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UND MEERESFORSCHUNG

Characterising the Sea Ice Environment Using a Newly Developed Sensor Array Mounted on an Under-ice Trawl

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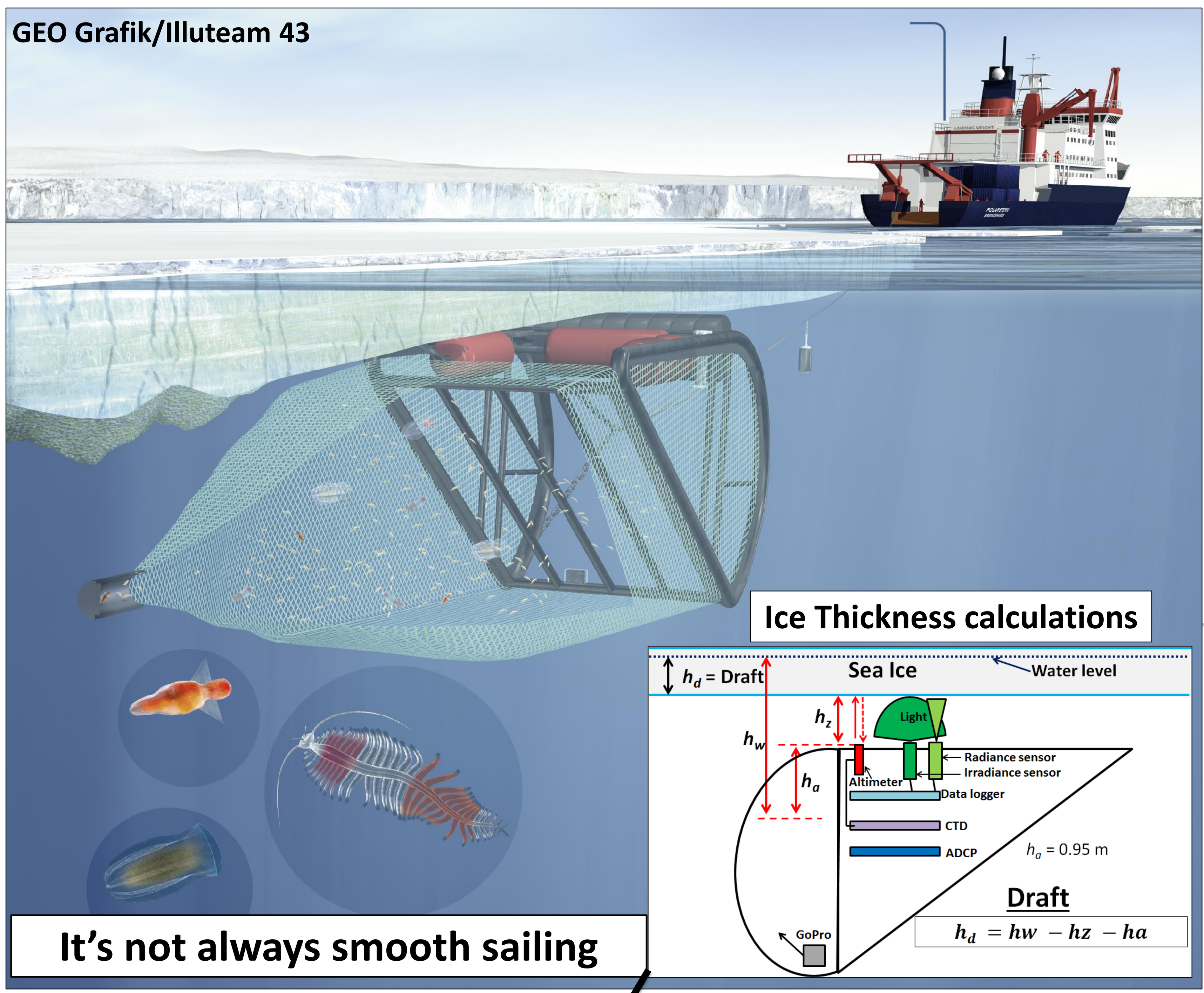
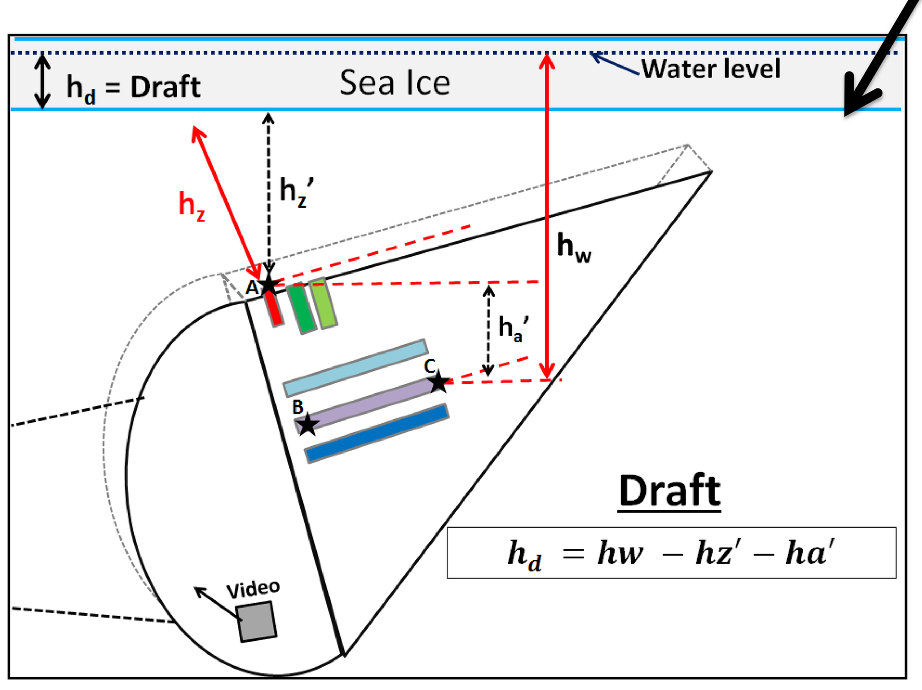
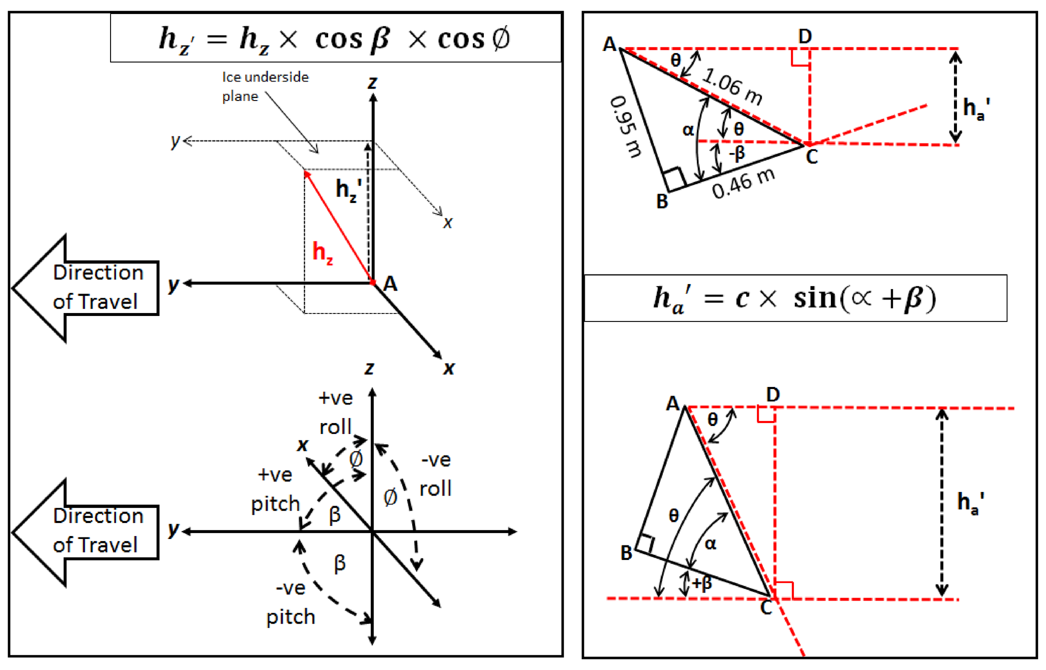






