

RICO DATA MANAGEMENT STATUS UPDATE

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Steve Williams

UCAR/Joint Office for Science Support (JOSS)

Boulder, Colorado

13 45 88

RICO Data Workshop

Boulder, CO

27-28 June 2005

Rain In Cumulus over the Ocean

Experiment

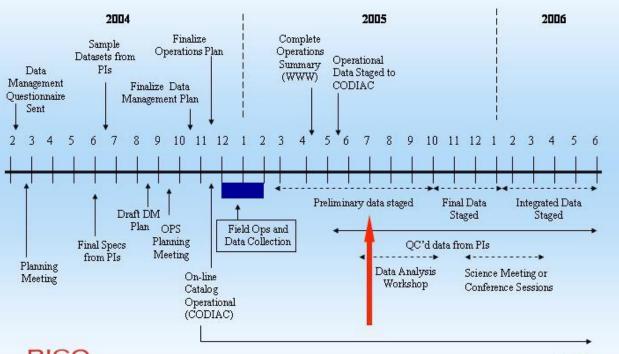
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RICO Data Management Timeline







JOSS DATA MANAGEMENT ACTIVITIES

- Maintained the RICO on-line Field Catalog → Began loading products into the final archive (CODIAC)
- Continued development of the RICO "home" and Data Management web pages including all project information and relevant links
- Working with the RICO PIs to get identified data sets organized
 → Implemented data set submission guidelines
- Established a RICO Data Archive Center (RDAC) which provides data distribution/support for the PIs and the general scientific community. This includes comprehensive seamless access to all operational and research data sets through a "one-stop" distributed data archive
- Began Staging Operational and Research data sets to CODIAC





RICO METEOROLOGICAL OVERVIEW

by Kathy-Ann Caesar

Caribbean Institute for Meteorology and Hydrology

- Daily Synoptic Weather Summaries
- Monthly Statistics
- Forecast Criteria and Indices
- Specific Discussions on:
 - Subtropical Jet Stream
 - Low Level Troughs
 - Trade Wind Inversion
 - Vertical Wind Regime
 - K-Index

Summary of the Weather during the RICO project – December 8 4, 2004 and January 244, 2005

Kethy-Ann L. Curear Caribbean Institute for Meteorology and Hidrology

Abstrac

The Rain in Consulus over the Ocean Experiment (RICO) was designed and carried out to study the properties of the mule wind consulus and its escolated percipitation. The project was centred on the Caribbean islands of Antiqua and Barbada.

The climatology of the inleads and currounding area did solubil the ideal conditions of such a project. The area is within the Leeward Islands, considered the drier region of the Eastern Confidence and subject to the prevailing trade wheel cumulus clouds at the predominent cloud types.

During the two month long operational phase of the project the weather over the RICO domain was influenced by the expected we then phenomens that normally meaners the region. These included one tropical wave, a number of upper level troughe, and west-cold found during the latter part of the project.

Rainfull amounts were below the climatelegical owners. The domain was overcust or dominated by deep convective conditions for less than 5% of the period, and on a few occusions the cumular clouds were very shallow and spots. In general, the providing weather that allow for good observational conditions and hopefully the optimal data collection.

1. Introduction

The Rain in Cumulus over the Ocean Experiment (RICO) was centred on the islands of Antigua and Barbuda in the Leaward Island chain of the Curibbean. The climatology of the area is conductee to the RICO objectives, which were to investigate the properties of teads wind cumulus and the precipitation associated with cumulus clouds (Ragber et al). The islands are located on the north-eastern edge of the Curibbean island chain. The islands are within the transitional region of the trade wind belt and the subtropies. Therefore the weather is dominated by the northeast trade winds and subject to the interjection of subtropical highs which often limit the vertical development of cumulus clouds.



RICO Data Management



Data Policy

Data Submission

- Dataset Documentation Guidelines
- Data Submission Instructions

Distributed RICO Long-Term Data Archive

- Data Access
- · Data Information Links
 - WHOI Buoy Data from 51W 15N
 - NDBC Caribbean Buoy Observations
 - NOAA Marine Observations
 - · US ARGO
 - NOAA Drifting Buoy Center
 - Pilot Research Moored Array in the Tropical Atlantic (PIRATA) Home Page
 - · High Density XBT Lines
 - Satellite Data Information Links
 - Caribbean Institute for Meteorology and Hydrology Data Archive

Documents

- RICO Operations Plan
- RICO Science Overview
- Maps of Meteorological Networks in the RICO Region
- RICO Data Questionnaire
 - Responses

Collaborating Projects

 VAMOS Ocean-Cloud-Atmosphere-Lany Study (VOCALS)

