Welcome to Dryden Flight Research Center

Dryden Flight Research Center

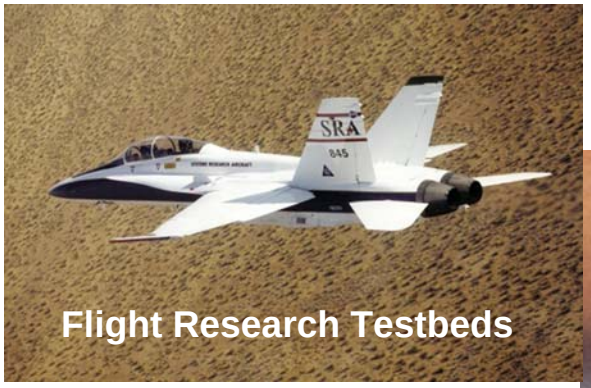
To Fly What Others Only Imagine

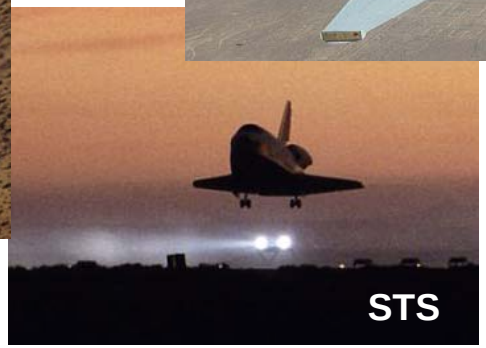
Mission Elements

Dryden Flight Research Center

- **Dryden develops experiments and conducts flights to advance technology for future aerospace vehicles, to understand and protect our environment, and to inspire the next generation. We will**
  - **perform flight research and technology integration to revolutionize aviation, advance space transportation, and pioneer aerospace technology,**
  - **conduct airborne remote sensing and *in situ* observations,**
  - **support operations of the Space Shuttle and the International Space Station**

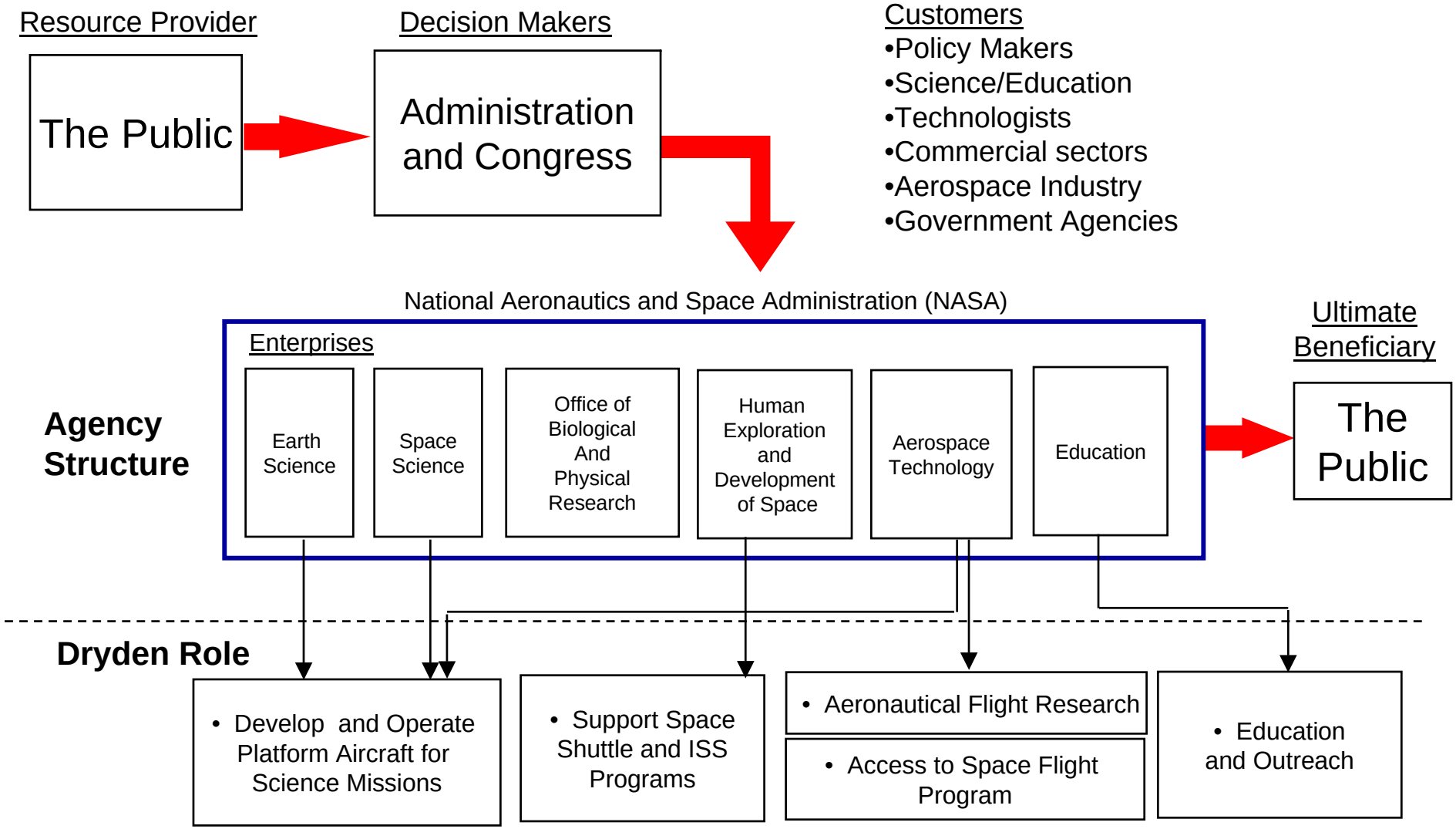
… for NASA and the Nation.





