NORTHROP GRUMMAN

DEFINING THE FUTURE

Ocean Color Remote Sensing: Validation Approaches For The Coming Decades

NPOESS

VIIRS-OCC EDR Calibration & Validation by Patty Pratt Lushalan Liao Paul Lee

Tropical Storm Ernesto Approaching Southern Florida, 29 August 2006 Aqua MODIS

Inter-relationships between functional processes of Calibration and Validation (Cal/Val)

SDR

Near-Line CALIBRATION Vicarious Calibration

SDR

ACO

OCC Products IOP-a IOP-b CHL

Validation Sites

Introduction

Sensor Instrument Design, Characterization, and Calibration

Optical Closure Loop

Validation Sites

UM

SIO

Southern Indian Ocean

SABSOON

BOUSSOLE

SOUTH PACIFIC GYRE

West Florida Shelf

Venezuela (CARIB)

MOBY/AHAB

California Coast (Plumes & Blooms)

NOMAD

BERMUDA

RU COOL

IMOS

BOAT

Bio-geochemical Optical Analysis Tools

In-situ Instrument data

Seasonal Data

RTM Models

HDF5 Tools

NSIPS sub-granules

Climatology

Archive

NOMAD

MODIS Data

Sample Data

Historical Satellite-retrieved Chlorophyll Concentrations

Validation Design & Characterization

Mathematical model

Conclusions

At Sensor

Near-line Calibration

Vicarious Calibration

ACO-EDR L

OCC Products IOP-a, IOP-b & Chlorophyll

End Products