



IWRAP: Observations of Hurricane Ike

Status of Data Products and Availability

S. J. Frasier, T. Chu, J. McManus, R. Contreras
U. Massachusetts

P. S. Chang, Z. Jelenak
NOAA/NESDIS

D. Esteban-Fernandez, D. Perkovic
NASA/Jet Propulsion Laboratory

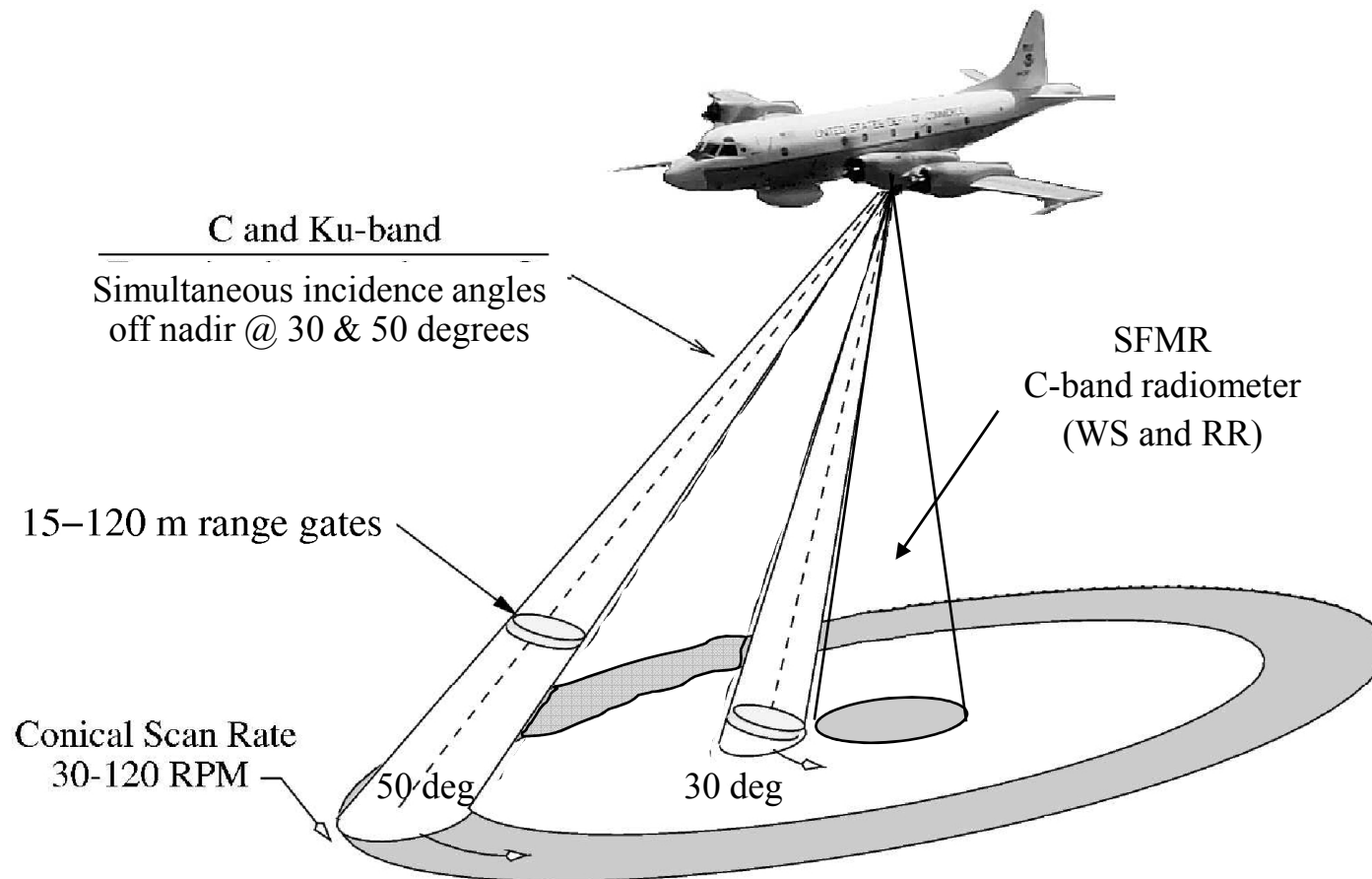
OVWST Meeting, 19-21 Nov 2008, Seattle, WA



Outline

- Summary of HS2008
 - Ku-band: V-pol @ 30 and 50 deg incidence
 - C-band: H-pol @ 30 and 50 deg incidence
 - **+13dB sensitivity via pulse compression @ 50 deg**
 - **Real-time radar processor in-flight**
- Overview of Ike
 - Flights on 9/6-7, 9/9-12
 - Underflights of QuikSCAT and ASCAT
 - Attenuation effects/correction
- Data Products Description
 - Level-1 "Conical-Scan" products
 - Level-2 "Along-Track" products

Imaging Wind and Rain Airborne Profiler (IWRAP)

