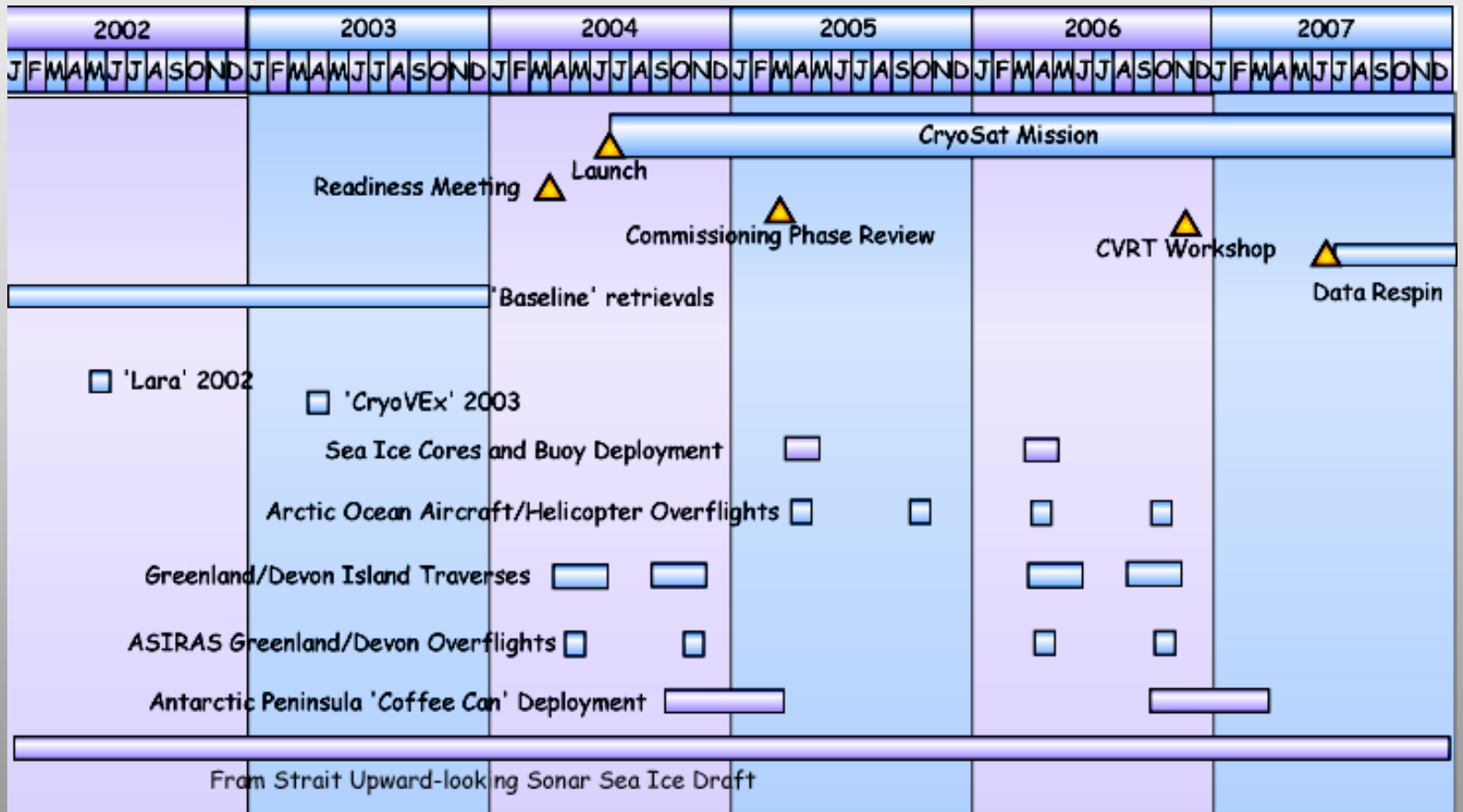


L1b & L2 CryoSat Data Products

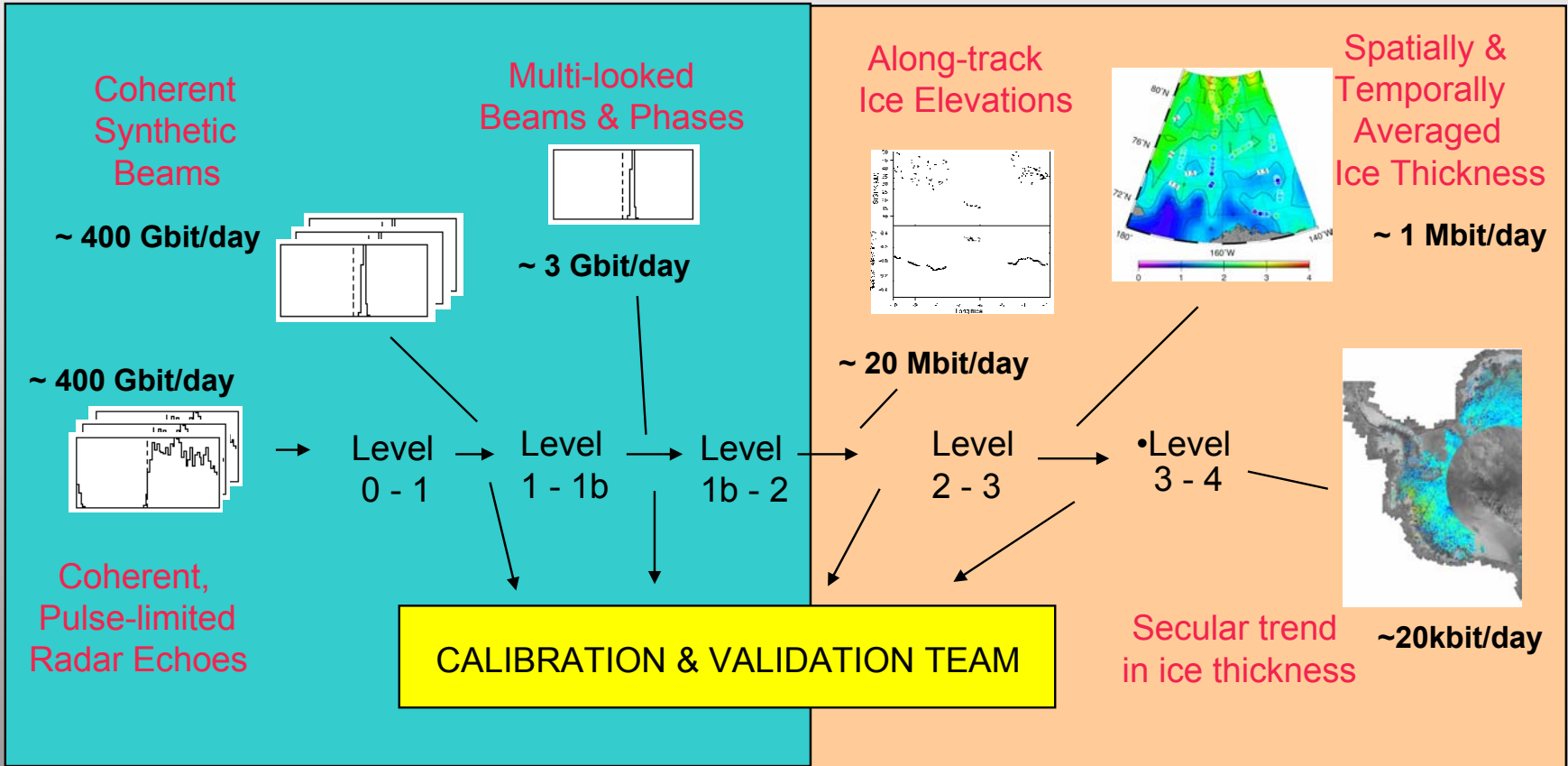
Duncan Wingham, Rob Cullen, Steven Baker, Rob Scott,
Catherine Bouzinac, David Wallis, David Brockley

- Processing philosophy & product overview
- L1b Processing & Simulation
- L2 Processing & Simulation
 - 'SAR' Mode Processing
 - 'SARIn' Mode Processing
- CryoSat Data AO

