

EVALUATION OF TOPEX RETRACKED DATA DURING TANDEM FLYING PHASE OF TOPEX AND JASON-1

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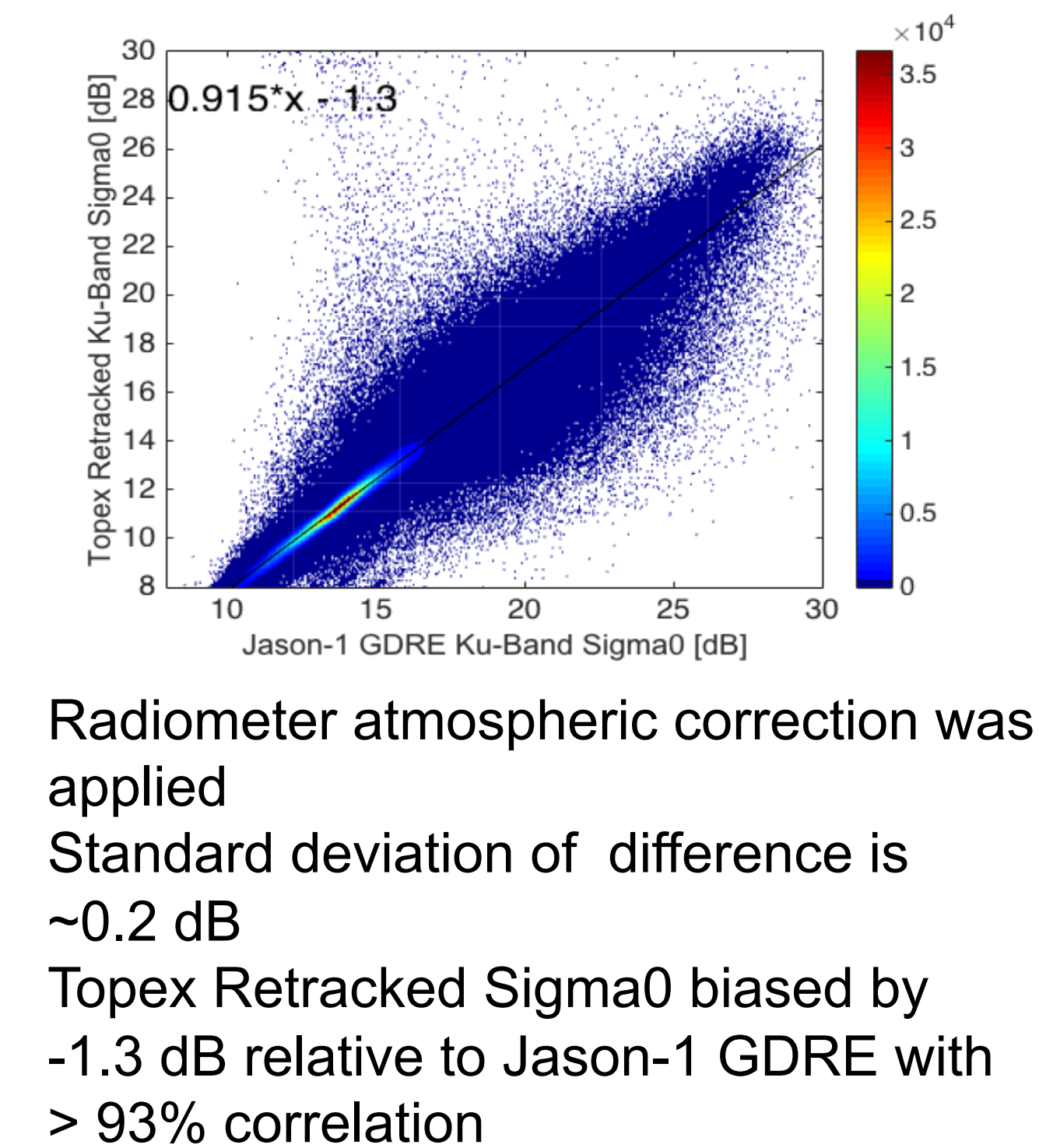
ABSTRACT

We present results from the global calibration and validation of the sea surface height and component measurements from the Topex retracked product (Side B and Skew 0.1). Our study is based on cross calibration between Topex and Jason-1 data during the tandem flying phase (Side B). Also, included in the study is the improvement in the effect of significant wave height and wind speed measurements on the sea state bias contribution to the sea surface height measurements from retracking.

