ID: P2.4-654

Wet Deposition to Improve Nuclear-Test-Ban Monitoring

Thursday, 22 June 2023 11:48 (1 minute)

Monitoring compliance with the Comprehensive Nuclear-Test-Ban Treaty requires, among other things, accurate modelling of the transport of radionuclides in the atmosphere. Crucial to atmospheric transport models (ATMs) when dealing with radioactive particulates are several removal processes, such as dry and wet deposition. Wet deposition in particular plays an often dominant role in the total removal of radioactive particulates from the atmosphere, especially on CTBT-relevant timescales. Despite this, the simulation of wet deposition still remains difficult in large part due to uncertainties in the parameterization schemes used in state of the art ATMs. In this presentation, we show how better knowledge of wet deposition can improve nuclear-test-ban monitoring. For this, we perform atmospheric transport calculations with FLEXPART and also incorporate data from CTBTO's International Monitoring System.

E-mail

stijn.van.leuven@sckcen.be

Promotional text

This work aims to improve the monitoring of the nuclear-test-ban, by using innovative methods regarding the use of wet deposition in the context of atmospheric transport modelling of particulates.

Oral preference format

in-person

Primary author: VAN LEUVEN, Stijn (Belgian Nuclear Research Center (SCKCEN))

Co-authors: DE MEUTTER, Pieter (Belgian Nuclear Research Center (SCKCEN)); CAMPS, Johan (Belgian Nuclear Research Center (SCKCEN)); DELCLOO, Andy (Royal Meteorological Institute of Belgium); TERMONIA, Piet (Royal Meteorological Institute of Belgium)

Presenter: VAN LEUVEN, Stijn (Belgian Nuclear Research Center (SCKCEN))

Session Classification: Lightning talks: P2.4

Track Classification: Theme 2. Events and Nuclear Test Sites: T2.4 Atmospheric and Subsurface Radionuclide Background and Dispersion