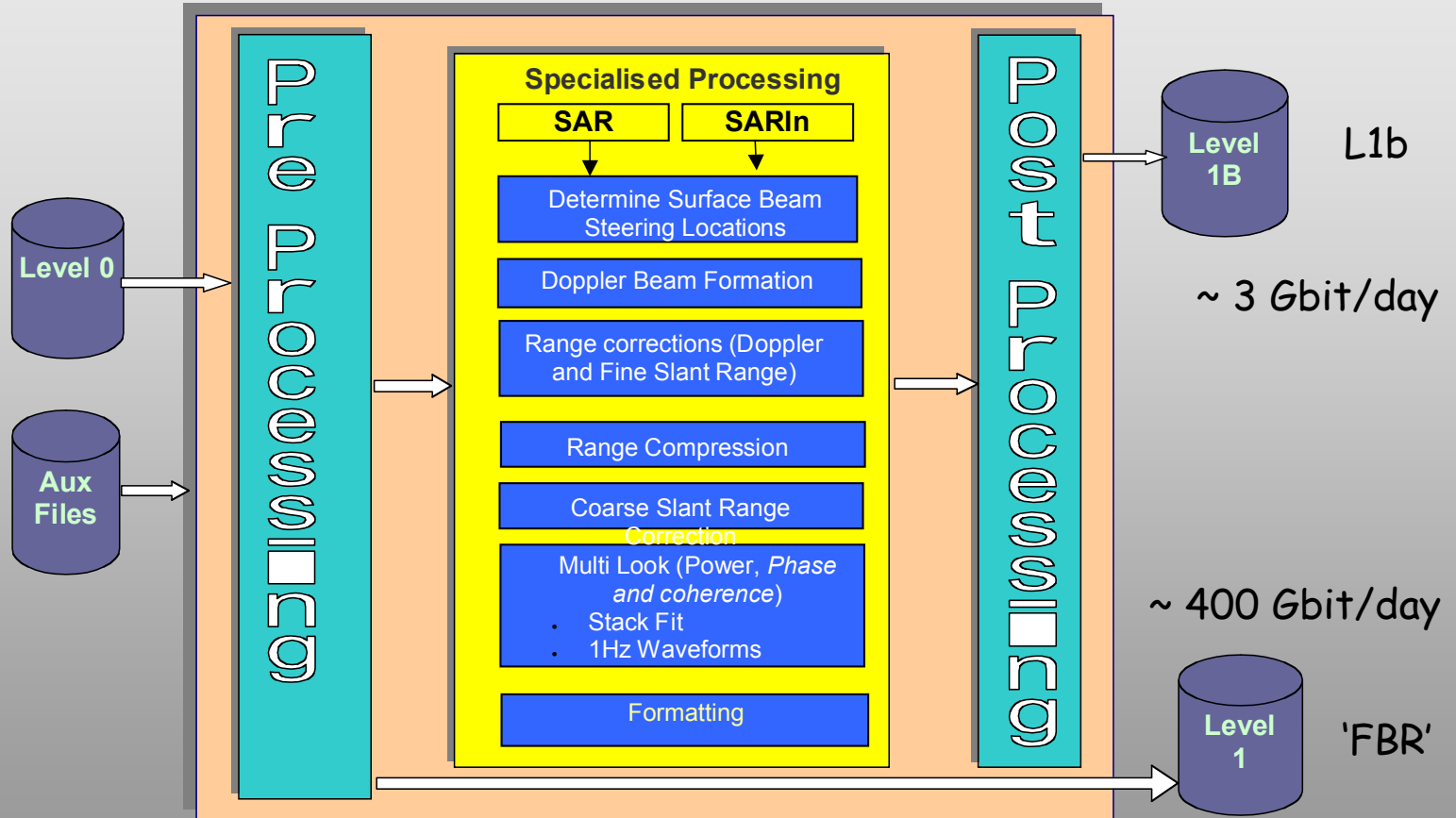
Implications for CryoSat: Validation & Data Respinning