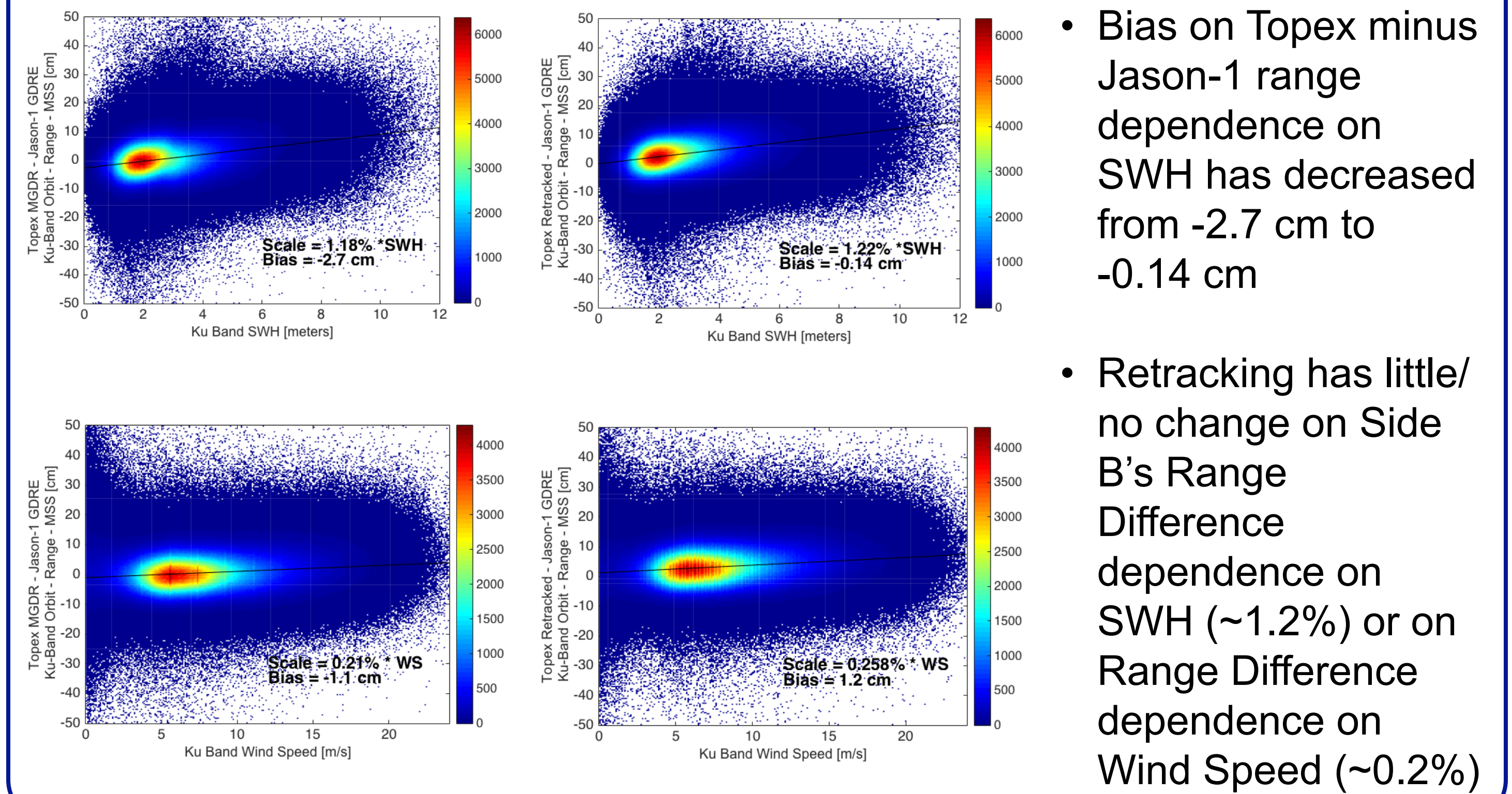
APPROACH

- Compare measurements from Topex Retracked, Topex MGDR, and Jason-1 GDRE from tandem flying phase (side B).
- Cycle 344-364 for Topex Mission and Cycle 1-21 for Jason-1 Mission
- Quantify the effect of SWH and Wind speed measurements on the sea state bias and orbit minus range minus mean sea surface.