Other Links

- UIUC RICO Home Page
- JOSS RICO Home Page
- Puerto Rico NWSFO
- Meteo France Antilles-Guyane (best viewed in IE)
- Antigua & Barbuda Meteorological Services (best viewed in IE)
- Caribbean Institute for Meteorology and Hydrology
- Explorer of the Seas (University of Miami)

http://www.joss.ucar.edu/rico/dm

RICO DATA POLICY SUMMARY

- All investigators must agree to promptly submit their data to the RICO archive
- All data shall be provided to other RICO Investigators upon request
- During the initial 1-year data analysis period, data may be provided to a third party only with the permission of the investigator(s) who collected the data
- All data will be considered public domain not more than
 1-year following the end of the RICO field phase
- Any use of the data will, at a minimum, include acknowledgment. Co-authorship TBD with the investigator(s) who collected the data

RICO DATA POLICY SUMMARY

- All investigators participating in RICO must agree to promptly submit their data
 to the RICO Data Archive Center (RDAC) to facilitate intercomparison of results,
 quality control checks and inter-calibrations, as well as an integrated
 interpretation of the combined data set.
- All data shall be promptly provided to other RICO investigators upon request. A
 list of RICO investigators will be maintained by the RICO Project Office and will
 include the Principle Investigators (PIs) directly participating in the field
 experiment as well as collaborating scientists who have provided guidance in
 the planning and analysis of RICO data.
- During the initial data analysis period (one year following the end of the field phase; 25 January 2005), if data are provided to a third party (journal articles, presentations, research proposals, other investigators) the investigator who collected the data must be notified first. This initial analysis period is designed to provide an opportunity to quality control the combined data set as well as to provide the investigators ample time to publish their results.
- All data will be considered public domain not more than one year following the end of the RICO field phase. Data can be opened to the public domain earlier depending on the discretion of the data provider. There will be exceptions where extensive data processing is required.
- Any use of the data will include acknowledgment (i.e., citation). Co-authorship
 during the one year analysis phase will be at the discretion of the investigator(s)
 who collected the data.

RICO DATASET METADATA

TITLE: This should match the data set name AUTHOR(S):

Name(s) of PI and all co-PIs

Complete mailing address, telephone/facsimile Nos.,

E-mail address of PIs, and WWW address (if applicable)

Similar contact information for data questions (if different than above)

1.0 DATA SET OVERVIEW:

Introduction or abstract

Time period covered by the data

Physical location (including lat/lon/elev) of the measurement or platform

Data source if applicable (e.g. for operational data include agency)

Any World Wide Web address references (i.e. additional documentation such as Project WWW site)

2.0 INSTRUMENT DESCRIPTION:

Brief text (i.e. 1-2 paragraphs) describing the instrument with references

Figures (or links), if applicable

Table of specifications (i.e. accuracy, precision, frequency, resolution, etc.)

3.0 DATA COLLECTION AND PROCESSING:

Description of data collection

Description of derived parameters and processing techniques used

Description of quality control procedures

Data intercomparisons, if applicable

4.0 DATA FORMAT:

Data file structure and file naming conventions (e.g. column delimited ASCII, NetCDF, GIF, JPEG, etc.)

Data format and layout (i.e. description of header/data records, sample records)

List of parameters with units, sampling intervals, frequency, range

Data version number and date

Description of flags, codes used in the data, and definitions (i.e. good, questionable, missing, estimated, etc.)

5.0 DATA REMARKS:

PI's assessment of the data (i.e. disclaimers, instrument problems, quality issues, etc.)

Missing data periods

Software compatibility (i.e. list of existing software to view/manipulate the data)

6.0 REFERENCES:

List of documents cited in this data set description







Field Documentation

Operations Summary

Instrument / Facility Status

Forecast Briefing

Mission Summary

Scientist Summary



UCAR Office of Programs
University Corporation for Atmospheric Research



RICO Facilities Status Summary Report

Date of report(UTC): 2005/01/15 18:04 Author of report: Greg Stossmeister Submitted at(UTC): 2005/01/15 18:08

OVERVIEW:

Land radars operational

Barbuda soundings taken 4/day

BAE-146 and UW King-Air flying today. Hard-down day for the NCAR C-130.

R/V Johnson on port call in Antigua today. Antigua air sampling site fully operational.

