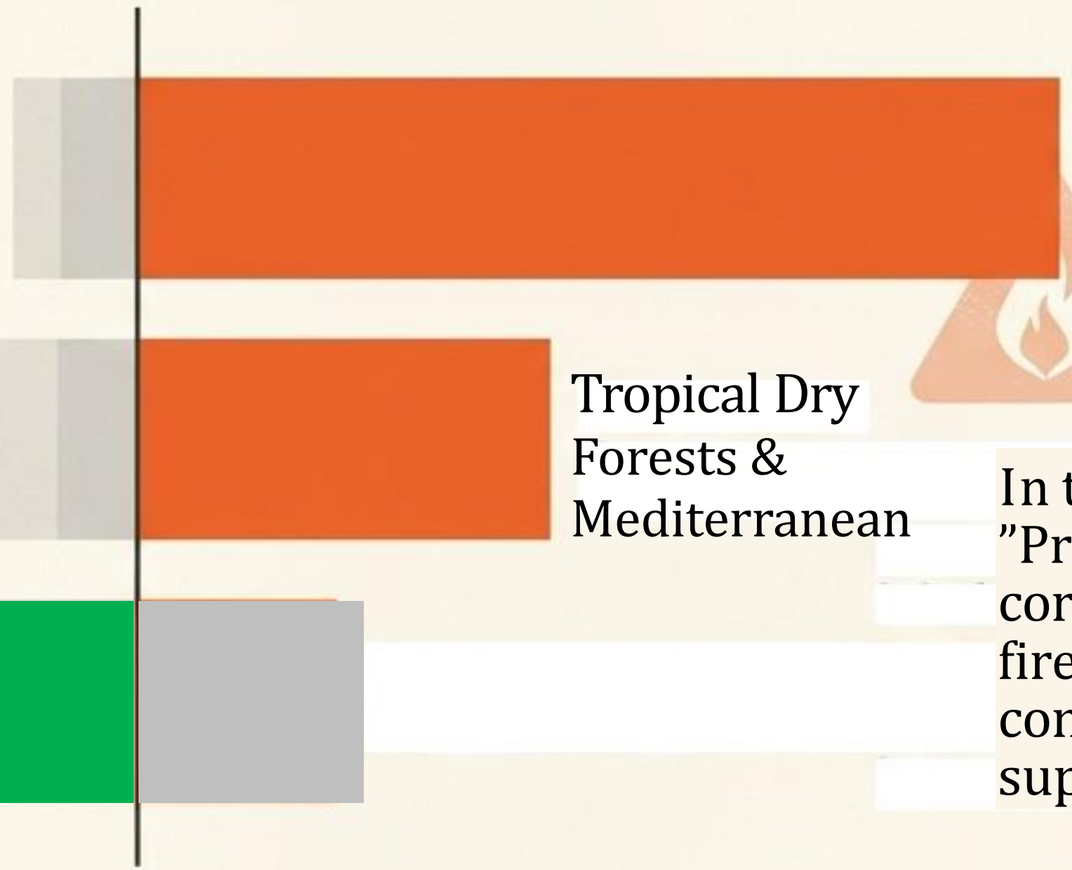

# THE SHIELD EFFECT

Where protection successfully halts deforestation fires, particularly in the Tropical Moist Forest.




The Percentage of Protected Areas (PAs) is much higher than the percentage of Burned Area inside PAs.

