



ignitia TROPICAL
WEATHER
FORECASTING

Predict. Perform. Profit.

**Probabilistic rainfall
predictions for tropical
agriculture in West Africa**

Andreas Vallgren, PhD
Chief Science Officer, Co-founder
andreas.vallgren@ignitia.se

PERFORMANCE OF GLOBAL NWP MODELS NO BETTER THAN CLIMATOLOGY... ignitia

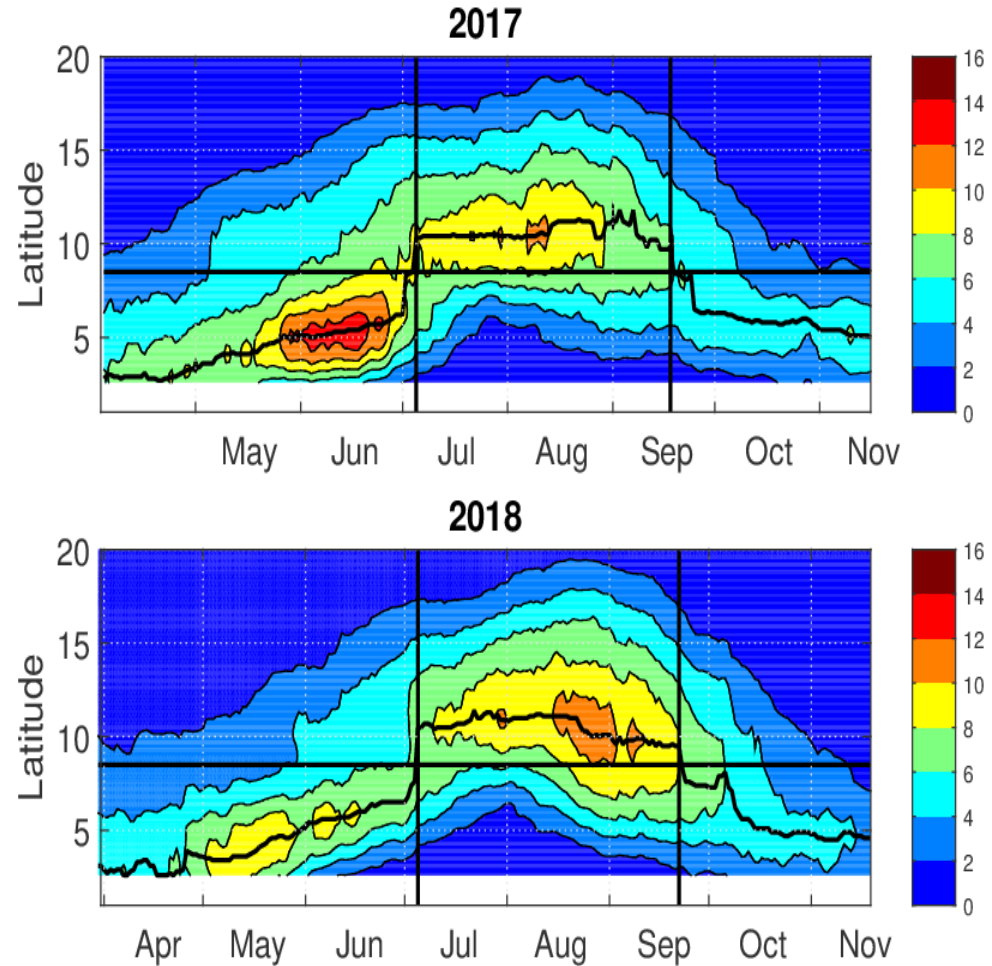
Calendar for Year 2019 (Ivory Coast)

January							February							March						
Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su
	1	2	3	4	5	6					1	2	3					1	2	3
7	8	9	10	11	12	13	4	5	6	7	8	9	10	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28				25	26	27	28	29	30	31
6:● 14:○ 21:○ 27:○							4:● 12:○ 19:○ 26:○							6:● 14:○ 21:○ 28:○						

April							May							June						
Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su
1	2	3	4	5	6	7			1	2	3	4	5					1	2	
8	9	10	11	12	13	14	6	7	8	9	10	11	12	3	4	5	6	7	8	9
15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16
22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23
29	30						27	28	29	30	31			24	25	26	27	28	29	30
5:● 12:○ 19:○ 26:○							4:● 12:○ 18:○ 26:○							3:● 10:○ 17:○ 25:○						

