

SUPPLEMENTARY MATERIAL

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Fire as friend or foe: the role of scientists in balancing media coverage of fires in National Parks

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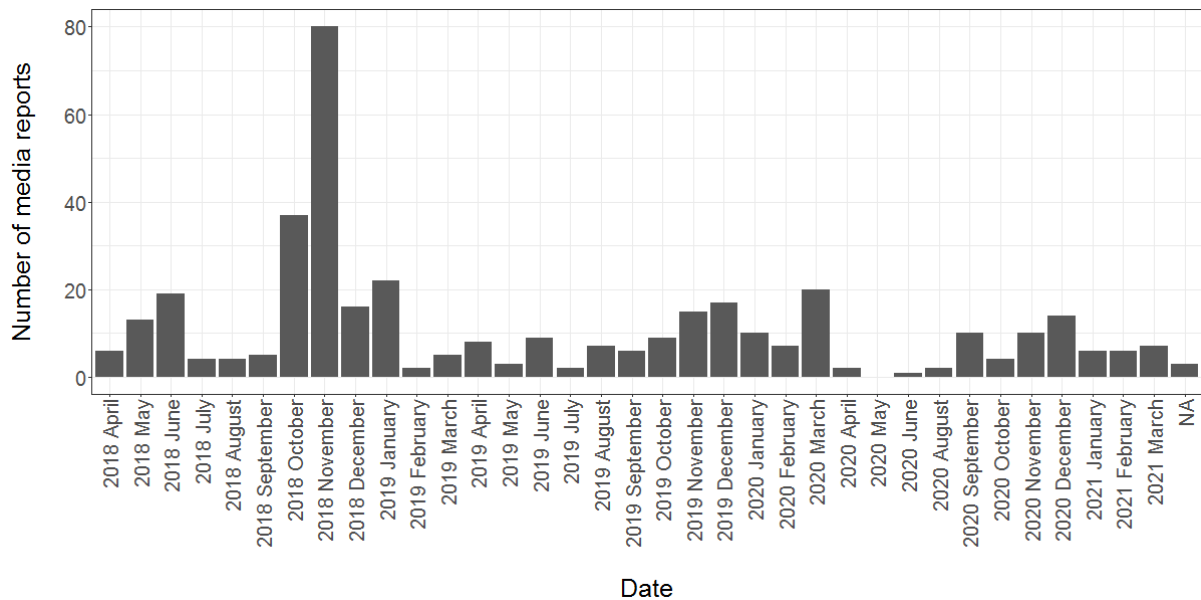


Figure S1: Fire-related media reports (n = 390) recorded between 1 April 2018 and 31 March 2021, with a distinct peak in October and November 2018 during wildfires in the Garden Route district.

Table S1: Media reports written by scientists or where scientists were directly involved that had a potential reach of >100 000 (note that some media reports appeared in more than one media outlet – in those cases only the primary media outlet with the highest reach is listed here, although the total cumulative reach across all outlets are provided in the third column)

Primary media outlet publishing story	Media Report Title	Reach
The Conversation	What science tells us about fire hazards facing Cape Town and its surrounds	1 902 302
Algoa FM	Radio insert: SANParks says vegetation recovery at Knysna and surrounding areas	501 000
IOL	Cape faces fire catastrophe as experts fear city's worst fire season lies ahead	454 023
IOL	Knysna fires fuelled by invasive pines, says study	434 327
IOL	Controlled burns to rejuvenate Cape fynbos	366 344
IOL	Residents warned about TMNP's controlled fires across the metro in July	338 682
Daily Maverick	OUR BURNING PLANET INVESTIGATION: Pyrocene Cape: Inside the furnace of Table Mountain's fire starters	185 958