# WHERE PROTECTION BURNS



Tropical Grasslands

Tropical Dry Forests & Mediterranean

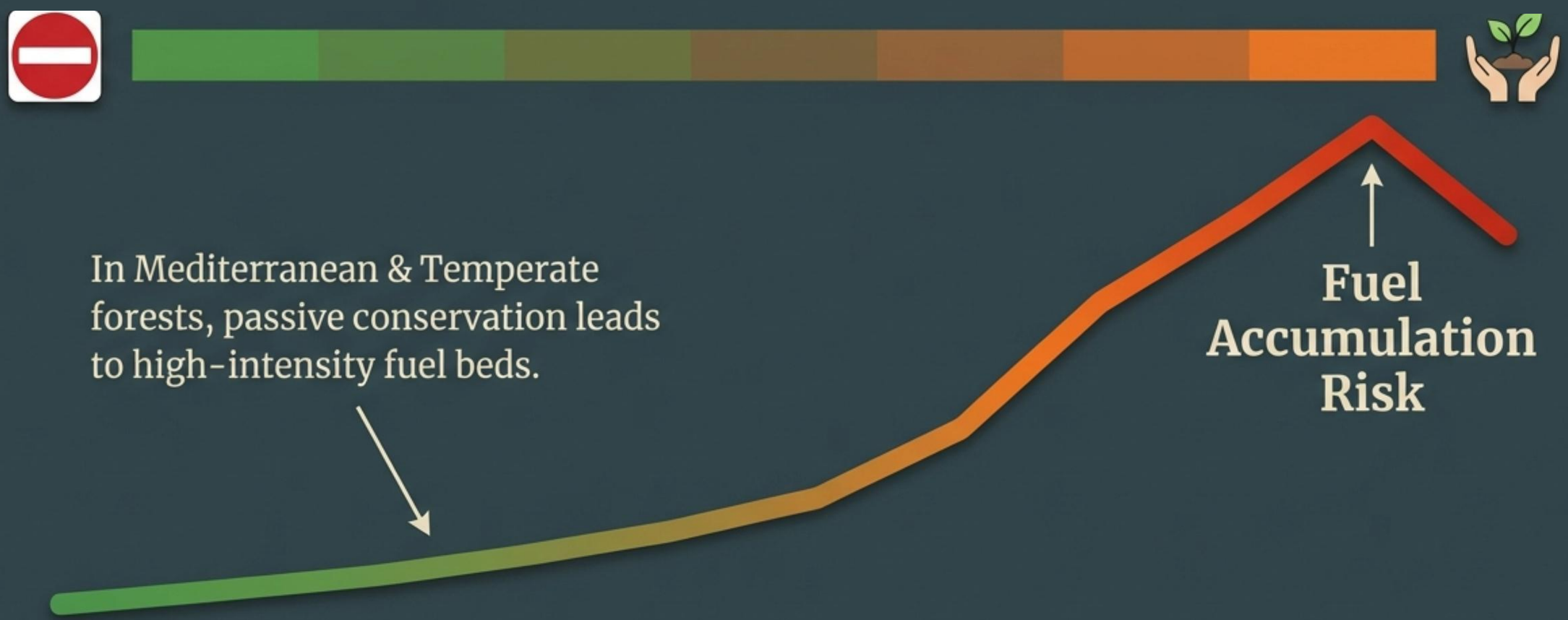
Tropical Moist Forests

In these biomes, the "Protected" label correlates with HIGHER fire activity due to fuel continuity and historical suppression.