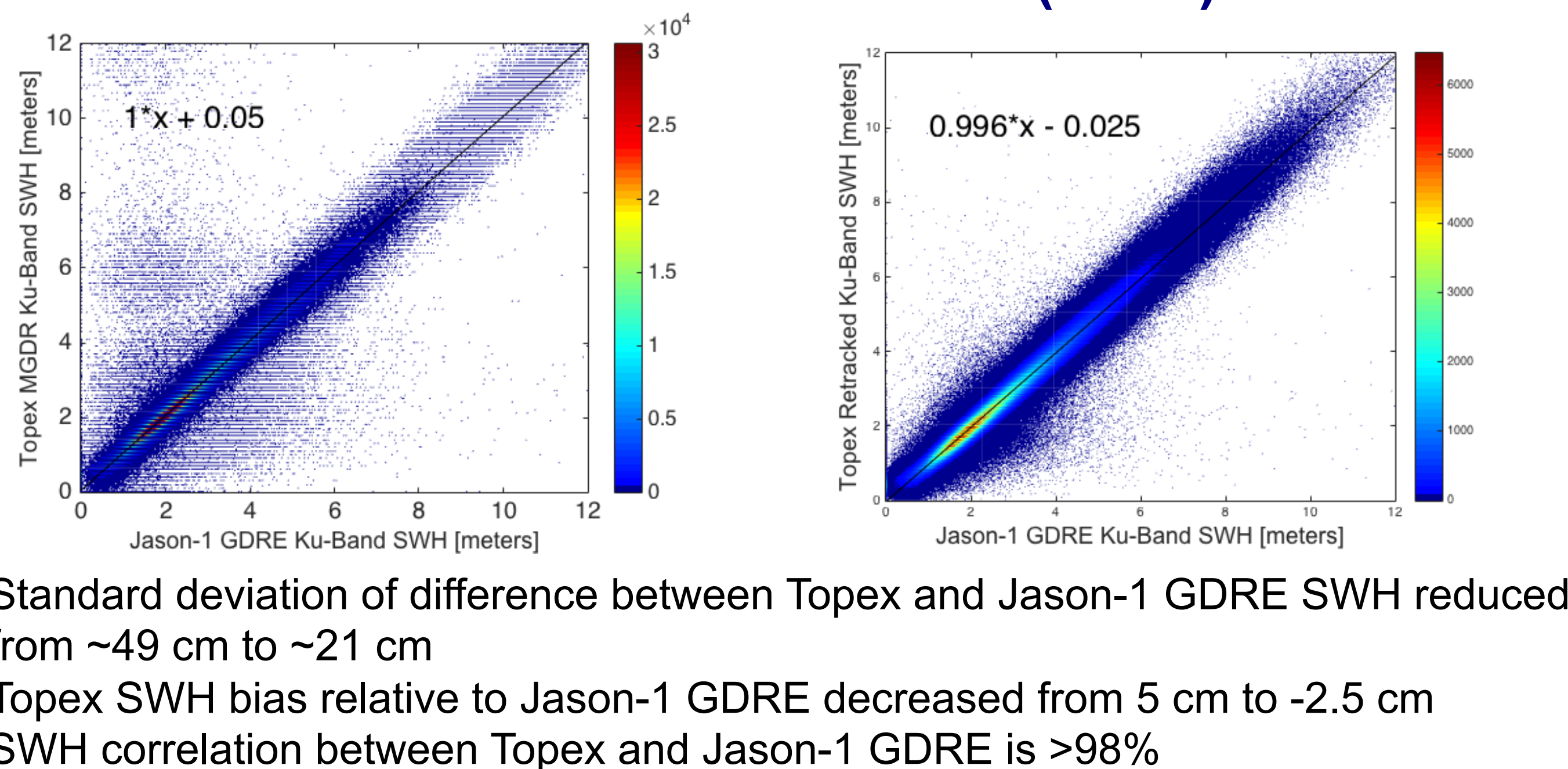
CORRECTED BACKSCATTER COEFFICIENT (SIGMA0)