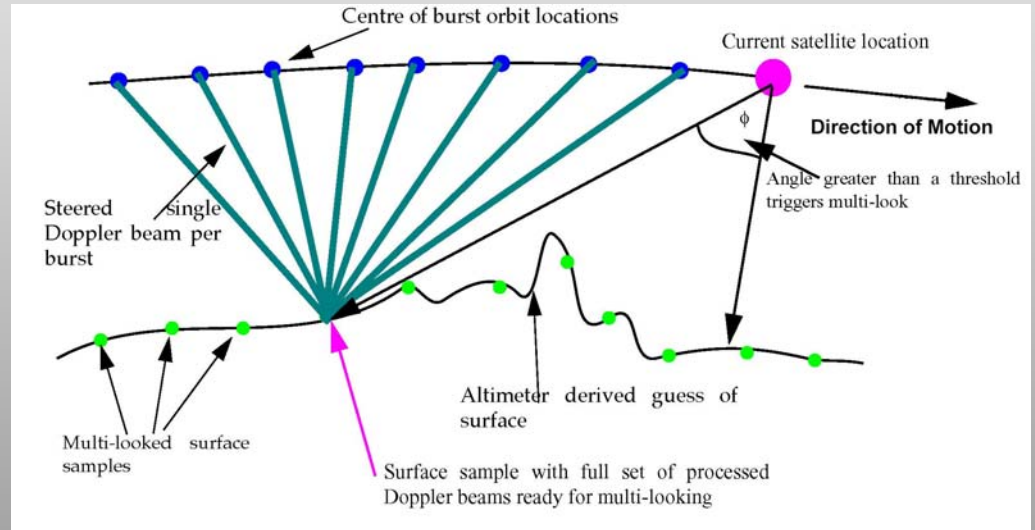
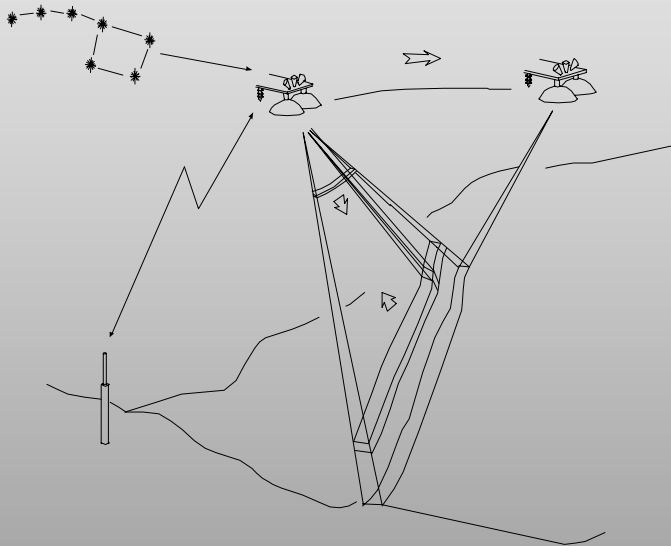
CryoSat Data Products



