



# Blueberry productivity in the Pond Inlet area through community-based monitoring

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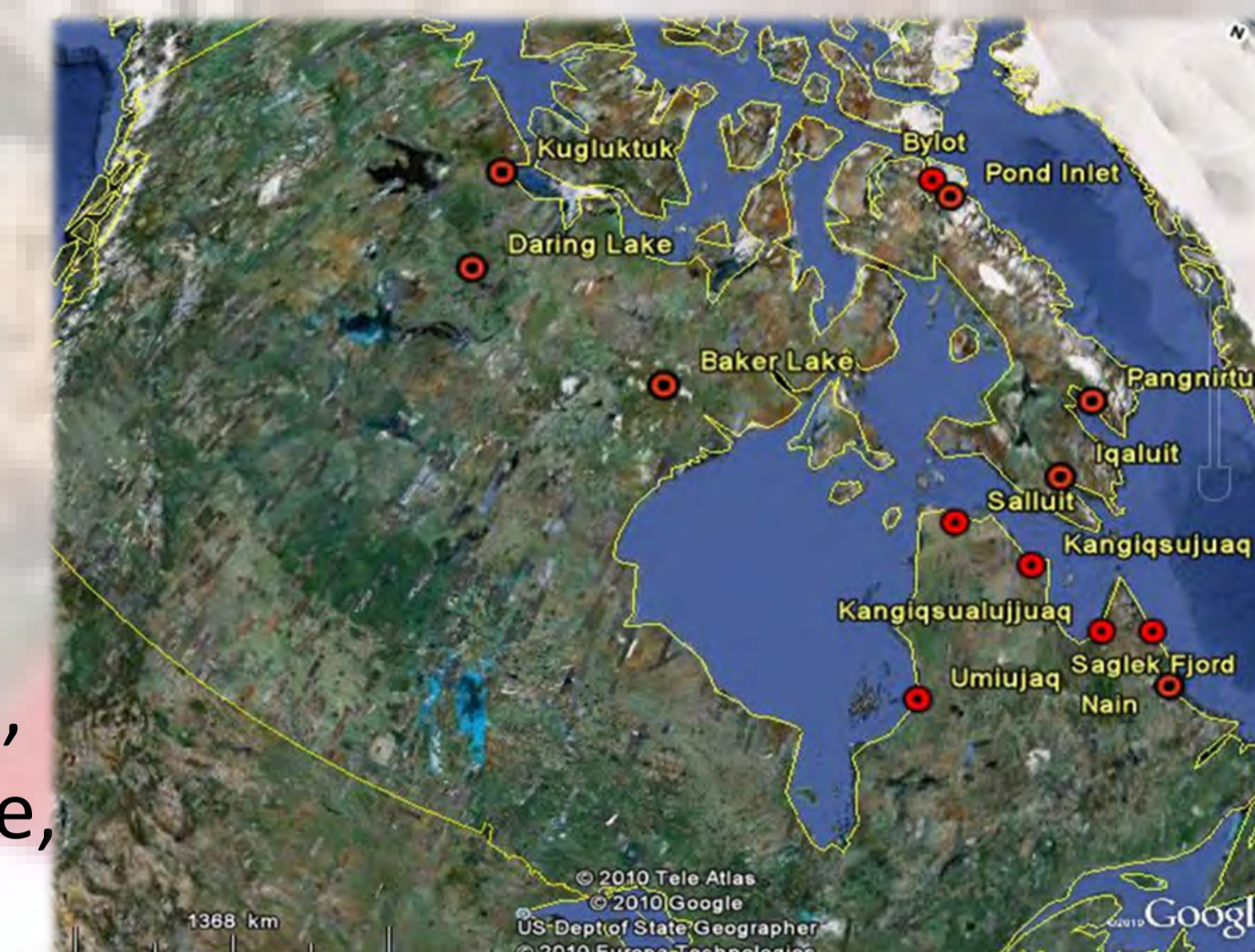
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## Project description

In a warming Arctic context, students of Nasivvik High School are contributing to a large scale study looking at berry productivity across the Canadian Arctic, particularly for Blueberry (*Kigutangirnaq/Vaccinium uliginosum*), Crowberry (*Paurngaq/Empetrum nigrum*) and Cranberry (*Kimminaq/Vaccinium vitis-idaea*). Productivity is calculated with the quantity of berries (weight) for a given area. Berries are collected following a scientific protocol in permanent monitoring plots near Pond Inlet and on Bylot Island as well as at 7 other sites (see map). Below find some results from 2008 to 2014 showing a great within year and among year variability (Figures 1-2). Fifteen local Elders were also interviewed by researchers (2008-2009) about their perception of environmental changes with a focus on plant species, more particularly the berry producing shrubs. Integral audio interviews are available at Pond Inlet Archives (Gerin-Lajoie, 2009). Perception of vegetation change by Elders of Mittimatalik, Nunavut. Université du Québec à Trois-Rivières).



