

PHOTOGRAMMETRIC DIGITAL SURFACE MODELS AND ORTHOIMAGERY
FOR THE CONTINUOUS COASTLINE, WALES TO PLATINUM, ALASKA



SEGMENT O: EEK TO GOODNEWS BAY

by

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Summary

These data are one segment of a set of data collected continuously along the western coast of Alaska (fig. 1). Data are in their raw format; for community-level data where vertical controls have been rigorously applied, are higher resolution, and have fewer gaps, see Overbeck and others (2016; <http://dggs.alaska.gov/pubs/id/29548>). General data collection, processing, and accuracy assessment procedures in this release are described in a data release overview (Overbeck and others, 2017; <http://doi.org/10.14509/29744>).

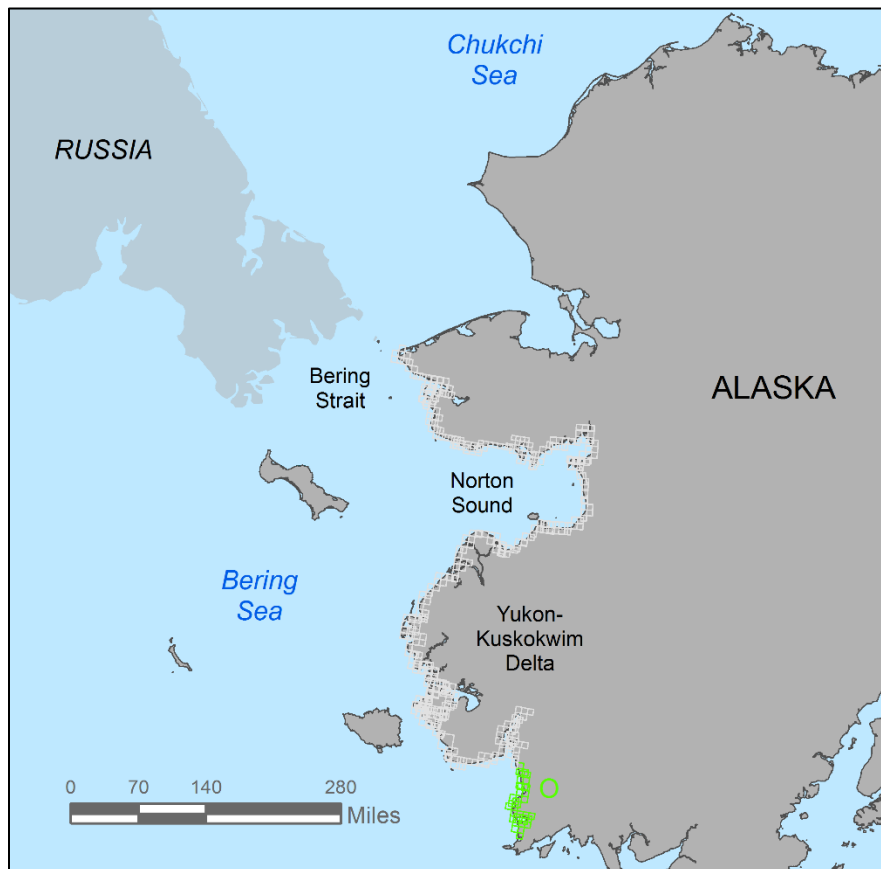


Figure 1. Map showing extent of orthorectified aerial imagery and elevation data for the continuous coastline (light gray) segment from Eek to Goodnews Bay (green; collected by Fairbanks Fodar, 2015-2016).

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Data Organization

All data tiles for this region have the prefix “eek_goodnewsbay_chunk”. Data for this region and the checkpoints used for quality control are projected to NAD83 UTM Zone 4N relative to NAVD88 Geoid 12A, EPOCH 2010.00.

Data Quality

Data quality have been assessed relative to 9 vertical and 5 horizontal checkpoints collected June 9-10, 2016 by DGGS that were differentially corrected using post-processing kinematic GPS techniques as well as 18 vertical and 4 horizontal checkpoints collected August 25-27, 2017 by the UAF Department of Geosciences, using real-time kinematic GPS techniques. Since no ground control points were used to control these data, all points are considered checkpoints. Although checkpoints are focused at community locations and at large alongshore intervals, they have been used to assess the accuracy of these data at a regional scale. Photo-identifiable points were used to determine the horizontal accuracy of these data (table 1), while all points were used to determine the vertical accuracy unless the ground cover was irregular and non-vegetated (e.g. boulder piles) (table 2). Data within this alongshore segment may overlap with data in an adjacent segment, and data segments may not overlap seamlessly.

Table 1. Horizontal accuracy statistics calculated using standards from the American Society of Photogrammetry and Remote Sensing (2015).

	Checkpoints
<i>RMSE_r</i>	0.211
<i>positional accuracy at 95% confidence</i>	0.414
<i>number of points used</i>	9

Table 2. Vertical accuracy statistics calculated using standards from the American Society of Photogrammetry and Remote Sensing (2015).

	Non-vegetated Checkpoints	Vegetated Checkpoints
<i>RMSE_z</i>	0.240	0.266
<i>vertical accuracy at 95% confidence level</i>	0.470	0.521
<i>mean residual</i>	0.174	0.237
<i>number of points used</i>	25	2

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References

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