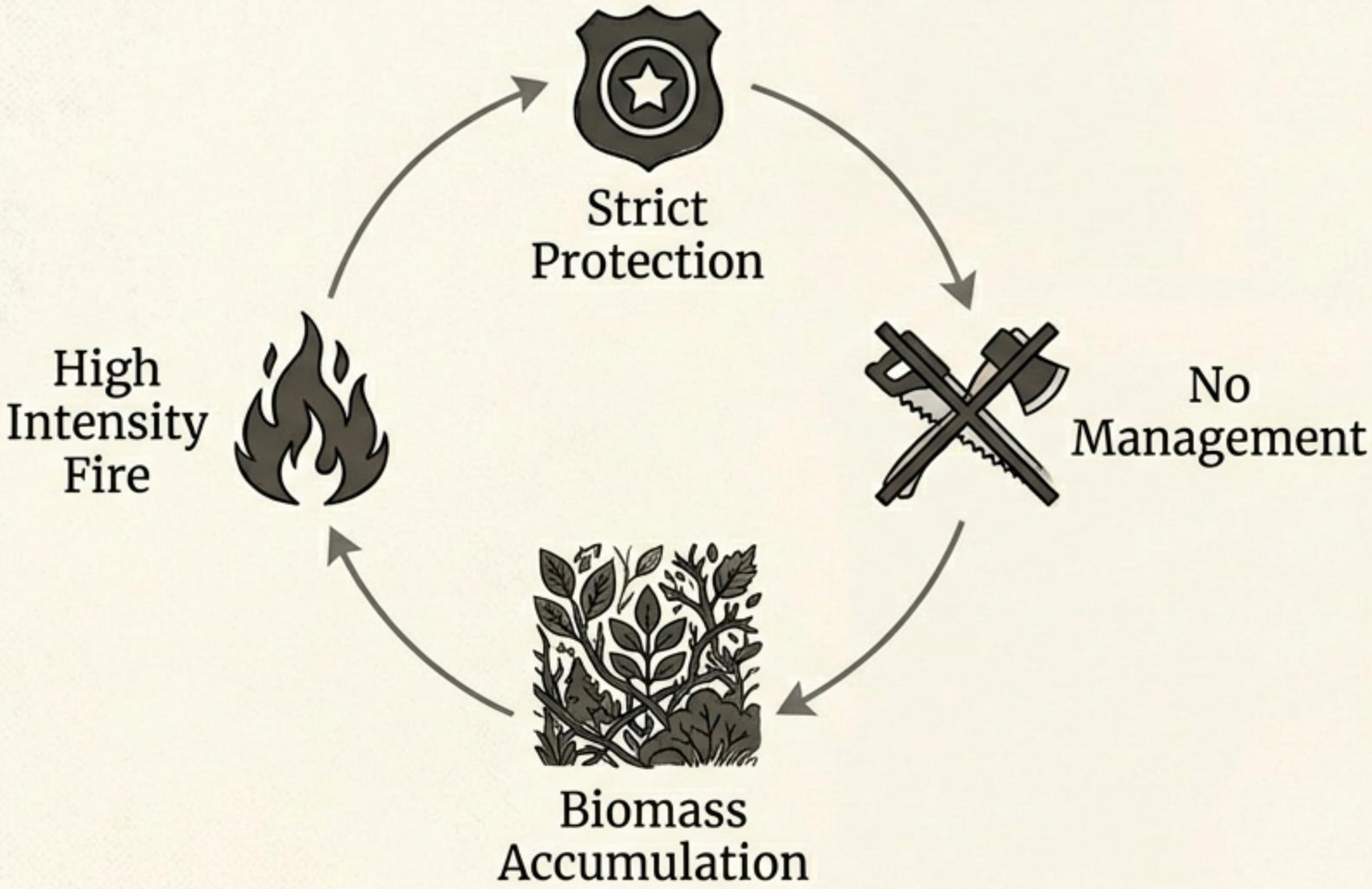
# THE COST OF ‘HANDS-OFF’ CONSERVATION

**NO PROTECTION**

**STRICT PROTECTION (Ia/Ib)**



# THE MEDITERRANEAN PARADOX



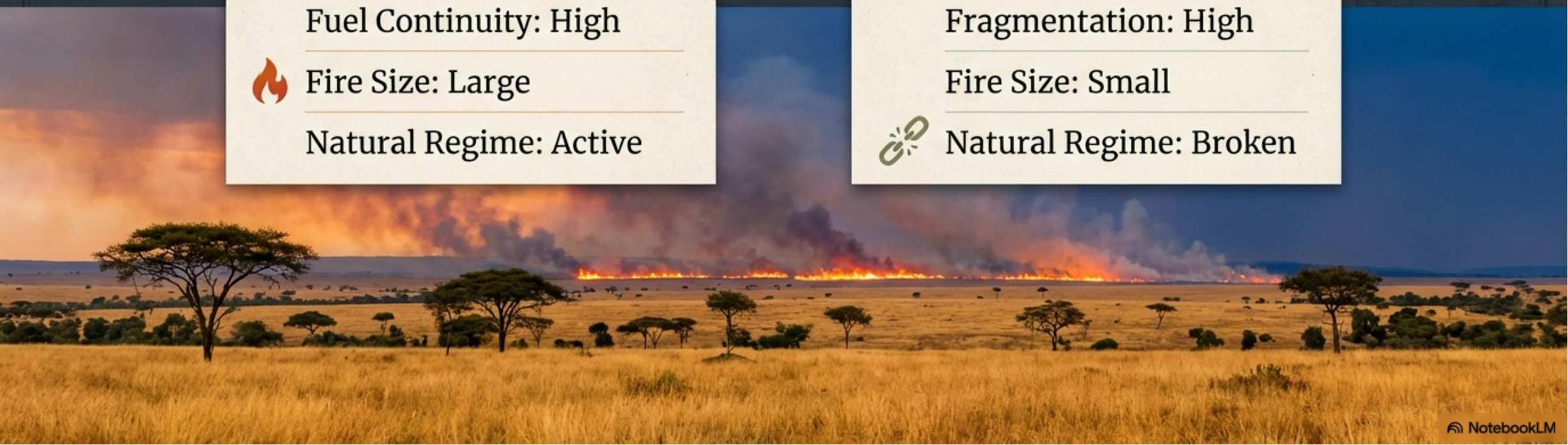

By suppressing human activity completely in fire-adapted forests, we inadvertently build a powder keg. Strictest protection correlates with highest intensity.

# LANDSCAPES BORN OF FIRE

## Tropical Grasslands & Savannas

| PROTECTED AREA |
| --- |
| Fuel Continuity: High |
| Fire Size: Large |
| Natural Regime: Active |

| NON-PROTECTED |
| --- |
| Fragmentation: High |
| Fire Size: Small |
| Natural Regime: Broken |



# FROM SUPPRESSION TO SUSTAINABILITY

**THE VALVE:**
Manage fuels to reduce intensity.

**THE SHIELD:**
Enforce borders to stop deforestation.

We cannot apply a blanket ‘no fire’ policy globally. Effective conservation requires biome-specific fire management.