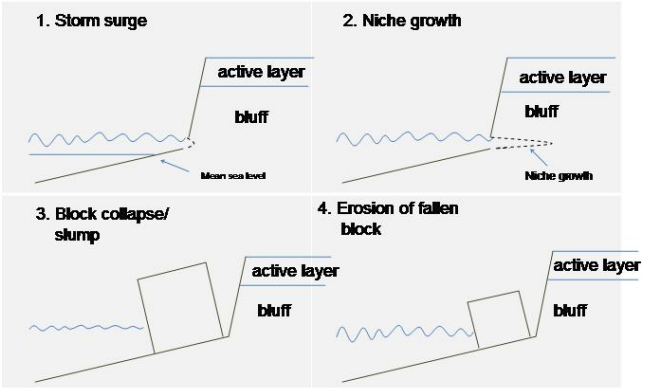
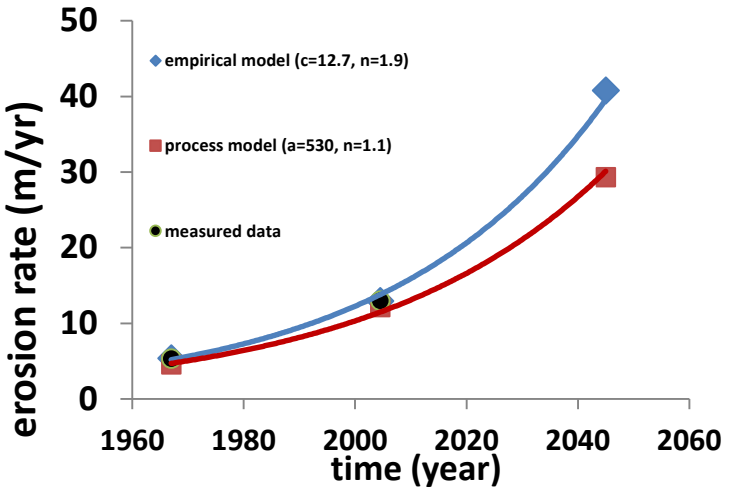
Arctic Coastal Erosion – Drew Point



Time period	Measured erosion rate (m/yr)	Calculated erosion rate (m/yr)	Calculated fraction of time shoreline is block-free (%)
Aug. 1979 – July 2002	8.0 ± 0.9	8.0 ± 0.8	68 ± 3
Aug. 2002 - July 2007	14.1 ± 1.7	14.9 ± 1.4	78 ± 2



Case 2: Stagnant water and ice with under-ice roughness

Assumptions:

- Density current moves radially from its center, filling the cavities in the under-side of the ice.

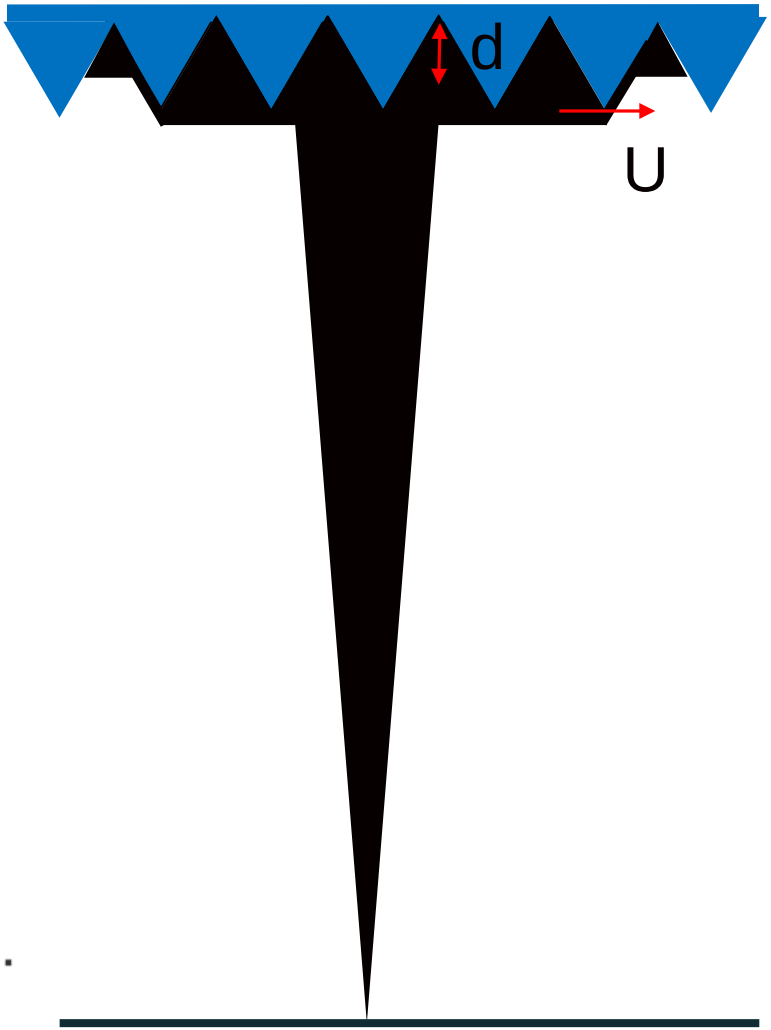
- Effective depth of under-side of ice subject to oil flow:

$$d = \frac{V_{void}}{Area}$$

- Effective fluid velocity:

$$U = \frac{Q}{2\pi r d}$$

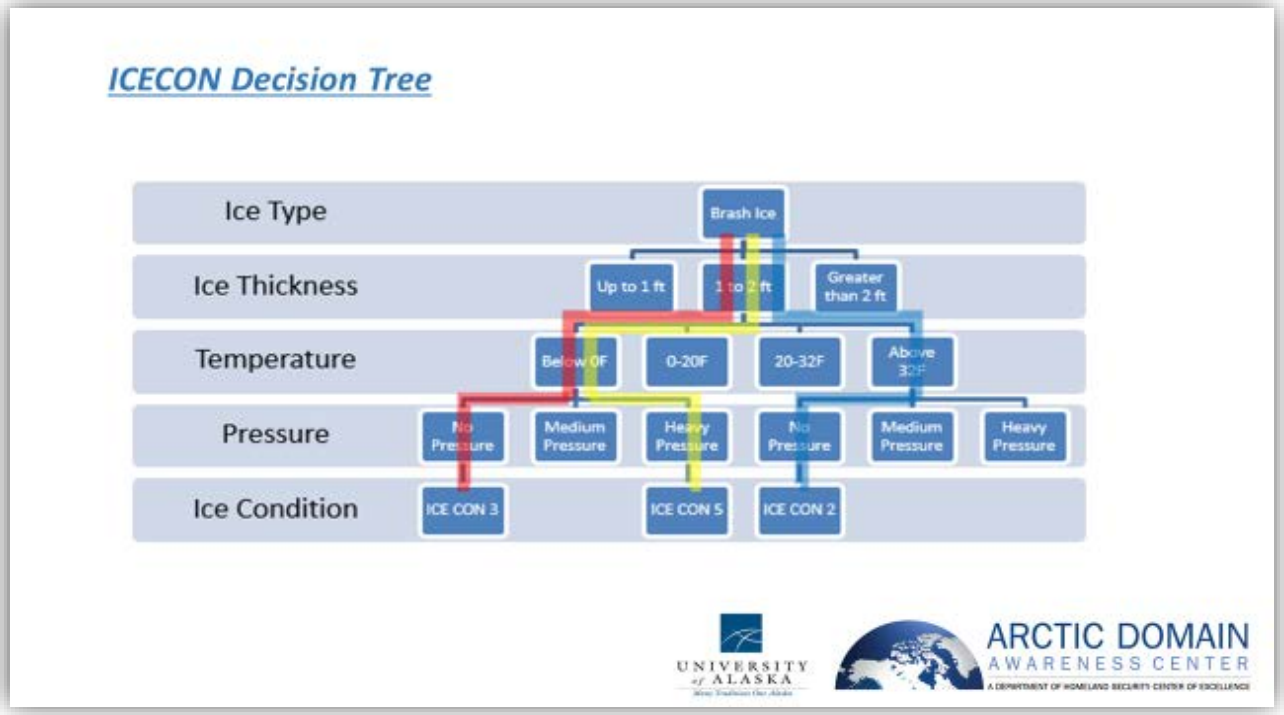
- If d < h, calculate U based on h instead.



Where we are – Task 1

Task 1. *Develop algorithm/decision tree for determining the ICECON as a function of ice type, ice thickness, temperature, pressure, ice concentration, and snow depth.*

Assess proposed approaches for ICECON (USCG District 9):



Note: 2 ft of brash ice can be associated with a range of ice conditions depending on surface temperature and pressure.