July							August							September						
Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su
1	2	3	4	5	6	7				1	2	3	4						1	
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8
15	16	17	18	19	20	21	12	13	14	15	16	17	18	9	10	11	12	13	14	15
22	23	24	25	26	27	28	19	20	21	22	23	24	25	16	17	18	19	20	21	22
29	30	31					26	27	28	29	30	31		23	24	25	26	27	28	29
2:● 9:○ 16:○ 25:○							1:● 7:○ 15:○ 23:○ 30:●							6:○ 14:○ 22:○ 28:●						

October							November							December						
Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su
1	2	3	4	5	6						1	2	3						1	
7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22
28	29	30	31				25	26	27	28	29	30		23	24	25	26	27	28	29
5:○ 13:○ 21:○ 28:●							4:○ 12:○ 19:○ 26:●							4:○ 12:○ 19:○ 26:●						



TROPICAL WEATHER FORECASTING & UNCERTAINTY

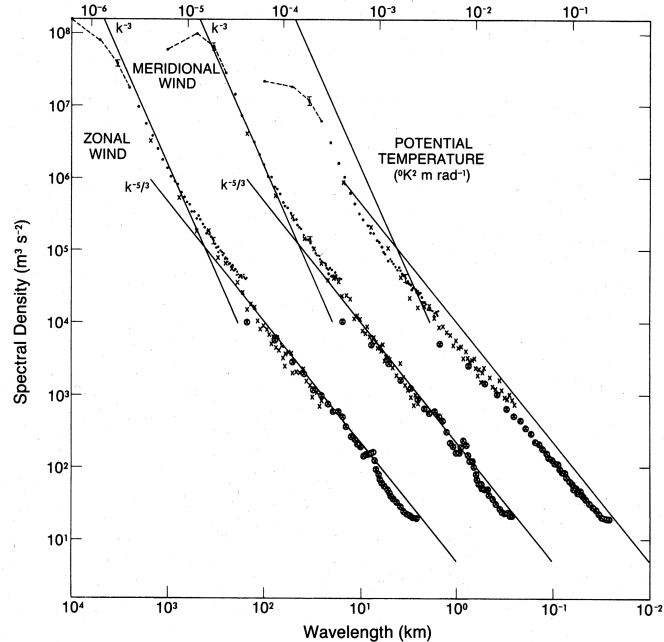


29 May
2018