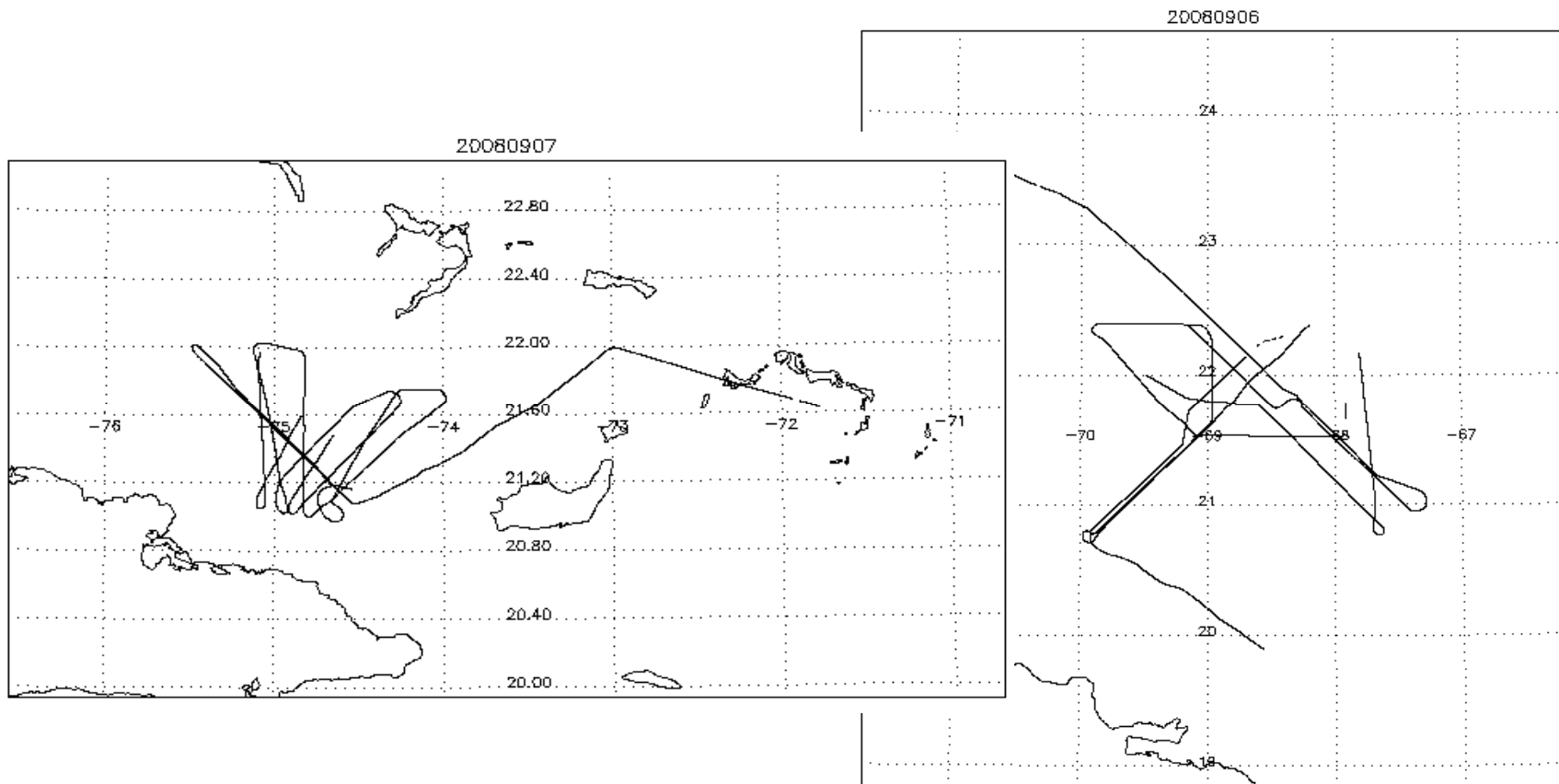




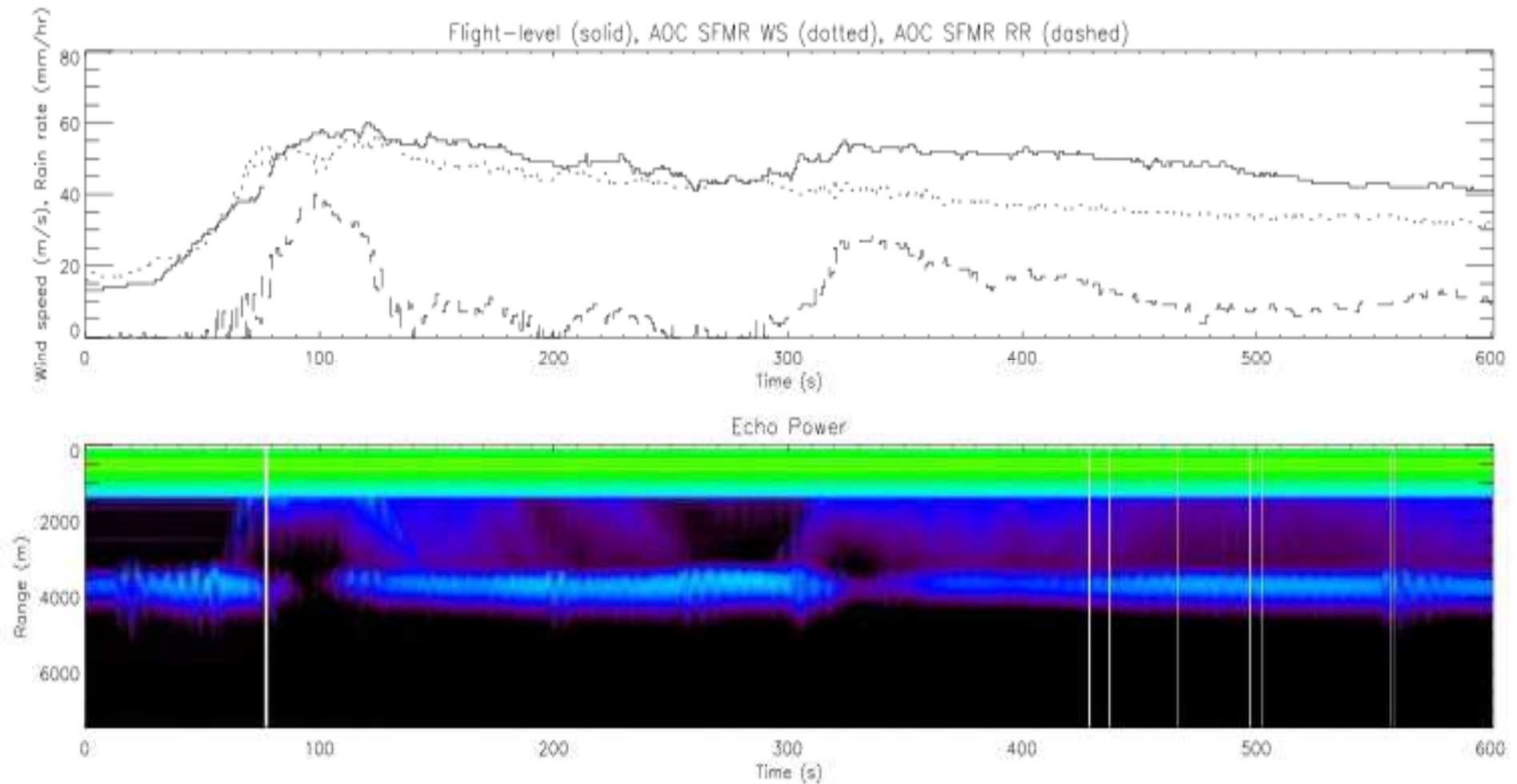
Summary of flights (2007 - 2008)

Year	Date	Name	Category	C-	Ku-	SFMR
2007	Jan 20,22,26	St. Johns	< 40 m/s	V	V	UM
2007	Feb 2,6,8,9	Quikscat/ASCAT	< 40 m/s	V	V	UM
2007	Aug 31, Sept 1,2	Felix	5,5,5		V	HRD
2007	Sept 14,15,17	Ingrid	TS,TS,TS	H	V	HRD
2008	Aug 18	Fay	TS	H	V	HRD
2008	Aug 29-31	Gustav	TS, 4, 3	H	V	HRD
2008	Sept 6-7, 9-12	Ike	4, 3, TS, 1, 2, 3	H	V	HRD