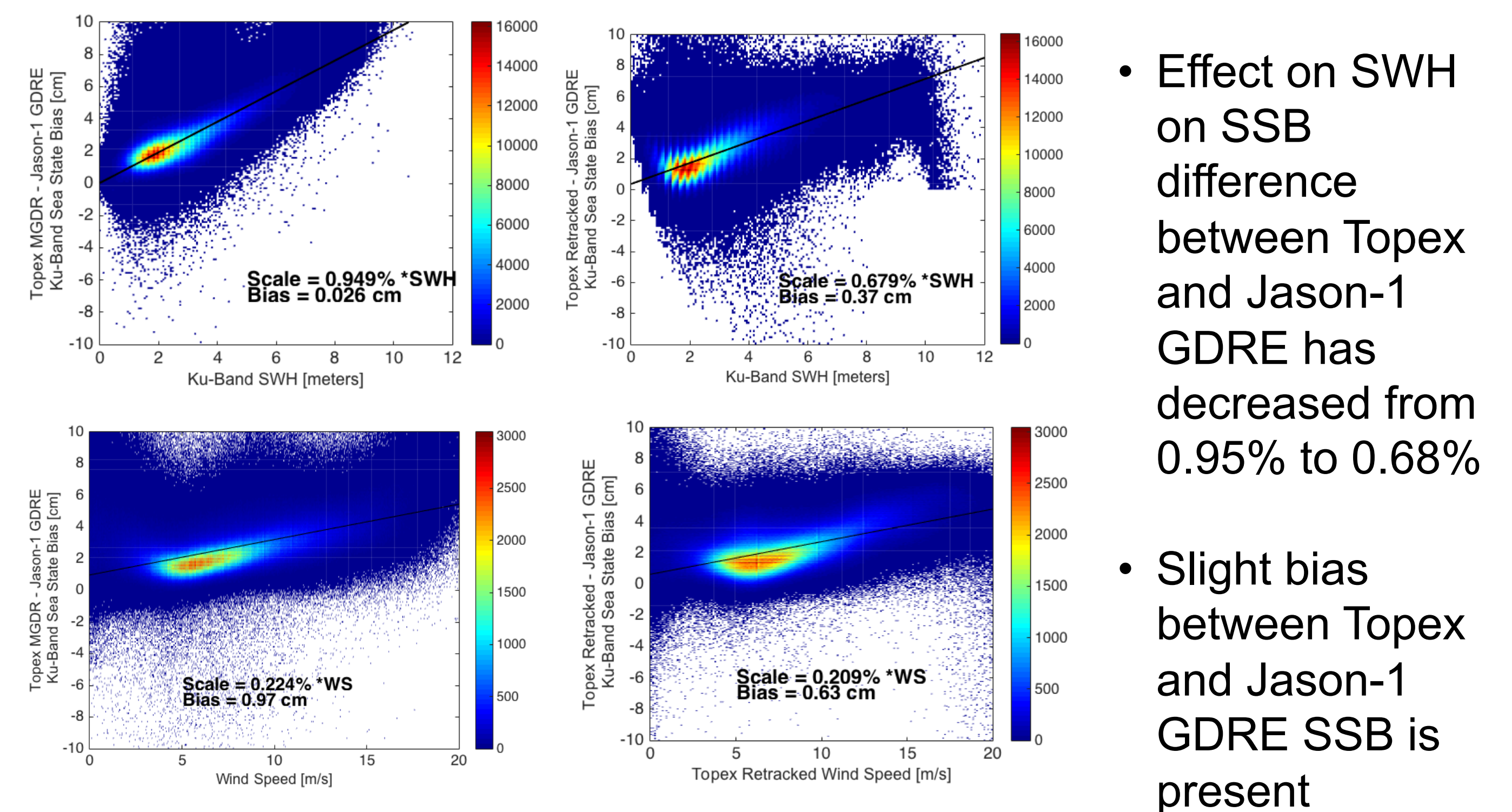
EFFECT OF SWH AND WIND SPEED ON ORBIT MINUS RANGE