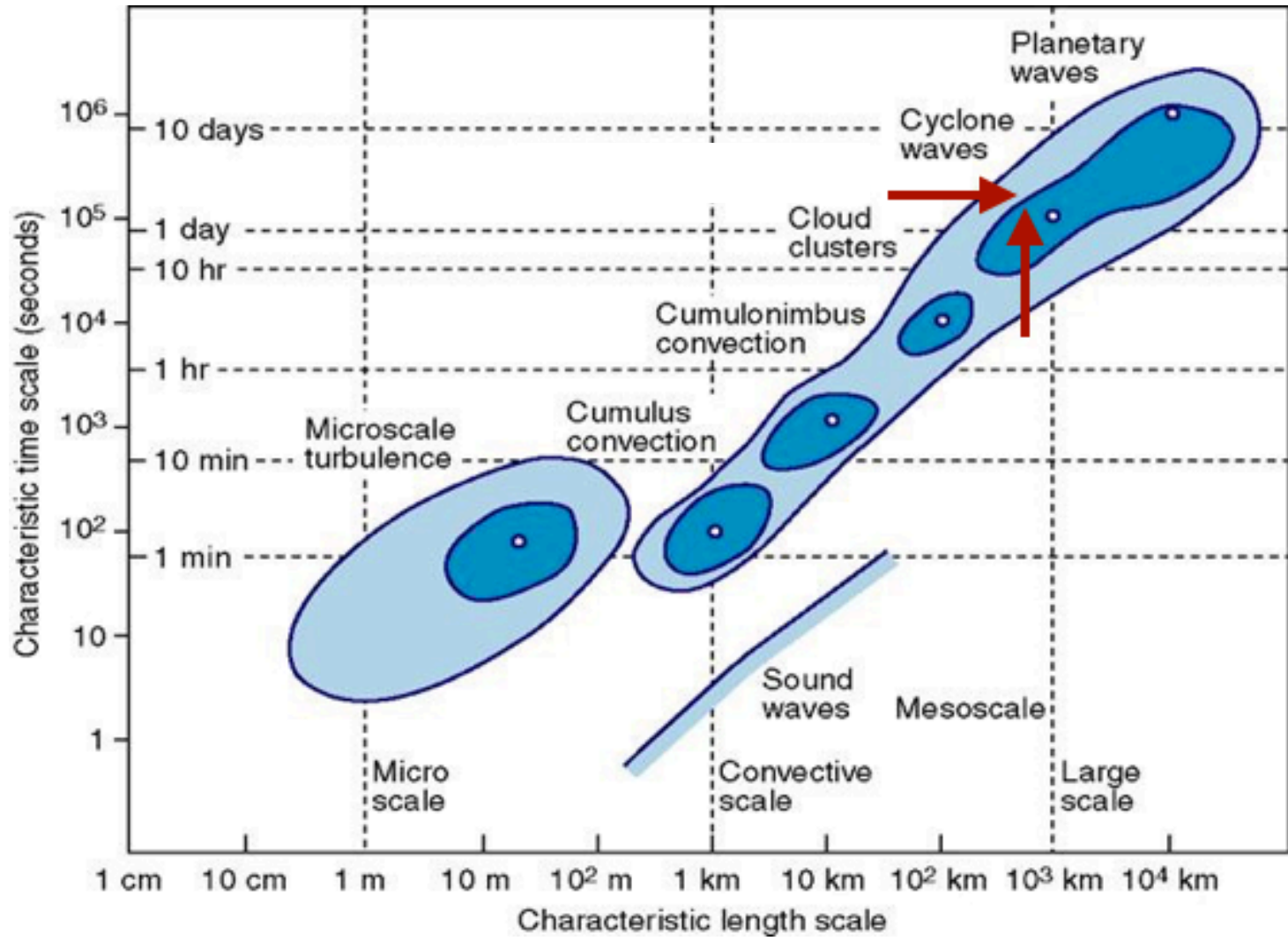
Tue 5/29	Wed 5/30	Thu 5/31	Fri 6/1	Sat 6/2	Sun 6/3	Mon 6/4	Tue 6/5	Wed 6/6	Thu 6/7
30° 24° C	29° 24° C	29° 24° C	29° 24° C	29° 24° C	30° 25° C	29° 25° C	30° 25° C	29° 25° C	30° 25° C
Rain	PM Showers	AM Showers	Showers	Showers	Showers	AM Showers	AM Showers	AM Showers	AM Showers
4.14 mm	4.2 mm	2.6 mm	1.2 mm	1.46 mm	1.54 mm	0.47 mm	0.98 mm	0.3 mm	3.32 mm

18 Oct
2019

Fri 10/18	Sat 10/19	Sun 10/20	Mon 10/21	Tue 10/22	Wed 10/23	Thu 10/24	Fri 10/25	Sat 10/26	Sun 10/27
29° 23° C	28° 24° C	28° 23° C	29° 23° C	30° 24° C	29° 24° C	30° 24° C	30° 24° C	29° 24° C	29° 24° C
Thunderstorms	Thunderstorms	Thunderstorms	Scattered Thunderstorms	PM Thunderstorms	Scattered Thunderstorms	PM Thunderstorms	PM Thunderstorms	Thunderstorms	Scattered Thunderstorms
13.77 mm	11.76 mm	5.09 mm	2.04 mm	5.71 mm	3.09 mm	3.07 mm	8.39 mm	7.98 mm	9.14 mm



