ARC3O workflow

1. Prepare masks for season and ice types
   - GCM
     - Sea ice thickness
     - Snow thickness
     - Surface temperature
   - Processing for each point
   - Mask for seasons
     - Melting snow, bare summer ice, cold conditions
   - Mask for ice types
     - First-year ice, multiyear ice

2. Prepare sea ice profiles for cold conditions
   - GCM
     - Sea ice thickness
     - Snow thickness
     - Surface temperature
   - Processing for cold conditions points
   - Masks (ice types and seasons)
   - Snow-covered ice profiles
     - Layer temperature, salinity, thickness, wetness, density, correlation length, snow/first-year/multiyear ice
   - Bare ice profiles
     - Layer temperature, salinity, thickness, wetness, density, correlation length, first-year/multiyear ice

3. Compute sea ice surface brightness temperature for cold conditions
   - Snow-covered ice profiles
     - MEMLS
     - Snow-covered ice brightness temperature
   - Bare ice profiles
     - MEMLS
     - Bare ice brightness temperature
   - Cold conditions ice brightness temperature
     - x snow-cover fraction
     - x bare fraction

4. Compute sea ice surface brightness temperature for all conditions
   - Cold conditions ice brightness temperature
   - Masks (seasons)
   - Ice brightness temperature
     - Cold conditions: cold conditions ice brightness temperatures
     - Melting snow: snow surface temperature
     - Summer bare ice: constant inferred from observations (266.78 K)
   - Processing for each point

5. Add sea ice concentration and atmospheric effect
   - GCM
     - Sea ice concentration
     - Melt pond fraction
     - Snow ice column surface temperature
     - Sea surface temperature
     - Atmospheric columnar liquid water and water vapor
   - Ice brightness temperature
   - Simple ocean emission and atmospheric radiative transfer model (Wentz and Meissner, 2000)
   - Brightness temperature at top of atmosphere