

## Evaluating Environmental Risks Using Safety-First Constraints

Zeyuan Qiu, Tony Prato, Francis McCamley

First published: 01 May 2001

<https://doi.org/10.1111/0002-9092.00165>

Citations: 22

### Abstract

This article incorporates an upper partial moment concept into a linear programming model to impose safety-first environmental constraints. The model is linear and deterministic, treats a discrete sample as an empirical distribution, and optimizes over the column space. It allows a decision maker to specify the objectives and the compliance probabilities with the objectives when making decisions, and endogenously determines the risk levels. Even though it is presented in the context of environmental management, the model is general enough to be extended to other situations where the probability of a variable exceeding some target or standard is restricted.

### Citing Literature



[Download PDF](#)

#### ABOUT WILEY ONLINE LIBRARY

[Privacy Policy](#)

[Terms of Use](#)

[About Cookies](#)

[Manage Cookies](#)

[Accessibility](#)

[Wiley Research DE&I Statement and Publishing Policies](#)

[Developing World Access](#)

#### HELP & SUPPORT

[Contact Us](#)

Training and Support  
DMCA & Reporting Piracy

### **OPPORTUNITIES**

Subscription Agents  
Advertisers & Corporate Partners

### **CONNECT WITH WILEY**

The Wiley Network  
Wiley Press Room

---

Copyright © 1999-2024 John Wiley & Sons, Inc or related companies. All rights reserved, including rights for text and data mining and training of artificial intelligence technologies or similar technologies.

**WILEY**