Data Collections 9/6-7



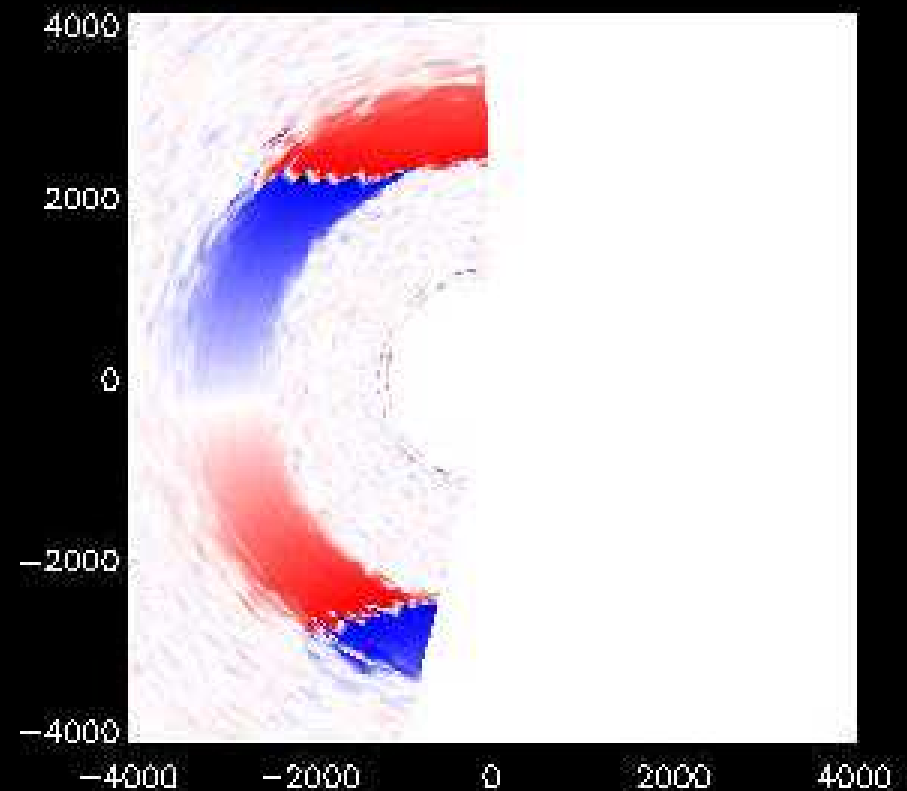
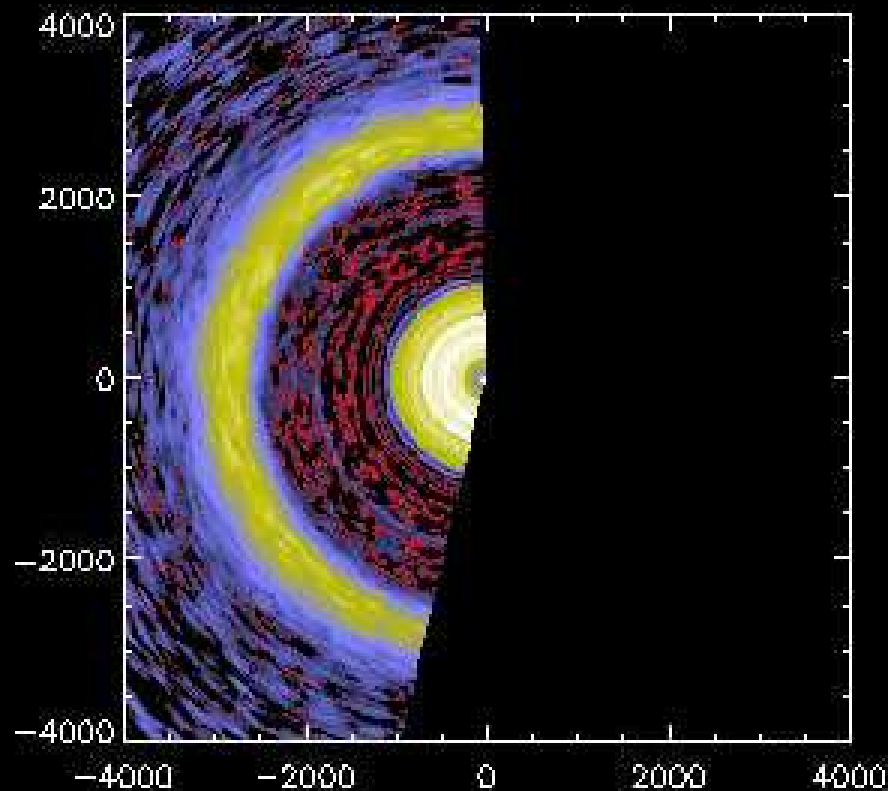
Outbound eyewall