Dryden's Role in NASA

Dryden Flight Research Center



Dryden Flight Research Center

Dryden Flight Research Center

Director	*Kevin L. Petersen*
Deputy Director	*Robert R. Meyer (Acting)*
Associate Director for Management	*Gwen Young*
Associate Director for Planning	*Richard Christiansen*

Systems Management Office

Marta Bohn-Meyer

Acquisition Management Office (A)	Office of the Chief Financial Officer (C)	Office of Equal Opportunity Employment (E)	Office of Facilities Eng. & Asset Mgmt. (F)	Human Resources Management & Dev. Office (H)	Security Office (J)	Office of the Chief Counsel (L)	Office of Academic Investments (N)	Office of Safety & Mission Assurance (S)	Public Affairs & Commercialization (T)
Russ Davis	*Jack Mechanic*	*JoAnn Larson (Acting)*	*Louis Steers (Acting)*	*Cathy Waldal*	*Frank Chavez*	*David Samuels*	*Susan Miller*	*Lawrence Davis*	*Jenny Baer-Riedhart*

Research Systems Directorate (M)	Flight Operations Directorate (O)	Aerospace Projects Directorate (P)	Research Engineering Directorate (R)	Airborne Science Directorate (Y)
Dir - Larry Schilling Dep - Vince Chacon	*Dir - Gary Krier Dep - Mike Kehoe*	*Dir - Robert Meyer Dep - Vance Brand*	*Dir - Larry Crawford Dep - Vicki Regenie*	*Dir - Dr. Tom Mace Dep - David Wright*

DERC Strategic Plan Connections in NASA

Dryden Flig

Agency-Level Plans

- Etc.
- ISTP
- Integrated Space Plan
- Real Property Strategic Plan
- Strategic Human Capital Plan

Congressional Budget Submission

Vol. 1

- NASA Strategic Plan
- Long-range plan produced at least every 3 years
- Enterprise & Theme Strategies
- Update every 1 - 3 years
- Center Implementation Plans
- Update every 1 - 3 years

Vol. 2

- NASA Integrated Budget & Performance Document
- Five-year plan produced annually
- Budget Levels 1 & 2
- Enterprise & Theme Budgets & Performance Plans
- Budget Level 3
- Development
- Operation
- Research
- Tech. & Adv. Conc.
- Program Plans
- Project Plans

Vol. 3

- NASA Performance & Accountability Report
- Report on prior year produced annually
- Enterprise & Theme Performance Report

Link to NASA Vision …

Dryden Flight Research Center

Make breakthrough technology and scientific advances through flight research and test in…

- Airborne Science
- UAV Technology and Operations
- Intelligent Systems
- 21st Century Aeronautics
- Space Access