Data Coding Book

- **Original media report ID:** This is the ID number of the record in the original database.
- **“Story” number:** Already allocated in database.
- **Relevance:**
 - 0 = If you really are of opinion that the report is not relevant and should not be included. Please discuss and check with colleagues if unsure.
 - 1 = Report really primarily NOT about fire, but veld/infrastructure fire is mentioned in passing (e.g. story on the new train lodge in Skukuza mentioning that two earlier train carriages burnt down in the park; report about new zip-line in Knysna, stating that the project was delayed due to 2017 Knysna fires; Report about Kruger Management and a mention to the 2002 Pretoriuskop fires).
 - 2 = Report primarily about fire and highly relevant, but not primarily about SANParks or fire in SANParks (e.g. WoF fire-fighting teams getting trained, and them mentioning that they are deployed in SANParks; Fire-fighting awards, and SANParks also mentioned as awardee; etc.)
 - 3 = Report primarily about fire and highly relevant, and primarily about fire or fire management in SANParks context (e.g. reporting on fires in Table Mountain NP)
 - 4 = Similar to 2 and 3 above, but have a more scientific slant/input (e.g. Daily Maverick report on fire history on Table Mountain, article in Conversation where scientists state how to tackle fires in Cape Town; reports may sometimes include graphs or statistics, but not always, etc.)
- **Park Name** – Use KNP, GRNP and TMNP as acronyms – other parks in full (very few reports). If report is not related to a specific park, indicate “None”. If related to more than one park, indicate ALL park names, separated by semicolon.
- **Actors in discourse/messaging (not subjects written about)** – People informing the article/broadcast or talked to rather than people affected or talked about. Here we want to determine WHO informs the narrative. If a specific individual/group is quoted or if their voice comes through clearly, then those groups should be selected (e.g. scientist when referring to a science paper; SANParks if information was sourced from a SANParks media statement or spokesperson). We can assume that ALL reports would have involved a journalist (i.e. writing the report, or doing the broadcast), so option one below refers to reports where the journalist did not source information from anyone else or did not consult/discuss with anyone (e.g. if the journalist got information from fire fighters on where the fire is burning, then you will NOT select this option, but you will select “firefighters”; however, if the article talks about fire victims, but did not talk to them, then you will select “journalist only” and not “victims”). Please MARK ALL THE ACTORS (i.e. many reports will typically include a multitude of actors)
 - Single non-fire expert writer (most likely professional journalist) with no inputs from others (e.g. journalist only with no discussion/engagement with other potential actors, or no quotes from others). If clearly written by an “expert” (e.g. scientist or fire-fighting boss, etc.), then indicate that relevant category and not this category. If not clear and no other inputs provided, then indicate this category.
 - Fire fighters or fire-fighting groups or Disaster management teams/spokesperson or “joint operations teams” (e.g. Working on Fire, NCC Wildfires, Fire and Rescue, Disaster Management Teams; Fire fighting volunteer groups, etc.)
 - Politician (e.g. major, premier, minister, opposition party; governmental department)
 - SANParks (including park managers, fire fighters {if SANParks fire-fighting team, also mark fire -fighters above}, SANParks scientists {also mark scientist below}, SANParks top management, SANParks spokesperson)
 - Non-SANParks scientist or SANParks scientist not identified as SANParks
 - SANParks scientist (identified as SANParks)
 - Human victims of fire (e.g. families whose houses are under threat, got destroyed, whose family died in fire, etc.)
 - Other, please specify (e.g. judiciary; public, but not a victim; other conservation agency e.g. Cape Nature; activist, Reserve Managers; Friends of....., etc.)

- **Type of media report:** This will assist us to identify “windows” of media interest/impact, but also gaps. Mark only the primary type of media report (i.e. mark only one category for each report)
 - Genuine and current/recent fire event – current news (e.g. 2018 Garden Route fires, Table Mountain Fires, SANParks infrastructure that burnt down, etc.)
 - Medialized reporting, but not related to a specific fire event (e.g. reporting on something that happened, but that does not relate to a specific fire event, e.g. WoF deploying fire teams in parks or readying themselves for fire season, burning firebreaks in parks, preparing for fire season, profile of a fire fighter, acquisition of new fire equipment, governance of fire management, etc.)
 - Reflecting back, providing feedback or reference to old fires or impact/legacy of old fires (e.g. recovering areas after 2017 Knysna fires) – these reports are about actual fires (first category), but it is not “news” on a current fire.
 - Other (specify) – (e.g. popularization of science; awareness and education focussed article, etc.)
- **How is fire portrayed in report – you can mark both positive and negative if both positive and negative aspects of fire is mentioned. If neither positive nor negative are marked, then it implies a neutral portrayal of fire.**
 - Negative (any story mentioning fire as a threat or destructor (or potential threat or potential destructor) of property, veld, lives/health, increase alien vegetation regrowth, etc.) – even reports that may sound “positive” by e.g. referring to “less fires destroying infrastructure than last year” or “fire-fighters are containing fire” or “no damage to infrastructure” or “no loss of lives” would still be classified as negative, as it refers to fire’s negative or potentially negative impact/risk on humans/infrastructure/veld.
 - Positive (e.g. allow fynbos to germinate; natural process in nature, reduce fuel load and hence fire intensity, etc.)
- **Sentiment towards SANParks (even if expressed by SANParks itself) IN CONTEXT OF FIRE (not in general) – again, can be both positive and negative.**
 - Negative – SANParks is negatively portrayed (negligent, incompetent, poor communication, poor fire management, fires that could have been prevented, etc.)
 - Positive – SANParks as positively portrayed by receiving praise for its actions or using of words that reflect positive sentiment (e.g. SANParks had a **quick** response to the fire; SANParks sent out a **well-training** team; SANParks **proactively** communicated the situation to local residents; SANParks **efficiently** responded to the situation).
 - Neutral: Neutral reflection on SANParks and/or description of SANParks’ response/actions, without a judgement (i.e. SANParks doing its job as expected), e.g. sending out fire crew; evacuating people, etc. without any positive or negative sentiment linked to that.
 - None – no sentiment expressed towards SANParks.
- **Topics of media report (multiple can be marked)**
 - Fire management
 - Pro-active fire management:
 - reducing fire risk (removing of alien plants, burning of firebreaks, burning of controlled mngt fires)
 - fire suppression (e.g. getting equipment and staff ready for fire season, fire-fighting teams/staff; fire-fighting equipment, etc.)
 - Reactive fire management (fighting active fires; active fire suppression)
 - Updates on current fires (e.g. reports/updates on where fires are currently burning, and sometimes references to current and predicted weather conditions and how that may influence the situation, etc.) (e.g. typically Cape Talk would report on fire situation on Table Mountain, and say the wind makes things worse, or forecasted rain is expected to bring relief)
 - Fire Safety and Fire Damage