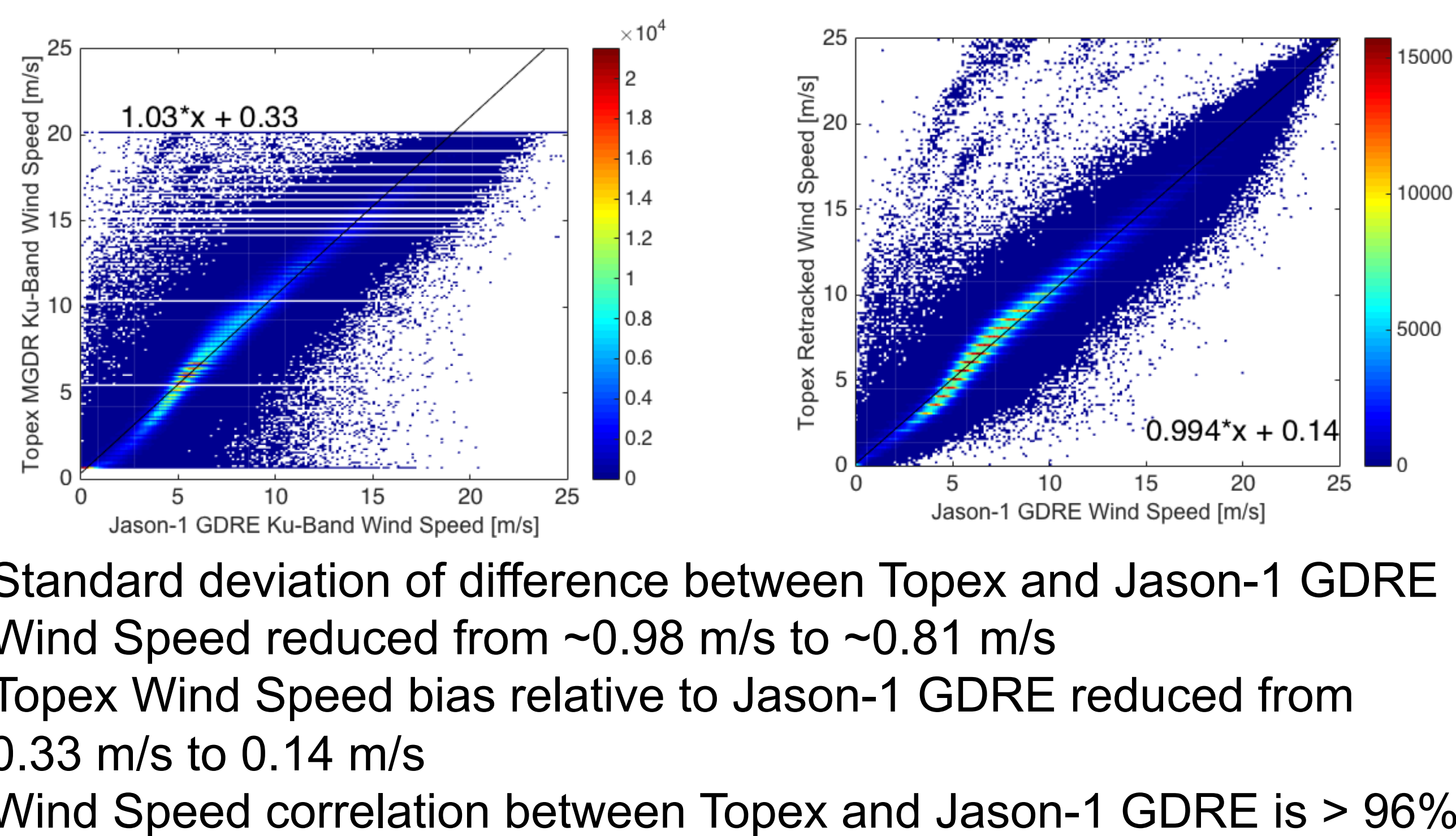
SIGNIFICANT WAVE HEIGHT (SWH)