penetration Ku-band



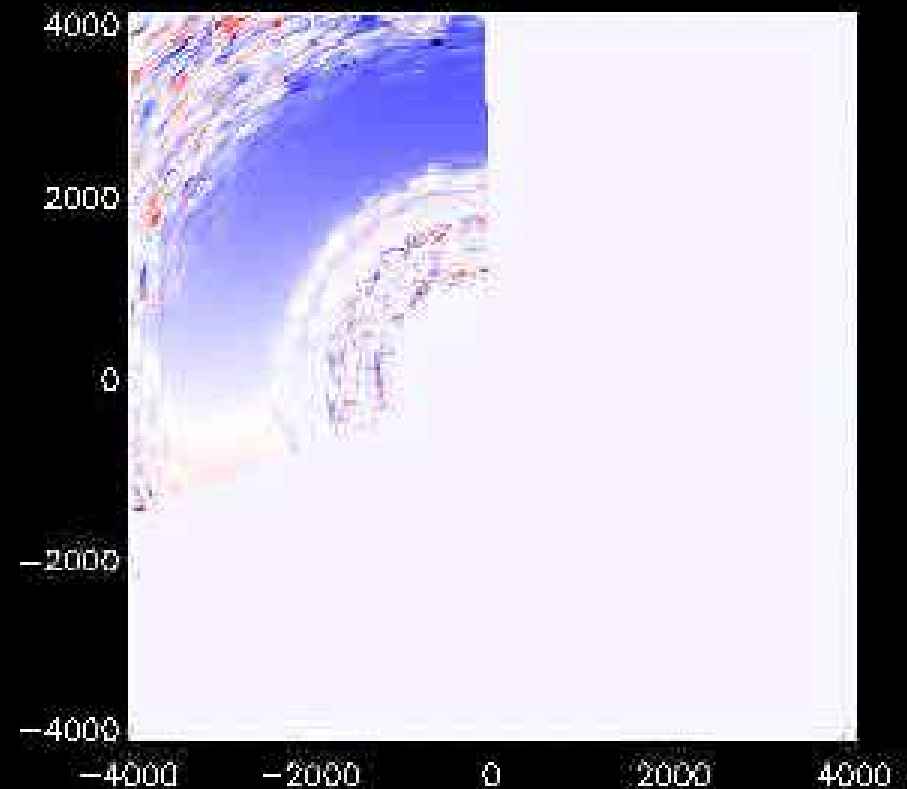
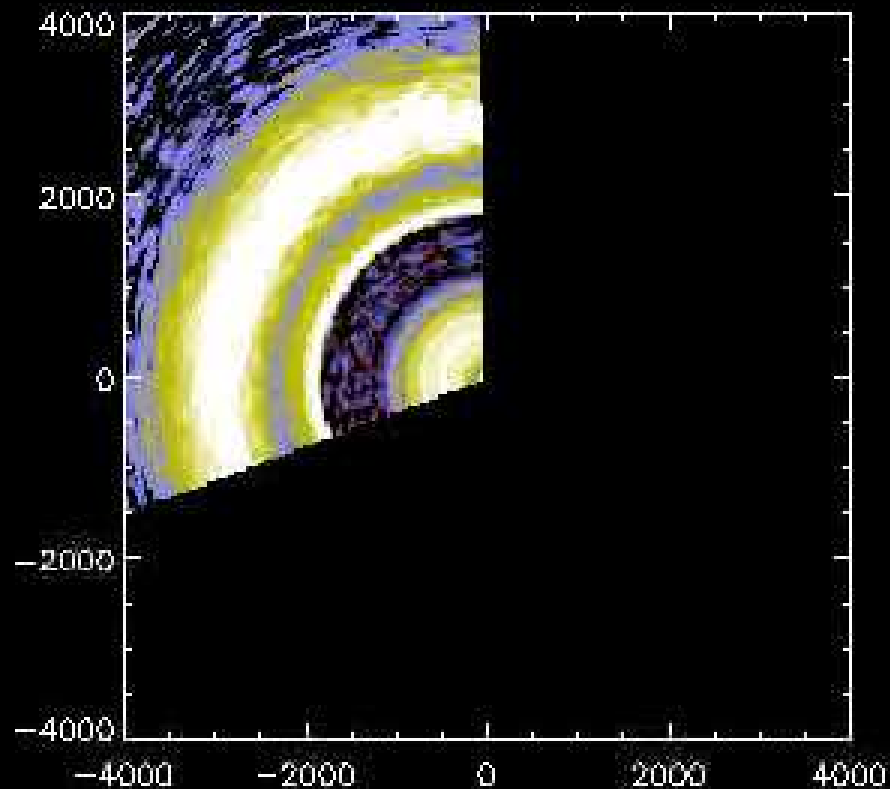
Ku-band 50 deg incidence

