

Using Instrument DOIs to Track Citations

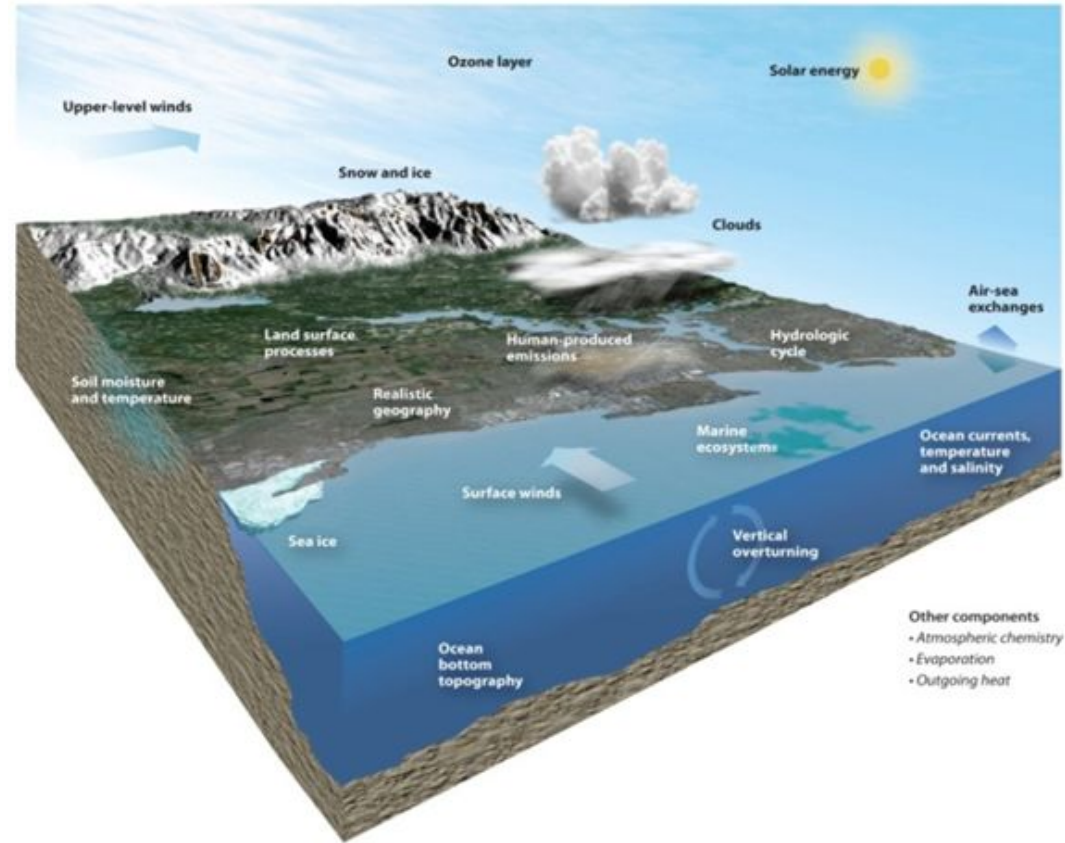


Aug. 21, 2024

<http://n2t.net/ark:/85065/d7tf02g5>

NSF NCAR & UCAR

- NSF NCAR is a Federally Funded Research and Development Center
- UCAR manages NSF NCAR via a Cooperative Agreement with the NSF
- UCAR has 120+ member colleges and universities
- Provide facilities and community coordination, and conduct research
- ~1200 employees



Topics

- DOI assignment
- Connecting instrument DOIs to related literature
- Leveraging citation services



PID Assignment

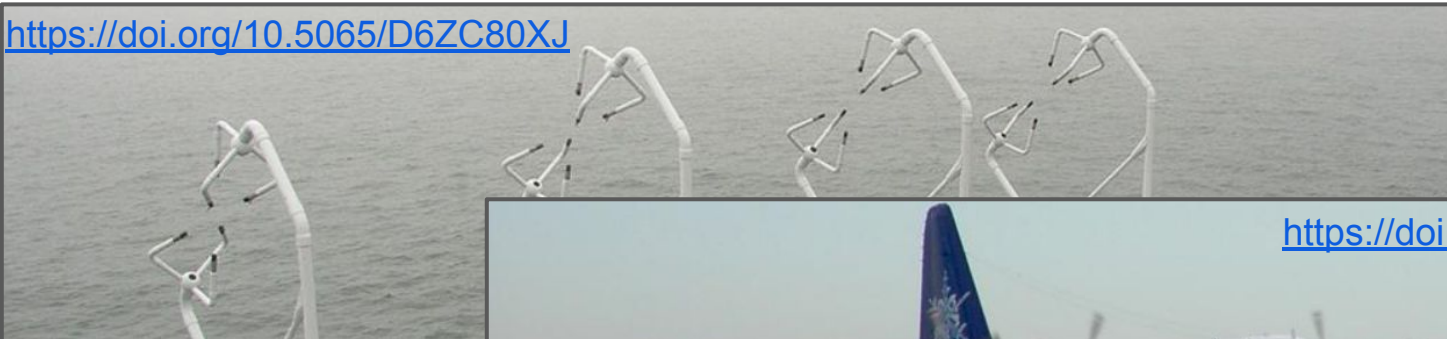
UCAR has been assigning Digital Object Identifiers (DOIs) since 2012
(numbers as of 8/7/2024)