Draft correction calculation

$$h_z' = h_z \times \cos\beta \times \cos\emptyset \qquad h_a' = c \times \sin(\propto + \beta)$$

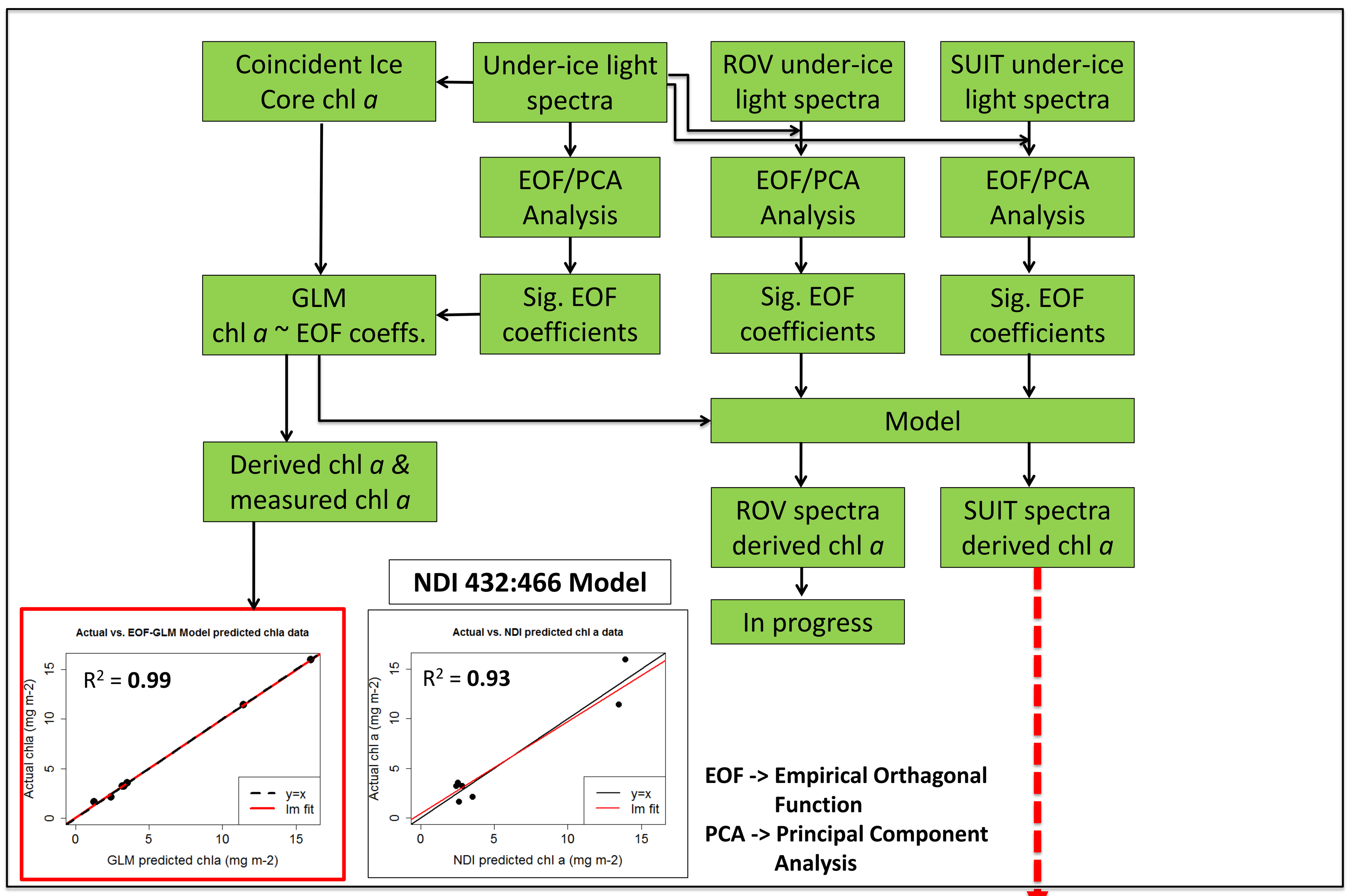
$$h_d = h_w - h_z' - h_a'$$

$$h_d = h_w - (h_z \times \cos\beta \times \cos\emptyset) - (c \times \sin(\propto + \beta))$$

1.06 = "c"
1.06 <- hypotenuse of the triangle and will change based on the measurements between ab and bc

