

DCOTSS (Dynamics and Chemistry of the Summer Stratosphere) Investigation Catalog

Photos and Videos collected onboard the ER-2 aircraft during DCOTSS are available upon request from the ASDC or via the Airborne Science Program (ASP) website. Please visit the following links to either submit an inquiry or access the ASP website:

- To contact ASDC User Services use the feedback form linked on this page: <https://www.earthdata.nasa.gov/centers/asdc-daac/contact>
- Submit a post to the Earthdata Forum and a representative from the ASDC will respond as soon as possible: [Earthdata Forum](#)
- NASA Airborne Science Program Archive Access for DCOTSS 2021 Deployment: [DCOTSS 2021](#)
- NASA Airborne Science Program Archive Access for DCOTSS 2022 Deployment: [DCOTSS 2022](#)

Deployment 1 (2021)

DCOTSS Deployment 1: June 9, 2021 – August 19, 2021				
Date	Flight Purpose	Flight Information	Flight Report	Science Goals
2021-06-09	Test Flight #1	X	X	Test flight #1 out of Palmdale, CA
2021-06-14	Test Flight #2	X	X	Test flight #2 out of Palmdale, CA
2021-06-17	Test Flight #3	X	X	Test flight #3 out of Palmdale, CA
2021-07-12	Transit Flight #1	X	X	Transit flight #1 out of Palmdale, CA to Salina, KS
2021-07-16	Research Flight #1	Start Time (UTC): 14:13Z End Time (UTC): 22:10Z	Flight Report (EDS)	NH stratosphere survey and overshooting plume sampling
2021-07-20	Research Flight #2	Start Time (UTC): 14:01Z End Time (UTC): 20:15Z	Flight Report (EDS)	Convective plume sampling and North American anticyclone survey
2021-07-23	Research Flight #3	Start Time (UTC): 13:53Z End Time (UTC): 20:35Z	Flight Report (EDS)	0–3-day old convective plume sampling and North American monsoon anticyclone survey
2021-07-26	Research Flight #4	Start Time (UTC): 15:23Z End Time (UTC): 21:41Z	Flight Report (EDS)	Intensively sample 13-20 hour-old plume from recent overshooting convection
2021-07-29	Research Flight #5	Start Time (UTC): 19:00 Z End Time (UTC): 09:00Z	Flight Report (EDS)	Recent (0-1 day old) convective plume sampling

2021-08-02	Research Flight #6	Start Time (UTC): 13:54Z End Time (UTC): 20:36Z	Flight Report (EDS)	Intensively sample 1–3-day overshoot material; descent through PyroCb plume
2021-08-06	Research Flight #7	Start Time (UTC): 23:13Z End Time (UTC): 04:53Z	Flight Report (EDS)	Sample tracer background in the stratosphere during sunset
2021-08-10	Research Flight #8	Start Time (UTC): 21:30Z End Time (UTC): 18:00Z	Flight Report (EDS)	Intensively sample recent (0-1 day old) overshoot material over Illinois
2021-08-14	Research Flight #9	Start Time (UTC): 12:06Z End Time (UTC): 19:08Z	Flight Report (EDS)	Intensively sample 1–2-day old overshoot material
2021-08-17	Research Flight #10	Start Time (UTC): 15:08Z End Time (UTC): 21:56Z	Flight Report (EDS)	Sample the vertical and horizontal gradients of tracers under the low and high tropopause environments between Salina and TS Fred and a coordinated flight with WB-57
2021-08-19	Research Flight #11	Start Time (UTC): 13:57Z End Time (UTC): 21:04Z	Flight Report (EDS)	Intensively sample 2-day old overshoot material from Sierra Madre; 1-day old material from west Texas & eastern Mexico
2021-08-23	Transit Flight #2	X	X	Transit from Salina, KS to Palmdale, CA

Deployment 2 (2022)

DCOTSS Deployment 2: May 13, 2022 – July 13, 2022				
Date	Flight Purpose	Flight Information	Flight Report	Science Goals
2022-05-13	Test Flight #4	X	X	Test flight out of Palmdale, CA
2022-05-26	Transit Flight #3	Start Time (UTC): 17:01Z End Time (UTC): 22:23Z	Flight Report (EDS)	Sample stratospheric air intrusion associated with the upper-level low and aged convective outflow enroute to Salina from Palmdale
2022-05-29	Research Flight #12	Start Time (UTC): 11:02Z End Time (UTC): 16:00Z	Flight Report (EDS)	Sample recent (0-1 day old) overshoot material over northern Wisconsin and southeastern Minnesota
2022-05-31	Research Flight #13	Start Time (UTC): 22:59Z End Time (UTC): 04:07Z	Flight Report (EDS)	Sample the outflow from active convection over Central Oklahoma
2022-06-02	Research Flight #14	Start Time (UTC): 15:56Z End Time (UTC): 23:28Z	Flight Report (EDS)	Re-sample aged convective plume material from RF #13
2022-06-05	Research Flight #15	Start Time (UTC): 14:49Z End Time (UTC): 22:23Z	Flight Report (EDS)	Survey flight to high latitudes and altitudes
2022-06-08	Research Flight #16	Start Time (UTC): 13:56Z End Time (UTC): 21:25Z	Flight Report (EDS)	Intensively sample ≤ 12 -hr old overshoot material over Oklahoma; max altitude climb to the north for chemistry for 1 hour
2022-06-10	Research Flight #17	Start Time (UTC): 13:58Z End Time (UTC): 21:04Z	Flight Report (EDS)	Sampling fresh convective outflow material over eastern Texas
2022-06-21	Research Flight #18	Start Time (UTC): 13:05Z End Time (UTC): 20:06Z	Flight Report (EDS)	Survey flight for good particle sampling and deep profiles from center anticyclone across the jet and ozone gradient, with secondary goal of pyroCb smoke plume sampling
2022-06-24	Research Flight #19	Start Time (UTC): 17:51Z End Time (UTC): 01:20Z	Flight Report (EDS)	Sampling of active convection over Nebraska and/or South Dakota;

				Intensively sample ~18-hr old very deep overshoot material over Kansas
2022-06-27	Research Flight #20	Start Time (UTC): 18:53Z End Time (UTC): 00:48Z	Flight Report (EDS)	Sample 1-day old plume from deep convection that occurred over southern Missouri, Arkansas, and Louisiana
2022-06-29	Transit Flight #4	Start Time (UTC): 17:18Z End Time (UTC): 00:54Z	Flight Report (EDS)	Survey large-scale gradient from northwestern US to North American Monsoon anticyclone center on transit from Salina to Palmdale
2022-07-06	Research Flight #21	Start Time (UTC): 16:11Z End Time (UTC): 00:03Z	Flight Report (EDS)	survey of the tropical stratosphere and sampling of the HTHH volcanic plume and Sierra Madre convection outflow
2022-07-08	Research Flight #22	Start Time (UTC): 09:31Z End Time (UTC): 17:43Z	Flight Report (EDS)	Sunrise flight to examine stratospheric photochemistry
2022-07-11	Research Flight #23	Start Time (UTC): 19:04Z End Time (UTC): 03:04Z	Flight Report (EDS)	Intensively sample ~3-day-old Sierra Madre overshoot material over the Pacific