

# 1-line model

COVE

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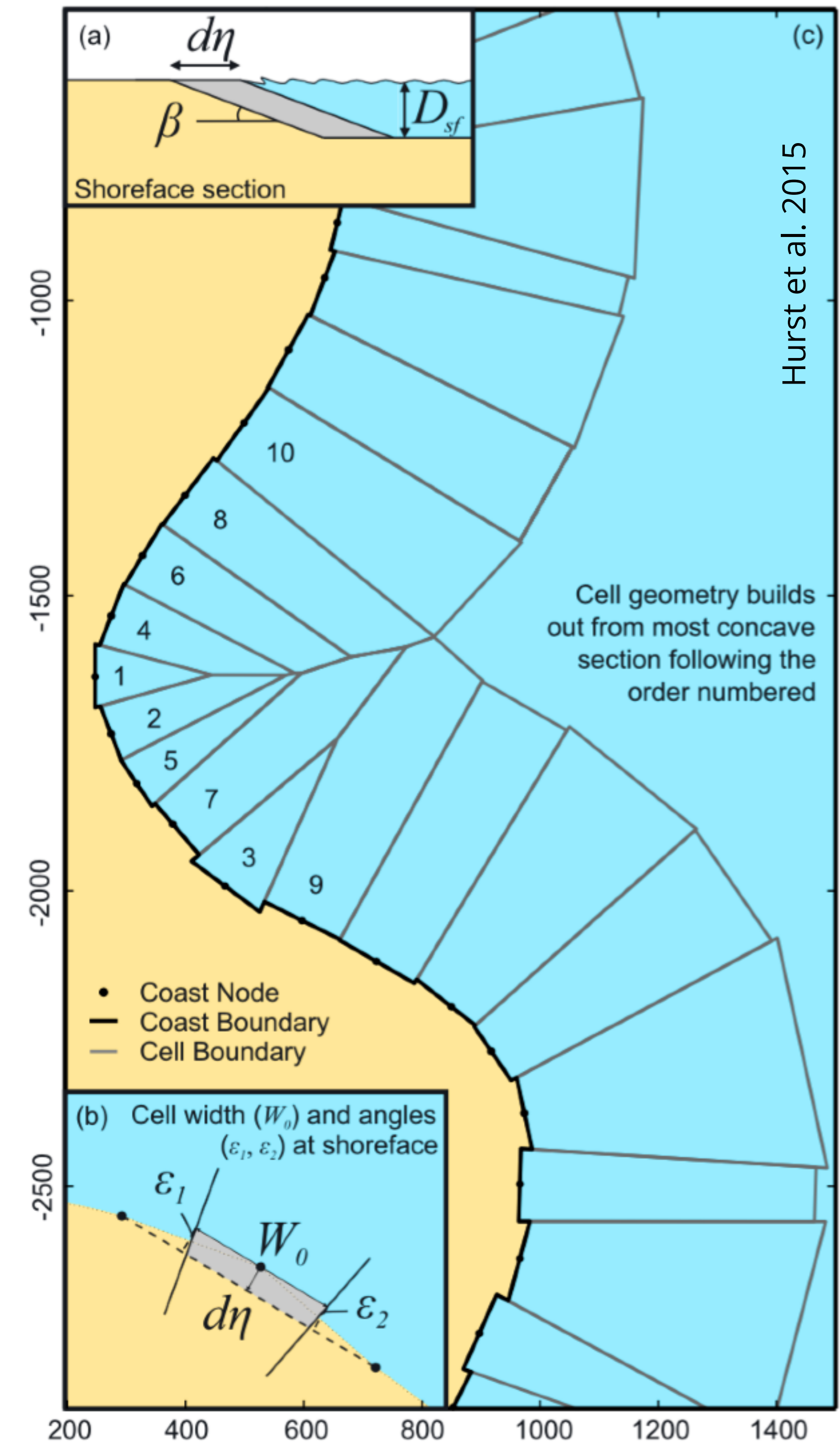
## Key Points:

- New vector-based one-line model for evolution of sandy coasts developed
- Wave climate variability is important in controlling equilibrium form

