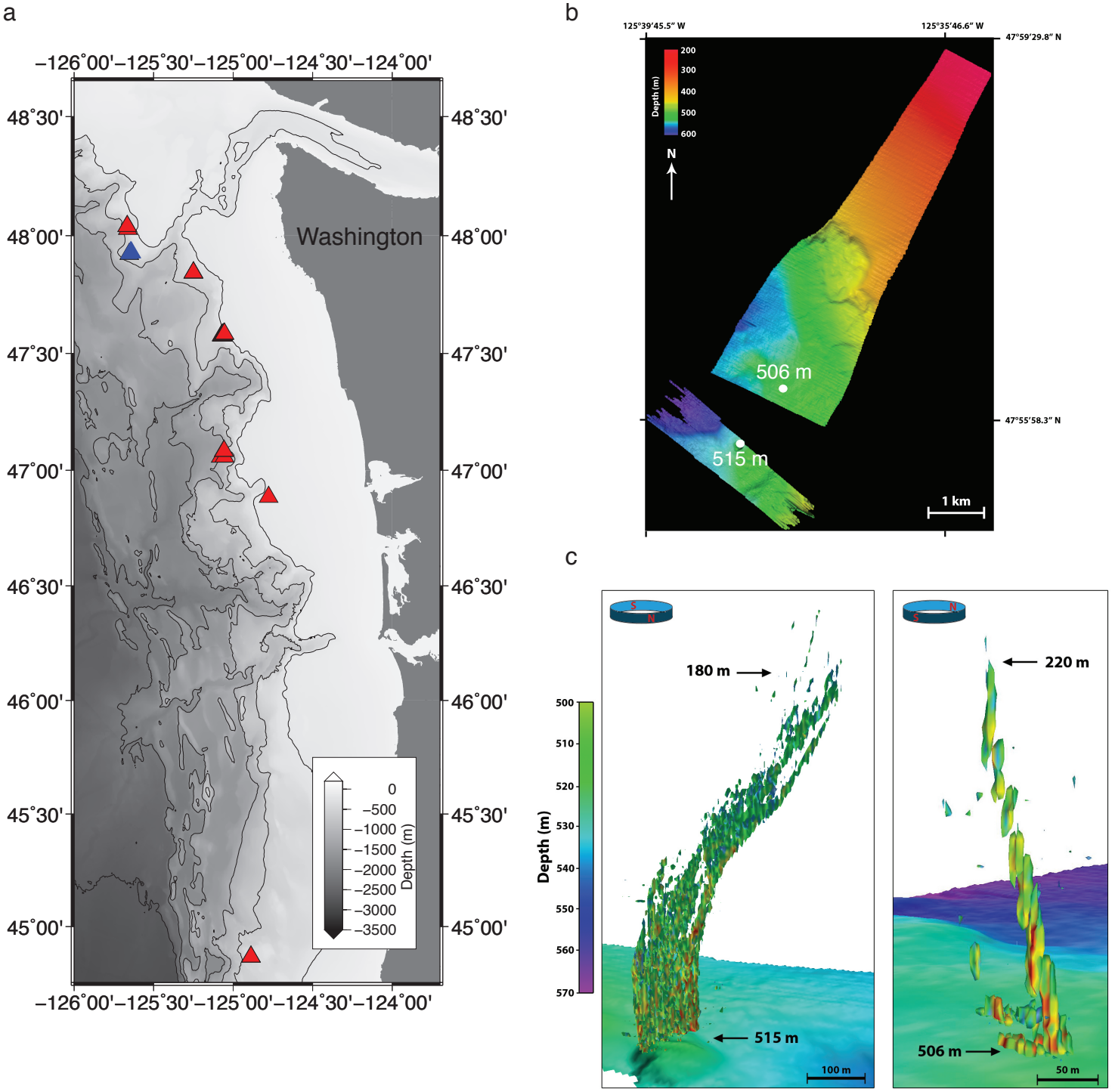

Supplementary Figure 5. Bubble plumes near the up-slope limit of gas hydrate stability offshore northern Washington. **a**. Location map showing locations of known methane seeps along from northern WA to northern OR. The bubble plumes imaged offshore northern Oregon are constrained to depths between 480-500 m. The blue triangle represents the location of the bubble plumes shown in **b** and **c**. **b**. Bathymetry at the location of two bubble plumes surveyed with the R/V Thompson in 2012. The multi-beam data was collected with a Konsberg EM302 echosounder and processed post-expedition with the Fledermaus FMMidwater module. **c**. Two distinct plumes were imaged with the largest sourced at 515 m and a less intense plume at 506 m water depth. Arrows show approximate rise height of each plume.