FACILITY/PROJECT STATUS

NCAR C-130	Comment: See also detailed instrument status report
a Air Chemistry	Comment:
b. Microphysics	Comment:
SABL	Comment: replacement parts shipped
d. Dropsondes	Comment:
e. Navigation, State Parameters	Comment: Lyman alpha performing better
f Data System	Comment:
g Sat. Communications	Comment:
W King Air	Comment:
a Air Chemistry	Comment:
b. Microphysics	Comment:
Cloud Padar	Comment: New norte due in next week



Mission Scientist Report, RICO, RF15 January 16th, 2005 C130Q Flight Scientist/Observer: Stevens/Ochs



Figure 1: Images showing cloud field during flight.

General cloud characteristics: The clouds sampled during the line segment of the flight were initially thought to be in the outflow of a region of more organized, deeper convection. Our targets consisted of several convective cells which grew substantially during the period of flight operations, eventually reaching depths of 15000'. Based on the radar imagery (Fig. 3), the "line" might be better interpreted as the stronger, eastern, flank of meso-cell of approximately 60 km in diameter. Later we sampled another ring, or rings of growing convection with tops nearer 6000 ft, sampling many rainshafts, and convective cells at a variety of levels, these were more apparently annular while flying. Both the deeper cells sampled early and the later cells sampled late were not unlike other forms of convection encountered during RICO. Cloud droplet concentrations during the flight were low, typically around $100~\rm cm^{-3}$ or a bit less. The latter cells provided many opportunities to work rainshafts near the radar, thus providing calibration for Z-R relationships during RICO.





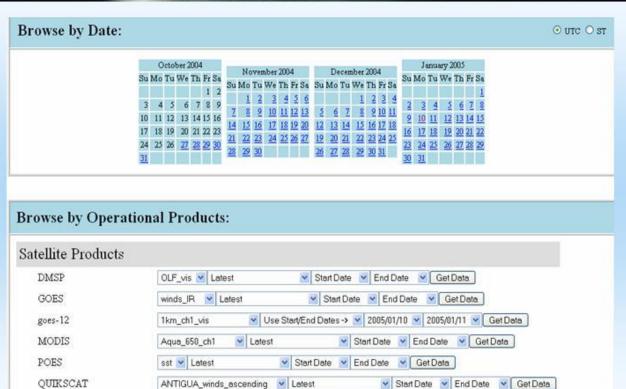
SEAWIFS

RICO Field Catalog

ANTIGUA_winds_ascending V Latest

atlantic M Latest





Start Date End Date Get Data





Operational Products Display

Satellite

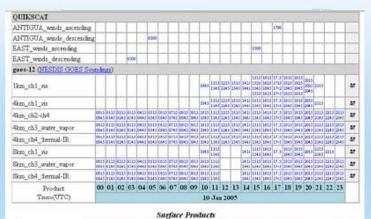
Surface

Model Analysis

Upper-Air Soundings

Buoy Data

Marine Products



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UCAR Office of Programs University Corporation for Atmospheric Research





RICO Mission Table

Note: FF and RF refer to NCAR C-130 datafile name. B refers to BAE-146 data, and MMDD (2-digit month, 2-digit day) refer to Wyoming datafile name with a and b used when multiple flights occur in a given day.

Number	Number Date Mission		Begin (UTC)	End (UTC)	Location/Mission Map	Catalog Products	Facilities	Notes
17 RF-12 UW-20050111	11 Jan	Trade Cumulus Study C-130 Summary	1400	2200	NE of Barbuda in S- and k- band radar coverage, near the ship, and SE of S-Polka	Operational Research Model	UW King-Air NCAR C-130 R/V Seward Johnson S-Polka Barbuda Ground Site Antigua Air sampling site GOES super-rapid scan	Excellent case study of small and vigorous trade cumulus. King-Air and C-130 flew in different radar sectors to study clouds near the ship and SE of the radar. Excellent intercomparison with the ship by the C-130.
18 RF-13 B073 UW-20050112	12 Jan	Trade Cumulus Clusters with Towers C-130 Summary BAE-146 Summary	1400	2200	NE of Barbuda in S- and k- band radar coverage, generally E and SE of the ship.	Operational Research Model	UW King-Air BAE-146 NCAR C-130 R/V Seward Johnson S-Polka Barbuda Ground Site Antigua Air sampling site GOES super-rapid scan	Coordinated 3 aircraft study of cumulus clusters with towers. BAE-146 overflight of ship.
19 RF-14 B0°4 UW-20050114	14 Jan	Trade Cumulus Study C-130 Summary BAE-146 Summary	1500	2300	NE of Barbuda in S- and k- band radar coverage, near the ship.	Operational Research Model	UW King-Air BAE-146 NCAR C-130 R/V Seward Johnson S-Polka Barbuda Ground Site Antigua Air sampling site GOES super-rapid scan	Three aircraft coordinated measurements of widespread shallow cumulus