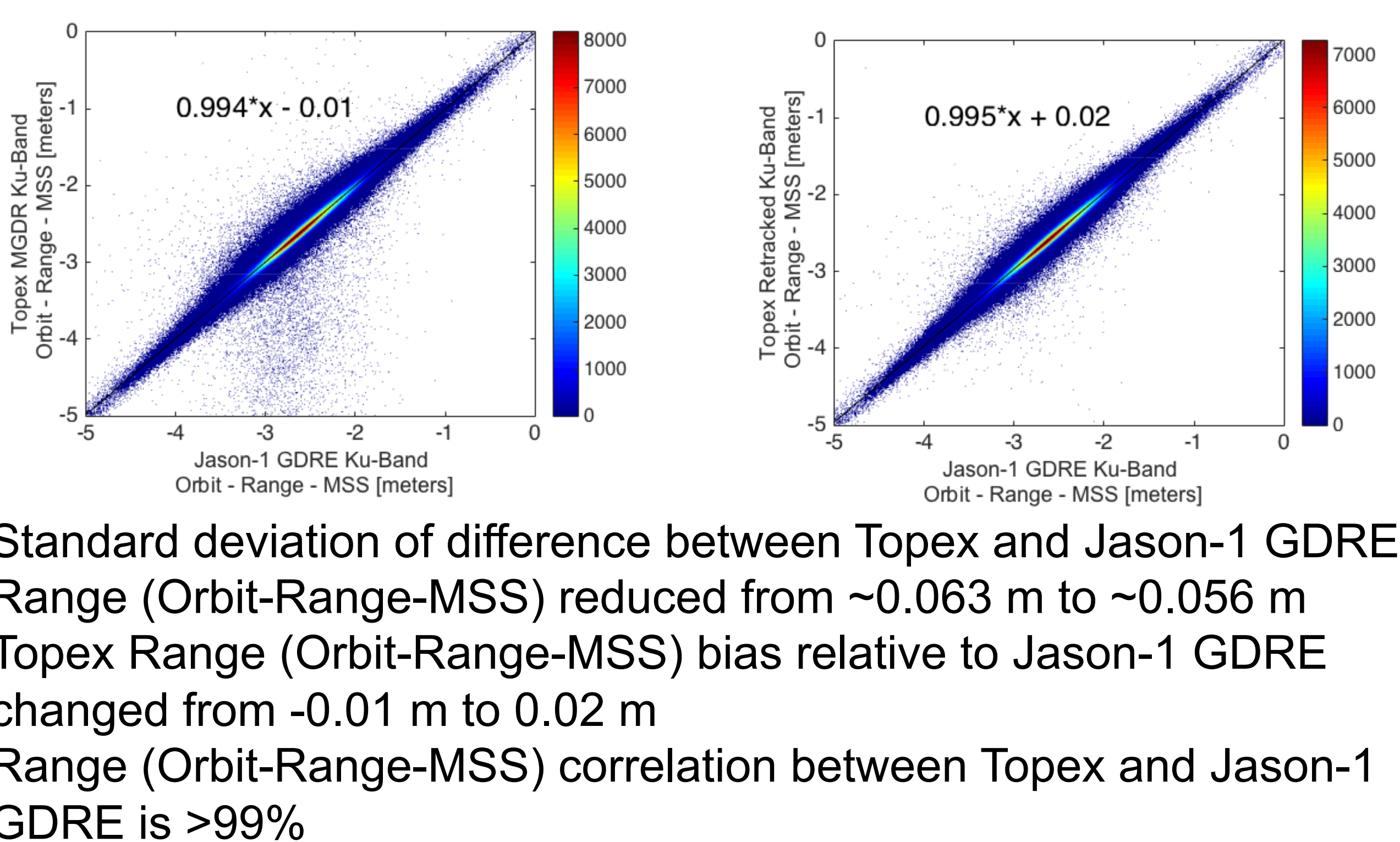
EFFECT OF SWH AND WIND SPEED ON SEA STATE BIAS



