Updates – Cloud and Benchmarking

- Continuing to work on moving GEOS-Chem testing to AWS
- New framework for registering GEOS-Chem tests – will facilitate collaborative testing by GCST

<table>
<thead>
<tr>
<th>Benchmarking</th>
<th>Cannon</th>
<th>Compute1</th>
<th>AWS</th>
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</thead>
<tbody>
<tr>
<td>GC-Classic X.Y</td>
<td>Manual</td>
<td>todo</td>
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<tr>
<td>X.Y-alpha.A</td>
<td>retired</td>
<td>todo</td>
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<td>GCHP X.Y</td>
<td>Manual</td>
<td>todo</td>
<td>todo</td>
</tr>
<tr>
<td>X.Y-alpha.A</td>
<td>retired (soon)</td>
<td>Automatic</td>
<td>todo</td>
</tr>
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Updates – Downloading GEOS-Chem Input Data

Data Portal: http://geoschemdata.wustl.edu/

- Serving a lot of data: 26 TB/week, ~320K files/week
- Average response time is 1.3 seconds, but intermittent periods were its much slower (>10x)

bashdatacatalog

- Will be release on Monday (February 28, 2021)
- GEOS-Chem X.Y version-specific catalog files (definitions of data collections used in that version)
- If geos-chem dry run were a bottom-up inventory, bashdatacatalog would be a top-down inventory
- Compatible with GC-Classic and GCHP
- Major effort to organize/index the input data collections (e.g., v13.2 had 84 collections)
New diagnostic in GCHP – Large-scale vertical motion ("UpwardsMassFlux")

- Vertical component of the large-scale mass flux at the level edges
- Effectively, the convergence of the wind fields
- Units: kg m$^{-2}$ s$^{-1}$