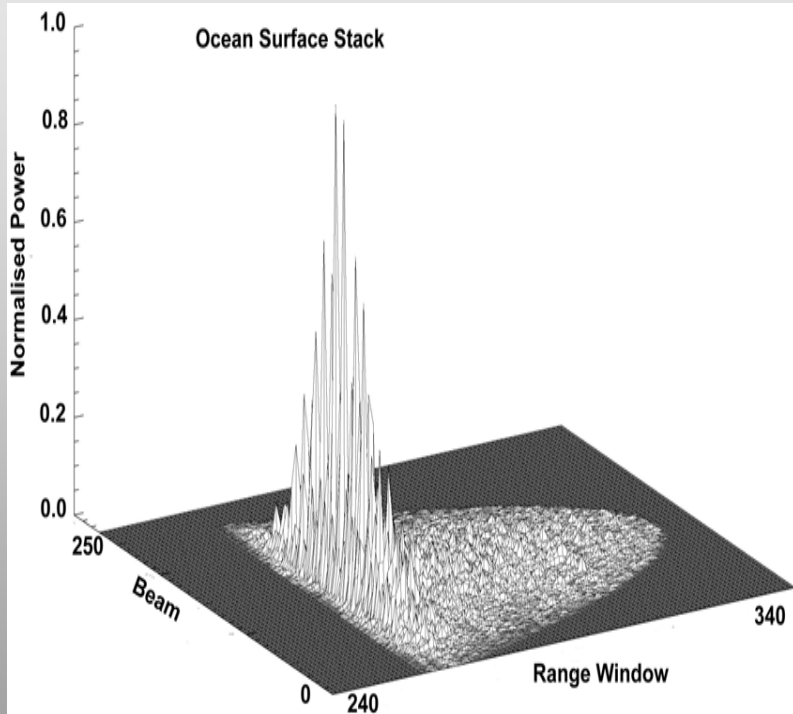
CryoSat 'FBR' & L1b Processor



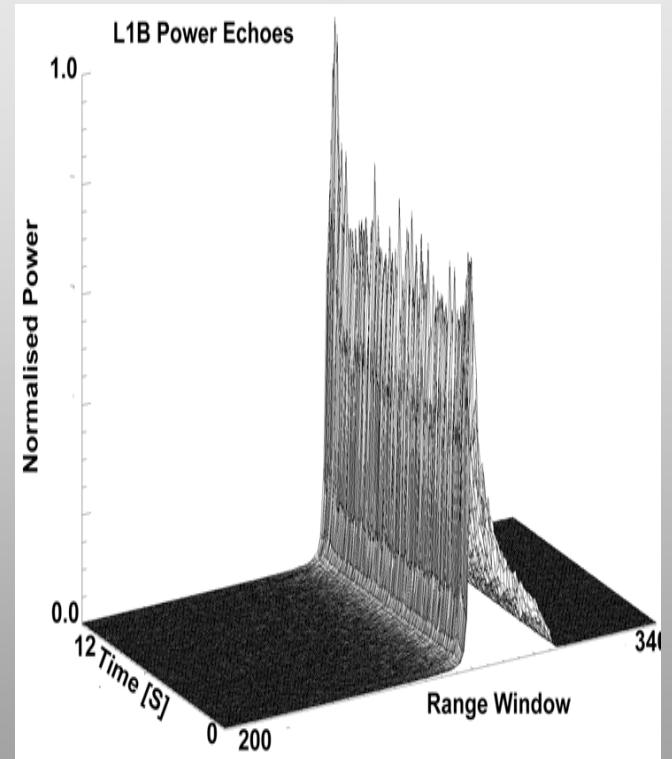
L0 - L1b Beam Formation & Steering



L0 - L1b Stack & Multi-looking



Doppler Beam Stack Over Spherical Surface

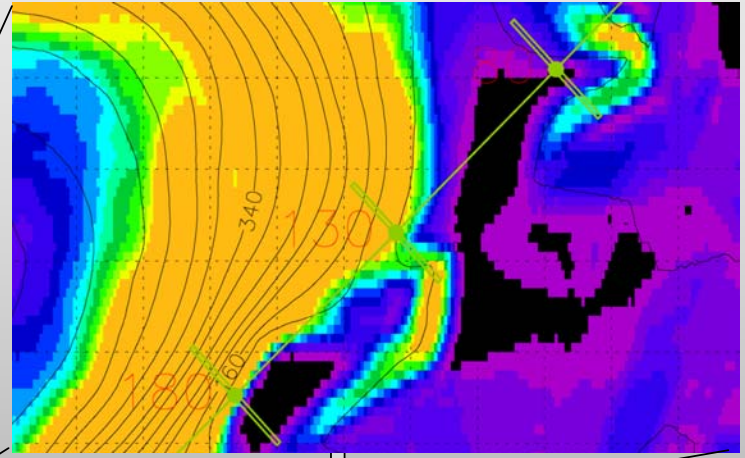


