

## Electronic Supplementary Material to: Specific Relationship between the Surface Air Temperature and the Area of the Terra Nova Bay Polynya, Antarctica\*

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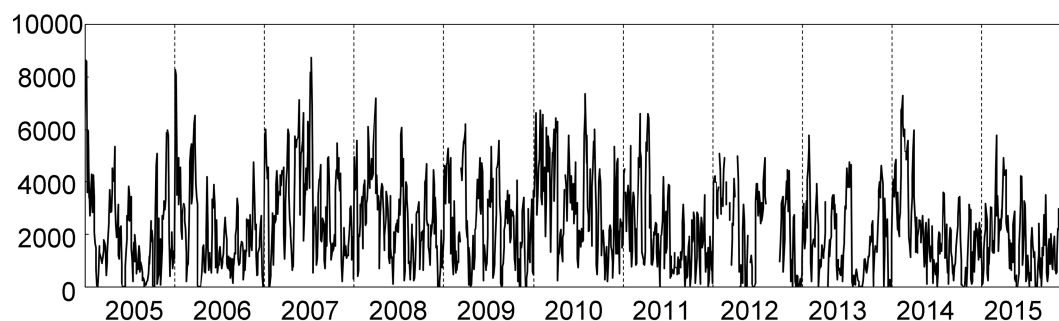
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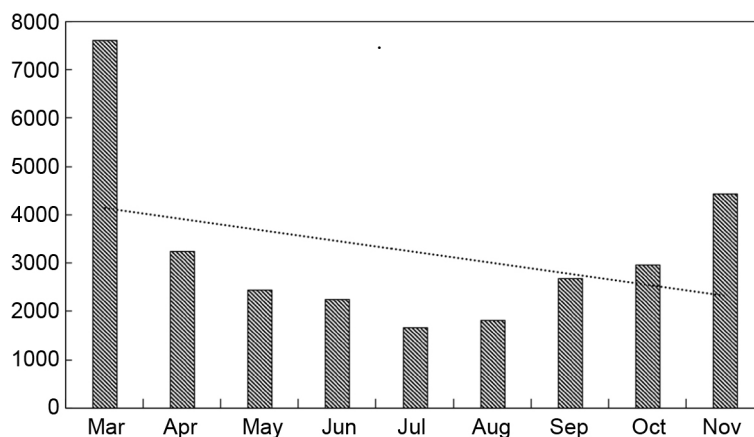
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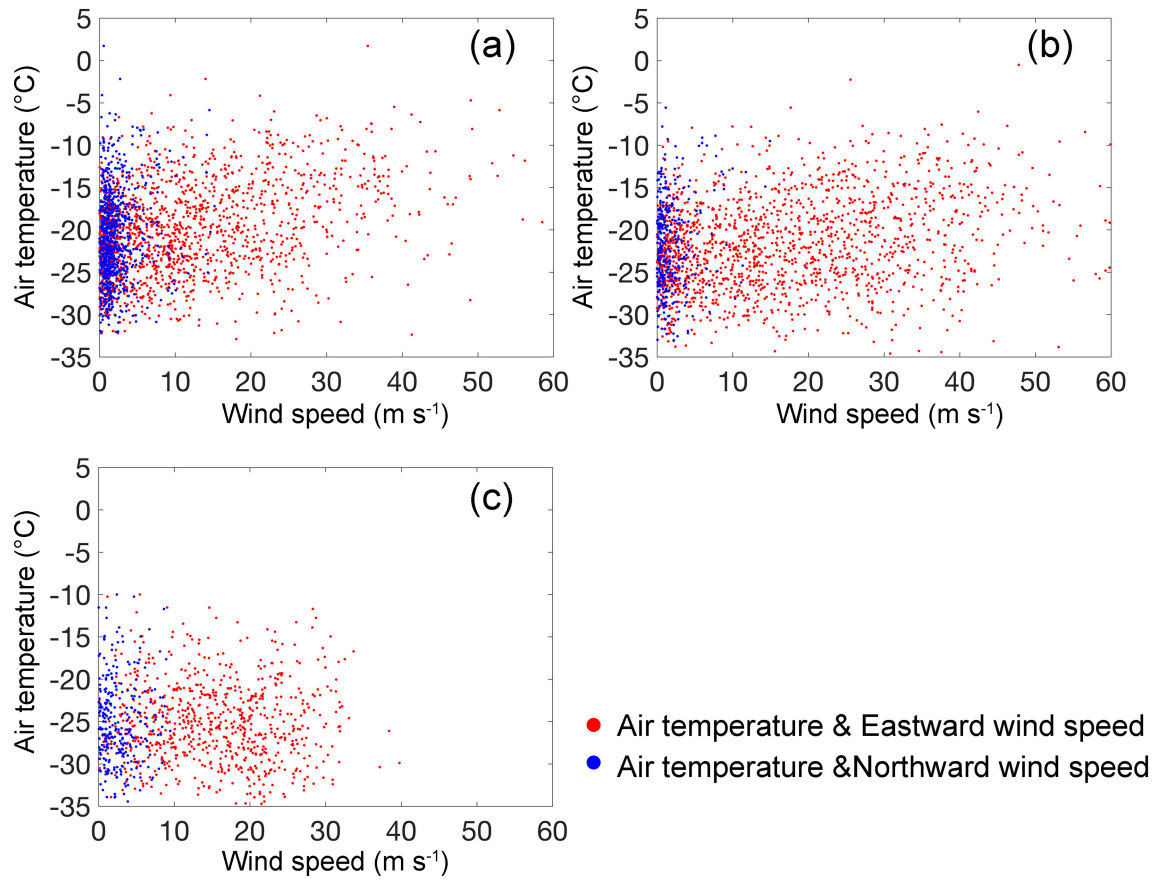
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**Fig. S1.** The time series of the polynya area (km<sup>2</sup>) in the entire period of April to August during 2005–15.



**Fig. S2.** The monthly averaged polynya area (km<sup>2</sup>) in the period of April to August during 2005–15.



**Fig. S3.** The observed air temperature plotted versus the observed eastward and northward wind speed based on observations from the (a) Eneide, (b) Rita, and (c) Manuela AWSs.

**Table S1.** The total amounts of daily reanalysis data and observations in the period of April to August during 2005–15.

Variables	ERA5 reanalysis	ERA-Interim reanalysis	Eneide AWS	Rita AWS	Manuela AWS
Air temperature	1683	1683	1683	1571	1363
Eastward wind speed	1683	1683	1683	1683	724
Northward wind speed	1683	1683	1683	1683	724
SSHf	1683	1683	–	–	–
SLHF	1683	1683	–	–	–

\*The amount of SIC data used for TNBP area estimation is 1639.