## Elders words

“Blueberries (*Kigutangirnaq*) used to grow in mid-August and blackberries (*Paurngait*) in mid-September, but they come earlier now. There are many more blueberries now but they don't ripen as much as before.”

—Elijah Panipakoochoo



“This year (2008) the blueberries have been blooming earlier and are soft already. During the month of August the blackberries usually grow, and when the dark season starts to arrive, the blueberries grow. Mostly at the end of August, but this year it's earlier.”

—Mary Kilukishak



“When there were a lot of caribou around, when they were digging the soil and the plants, they kind of killed the plants. It was years afterwards that they started to grow again. The berries were smaller, and now that they have rooted well to the ground the blueberries and blackberries are getting bigger again, now that they haven't been disturbed for a while.”

—Ham Kadloo



“ They grow earlier now the blueberries and blackberries but they aren't so many in general. Same as before but they grow earlier now.[...] I only have noticed that there are more blueberries and blackberries than before where I used to go picking.”

— Elisapie Ootoova



## Results

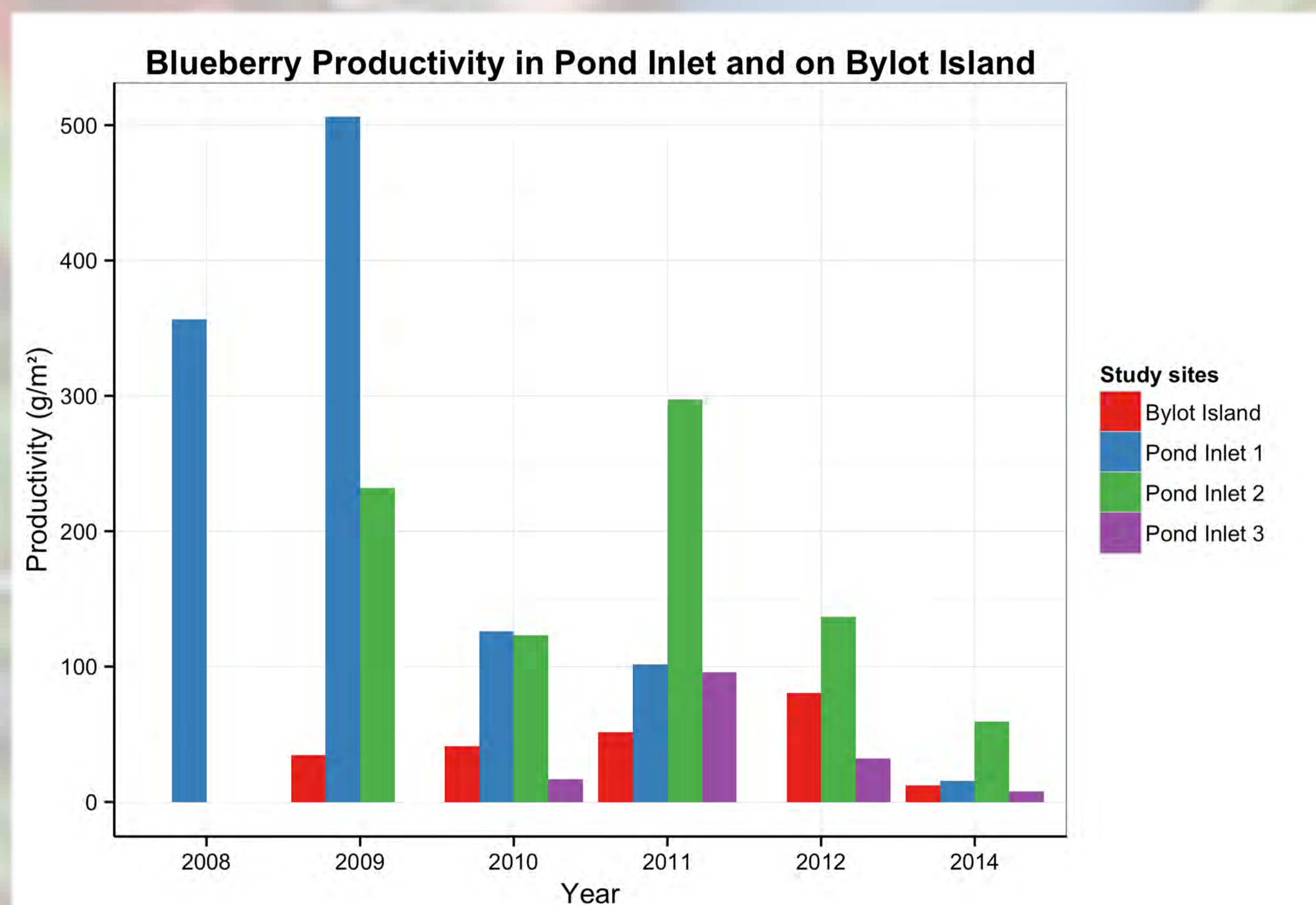


Figure 1. The production of blueberries varied among the years and even within the same year among the 3 plots installed near Pond Inlet. 2014 was the least productive year.