Level 1B Multi-looked Echoes

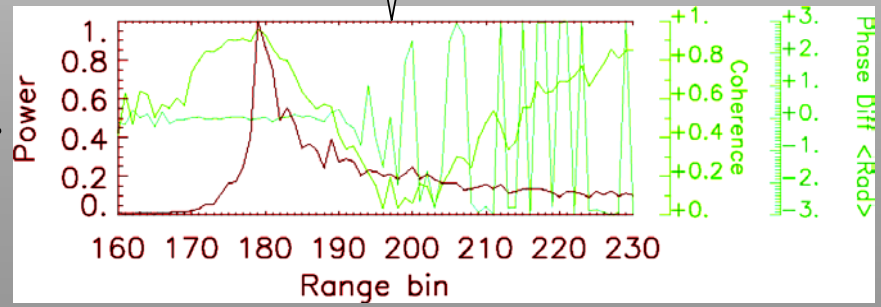
Simulated L1b Products

Characterise surface, generate echoes, simulate instrument operation

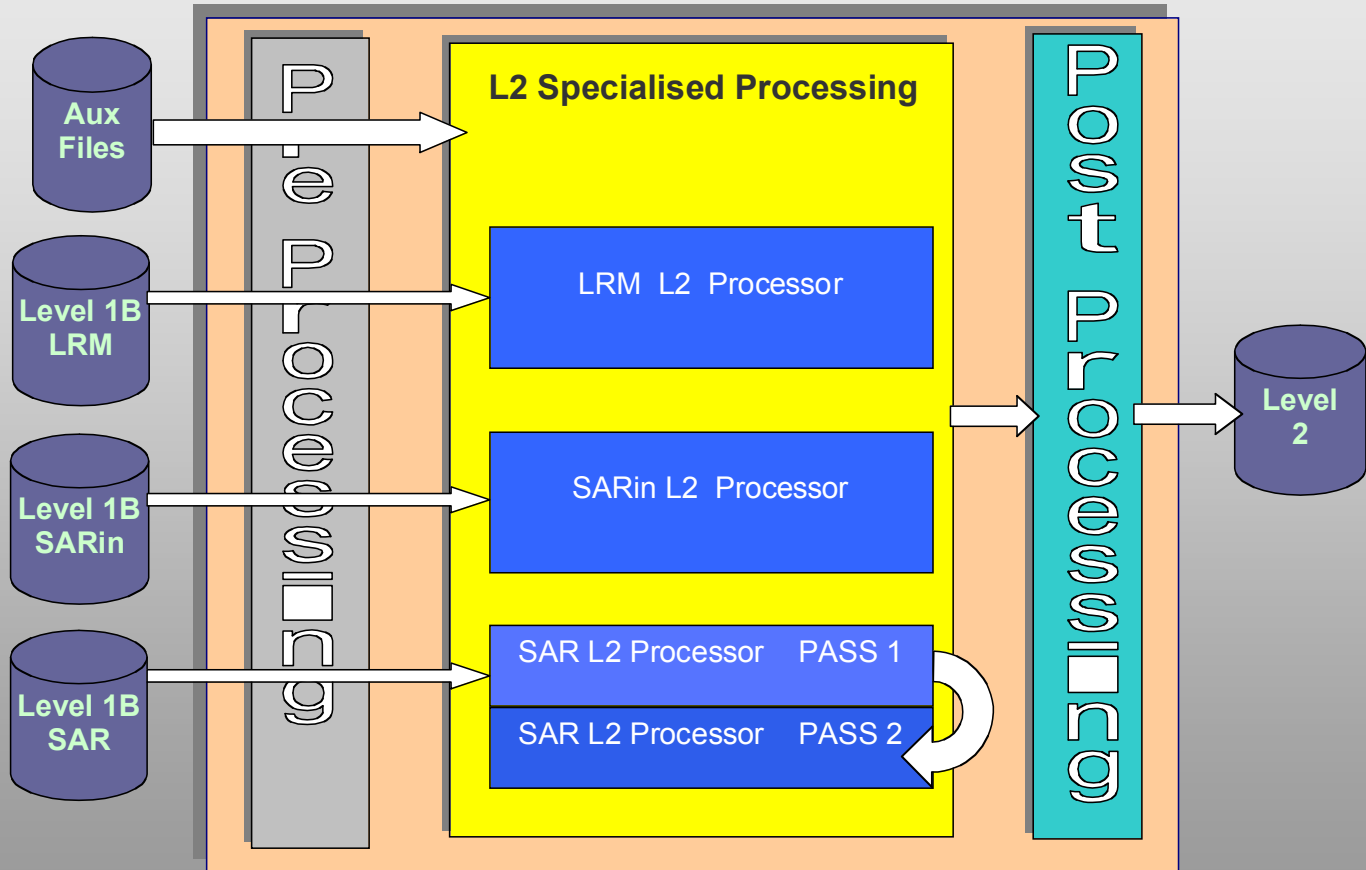
Simulation over region of interest using CRYMPS