IW20080907232134Z.ku1.11b.nc

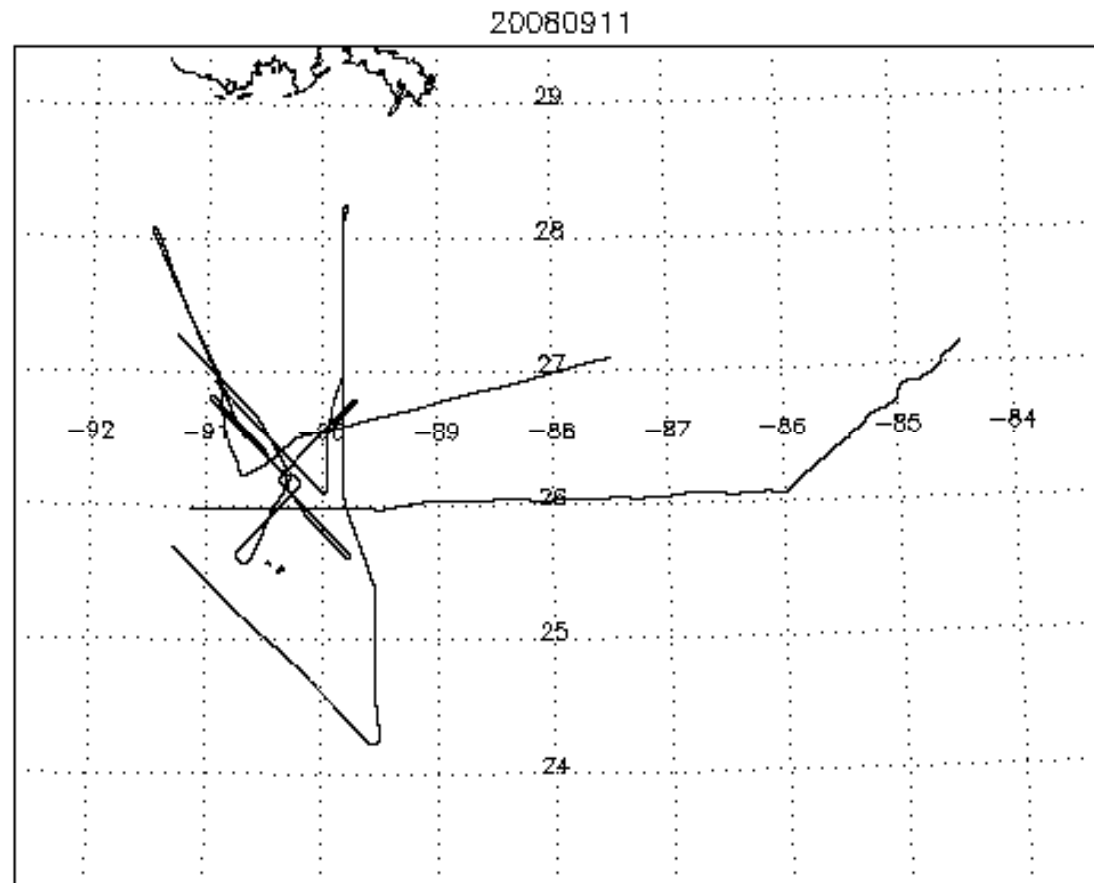
Sun Sep 7 23:21:34 2008 UTC



C-band 50 deg incidence

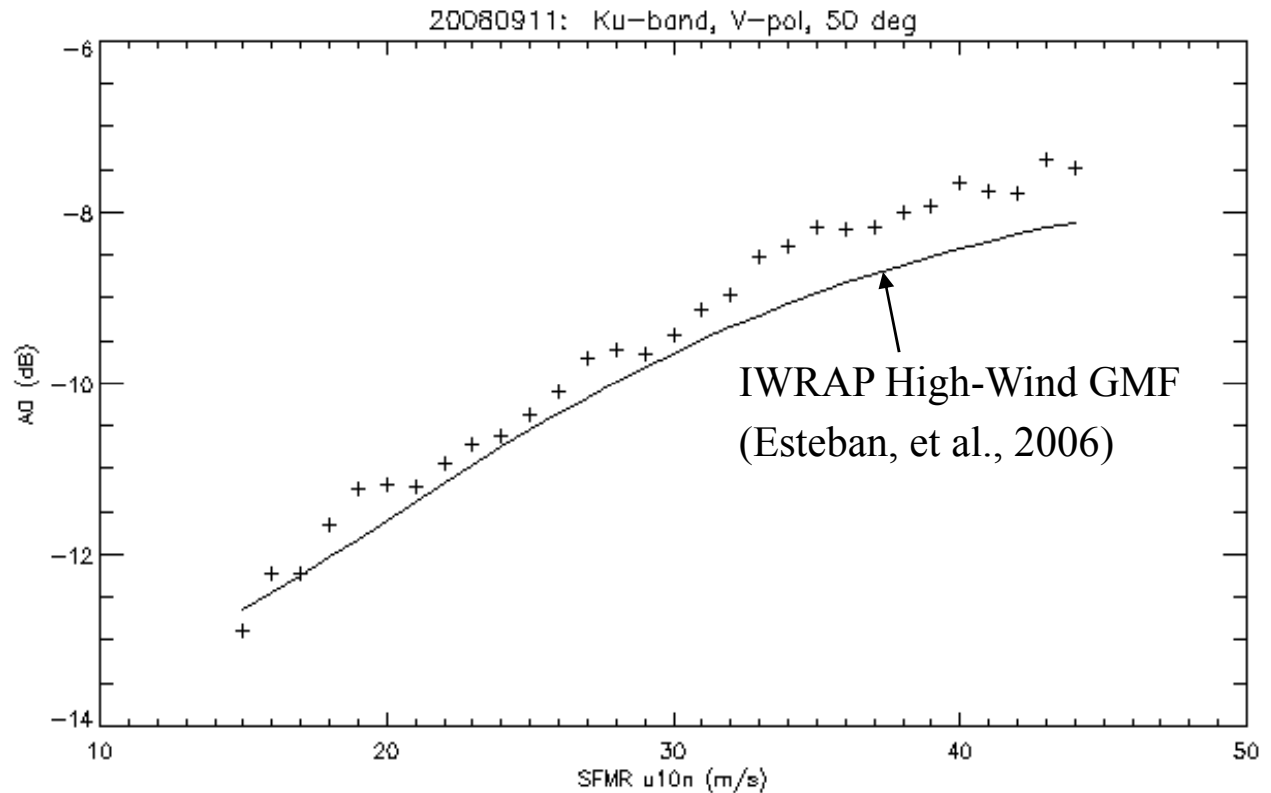