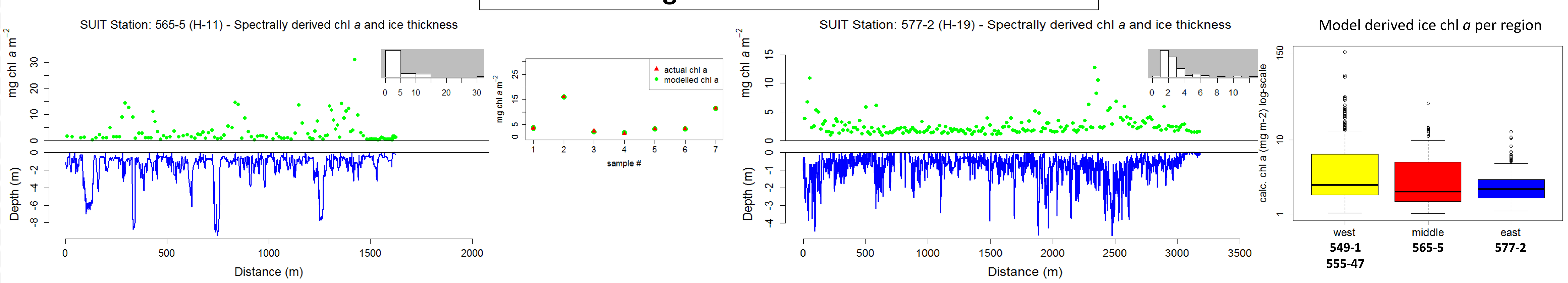
A = location of altimeter sensor
B = location of CTD perpendicular to altimeter (Nadir)
C = CTD depth sensor
BC = parallel to ADCP
β = pitch angle from ADCP (±)
α = 1.12 radians or 64.2°
h_a = vertical distance between altimeter (A) and depth sensor (C)
h_w = water depth from CTD sensor
h_d = draft
c = 1.06 or the result from: $AB^2 + BC^2 = c^2$

