



## **Seasonal variability and degradation investigation of iodocarbons in a coastal fjord**

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Methyl iodide (CH<sub>3</sub>I) is considered an important carrier of iodine atoms from sea to air. The importance of other volatile iodinated compounds, such as very short-lived iodocarbons (e.g. CH<sub>2</sub>CI, CH<sub>2</sub>I<sub>2</sub>), has also been demonstrated [McFiggans, 2005; O'Dowd and Hoffmann, 2005; Carpenter et al., 2013]. The production pathways of iodocarbons, and controls on their sea-to-air flux can be investigated by in-situ studies (e.g. surface layer mass balance from time-series studies) and by incubation experiments. Shi et al., [2014] reported previously unrecognised large, night-time losses of CH<sub>3</sub>I observed during incubation experiments with coastal waters. These losses were significant for controlling the sea-to-air flux but are not yet understood. As part of a study to further investigate sources and sinks of CH<sub>3</sub>I and other iodocarbons in coastal waters, samples have been analysed weekly since April 2015 at 4 depths (5 to 60 m) in the Bedford Basin, Halifax, Canada. The time-series study was part of a broader study that included measurement of other, potentially related parameters (temperature, salinity, Chlorophyll a etc.). A set of repeated degradation experiments was conducted, in the context of this time-series, including incubations within a solar simulator using <sup>13</sup>C labelled CH<sub>3</sub>I. Results of the time-series sampling and incubation experiments will be presented.