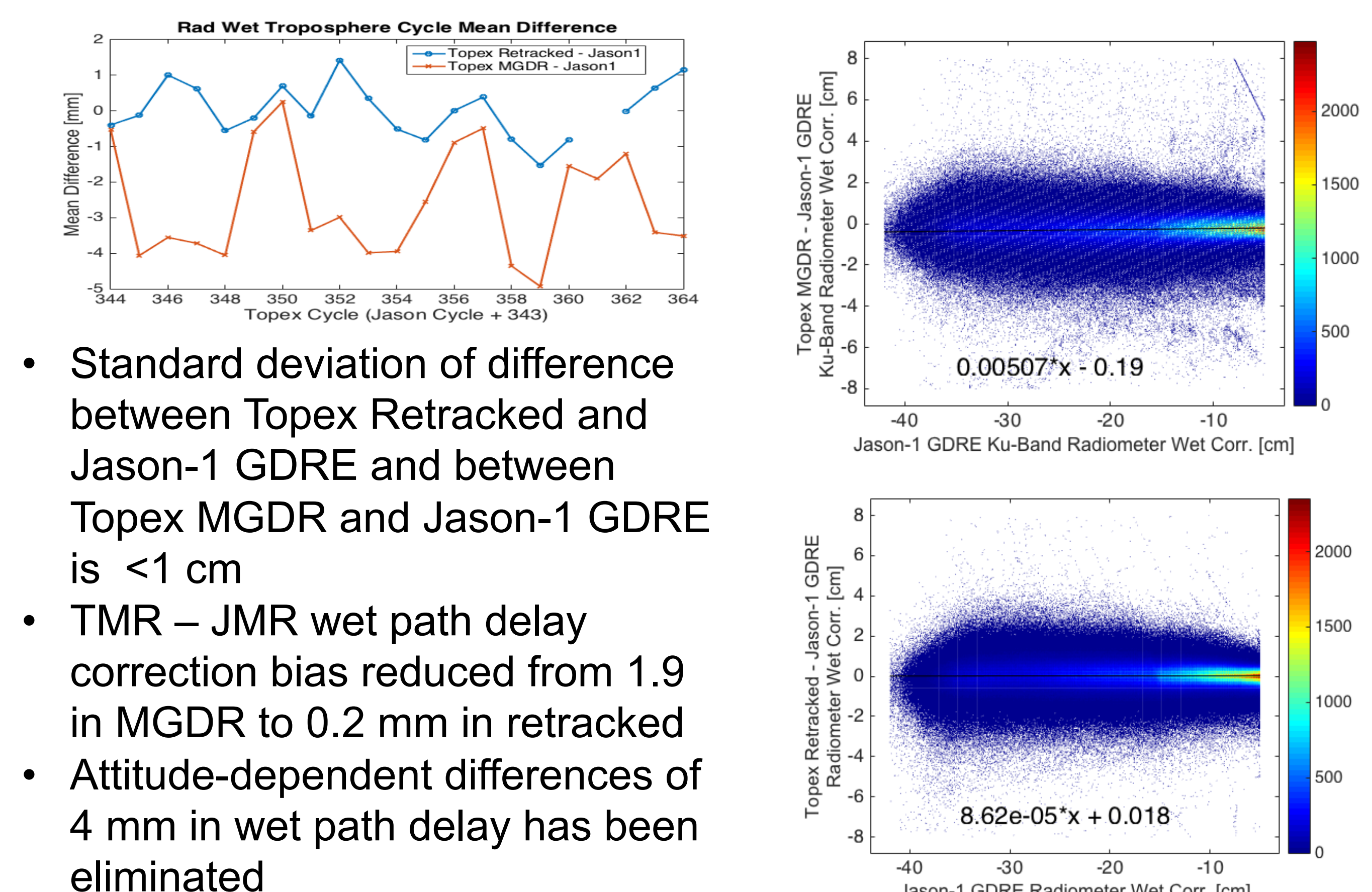
WIND SPEED



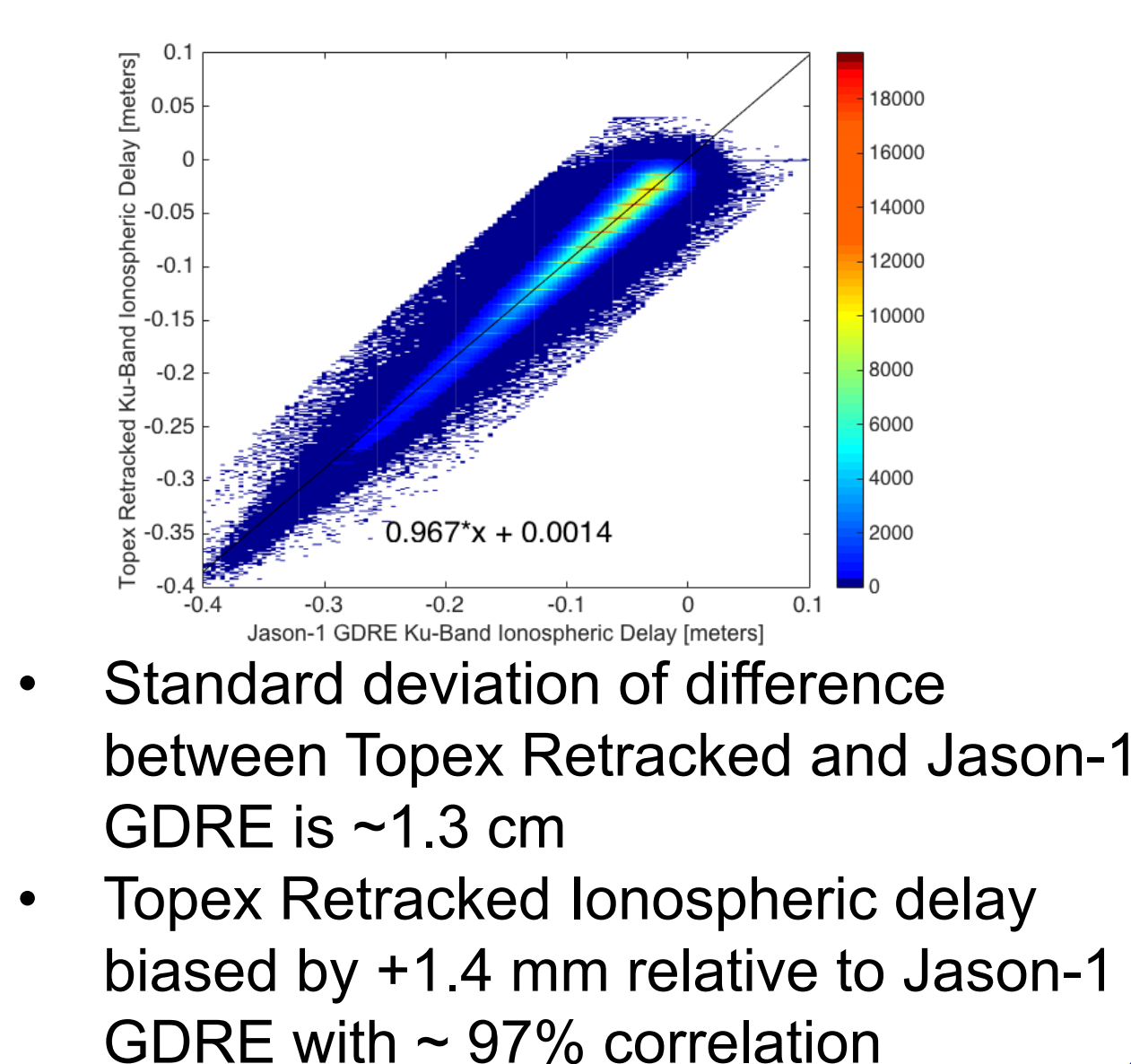
RANGE DIFFERENCE (ORBIT – RANGE – MSS)



RADIOMETER WET TROPOSPHERE CORRECTION



KU-BAND IONO. DELAY



SUMMARY

- During the formation flying phase (early 2002), comparisons with Jason-1 indicate that retracking (skew 0.1) provides no obvious improvement to the Side B range data.
- However, the agreement of the Side B wind speed and SWH with respect to Jason-1 both improve.
- The new TMR wet troposphere correction also shows important improvements.
- SSB models from Topex Retracked data and Jason-1 GDRE have better agreement than Topex MGDR vs. Jason-1 GDRE