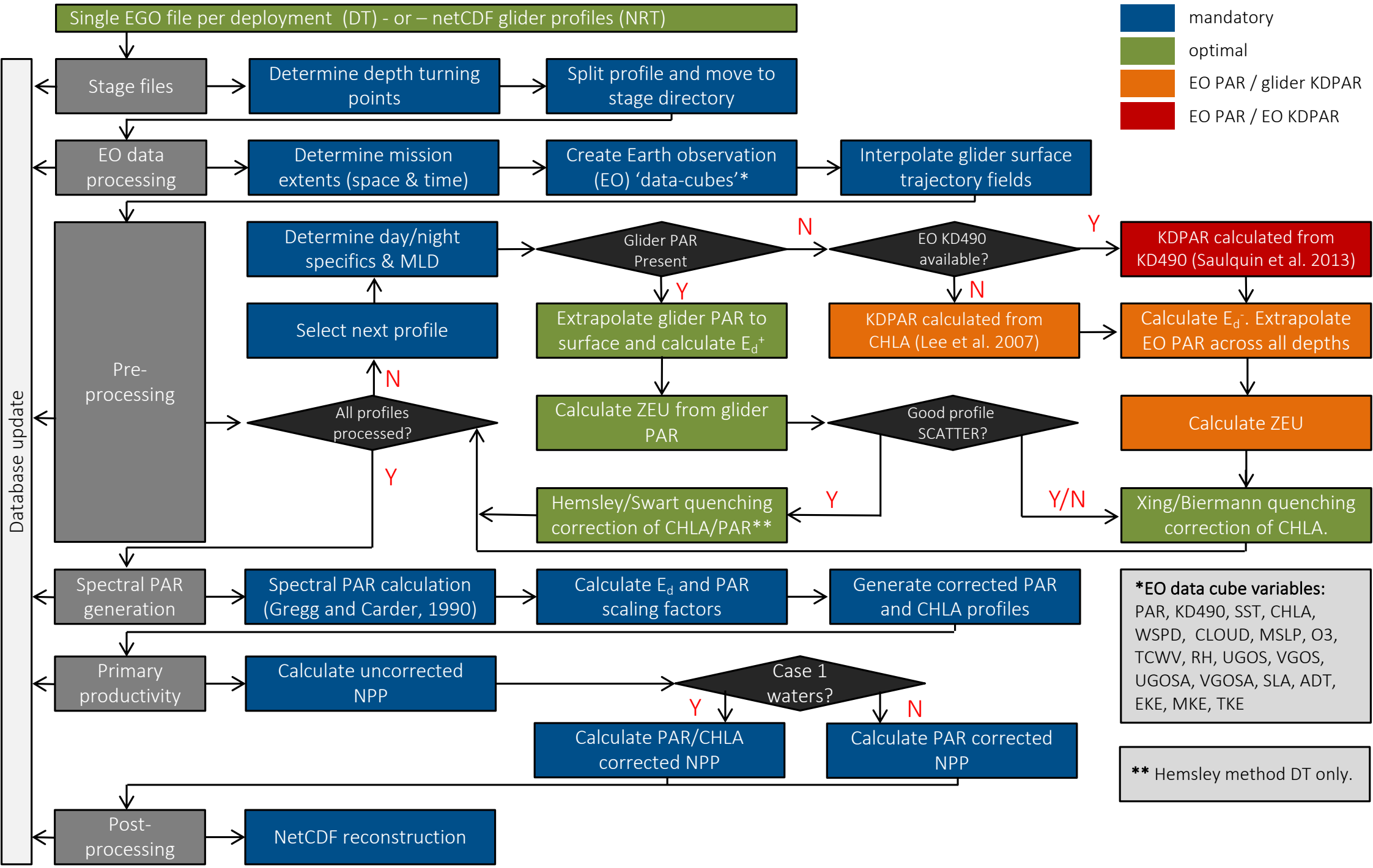
Single EGO file per deployment (DT) - or – netCDF glider profiles (NRT)
mandatory
optimal
EO PAR / glider KDPAR
EO PAR / EO KDPAR
Database update
Stage files
Determine depth turning points
Split profile and move to stage directory
EO data processing
Determine mission extents (space & time)
Create Earth observation (EO) 'data-cubes'*
Interpolate glider surface trajectory fields
Pre-processing
Determine day/night specifics & MLD
Glider PAR Present
N
EO KD490 available?
Y
KDPAR calculated from KD490 (Saulquin et al. 2013)
Y
Select next profile
Extrapolate glider PAR to surface and calculate E_d^+
N
KDPAR calculated from CHLA (Lee et al. 2007)
Calculate E_d^-. Extrapolate EO PAR across all depths
N
All profiles processed?
Calculate ZEU from glider PAR
Good profile SCATTER?
Calculate ZEU
Y
Hemsley/Swart quenching correction of CHLA/PAR**
Y
Y/N
Xing/Biermann quenching correction of CHLA.
Spectral PAR generation
Spectral PAR calculation (Gregg and Carder, 1990)
Calculate E_d and PAR scaling factors
Generate corrected PAR and CHLA profiles
Primary productivity
Calculate uncorrected NPP
Case 1 waters?
Y
N
Calculate PAR/CHLA corrected NPP
Calculate PAR corrected NPP
Post-processing
NetCDF reconstruction
*EO data cube variables:
PAR, KD490, SST, CHLA, WSPD, CLOUD, MSLP, O3, TCWV, RH, UGOS, VGOS, UGOSA, VGOSA, SLA, ADT, EKE, MKE, TKE
** Hemsley method DT only.