TROPICAL WEATHER FORECASTING & UNCERTAINTY

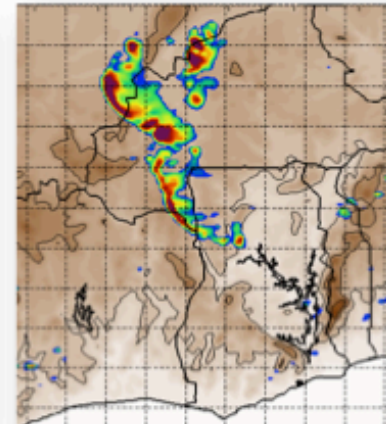
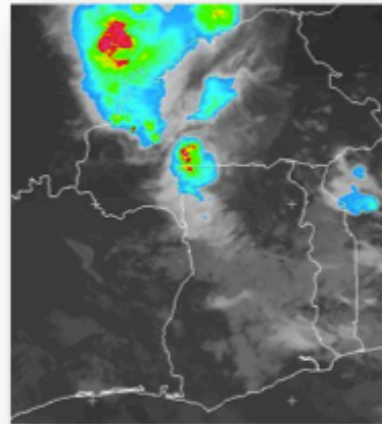
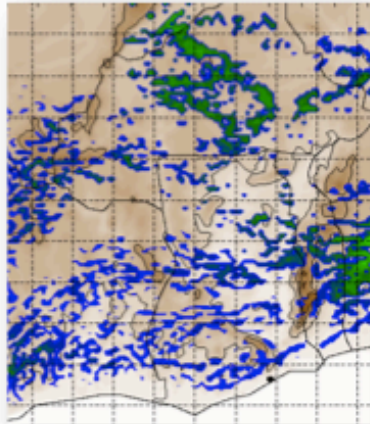
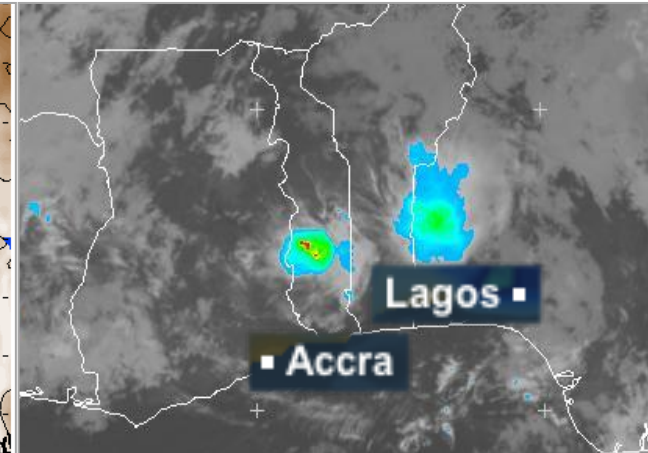
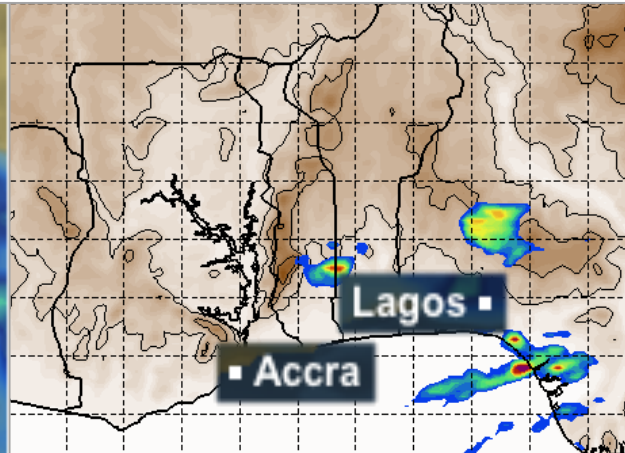
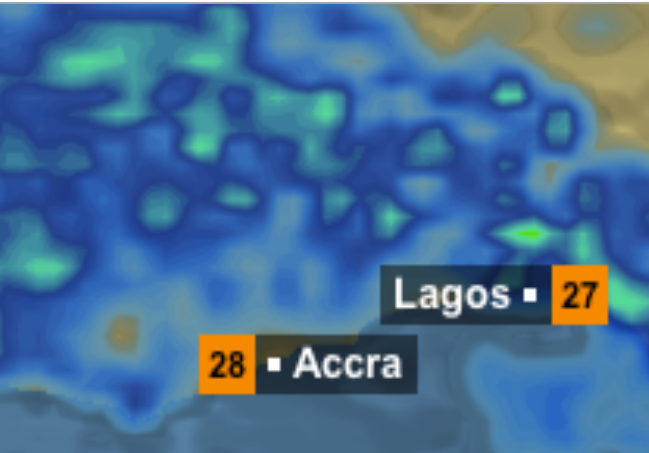