- Dataset - 10,319
- Text - 1,238
- Software - 43
- **Physical Object - 25**
- **Service - 5**
- Collection - 5
- Model - 2
- Other - 2
- Computational notebook - 1
- Event - 1
- Interactive resource - 1

The DataCite logo consists of the word "Data" in a bold, blue, sans-serif font, followed by the word "Cite" in a grey, sans-serif font.

PIDs for Facilities and Instruments

<https://doi.org/10.5065/D6ZC80XJ>



Integrated Surface Flux System

ISFS DESCRIPTION



<https://doi.org/10.5065/D6WM1BG0>



NSF/NCAR C-130

Aircraft Overview

The Lockheed C-130 "Hercules" aircraft is a four-engine, medium-size utility aircraft that has proven to be one of the most well-known and versatile aircraft ever built. The NSF/NCAR aircraft is a model EC-130Q, similar to the more common model C-130H model except for electrical and air-conditioning modifications. The aircraft is an all-metal, pressurized, high-wing monoplane powered by four Allison T-56-A-15 turboprop engines. It is equipped with dual-wheel, tricycle landing gear with the main gear wheels arranged in tandem and the nose gear arranged side-by-side. The C-130 maintained and



C-130

NSF/NCAR C-130

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Quasi-Idealized Numerical Simulation of Processes Involved in Orographic Convective Initiation over the Sierra de Córdoba

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(Manuscript received 11 January 2016, in final form 1 December 2016)

ABSTRACT The Sierra de Córdoba (SDC) range in Argentina is a hotspot of deep moist convection initiation (CI). Radar observations indicate that 80% of daytime CI events that occur over the SDC in spring and summer seasons and that are not associated with the passage of a cold front or an upper-level trough are associated with level 1–2 CI and that such events are predominantly associated with the southeast quadrant of the mean ridge of the SDC. To investigate the physical mechanisms leading to level 1–2 updraft initiation, a numerical simulation is conducted with a horizontal grid spacing of 1 km over a cross section of the Sierra de Córdoba. The resulting updrafts are simulated by a horizontal grid spacing of 1 km with realistic conditions simulating them as a generally persistent convective mode of CI over the region, making it a conceptual case study. Differential heating of the atmosphere caused by solar insolation in conjunction with the two-level anolytic flow sets up a convergence for air in the eastern slope of the SDC. The southeast portion of the flow experiences significant subsidence in convective initiation, and CI occurs over the SDC southeast quadrant. The simulated area uses a moist-thermodynamic thermodynamic formulation. Significant moisture deficit during the ascent of air over the southeast quadrant. A simulated surface background flow generated convergence over the ridge, with subsiding CI across the entire ridge. A correlation with their spatial organization identifies convective initiation that CI is most readily influenced by gravity waves. We conclude that the two-level jet is sufficient to have convective initiation over the southeast quadrant of the ridge.

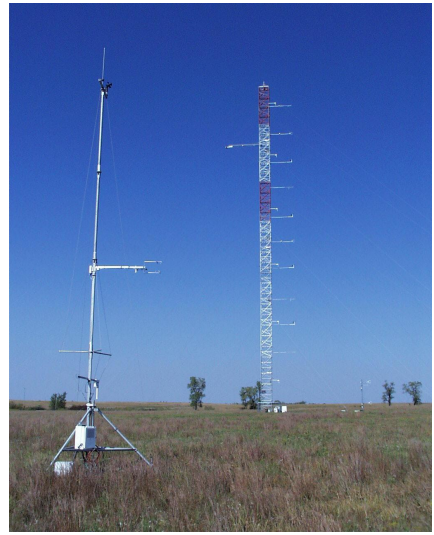
KEYWORDS: Cloud cooling; moisture; moisture deficit; numerical weather prediction; forecasting

1. Introduction
 Numerical weather prediction (NWP) models often have difficulty in accurately predicting the initiation of deep moist convection (hereafter CI). The problem is compounded in complex terrain because of additional challenges such as difficulty in faithful representation of surface fluxes (e.g., planetary boundary layer (PBL; Brutsa and Zank 2007; Schabas and Lyle 2008; Horev et al. 2010), and other moist-thermodynamic processes (e.g., Schabas et al. 2010), as well as diabatic self-heating (e.g., Schabas et al. 2010). In addition, the presence of a moist-thermodynamic near-surface boundary layer is a source of uncertainty in the low-level moisture flux of generation of convective mass (e.g., Horev et al. 2010; Schabas et al. 2011).
 CI over steeply sloped terrain (e.g., 10–20 km) variables in atmospheric temperature and moisture as well as local surface conditions (e.g., Kousky et al. 1988; Fritsch 2004) increase. Improved flows can lead to strong vertical variability, as these flows which may be regarded as vertically barotropic (V. Fritsch 2004). V. Fritsch (2004) states that the presence of CI over terrain is critical due to potential local surface moisture transport and heating, and convective initiation.

