NASA Dryden Flight Research Center
Global Hawk Project

Global Hawk Pacific (GloPac) COA & Mission Coordination

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FAA National UAS Conference
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**GloPac Science Objectives and Missions**

- First demonstration of the Global Hawk unmanned aircraft system (UAS) for NASA and NOAA Earth science research and applications.

- Validation of instruments on-board the Aura satellite.

- Exploration of trace gases, aerosols, and dynamics of remote upper Troposphere / lower Stratosphere regions.

- Sample polar vortex fragments and atmospheric rivers.

- Risk reduction for future missions that will study hurricanes and atmospheric rivers.
GloPac Example Flight Tracks

FAA Flight Areas Effected:
• High Desert Tracon, Los Angeles Center
• Oakland Oceanic
• Honolulu Center
• Anchorage Oceanic, Continental, & Arctic

[Map and flight tracks images]
Satellite Under-Flight Requirement
Vertical Profiles
For Insitu Data Gathering at Lower Altitudes
GloPac Flight Planning Process

Mission Plan Track 2.5
GloPac Flight Planning Process

FAA Flight Plan

[Map with flight routes and waypoints]
GloPac Flight Planning Process

Revised Route Clearance
- Greater than 128 nm offset or,
- Mission requires change in geographical area
  ✓ Formulate new route
  ✓ Wpts < 80 min apart and last wpt returns to original filed route
  ✓ ETA to first point

Modification to Assigned Route
- Lateral offset
  ✓ 128 nm left or right of track
  ✓ Intent to parallel track to period of time and then return
<table>
<thead>
<tr>
<th></th>
<th>Oakland Oceanic FIR &amp; ZLA/E10</th>
<th>Hawaii Center any planned flight in HI airspace</th>
<th>Arctic Flight GloPac 6.6 route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Flight Coordination • Notification of possible flight • Notional flight route</td>
<td>N/A</td>
<td>7 business days</td>
<td>7 business days</td>
</tr>
<tr>
<td>Airspace Request  • GloPac Region  • ETD</td>
<td>1 business day</td>
<td>3 business days</td>
<td>1 business day</td>
</tr>
<tr>
<td>Submission of IFR Flight Plan  • Include notional vert. profiles  • Additional details for ATC</td>
<td>&gt; 2 hours</td>
<td>3 business days</td>
<td>1 business day</td>
</tr>
</tbody>
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Teamwork Makes It All Possible