

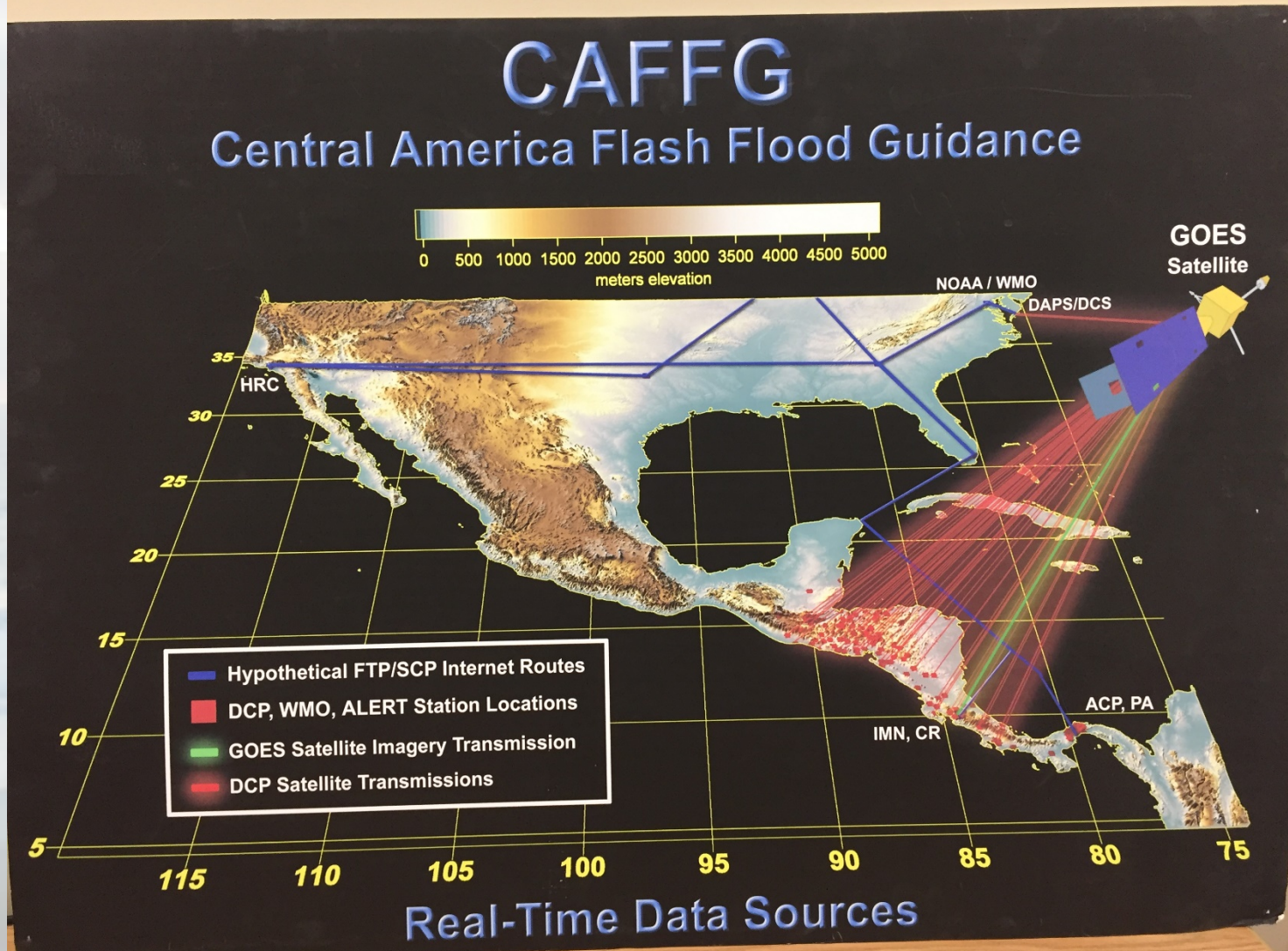


# CAFFG Project Overview

HYDROLOGIC RESEARCH CENTER

3-5 May 2017

# First Design circa 2003/2004





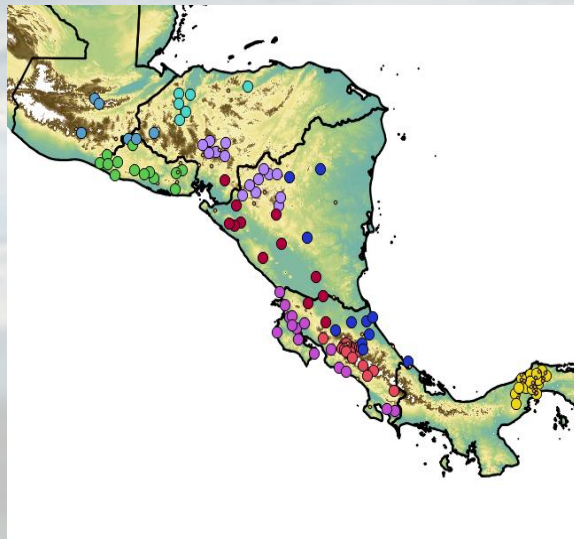
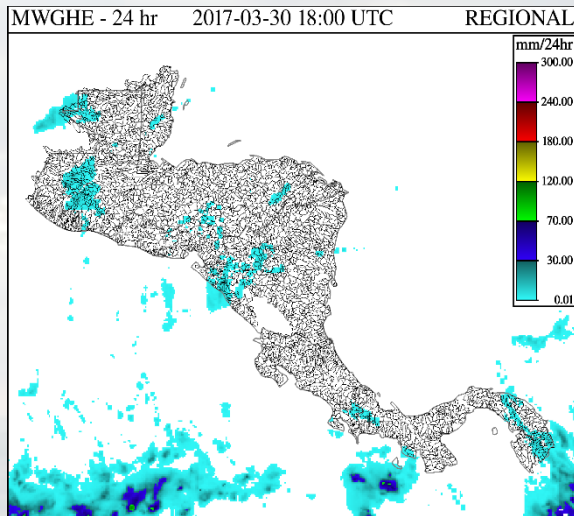
# CAFFG History Highlights