given updraft into moisture convection systems (development of clouds).
 This paper, investigating the Sierra de Córdoba (SDC) CI range in central Argentina is a profile prediction of moisture flux over convective initiation. Previous studies using surface and radar data show that moisture flux in the region are center of the deep convective systems in the field and produce large hail, lightning, flooding, and even tornadoes (Schabas and Fritsch 2011; Schabas et al. 2010; Fritsch et al. 2006).
 However, the flows around the SDC and role of moisture processes to CI are not sufficiently explained. Using these knowledge gaps could help in understanding CI processes more generally over other mountain terrain features. Several studies have developed the role of convective mass processes in triggering deep convection over the region downstream of the Andes and investigating the SDC. It is hypothesized that the moisture deficit could be another flow over the ridge, back to a convergence of the northward, moist flow. Moisture flux over the SDC range is investigated in this study. Fritsch et al. (2006) and Fritsch 2004. Various studies have shown that the SDC range acts as the hot spot of CI in the atmosphere (Fritsch et al. 2006; Rosenfeld and Horev 2010), using data from the Tropical Rainfall Measuring Mission (TRMM) Precipitation

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Articles -> Related Resources



Linking scientific papers to supporting data sets, software, and other resources

- Can we collect and display linkages to other resources or information?
- How best to make this information useful and understandable for users?
- How to do this in a tractable and sustainable way, e.g. automated as much as possible without much maintenance?

PID Linking - Workflow

- Parse PDFs of papers in Library institutional repository for DOIs
- Query DataCite metadata store to determine which DOIs are for data sets, software, facilities and services
- Add metadata for data sets and/or software to OpenSky records as “Related” information
- Display on paper landing pages

SCALING LAWS FOR THE LONGITUDINAL STRUCTURE FUNCTION IN THE ATMOSPHERIC SURFACE LAYER



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In collections

- Journal Articles

Supporting Service or Object

- NCAR Integrated Surface Flux System (ISFS)

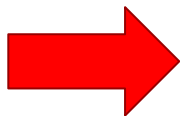
Abstract

Scaling laws for the longitudinal structure function in the atmospheric surface layer (ASL) are studied using dimensional analysis and matched asymptotics. Theoretical predictions show that the logarithmic scaling for the scales larger than those of the inertial subrange recently proposed for neu... [Show more](#)

Published Version: <http://dx.doi.org/10.1175/JAS-D-16-0228.1>

Details

| | |
|--------------------------|---|
| Author(s) | Marcelo Chamecki Nelson L. Dias Scott T. Salesky Ying Pan-NCAR/UCAR |
| Title | Scaling laws for the longitudinal structure function in the atmospheric surface layer |
| Publication Title | Journal of the Atmospheric Sciences |
| Date | 2017-04 |
| Volume | 74 |
| Issue | 4 |
| Pages | 1127-1147 |
| Resource Type | article |
| Peer Review | Refereed |



<https://api.rda.ucar.edu/citations/>

UCAR Citation API Guide

This API allows users to retrieve citation information for UCAR assets that have been assigned a Digital Object Identifier (DOI). Responses are returned in Javascript Object Notation (JSON) by default, with the possibility of other formats being made available in the future. Filtering of results via query parameters is another planned future implementation.

This guide describes the various operations of the API and provides sample API calls and responses.

- Retrieve a single DOI
- Retrieve the list of DOI minters
- Retrieve a minter
- Retrieve the list of publishers
- General options
- Errors
- Output formats

Tracking Citations of UCAR Assets Using DOIs

- Sources of citation information
 - Started with CrossRef
 - Added Scopus and Web of Science later
 - Investigating Google Scholar
- Citation finder tool runs as a cron 2x/month
- <https://github.com/NCAR/rda-citefind>
- PostgreSQL database on back-end
 - DOI of citing work -> DOI asset (counts)
 - Publication info -> DOI of citing work (bibliographies)



Integrated Surface Flux System

ISFS DESCRIPTION



ISFS

Integrated Surface Flux System

ISFS

- ISFS Sensor List
- Data
- ISFS Contact
- ISFS Request Guidance
- Request ISFS

Total - 13

- 2017 1
- 2018 3
- 2019 1
- 2020 3
- 2021 1
- 2022 2
- 2023 1
- 2024 1

Thank You

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<http://n2t.net/ark:/85065/d7t43z88>

