THE FREQUENCY AND EFFECTS OF WEATHER EVENTS ON BANANA PRODUCTIVITY

- RESULTS OF A GLOBAL SURVEY -

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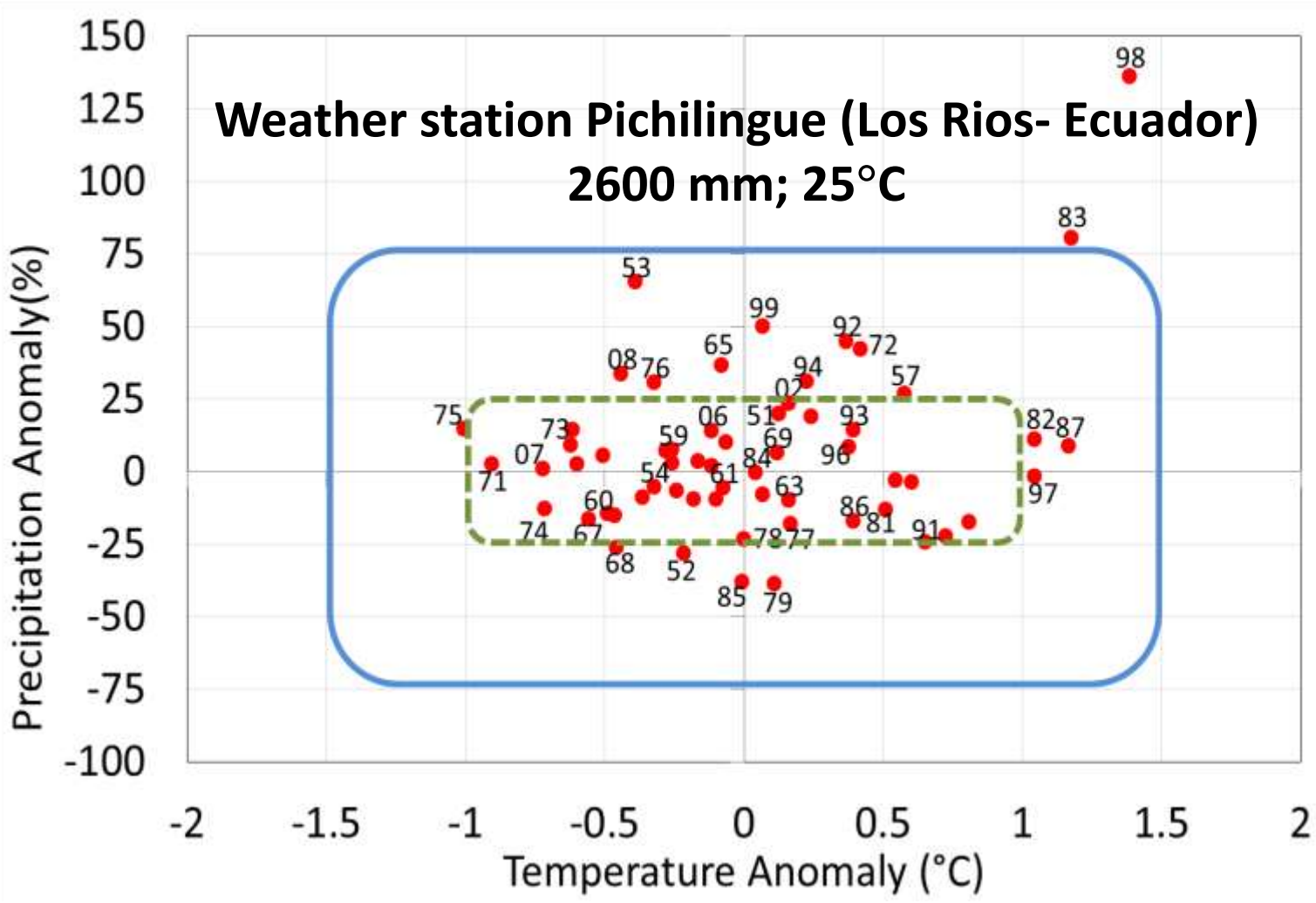
“THINK FOR YOURSELF…

WHAT BANANA AREA DO YOU KNOW THE BEST.”