RAMS Forecast Products

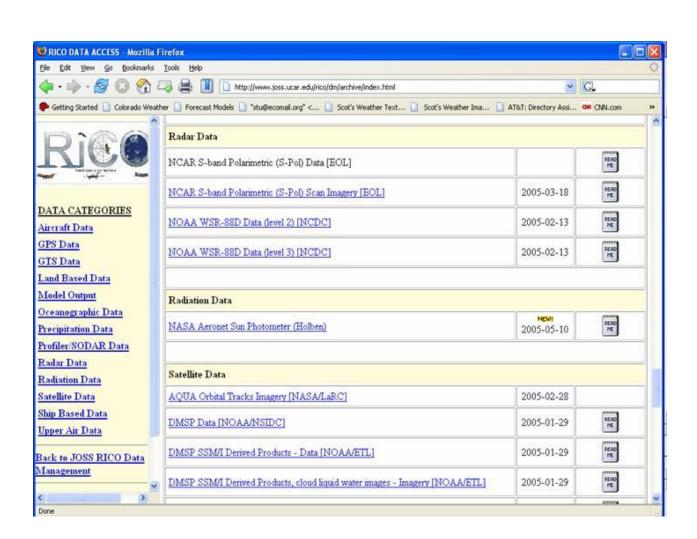
Forecast	10 Jan 2005					11 Jan 2005									12 Jan 2005											
Times(UTC)	12	14	16	18	20	22	00	02	04	06	08	10	12	14	16	18	20	22	00	02	04	06	08	10	12	잁
RAMS_grid3 - Anal	ysis	an	d F	ore	cas	t fr	om	200	5/0	1/10	0 12	:00	U	rc	(RA	MS	RI	CO	FC	RE	CA	ST	3)			
300mb_RH	00br	02be	04hr	0G)£	08ber	10er	120e	14hr	10kg	18br	20be	22hr	243£	29e	280e	30hr	32br	340e	36ke	380e	40hr	4 2bc	44hr	4 Chr	480e	21
300mb_speed	00be	020e	04hr	06er	08be	10er	12be	10e	100	18hr	20ee	22hr	243e	29e	28be	30ber	32br	340e	30er	380e	40be	42be	44hr	46kg	480er	21
300mb_temp	00ber	02e	04hr	0 0 2	08ber	10er	12be	14br	100	18br	20ke	22hr	249e	26e	28bc	30he	32be	340e	3Qe	380e	40be	42br	44hr	46er	480e	22
500mb_RH	00be	02br	04hr	0@r	08ber	10er	12be	14hr	1000	18br	20ke	22hr	240 m	29e	28bc	30he	32br	340m	30kr	380e	40bir	42br	44hr	4@r	48hr	22
500mb_speed	00be	02hr	04hr	0@e	08ber	10hr	12br	14hr	10e	18br	200e	22hr	240 E	29e	280e	30ke	3 2 br	34)u	36hr	380e	40be	42be	44hr	46kg	48ber	21
500mb_temp	00be	02e	04hz	0 0 z	08ke	10be	12bc	14br	100	18br	20be	22br	24br	20kg	28bc	30be	32br	340a	3Ge	380e	40bir	42be	44hr	40kg	480er	21
700mb_RH	00be	02e	04br	06kg	08be	100c	12be	14bz	16ks	18hr	20kz	22br	24be	26kr	28bc	30hr	32br	34)m	36kr	380 g	40bir	42br	44hr	46kz	400e	25
700mb_speed	00hr	02hr	04hr	0 0 z	Other	10be	12be	14hr	10e	18hr	20he	22hr	24br	26kr	26be	30hr	32be	34) a	30u	38 0 e	40be	42hr	44ha	46be	480e	25
700mb_temp	00hz	02be	04hr	0Gr	Other	10he	12be	14hr	10e	18br	200e	22br	24be	20kg	20be	30hr	32br	34)m	36kr	380e	40hr	42be	44hr	46kg	480e	25
850mb_RH	00hr	02he	04hr	0@r	08be	10he	12be	14br	16kr	18br	20be	22br	240e	20kr	26be	30he	32br	341r	36kr	380e	40hr	42bz	44hr	40ec	480e	25
850mb_speed	00be	02ie	04hr	0@g	Other	10bz	12be	14br	10e	18br	20hr	22hr	24be	20kr	28be	30he	32be	342e	30e	380e	40ke	42br	44hr	46ke	480e	25
850mb_temp	00hr	02be	04hr	0Gz	Other	100e	12be	14hr	1Ge	lihr	20be	22hr	240e	29e	26be	30he	32he	340e	30u	380e	40hr	42br	44hr	40er	48hr	25
acc_tot_precip	00he	02e	04hr	0Gr	08hr	10hr	12br	14hr	1000	18br	20ee	22hr	249£	29e	28br	30hr	32br	340m	30er	380e	4Chr	42br	44hr	40er	480e	25
mixed_layer_height	00be	02be	04hr	0002	08ber	10ee	12be	14hr	10e	18hr	20ee	22he	249 E	259e	28br	30he	32br	342e	3@r	380e	40hr	42br	44hr	4Ger	48be	25
precip_rate	00be	029e	04hr	0620	08ber	10èe	12be	14br	160e	18hr	20be	22hr	24be	20ke	28be	30hr	32hr	342e	3@c	380e	4Gbr	42bc	440e	46be	48her	21
sea_level_press	00be	02be	04hr	06er	08ber	100e	12br	14br	10e	18br	200e	22he	248£	29e	28be	30he	32br	349e	30er	380e	40be	42br	440a	46er	48be	21
sfc_dew	00be	02be	04hr	0602	08kg	100e	129er	14br	10e	18br	20ee	22hr	24bs	29e	28br	30ke	32hr	340m	30kr	380e	40hr	42be	44hr	40er	480e	91
sfc_temp	00be	02be	04hr	0602	08ber	10èr	120e	10r	10e	18br	200e	22be	240 E	29e	26ber	30hr	32br	340e	36kr	380e	40hr	42br	440a	46be	480ar	22
sfc_wind	00bg	028 e	04hz	06kg	08be	10hr	12be	14br	10e	18br	20be	22be	24br	29e	28be	30hr	32br	340e	30e	38be	40hr	42bc	44lu	46er	48be	22
vert_integ_condensate	00be	022e	04hr	0@z	08ke	10ec	12be	14hr	100	18br	20he	22br	240 E	26hr	280c	30hr	32br	34hr	30kr	300 e	40kg	42be	44hr	46kg	48br	2
Forecast	12	14	16	18	20	22	00	02	04	06	08	10	12	14	16	18	20	22	00	02	04	06	08	10	12	
Times(UTC)	10 Jan 2005								11	Jai	20	005					12 Jan 2005									







