# **GLACIERS & PERMAFROST**









#### Julian Kanigan



### How Do Glaciers Form?







#### Glaciation from 18,000 – 8,000 years ago







# Beringia

Ice & sea movie

# **Glaciation in the NWT**





#### 20 thousand years ago

#### 10 thousand years ago



- Till
- Moraines
- Eskers
- Striations
- Erratics
- Lakes & rivers



#### **Till – southern NWT**



#### Esker – Lac du Sauvage



#### Moraine – Melville Island

#### **Striations**





**Ice direction** 

**Erratics – Point Lake** 

#### What is Permafrost?



### What is Permafrost?

# ?

#### Ground that stays below 0°C for two or more years

#### Why does permafrost matter?

### Permafrost Landforms







Thaw slumps

#### Massive ice

Pingos







#### Thermokarst lakes

Hummocks

Patterned ground

#### How Are These Landforms Created?

#### Development of ground ice



#### Freeze and thaw cycles



# Where is Permafrost?



# Continuous & Discontinuous Permafrost



# **Unfrozen Taliks**