Center Strategic Business Areas

To improve life here

To extend life there

To find life beyond

Summary of Capabilities of the Center

Dryden Flight Research Center

- **Core Competencies**
  - Flight Research
  - Flight Safety
  - Project/Mission Management
- **Unique Capabilities**
  - Flight Operations & Engineering Staff
  - Experimental and Testbed Aircraft
  - Airborne Science Platforms
  - Range and Aircraft Test Facilities
    - Western Aeronautical Test Range
    - Research Aircraft Integration Facility
    - Flight Loads Laboratory
  - DoD Partnerships: AFFTC Alliance, AFRL & DARPA
    - Common infrastructure/mutual reliance agreements
    - Joint flight program/project management in National activities
    - Shared engineering and technical staffing

FY03 Vital Statistics:

Total budget	~$180M
CS FTE	566
Total workforce	~1100

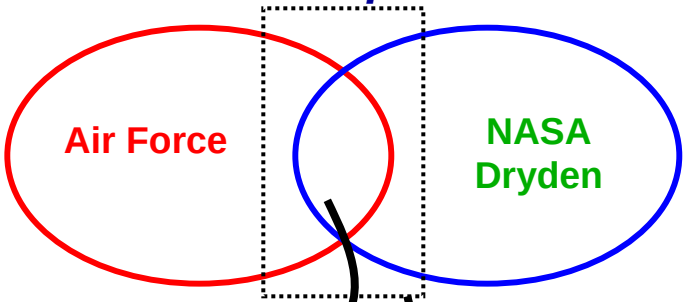
Air Force/Dryden Alliance Activities

Dryden Flight Research Center

NASA/AFFTC/AFRL Alliance
- Co-chaired council meets quarterly
- 8 integrated product teams
- 34 active Memorandum of Agreements
- Over $20M in cost avoidance/savings to date

Preserves Unique Missions

Test & Evaluation Mission



Research & Technology Mission

Common Infrastructure
- Airfield Operations
- Range & Flight Safety
- Shared Aircraft & Equipment
- Frequency Management
- Health & Welfare
- Emergency Response
- Security

1st 5 yrs

Fully integrated infrastructure with EAFB exists today

New Emphasis Areas

Program Collaboration
- B-52H, X-37, UCAV, C-17 AAW, AAR

Sharing Staffing Resources
- Technicians and Shops
- Engineering
- Administrative

Strategic Partnerships

Dryden Flight Research Center


Active Aeroelastic Wing


Unmanned Combat Air Vehicle


X-40A


ER-2

Aerospace Technology

- Air Force Research Lab (Wright Field)
  - Dryden is "Flight Research Agent" for AFRL
  - Current partners on Active Aeroelastic Wing and Autonomous Aerial Refueling
- DARPA
  - Unmanned Combat Air Vehicle (UCAV)
  - Quiet Supersonic Platform (QSP), RASCAL
- Industry
  - Partners with Boeing, Northrop Grumman, Lockheed Martin, AeroVironment, General Atomics, Scaled Composites, …
- Academia
  - UCLA Laboratory for Flight Systems Research
  - Multiple university grants

NASA Centers

- ARC, GRC, LaRC, MSFC, JSC, JPL, GSFC
  - X-37/X-40A Space Access, X-38 Crew Return Vehicle Prototype, X-43A Hypersonic Vehicle, C-17 Intelligent Flight Systems, Helios Solar Powered Aircraft, DC-8/ER-2 Airborne Science Platforms

Airborne Science

- Departments of Transportation, Energy, Agriculture, Commerce, Interior, NOAA, USAF, EPA

Recent Dryden Accomplishments

Dryden Flight Research Center

Helios Record Flight Above 96,000 ft

X-40 Flight Demonstration

Predator B Endurance Flight (24 hrs /above 40,000)