THE NEED FOR REGIONAL MODELING



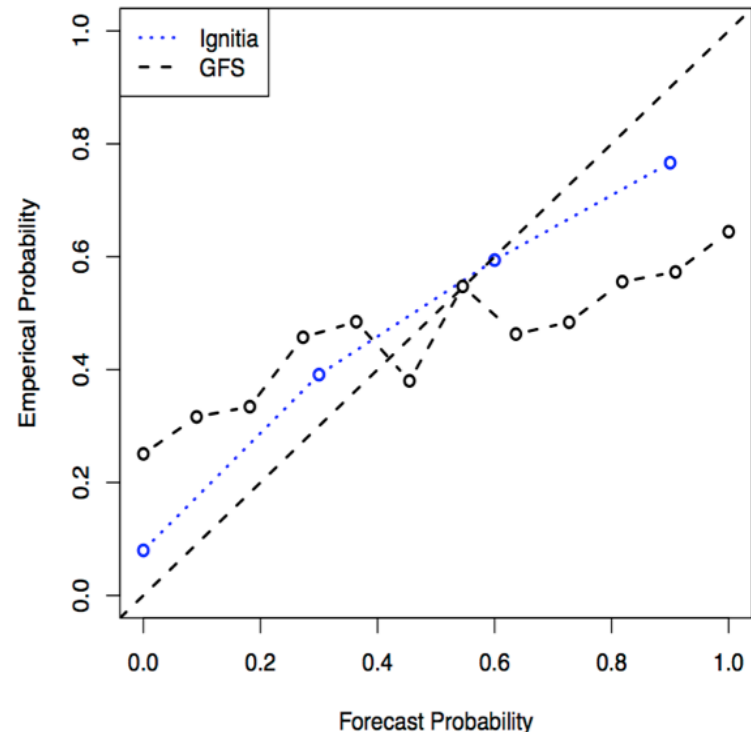
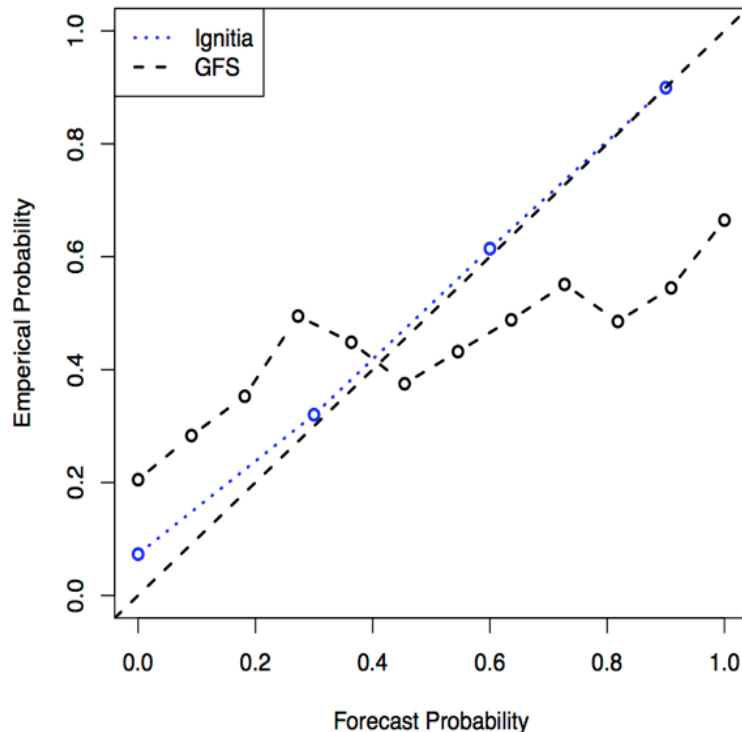
ignitia

actual
(48h later)



RELIABILITY COMPARISON: IGNITIA ENSEMBLE VS NCEP GFS

ignitia



Reliability: compares each chance category (i.e. 0%, 30%, 60%, 90%) against how many times it actually rained for each category.

ignitia TROPICAL WEATHER FORECASTING

SOLVES
CRITICAL
TIMING
PROBLEMS
FOR A
FARMER



Land planning



Crop planning



Seed purchase



Fertilizer



Sowing



Labour



Chemicals



Harvest



Pack and
Transport



RISK
REDUCTI
ON

ENHANCES
FOOD
SECURITY

INCREASES
INCOME

CREATES
RESILIEN
CE

Industry Recognition

Technology



Partnerships & Awards

