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# Effect of 2020 Chernobyl Exclusion Zone Wildfires on the IMS Radionuclide Stations Network

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Wildfires broke out on the 3rd of April 2020 in the Chernobyl exclusion zone, and the fires lasted for several weeks. As a consequence, measurable amounts of Cs-137 were re-suspended into the atmosphere and observed through the IMS network. Over the period of April - May 2020, the International Data Centre reported a significant increase in the number of Cs-137 detections compared to the same period in the previous years. In this poster, all the stations from the IMS network that reported Cs-137 over the period into consideration are first given. Based on Atmospheric Transport Modelling (ATM) simulations, stations impacted by the plumes from Chernobyl were determined, and the effects of the wildfires were assessed through (1) measured activity concentrations of Cs-137 and (2) Cs-137-to-K-40 ratios. Finally, the impact of such natural events on the categorization of IDC products is also illustrated through the evolution of relevant discrimination thresholds.

## Promotional text

This study demonstrates the capability of the CTBTO IMS network to track even very low activities of radionuclides in a large geographical area, which can provide opportunities and methods for improving nuclear test monitoring and verification.

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