Browse by Research Products: Aircraft Products NCAR_C-130 Latest Start Date End Date Dropsonde Get Data Start Date End Date sabl gdb V Latest ▼ Get Data UW King-Air Latest WCR_H1_up_side Start Date M End Date ✓ Get Data Radar Products dbz V Latest S-Pol Start Date M End Date M Get Data Surface Products ✓ Latest ▼ Start Date ▼ End Date ▼ Get Data Antigua_Sampling_Site Humidity ISFF ✓ Latest Start Date V End Date V Get Data Met Upper Air Products GAUS_sounding spanish_point M Latest Start Date V End Date V Get Data Start Date End Date Get Data Seward Johnson skewt V Latest Other Products HYSPLIT ✓ Start Date ✓ End Date back_trajectories M Latest Get Data NAAPS ✓ Start Date ✓ End Date ✓ Get Data caribbean_aerosol M Latest

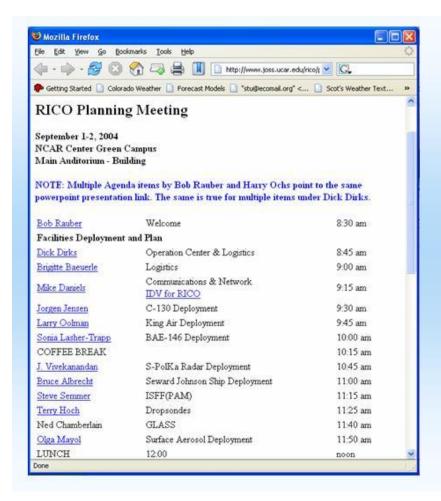


RICO DATA MANAGEMENT ISSUES

- Need RICO photo distribution policy and protocol
- During the presentations, all investigators are asked to:
 - Identify Data Sets to be submitted to the archive
 - Estimate Data Submission Date(s)
 - Address any additional Data Requirements
- Access to ECMWF High Resolution Supplemental Fields?
- Need for Data "Composites" (e.g. Upper Air)?
- Are there any other Data Integration Needs?

RICO Data Management and Access: http://www.joss.ucar.edu/rico/dm

Questions or Comments: Contact Steve Williams at: sfw@ucar.edu





.... Finally, please provide JOSS a copy of your presentation for Workshop Documentation.

A slideshow of your presentation (not the PPT file) will be posted on the RICO web pages

