Studies of planted area and weather variables in Argentine agriculture
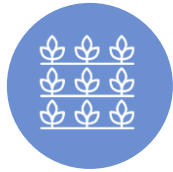
Esteban Copati

Head of the Agricultural Estimates Department

Buenos Aires Grains Exchange,

Argentina

Studies of Planted Area in Argentina

2019/20 estimates

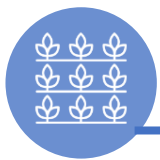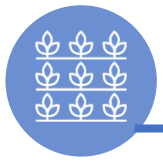Soybean
17.4 MHa

Maize
6.3 MHa
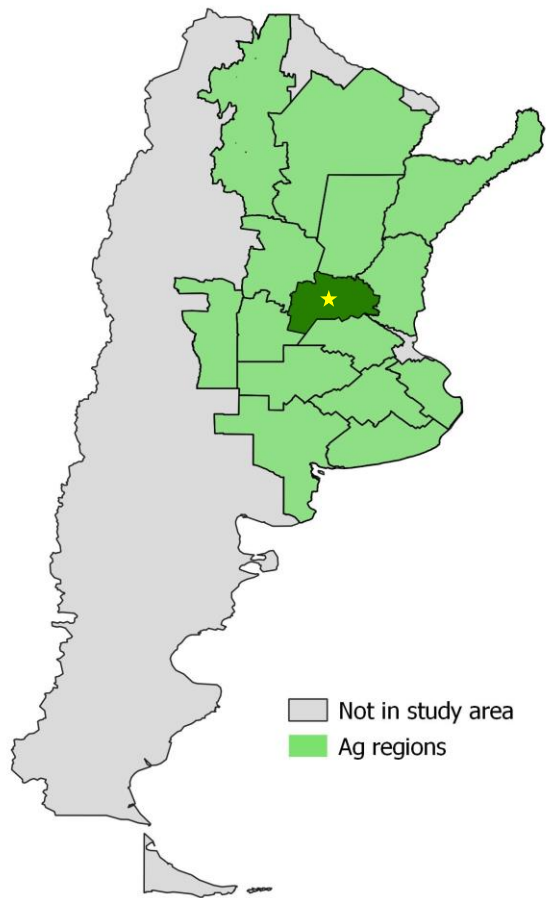
Sunflower
1.6 MHa

Wheat
6.6 MHa

32 million hectares for four crops

Studies of Planted Area in Argentina

Winter Crops: BAGE / UM

Soybean: UM

Corn and Soybean: BU

Studies of Planted Area in Argentina

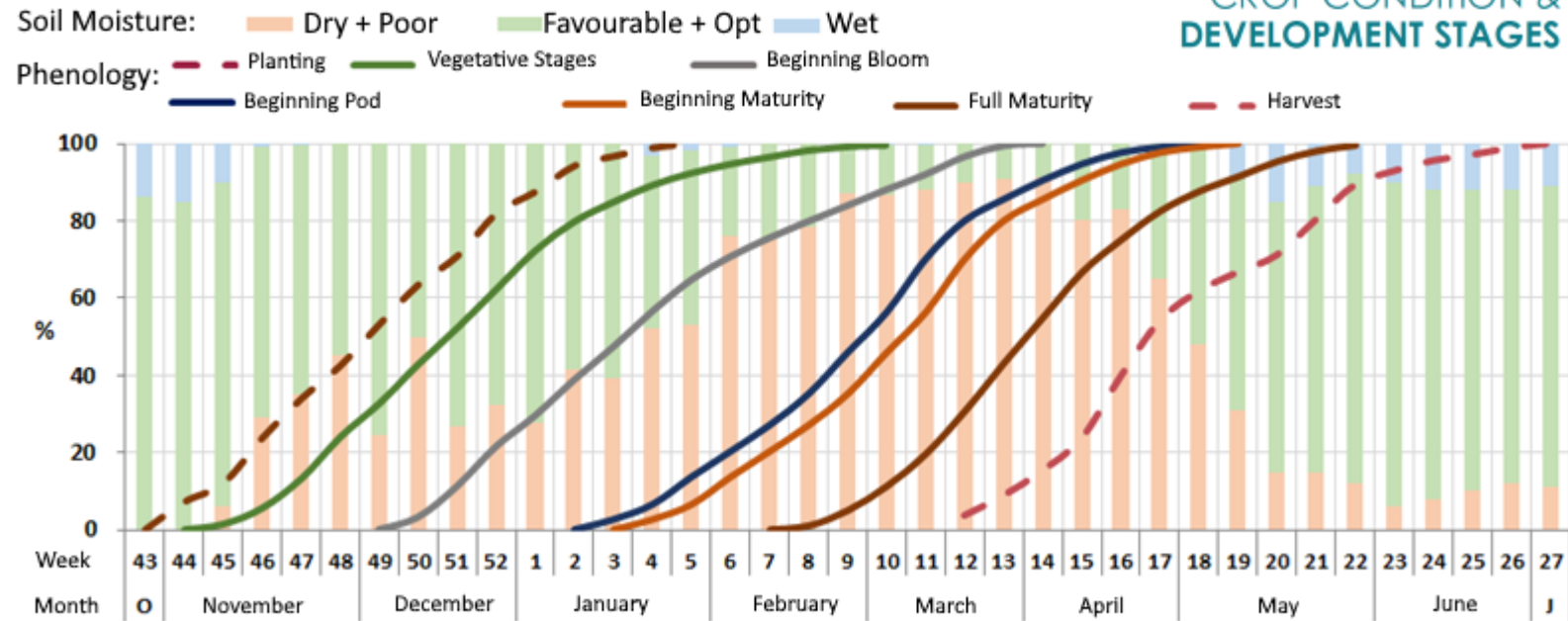Weather

Future Lines of Research

Weather – Planting Windows

Weather – Phenological Development

Weather – Phenological Development

Soil Moisture Condition and Development Stages of of Soy 2018/19

CROP CONDITION &
DEVELOPMENT STAGES

Soil Moisture: Dry + Poor — Favourable + Opt — Wet

Phenology: Planting — Vegetative Stages — Beginning Bloom — Beginning Pod — Beginning Maturity — Full Maturity — Harvest

Fuente: Departamento de Estimaciones Agrícolas - Bolsa de Cereales