Ike 9/11/08

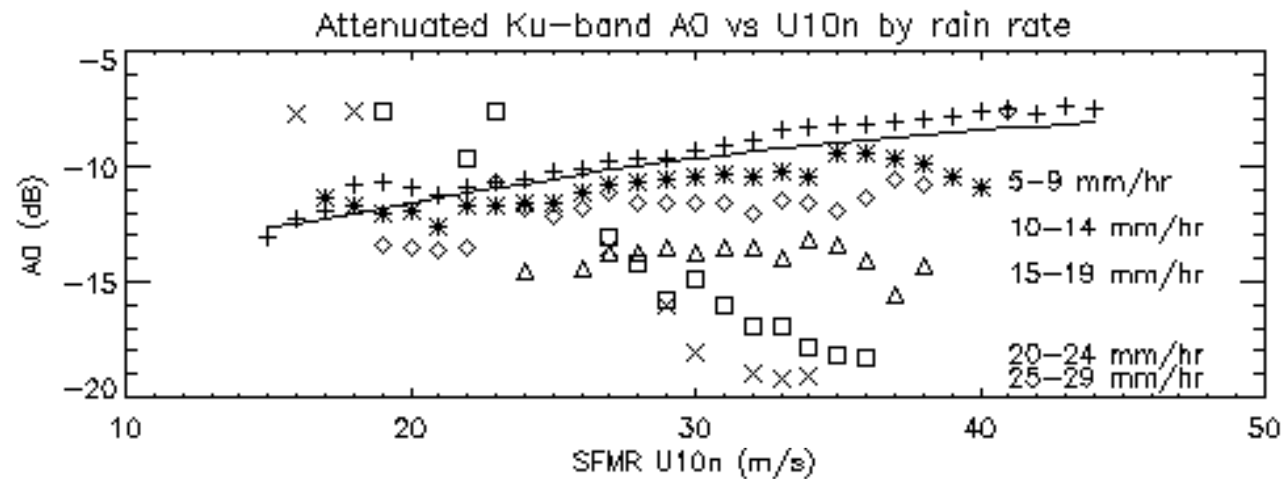


Ike 9/11/2008: preliminary

+'s: mean NRCS for
 $R < 5$ mm/hr and
level flight – based on
preflight calibration