- First installation in Summer 2004
- First Operational Validation in Fall of 2004
- Upgraded hardware and software, added high and low precipitation sensitivity options in 2006
- Upgraded software, parametric reanalysis, added long-range probability of flash flood occurrence, and added WRF 2011
- Upgraded software, added microwave satellite observations, enhanced CAFFG with landslide capability in 2016

# Recent CAFFG New Project Elements

- Microwave satellite data ingest and bias adjustment with raingauge data
- Landslide assessment capability
- Updating User's Guide

# Microwave Satellite Data



**Table 1: Central America Regions for Satellite Rainfall Bias Analysis**

- Region 01 : Costa Rica West – coastal/low elevation
- Region 10 : Costa Rica West – high elevation (732 – 3630m)
- Region 20 : Nicaragua, Honduras, Costa Rica East – coastal/low elevation
- Region 30 : Honduras, Nicaragua – higher elevation (580 – 1500m)
- Region 40 : Nicaragua, Costa Rica East
- Region 50 : El Salvador
- Region 60 : Honduras, East – lower elevation
- Region 70 : Guatemala, El Salvador, Honduras – higher elevation (702 – 1854m)
- Region 80 : Panama Canal

**Table 2: Bias Adjustment Factors by Range of Precipitation Rate for the MWGHE and for the Wet Season (identified as MJJAS)**

– Region 20

*LOW RATE, HIGH RATE, BIAS FACTOR*

0.00, 0.11,	0.4262395
0.11, 0.23,	0.3921866
0.23, 0.42,	0.4732263
0.42, 0.67,	0.5757694
0.67, 1.03,	0.6695844
1.03, 1.69,	0.6736936
1.69, 2.75,	0.6990052
2.75, 4.30,	0.7033168
4.30, 7.57,	0.6856780
7.57, >7.57	0.6532284

**BIAS REDUCTION**

**1 May 2012 – 1 August 2016**

**FROM 0.92 MM/DAY**

**TO 0.007 MM/DAY**

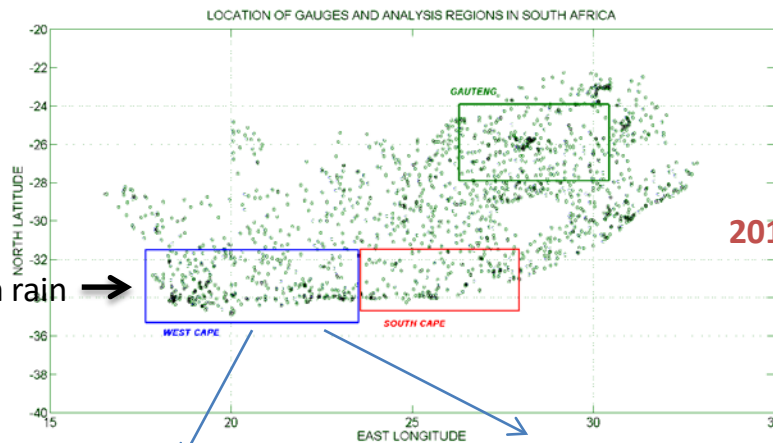




# Evaluation from SARFFG

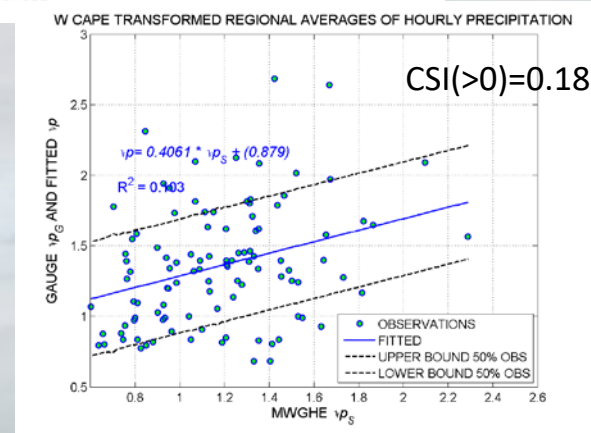
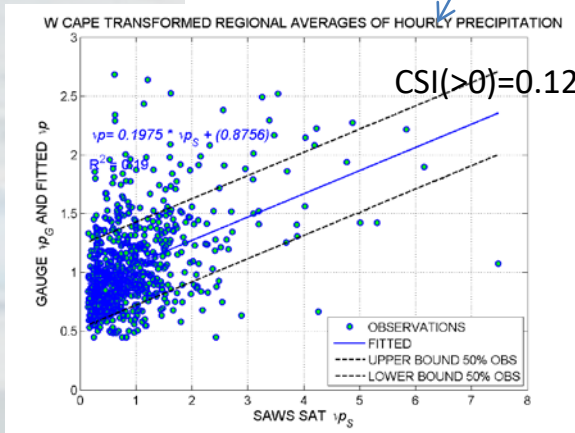
Low Level stratiform rain →

UM Adjusted HE



2013/1 - 2014/3

MWGHE







**Central America Flash Flood Guidance System (CAFFG)  
User's Guide**

Cristopher R. Spencer, Jason A. Sperflslage, and Konstantine P. Georgakakos

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