

## **African marine radioactivity: case of marine sediments in the oceans and seas**

Hasna Ait Bouh<sup>1,\*</sup>, Nadia Ziad<sup>2</sup>, Abdelmoughit Laissaoui<sup>1</sup>, Driss Zejli<sup>2</sup>, Moussa Bounakhla<sup>1</sup>,  
Hassane Erguig<sup>2</sup>

<sup>1</sup>*National Centre for Energy Sciences and Nuclear Techniques (CNESTEN), Rabat, Morocco, <sup>2</sup>Ibn Tofail University, National School of Applied Sciences (ENSA), Kenitra, Morocco*

\*E-mail: haitbouh@gmail.com

This work is a part of the Coordinated Research Project (CRP) on behavior and effects of natural and anthropogenic radionuclides in the marine environment and their use as tracers for oceanography studies.

For this purpose, we have been interested in a compilation of data covering the period from 2000 to present of radionuclide concentrations in marine sediments of the African continent by considering the Atlantic Ocean, the Mediterranean Sea, the Red Sea and the Indian Ocean.

For this comparative study we included three anthropogenic radionuclides as the most representative of natural radioactivity (<sup>226</sup>Ra, <sup>232</sup>Th and <sup>40</sup>K).

To characterize the potential radiation dose to humans resulting from exposure to sediment radioactivity, five radiological hazard indices were estimated: D (total absorbed dose rate in air), Ra<sub>eq</sub> (radium equivalent activity), Hex (external hazard index), AGDE (annual gonadal dose equivalent), and AEDE (annual effective dose equivalent).

The principal objectives of this work are to establish the spatio-temporal evolution of radionuclide distribution in marine sediments and to identify the cause radiological effects in the African oceans and seas.

**Keywords:** Radionuclide concentrations, marine sediments, African countries, radiation hazard

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