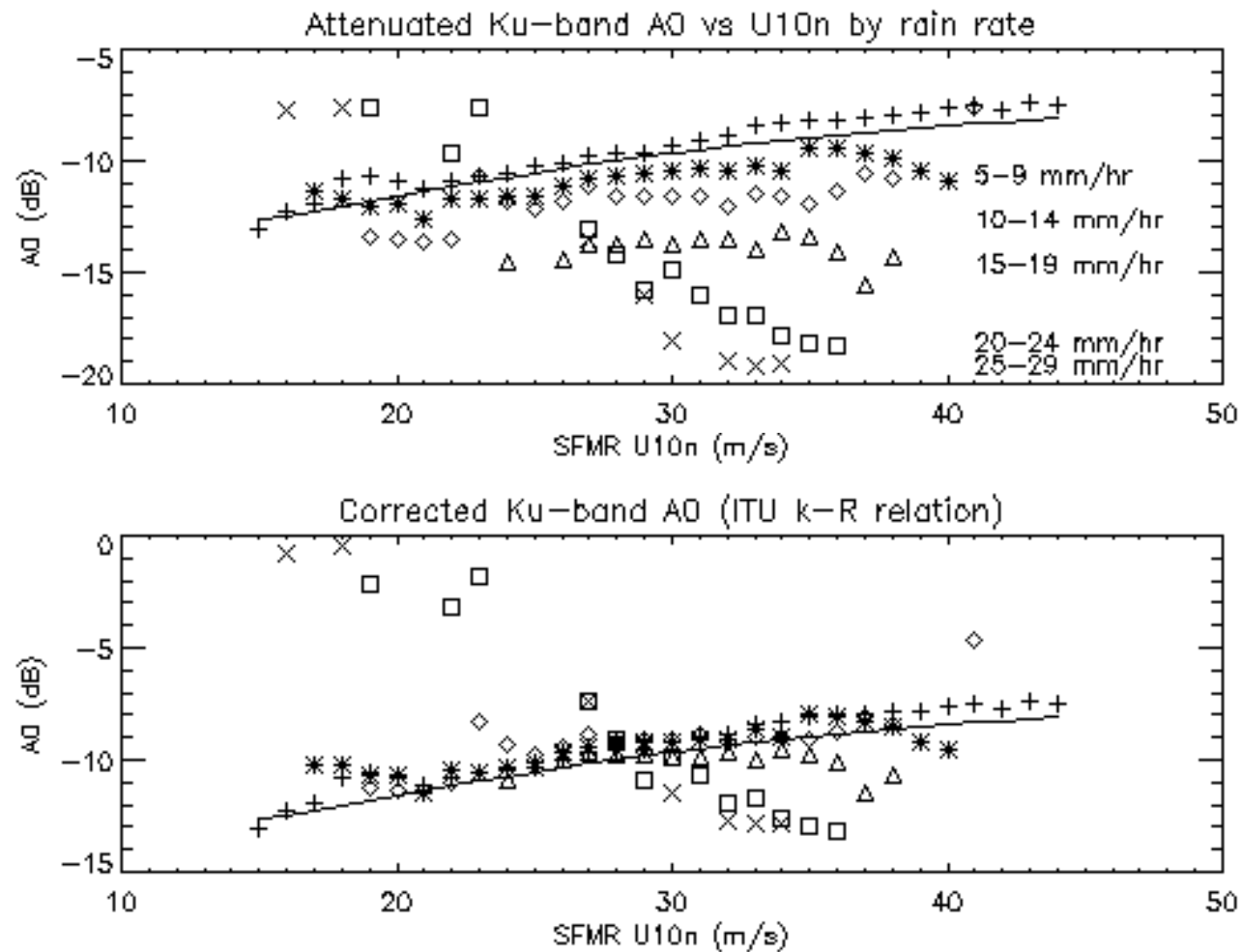
Rain Attenuation on 9/11



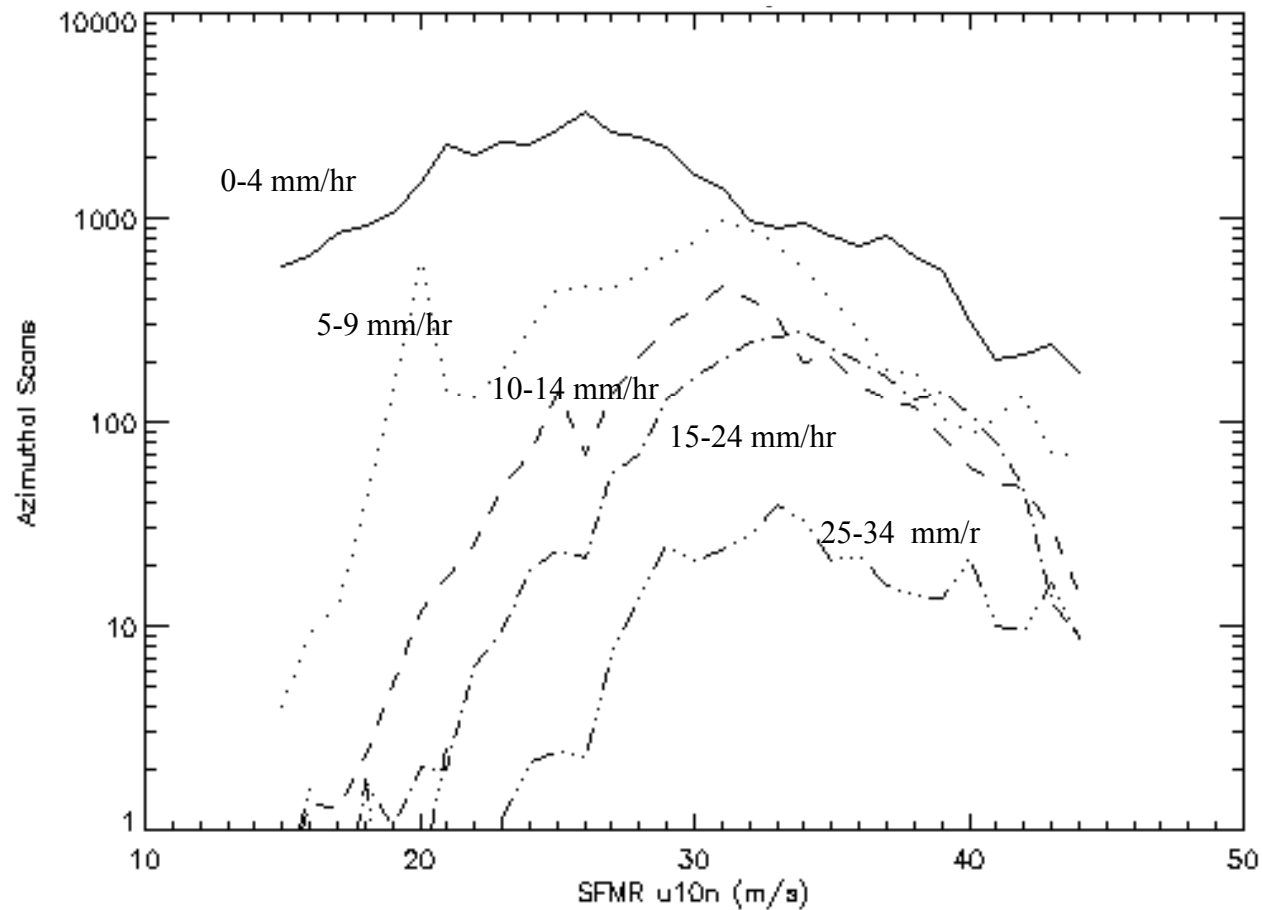
- Round-trip attenuated NRCS only
- Can omit volume backscatter contribution to apparent NRCS through range gating

Correct using a k-R relation (e.g. ITU)

Rain Attenuation



Sampling of Winds & Rain Rate in Ike





Data Repository

- <http://mirsl.ecs.umass.edu/>
 - --> Data
 - --> Ocean Vector Winds
 - Login page for IWRAP data repository
 - Web form for requesting username/password
- File formats
 - NetCDF include radar moments, pointing, Navigation, Flight-level & SFMR winds, rainrate, surface mask.
 - Level-1: Time-series (conical-scan) format
 - L1A: raw echo power, pulse-pair products
 - L1B: Ze, NRCS, velocity, incidence angle...
 - Level-2: Along-track binned format



Home > Data > Ocean Vector Winds

Ocean Vector Winds

Ocean vector winds research is carried out using the Imaging Wind and Rain Airborne Profiler (IWRAP) developed by MIRSL and routinely installed on the NOAA WP-3D research aircraft based in Tampa, Florida. Flight experiments are conducted as part of the NOAA/NESDIS Ocean Winds program and the NASA Ocean Vector Winds Science Team.

IWRAP data are archived in NetCDF format. The data repository is currently password protected. To obtain access, please complete the form below. A username and password will be sent to you via return email.

We do ask that you indicate your planned use for the data (e.g. how you might use it in your analysis). This is just for our information so that we can learn how the data are being used and can provide guidance as to data suitability. Also, it is nice to know who to contact if a problem is identified...

Go to the IWRAP data repository (password required) ☒ - <http://warehouse.ecs.umass.edu/iwrap/4going>

...

IWRAP data registration form

Your Name

Your Organization

Your email address

Requested username

Requested password

How do you plan to use these data?

<http://mirsl.ecs.umass.edu/>

-->Data

--> Ocean Vector Winds

Direct link to archive

Form for requesting a username/password

Binning Procedure

