

Could Fluorescence Tracking Distinguish Photo-resistant and Photo-labile Compounds Leached From Tire Particle Pollution?

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Abstract:

This paper delves into the issue of heavy metal soil contamination on Iwo Jima's Invasion Beach, a historically significant WWII battleground characterized by its black volcanic sand. Despite the popularity of collecting sand from the site as war mementos, limited research has been conducted on the heavy metal composition of the beach and the possible contamination risks associated with these mementos. The study aims to address this knowledge gap by examining the heavy metal composition of the sand, assessing the potential for heavy metal contamination, and discussing contamination handling precautions for the collected mementos. Through a meticulous review of previously published scientific literature on volcanic sands and heavy metal analysis of soil samples from war-impacted areas, this paper seeks to provide a comprehensive understanding of the long-lasting impacts of warfare on soil quality and contamination. Moreover, the study emphasizes the urgent need to adopt more environmentally friendly weapons to minimize the ecological footprint of warfare and protect the environment for future generations. While eliminating warfare may not be feasible in the near future, mitigating its consequences is crucial. The paper highlights the ongoing war in Ukraine and calls for further research and development of sustainable alternatives, such as biodegradable ammunition, to promote environmentally responsible practices in warfare. In conclusion, the study also highlights the importance of understanding the impacts of warfare on soil contamination and the pressing need for sustainable practices to preserve our planet for generations to come.

Biography:

My name is Carrie Shuster, a dedicated environmental scientist and an aspiring author, currently immersed in graduate studies at the University of San Diego. My passion lies in the mysteries of our natural world, which I explore using advanced Geographic Information Systems (GIS) and remote sensing technologies like QGIS and ArcGIS Pro. My current research focuses on the tidal marshes of Northern Mission Bay in San Diego, where I am investigating their historical ethnobotanical uses and long-term environmental changes.

My journey in environmental science is deeply influenced by my five-year service as an F/A-19EF Aviation Electronic Technician in the U.S. Navy between 2007 to 2012. Serving overseas in various

challenging environments, I developed a resilience that has been crucial in my life and career. However, this experience also left me with PTSD and disabilities, a challenge I continue to face with courage. My military service earned me several accolades, including the Navy and Marine Corps Achievement Medal, but more importantly, it instilled in me a sense of discipline and determination.

As a self-published author, I write under the pen names Jean Marc and De Bonussituatie, focusing on environmental issues. My works, including "Silent Remnants: Unraveling the Longevity of Environmental Contamination from Warfare" and "Environmental Warfare Strategies: Integrating the Environment into Modern Warfare," reflect my deep commitment to highlighting the environmental impacts of warfare, blending my scientific expertise with my personal experiences. My deep understanding of environmental science and firsthand military experience not only inform the factual accuracy in my science fiction but also inspire the themes of resilience and the ethical implications of technology in my storytelling.

In my role as a Research Assistant at the University of San Diego, I take pride in my ability to explain complex scientific concepts to students from various backgrounds. My proficiency in scientific software and laboratory equipment is extensive, enhancing my research and teaching capabilities.

My commitment to environmental advocacy and support for fellow veterans is evident through my involvement with organizations like the Citizens' Climate Lobby and the San Diego Women Veterans Network. These roles allow me to champion environmental causes and support the veteran community, which is very close to my heart. My personal battle with PTSD enriches my ability to create complex, multi-dimensional characters who face and overcome adversity, mirroring the resilience I've had to muster in my own life.

With a Bachelor of Arts in Environmental Studies and an Associate of Science in Arboriculture, I am now pursuing my Master of Science in Marine Sciences. I hold several certifications, including in Good Clinical Practice and Research Administration, which complement my academic pursuits.

As I venture into the realm of science fiction with my book query, I bring a unique combination of scientific knowledge, literary talent, and personal experiences. My diverse background, encompassing environmental research and military service, lends authenticity and depth to my writing, making me a distinctive voice in the world of science fiction. With my science fiction writing, I aim to not only entertain but also educate and inspire a conversation about the pressing environmental issues and the human spirit's endurance, reflecting my own life's journey.