- Loss of or threat of human lives or human injuries (including reports of condolences to families; people taken to hospital after smoke inhalation or burn wounds, people evacuated for safety purposes, etc.)
 - Loss, damage of or threat to human-made infrastructure (e.g. houses, cars, wood mills, settlements/villages, etc.)
 - Explicit mention of damage or “loss” or “devastation” of vegetation/veld (including plantations, forest, etc.) - this include all veld fires not related to human-made infrastructure – most fires obviously do burn vegetation, but only select this option if the article/broadcast explicitly mentions the “ecological impact” or “impact on veld” or “XXX ha burnt” or “large extend of burning”)
 - Animals deaths or animal welfare during or after fires
 - Rehabilitation and Renovation after fire
 - Active veld rehabilitation (planting; seeding new plants; clearing aliens that regenerate after fire; managing erosion after fire e.g. packing sausages to stabilise slopes, etc.)
 - Passive veld rehabilitation (i.e. reporting on natural, unassisted recovery of veld or processes)
 - Renovation of infrastructure after fire (e.g. Letaba shop renovated; Knysna rebuilding of infrastructure; fixing mountain biking or hiking trails, or boardwalk/viewpoint)
 - Fire ecology/Science (e.g. scientific or ecological perspective provided; feedback on a scientific study/paper; post fire responses like vegetation recovery or alien infestation after fire; analysis of long-term fire regimes; may include some data/graphs)
 - Cause of ignition
 - Arson
 - Accidental (homeless people, party-goers, cigarette butt, braai fires, etc.)
 - Natural/lightning
 - Electrical fault/Kitchen/Eskom pylons
 - Management and planned fires
 - Unknown/still under investigation/speculation (mark this option if the story explicitly indicates that the cause of ignition is unknown or still under investigation, or if the study talks about speculation)
 - Fire education and awareness campaigns (report focus on initiatives to educate people)
 - Fire education and awareness tips (the report includes aspects aimed at educating people)
 - Fundraising and support for victims and/or fire-fighters/teams and/or animals; disaster relief funding; alternative accommodation
 - Other topics not mentioned above (specify)
- **Ecological fire concepts**
 - Fuel load (including mention of alien vegetation as fuel; mentioning fuel build-up if no fires have burnt for a long period or if rainfall is above average, etc.)
 - Fire regime, including fire season, fire intensity and fire return period (e.g. some reflection/analysis on how often and when fires burn)
 - Benefits of veld fires for nature and/or for humans (e.g. reducing fuel load and intensity of future fires, important for fynbos ecology, etc.)
 - Alien plant proliferation after fire (not to be confused with first category which talks about alien plants contributing to fuel load BEFORE fires)
 - Bush encroachment
 - Other (specify)
- **Photo analysis** – What photos/visuals are used to illustrate report – do not watch videos from online media, just the “still” video screen that displays on the website. For a television/video broadcast, look at entire video and indicate what “photo categories” are applicable (e.g. if the video showed fire-fighting equipment and fire-fighters). Note that a photo can depict multiple of the below, in which case each must be marked (e.g. victims standing next to their burnt-out house will be “damaged

infrastructure” and “victims”). Ignore all text and all photos of embedded social media (i.e. typically tweets in online articles – however, if the article explicitly quotes or refers to tweets in the main text of the article, then it can be included, but not only if it appears on the webpage).

- Fire-fighters
 - Veld fire with NO infrastructure visible
 - Veld fire with infrastructure at risk visible (e.g. houses and fire on same photo, but nothing burnt down yet). Roads or other infrastructure (e.g. cement channel) that are usually not damaged by veld fires are not considered infrastructure of interest. Fences and telephone lines to be included. Mountain trails also seen as infrastructure that can be damaged due to erosion, poles, etc.
 - Fire-fighting equipment (e.g. helicopters, fire-trucks, firefighting hose-pipes, etc.). Do not include fire protective clothing – fire-fighters wearing these clothes will go under first category, i.e. fire-fighters
 - Burnt or damaged infrastructure (e.g. rubble of burnt down house, burning restaurant, etc.). Roads not included.
 - Victims (photos of victims or their family members)
 - Post-fire landscape (not infrastructure) of a recent fire (i.e. blackened fire scar landscapes)
 - Post-fire landscape (not infrastructure) of an old fire (i.e. recovery of landscape)
 - Natural landscape with or without animals not specifically showing (new or old) fire effects
 - Other (any other fire-related photos – no need to report on irrelevant photos, especially in stories where relevance was marked as “marginal”, e.g. zip-line in Garden Route that was delayed due to 2017 Knysna fires)
- **Comments** – any interesting issues raised in article/broadcast or notes