## Exploring the sensitivities of crenulate bay shorelines to wave climates using a new vector-based one-line model

Martin D. Hurst<sup>1</sup>, Andrew Barkwith<sup>1</sup>, Michael A. Ellis<sup>1</sup>, Chris W. Thomas<sup>1</sup>, and A. Brad Murray<sup>2</sup>

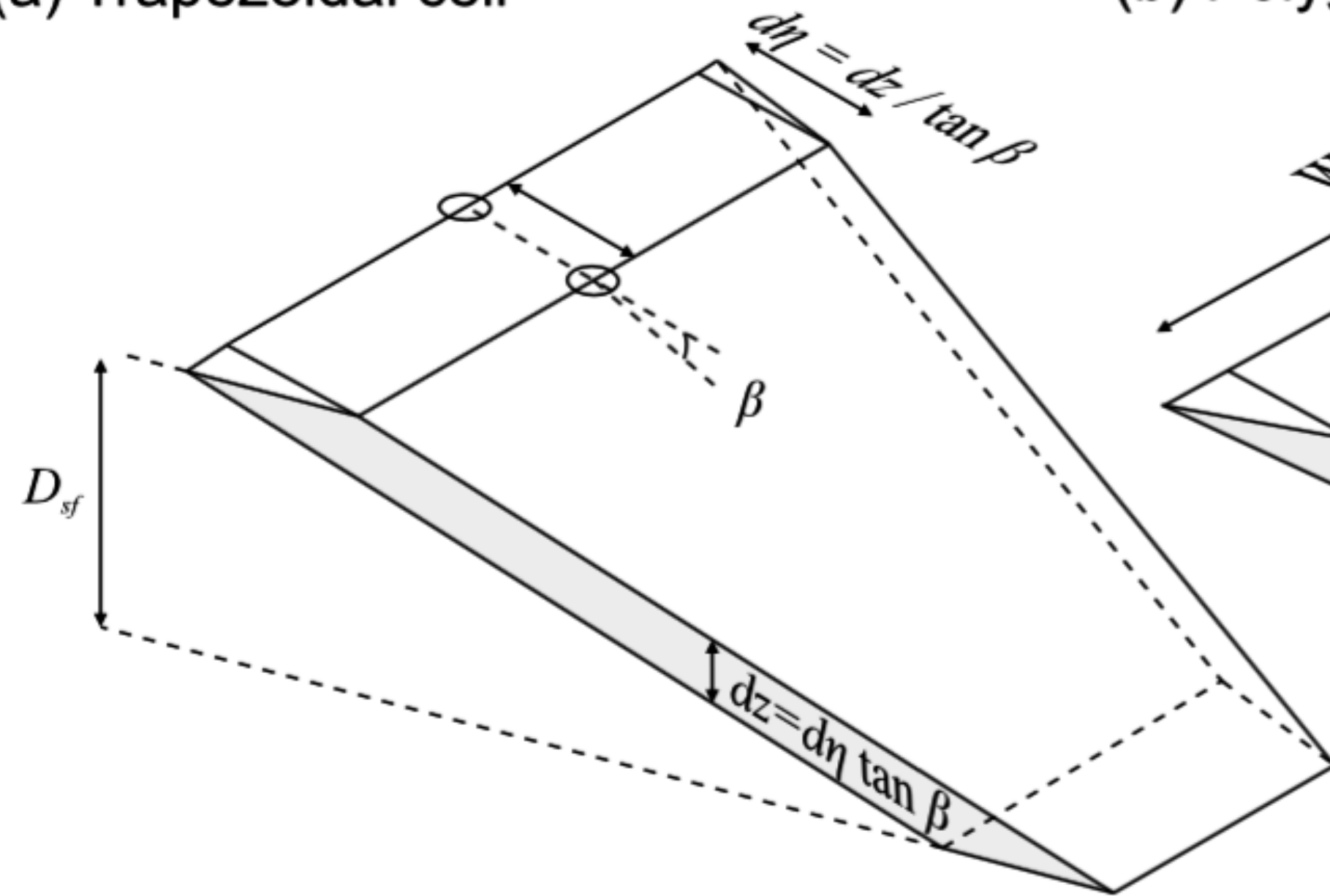
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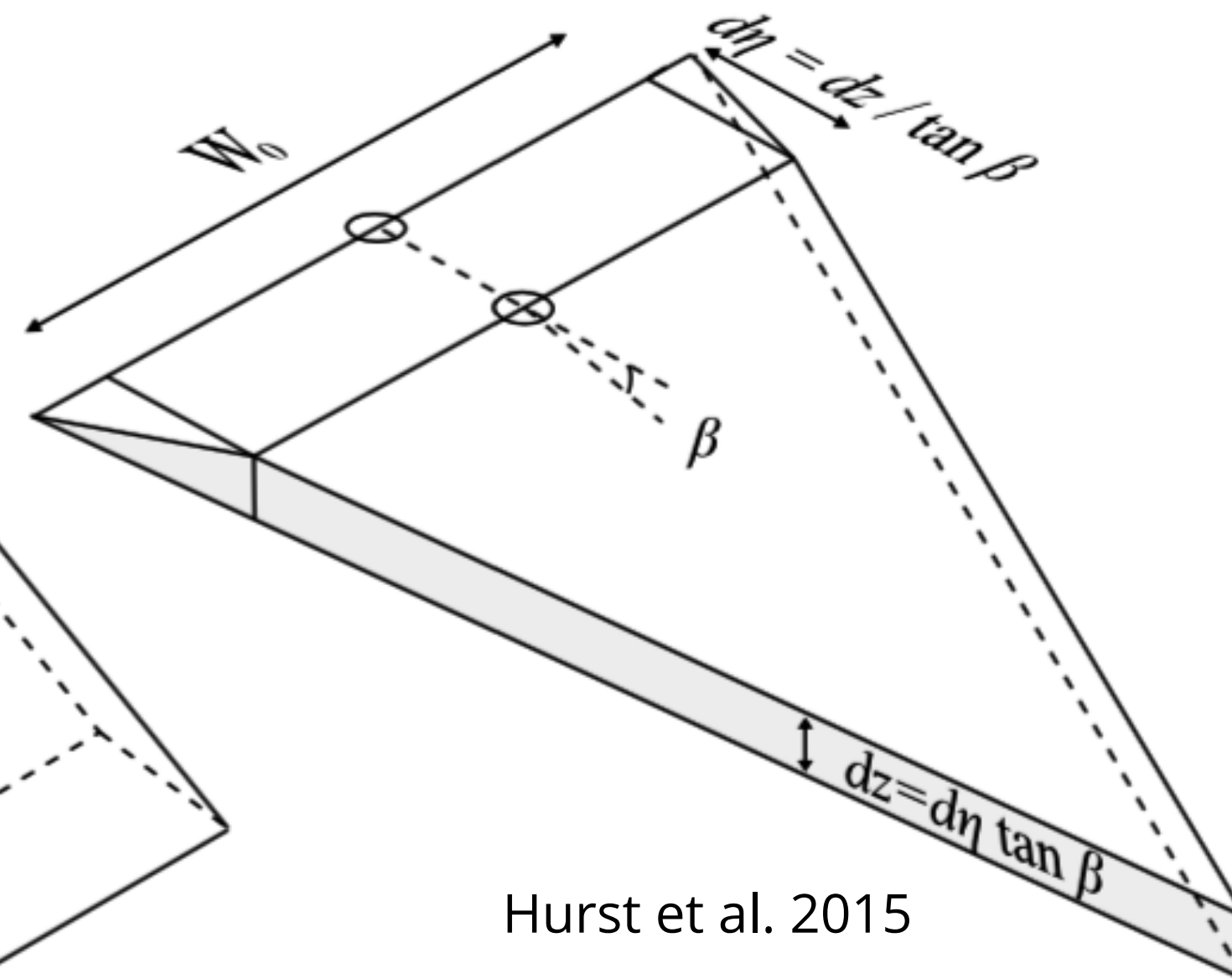


# 1-line model

(a) Trapezoidal cell



(b) Polygonal and Triangular cell



Hurst et al. 2015

Geometric diagrams of the volume of change within a coastal cell for (a) trapezoidal cells, which can advance and retreat across the shoreface and (b) polygonal or triangular cells whose position at their seaward tip or boundary is fixed to prevent mass balance difficulties. The volumes of these shapes can be solved to be a function of  $d\eta$ .

