EPA Unmanned Aircraft System (UAS) Fact Sheet

Why Develop a UAS Policy for EPA?

The purpose of drafting a UAS Policy for EPA is to articulate a framework through which EPA Regions, Program offices and grant recipients can take advantage of UAS technology. UAS technology will allow EPA to meet its mission goals with additional data collection capabilities while increasing safety, reducing costs and increasing efficiency.
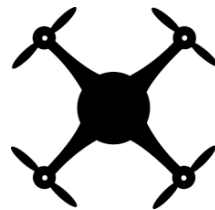
The EPA UAS Policy was signed by EPA's CIO on December 1, 2020.

What Does EPA's UAS Policy Contain?

- **Limitations on Using UAS at EPA**
  - Agencies may not buy, maintain, or operate UAS unless an appropriation account is made specifically available for that purpose.
  - EPA policy does not currently allow for leasing UAS.
  - EPA staff can not directly operate UAS.

- **UAS Funding Options for EPA Projects**
  - Possible ways for EPA to access UAS technology with allowed funds:
    - Contracts
    - Interagency Agreements
    - Grants/Cooperative Agreements: Grantees are not restricted from using grant funds from any appropriation account for UAS-related costs.
  - Example funding scenarios and additional details will be available in the EPA UAS Handbook
  - Funding options may change over time

- **Privacy, Civil Rights and Civil Liberties Protections**
  - Privacy Protections
  - Civil Rights and Civil Liberty Protections
  - Accountability
  - Transparency

- **Additional Key Sections**
  - IT Security
  - Compliance Monitoring and Enforcement
  - Data Management
  - Roles and Responsibilities
  - Links to Related Resources

Supplementary Materials (In Progress)

- **EPA UAS Community of Practice** 🔒 **Requires Login**
  - Share UAS news, requirements, experiences, and technical information
  - Standardize UAS practices
  - Leverage UAS resources where possible
  - Build technical and practical knowledge base
- **EPA UAS Website**
- **EPA UAS Handbook**
  - Guidance
 - Reporting
  - Templates, Checklists and Forms

EPA UAS Use Case Examples

- Reconnaissance, response & mapping
  - Ability to operate in hazardous situations
- Structural integrity assessment
- Investigating releases and chemical, biological, radiological events
- Logistics and planning support
- Site mapping (aerials for pre, post, or ongoing site documentation, volume/3D)
- Terrain modeling (erosion, deforestation, forest mapping, riverbanks)

Deploying Additional Technologies for Data Collection Such As:

- **High resolution imagery:** optical photo/video, infrared/thermal, and multispectral
- **Geophysics and remote sensing:** LiDAR, magnetometry, ground- penetrating radar
- **Gas Sensors:** H_2S, SO_2, NO, NO_2, HCHO, VOCs, CO, Cl, HCl, HCN, NH_3, CH_3, dioxins, particulates, and more
- ERT VIPER integration, for real-time data collection and transmission
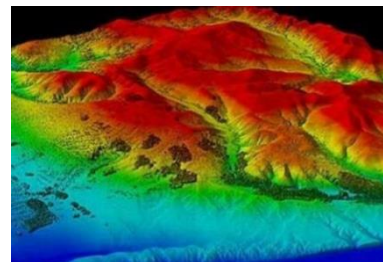
Allowing Data-derived Research, Such As:

- **3D modeling and measurement:** volumetric analysis, hydrological modeling, erosion studies, glacial morphology, canopy height, and POV depiction, including for emergency situations
- **Mapping and monitoring**: orthoimage, feature extraction, vegetation Indexing, plant physiology, streamflow measurement, water quality, water temperature, soil water content, mineral classification, thermography, pest detection

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