Direct reading of GMAO meteorological data

The Problem
Using alternative met. data products is awkward because of our preprocessing requirement

It doesn’t need to be necessary
Nowadays, the preprocessor does light work (input ≈ output)
Direct reading of GMAO meteorological data

Preprocessor Necessities

Vertically flips the data

Fills missing ALBEDO

\[ \text{OD}_{\text{cloud}} = \text{OD}_{\text{water\_cloud}} + \text{OD}_{\text{ice\_cloud}} \]

Regridding (nested, coarse global)
Direct reading of GMAO meteorological data

Useful outcomes

+ Easy to work with alternative met. Products (mass-flux sim, GEOS-IT, etc.)
+ Possibility for near real-time simulations (GEOS-FP available -12h)
+ Could be extended to GC-Classic
Direct reading of GMAO meteorological data

<table>
<thead>
<tr>
<th>Preprocessor Necessities</th>
<th>GCHP</th>
<th>GC-Classic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertically flips the data</td>
<td>✔️</td>
<td>- (need to add switch)</td>
</tr>
<tr>
<td>Fills missing ALBEDO</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>$\text{OD}<em>{\text{cloud}} = \text{OD}</em>{\text{water_cloud}} + \text{OD}_{\text{ice_cloud}}$</td>
<td>✔️</td>
<td>- (need to sum online)</td>
</tr>
<tr>
<td>Regridding (nested, coarse global)</td>
<td>n/a</td>
<td>✔️ (use FlexGrid)</td>
</tr>
</tbody>
</table>