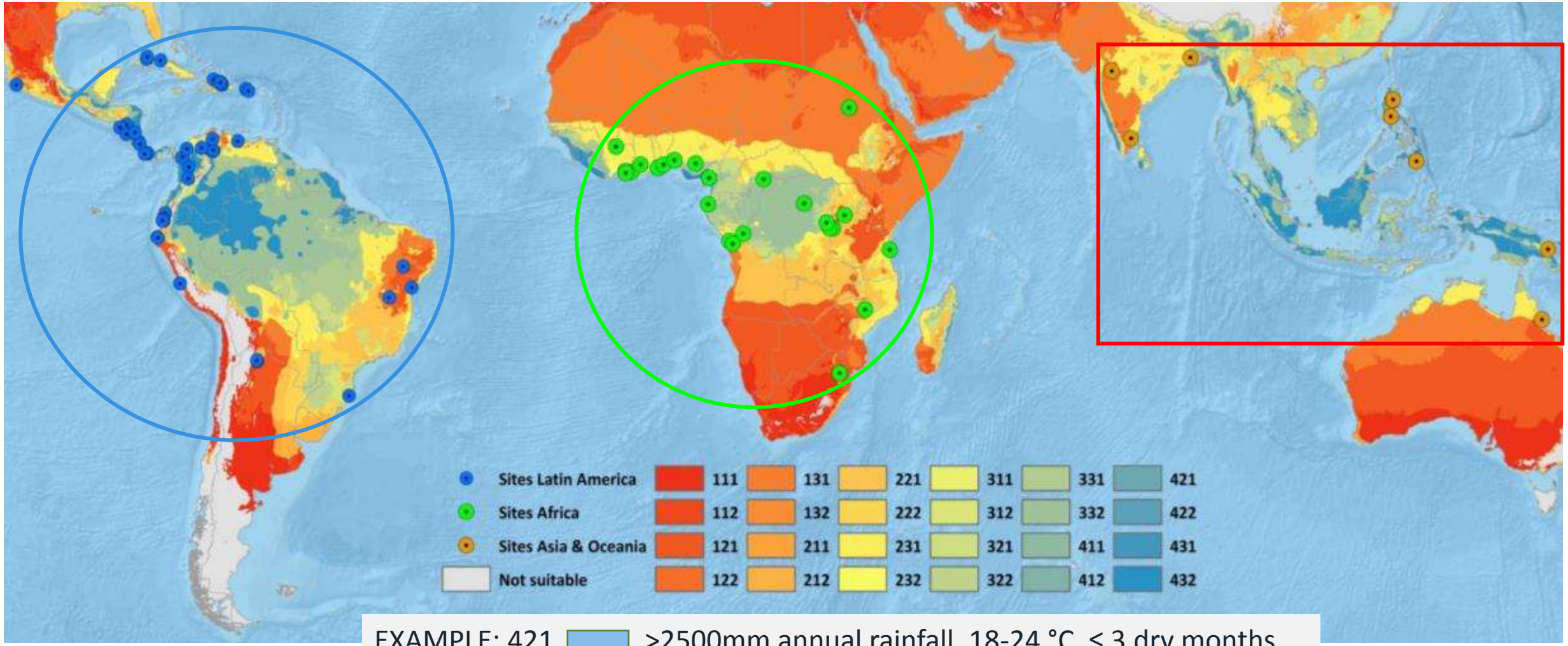


- Bananas growth there because they are adapted
- Weather conditions year around are suitable for banana production

STEP 1: RESPONDENTS PRIORITIZED 4 WEATHER EVENTS OUT OF 16

SURVEY RESPONDENTS

DISTRIBUTION OF CLIMATIC ZONES FOR BANANA SUITABILITY



EXAMPLE: 421 >2500mm annual rainfall, 18-24 °C, ≤ 3 dry months

STEP 2: RESPONDENTS QUANTIFIED THE DURATION AND INTENSITY OF THE 4 WEATHER EVENTS AT LOCAL LEVEL

SURVEY RESPONDENTS

What are the weather events which most affect banana and how the producers deal with it – Also beneficial events.

DURATION AND INTENSITY OF EXTREME WEATHER EVENTS

Category/ Weather event	Asia	West /Central Africa	East /Southern Africa	LAC	Global
DROUGHT	**33**	**55**	**48**	**97**	**233**
Extended dry period during rainy season	12	20	19	33	84
Delay in start date of normal rain season	10	19	18	38	85
Advance in the start of normal dry season	11	16	11	26	64
EXCESS RAIN	**50**	**52**	**43**	**105**	**250**
Extremely intense rainy period during rainy season	12	13	14	27	66
Over-saturated soil	10	8	6	28	52
Water standing in plantations	12	11	6	22	51
Flows of water in plantations	7	10	10	14	41
Prolonged period of high relative humidity	9	10	7	14	40
CRITICAL TEMPERATURES	**16**	**21**	**23**	**43**	**103**
Periods of high temperatures	9	16	13	27	65
Periods of low temperatures (without frost)	5	5	8	12	30
Frost	2	0	2	4	8
WIND CATEGORY	**30**	**32**	**27**	**60**	**149**
Very strong winds for short periods (gusts)	13	14	16	28	71
Prolonged strong winds during the dry season	8	11	5	22	46
Prolonged strong winds (associated with storms and hurricanes)	9	7	6	10	32
OTHER	**13**	**10**	**12**	**14**	**49**
Prolonged cloudy periods	8	8	3	10	29
Hail	5	2	9	4	20

STEP 2: RESPONDENTS QUANTIFIED THE DURATION AND INTENSITY OF THE 4 WEATHER EVENTS AT LOCAL LEVEL

SURVEY RESPONDENTS

DURATION AND INTENSITY OF EXTREME WEATHER EVENTS

Duration and intensity of extreme weather events					
Category	**Event**	**Characteristics**	**Asia**	**Africa**	**LAC**
Drought	Delay in the start date of the normal rainy season.	**Duration of the delay (days)**	29	31	40
		Deficit in rain as a (%) of the amount of rain needed	46	36	58
Excess rain	Extremely intense rainy period during the normal rainy season	**Duration of the intense rainy period (days)**	12	22	13
		Quantity in mm of daily rainfall during heavy rain period	260	105	78
Critical temperatures	High temperatures	**Duration of the event**	5 h to 5 days	4 h to 50 days	3 h to 3 days
		Threshold temperature above which damage begins (°C)	38	35	38
Wind	Very strong winds for short periods	**Duration of the event**	30 s to 60 min	5- 60 min	5 - 40 min
		Wind speed (km/h)	100 km/h	4 - 160 km/h	50 km/h

GESTIÓN AMBIENTAL

CONCLUSIONS AND NEXT STEPS

QUANTIFICATION OF WEATHER EVENTS USING HISTORICAL WEATHER

The weather events cited in the survey are exactly the types of events projected to increase with climate change representing a major threat for banana yields and livelihoods.

Quantification of magnitude and frequency of events is a challenge to research which needed to guide work on management practices which currently often do not offset the impact.

A global exchange to share response strategies to specific extreme events would build resilience to climate change. An inventory of practices by weather event could encourage innovation.

Thank you

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POSTER NUMBER 19

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