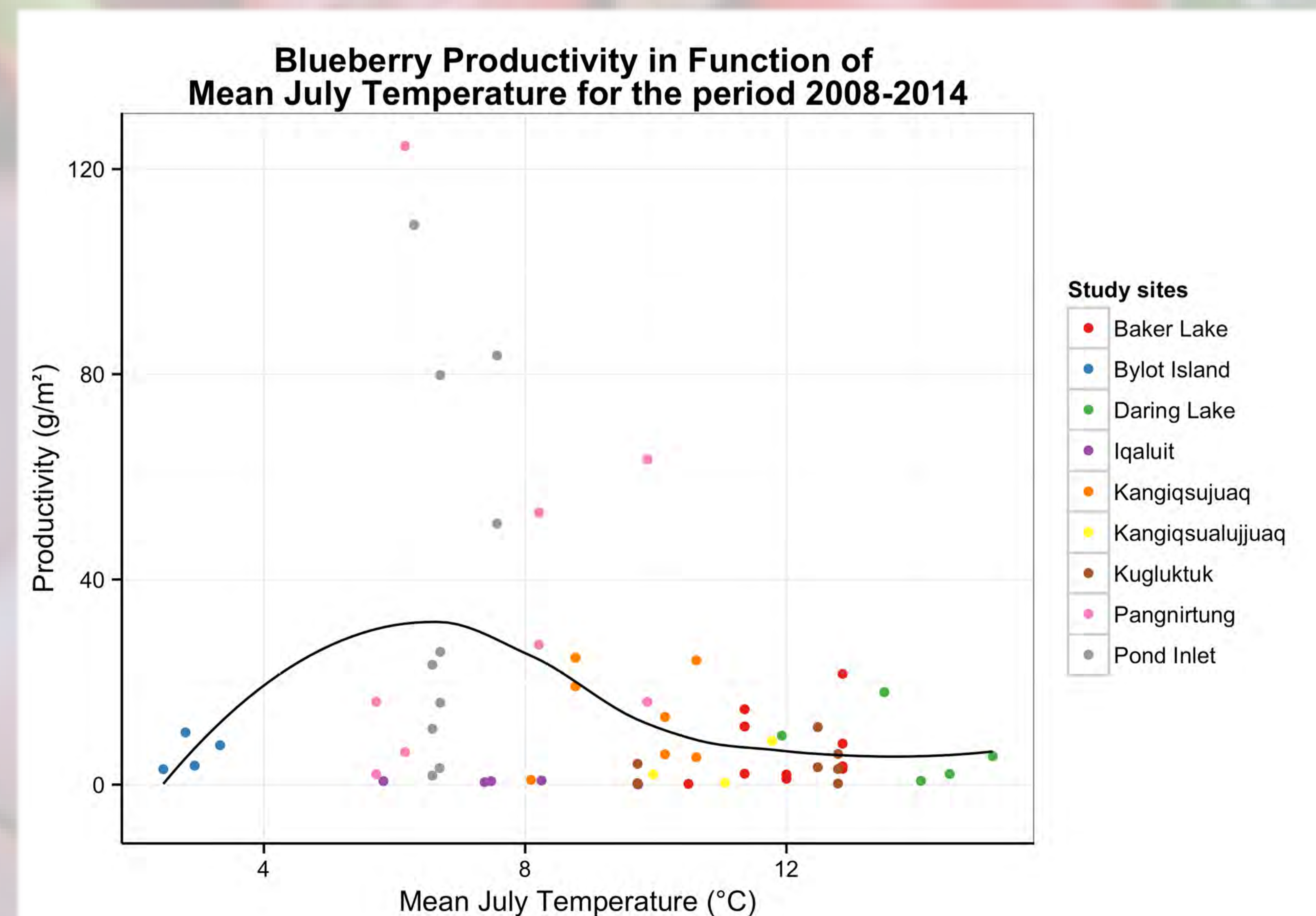


Figure 2. The highest blueberry productions were observed in Pangnirtung and Pond Inlet, where the mean July temperature was between 6° and 7° C. These sites were also the most variable (from 0 to >110 g/m<sup>2</sup>) and with fewer competing species. The black curve represents the mean relation between blueberry productivity and mean July temperature.