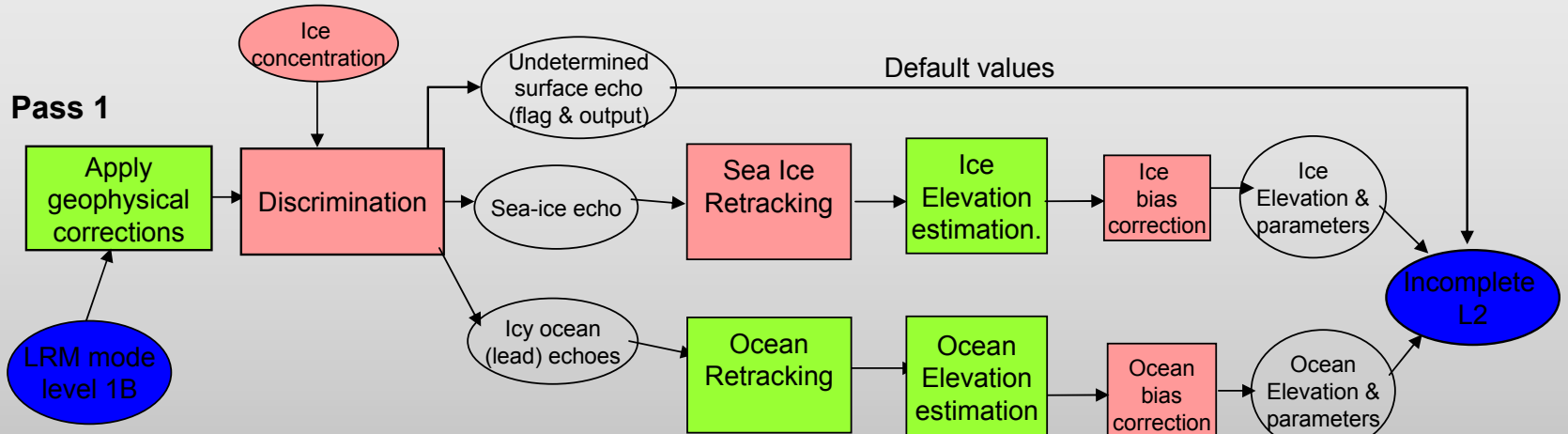
IPF Processed Level 1b Echoes



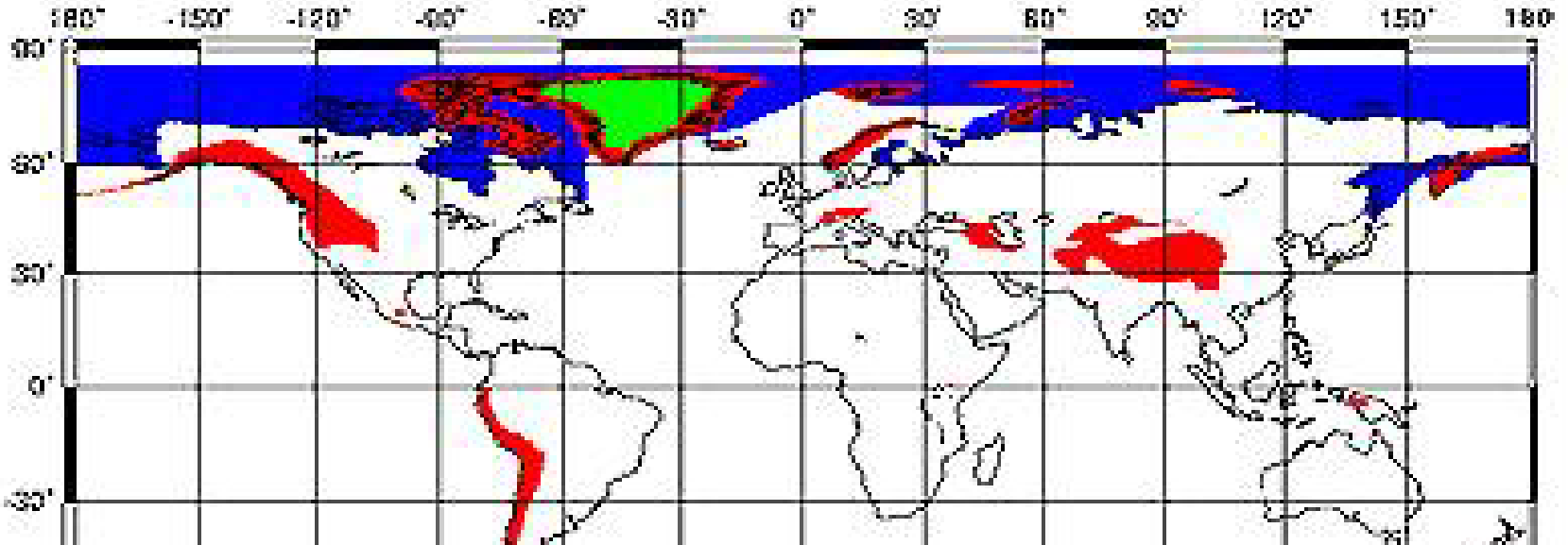
L1b - L2 Processing



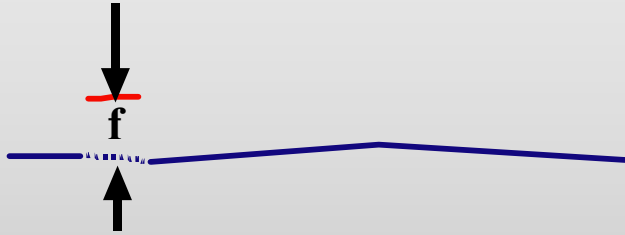
'SAR' Mode L1b - L2 Processing



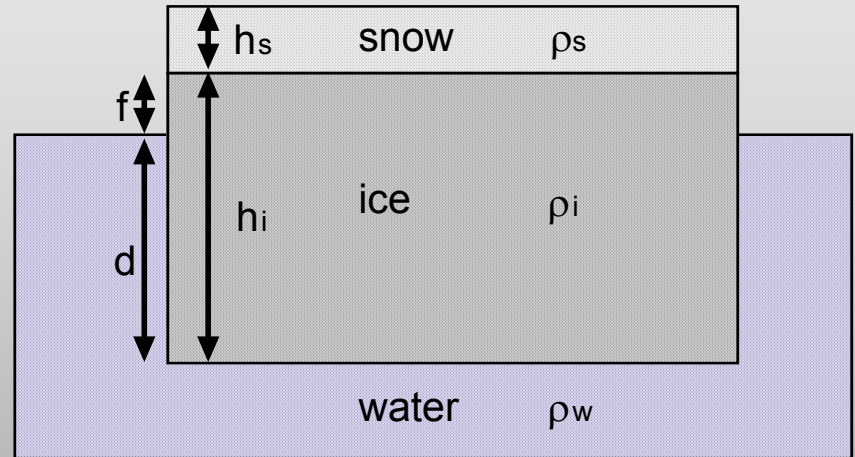
CryoSat Mask



Freeboard to Thickness Conversion



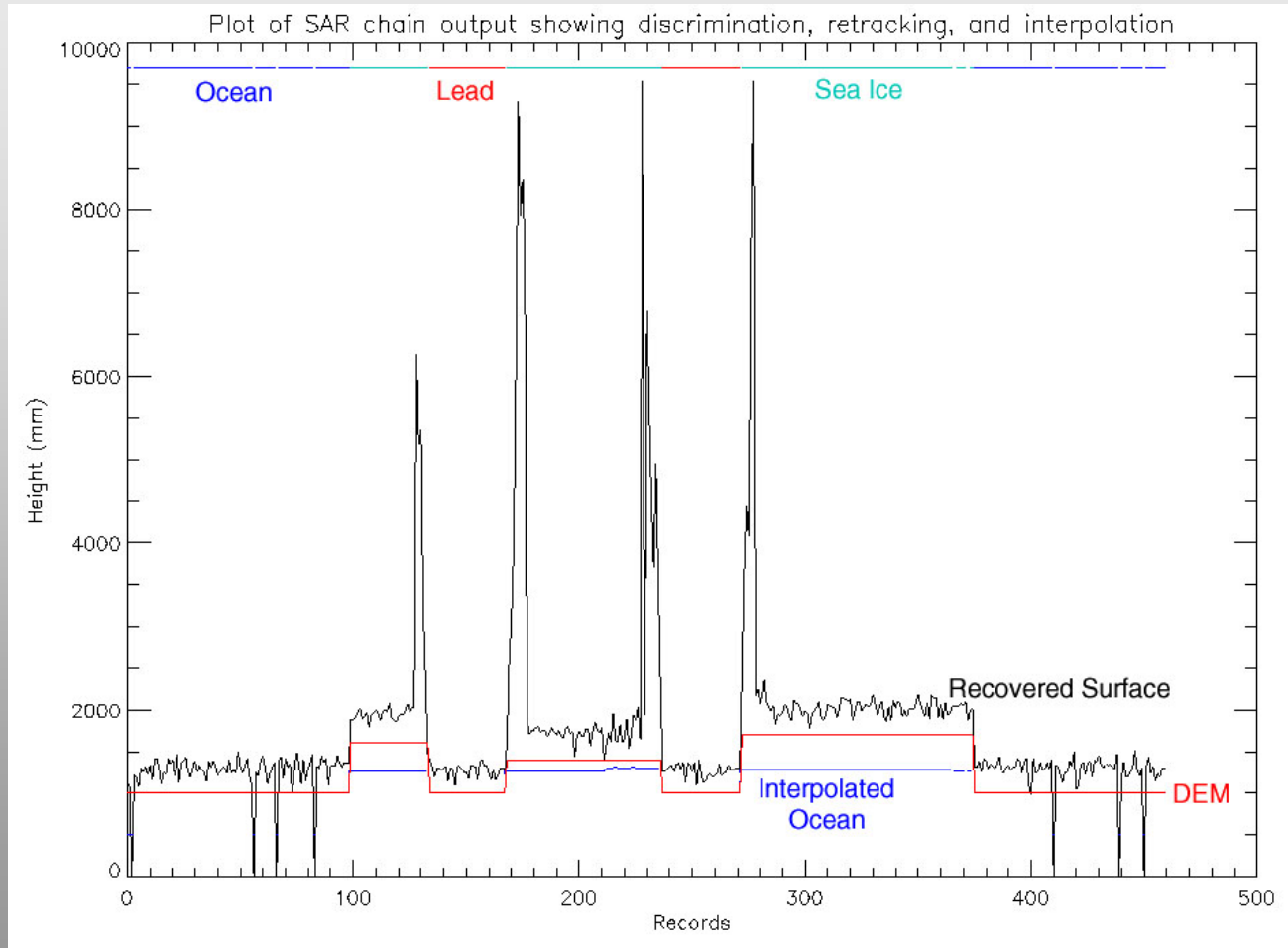
- Estimate Freeboard above Interpolated Ocean surface
- Conversion assumes reflection from the ice/snow interface
- Conversion to thickness using climatology of snow depth/densities [Warren, 1999]



$$h_i = f \frac{\rho_w}{(\rho_w - \rho_i)} + \frac{h_s \rho_s}{(\rho_w - \rho_i)}$$

Note: Freeboard/Thickness Field suppressed in initial products

Simulated 'SAR' L1b - L2 Product



'SARIn' Mode L1b - L2 Processing