Recent Dryden Accomplishments

Dryden Flight Research Center

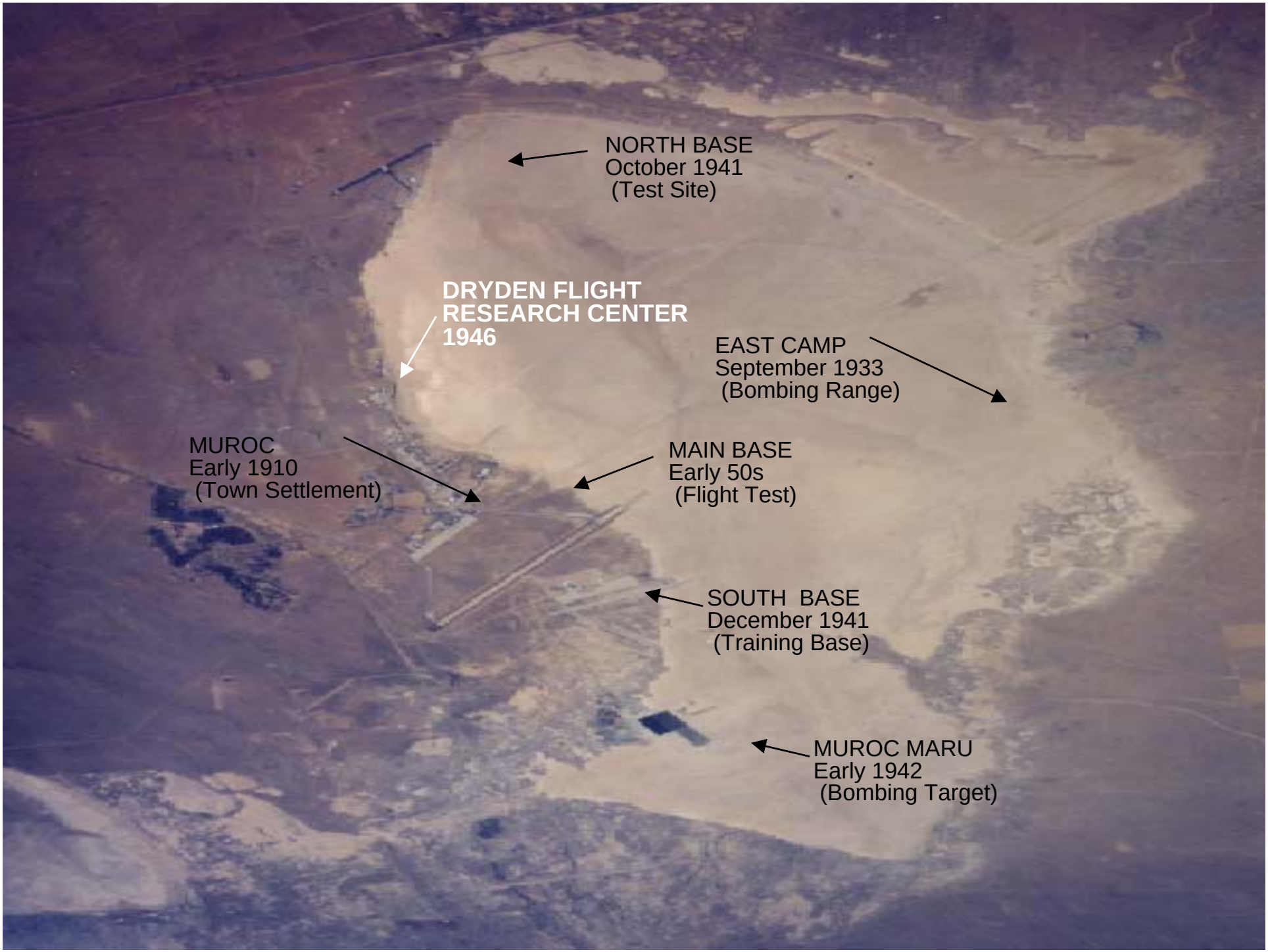
UAV, Detect/See/Avoid Demonstration, New Mexico

Dryden Airborne Science Platforms - DC-8 and ER-2

Dryden Flight Research Center

The NASA Dryden Flight Research Center was named after Dr. Hugh L. Dryden, the first Deputy Administrator of NASA. The following is his explanation as to why there is a need for flight research,

“. . . to separate the real from the imagined problems and to make known the overlooked and the unexpected problems. . .”.


NORTH BASE
October 1941
(Test Site)
DRYDEN FLIGHT
RESEARCH CENTER
1946
EAST CAMP
September 1933
(Bombing Range)
MUROC
Early 1910
(Town Settlement)
MAIN BASE
Early 50s
(Flight Test)
SOUTH BASE
December 1941
(Training Base)
MUROC MARU
Early 1942
(Bombing Target)

- Remote Location
- Varied Topography
- 350 Testable Days Per Year
- Extensive Range Airspace
- Instrumented Facilities, Test Aircraft, & Ranges

Edwards

- 29,000 Ft Concrete Runways
- 68 Miles Lakebed Runways

Dryden

- 834 Acres
- 950,000 Total Sq Ft Facilities
  - 300k Sq Ft Hangar Space
  - 200k Sq Ft Technical Support Space