Spectrally derived chl *a* model using EOF/PCA

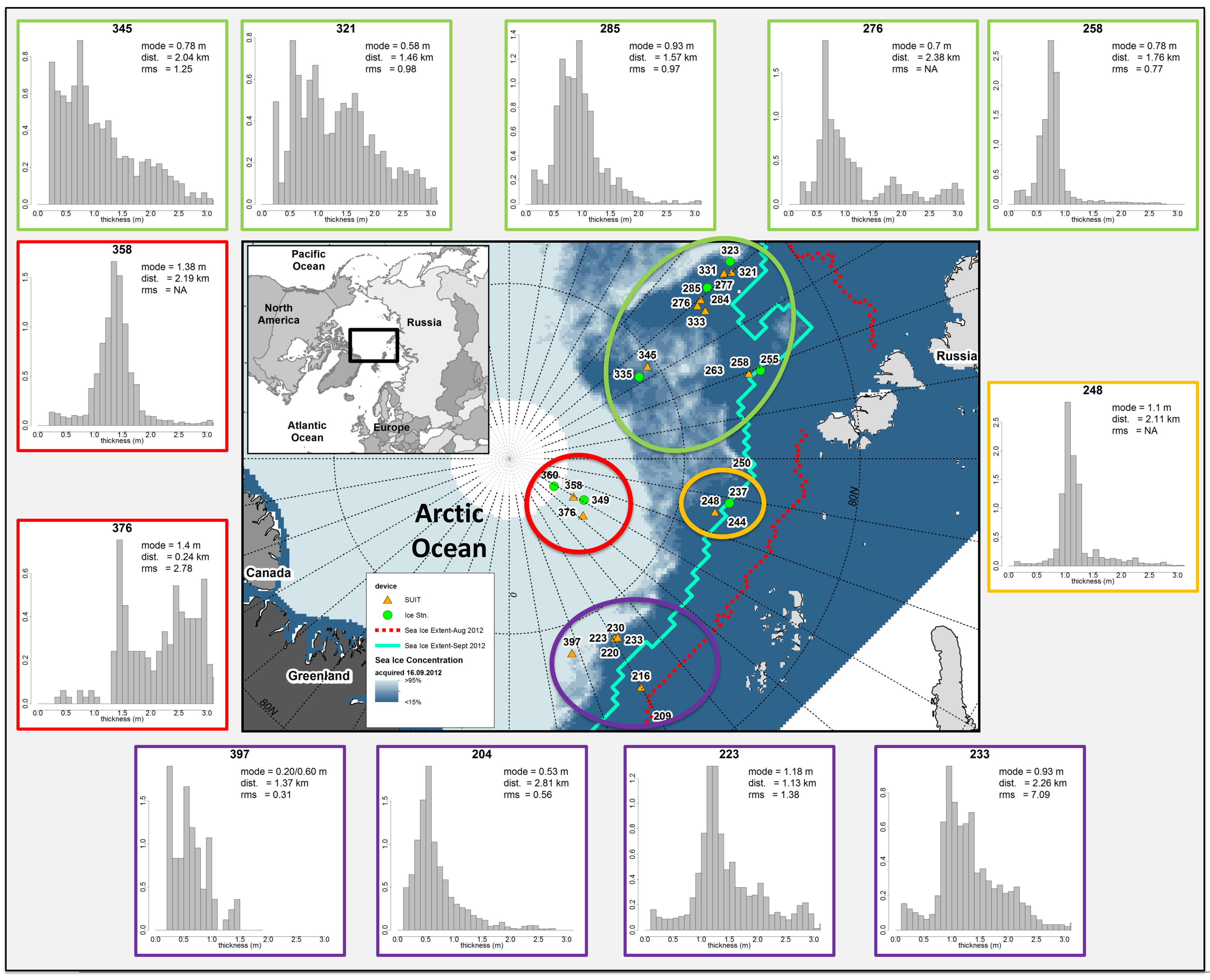


EOF -> Empirical Orthogonal Function
PCA -> Principal Component Analysis

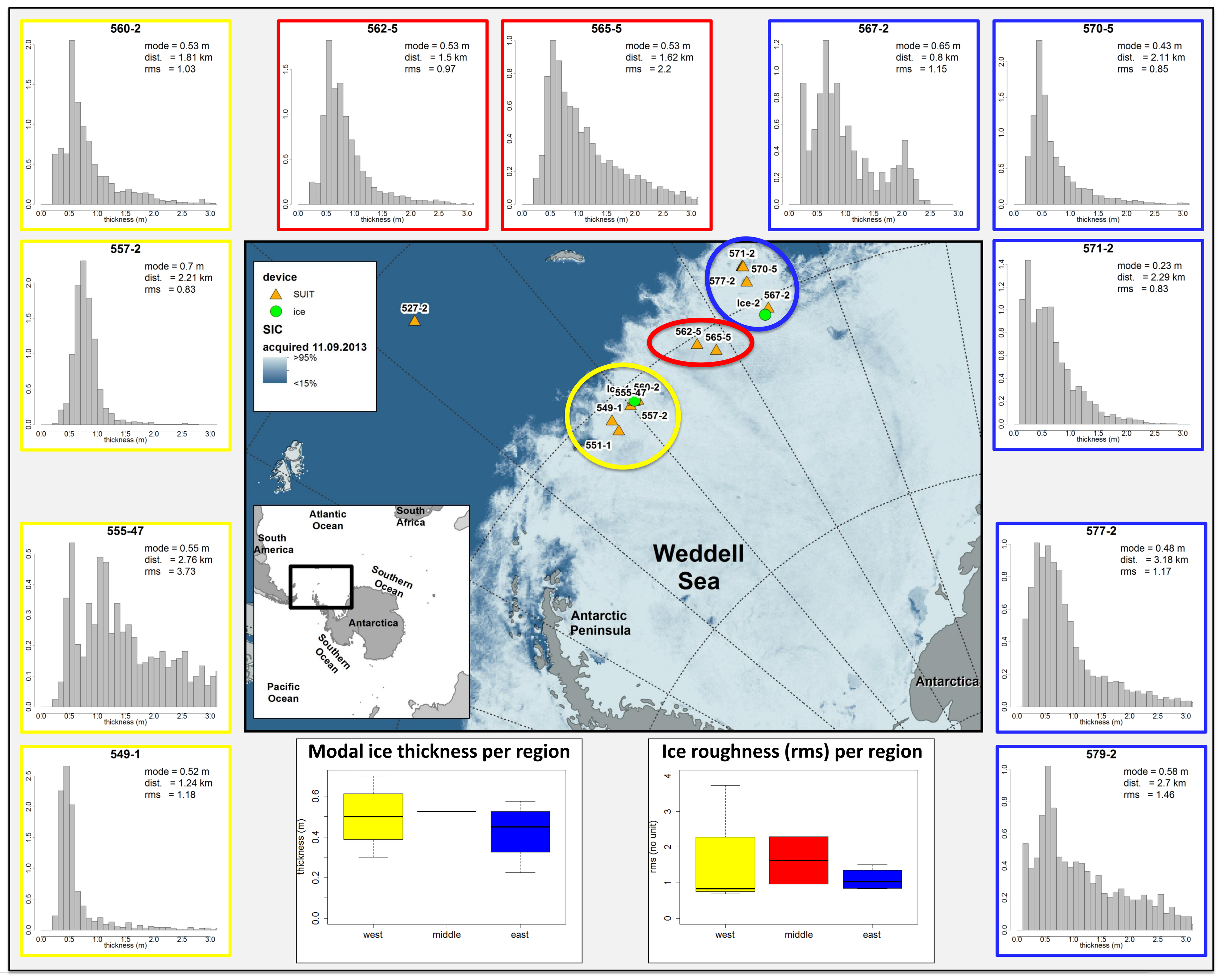
ANT 29-7: Large-scale sea ice chl *a* observations



ARK 27-3: Arctic Sea Ice Thickness (Aug-Sept 2012)



ANT 29-7: Antarctic Sea Ice Thickness (Aug-Oct 2013)



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