Datos al 04-07-18

How did the drought affect the production projection?

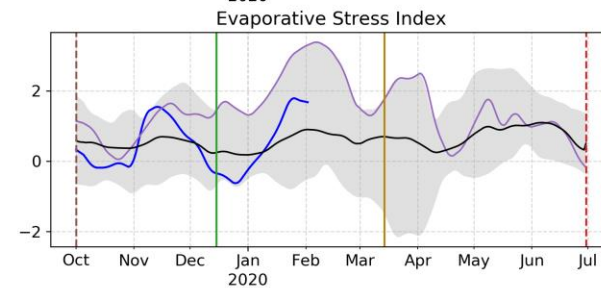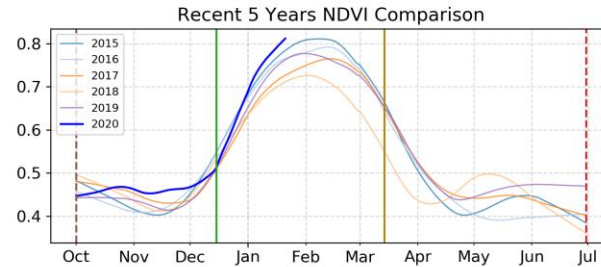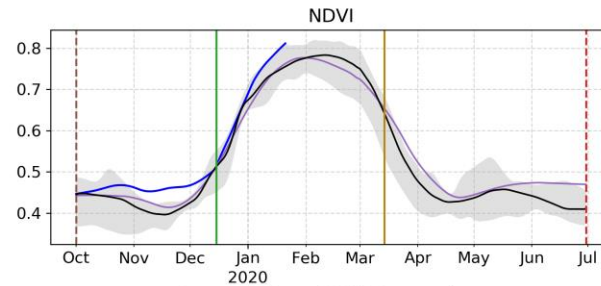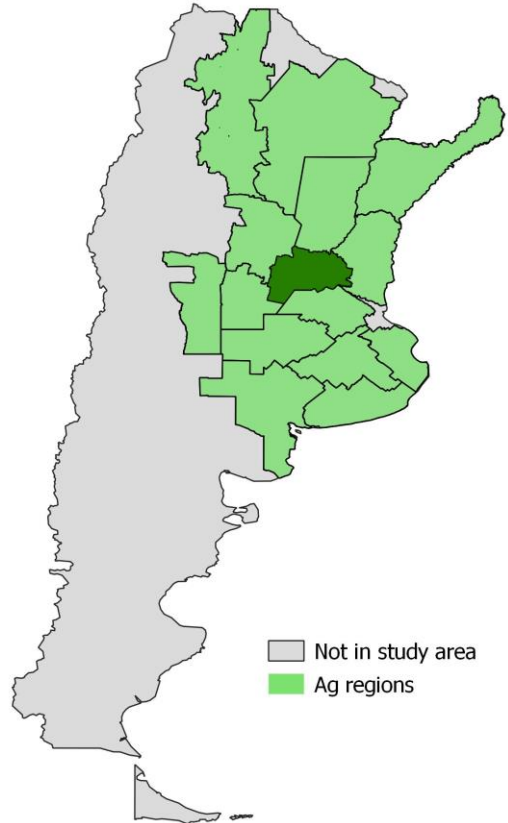| 54 MTn | 1-feb - 3 MTn | 8-feb - 1 MTn | 22-feb - 3 MTn | 1-mar - 3 MTn | 8-mar - 2 MTn | 22-mar - 2,5 MTn | 5-apr - 1,5 MTn | 17-may - 2 MTn | 35,8 MTn |

Weather - Dashboard

VI
2020 Soybean 1 - UMD

Weather - Maps

Surface Soil Moisture Condition (%)

(0-10 cm)
- 0
- 10
- 20
- 30
- 40
- 50
- 60
- 70
- 80
- 90
- 100
- Not in study area

21/01/2019
Agua permanente: 65.300 Ha
Área inundada: 525.000 Ha

Permanent Water   Flood

The visual representation of georeferenced data offers a more comprehensive approach to our work.

Studies of Planted Area in Argentina

Weather

Future Lines of Research

Future Lines of Research

- Analyzing crop rotation on a large scale.

- Comparing soil moisture in two regions with contrasting levels of no-tillage soil management.

- Studying soil carbon in two regions with contrasting levels of no-tillage soil management.

- Modeling yield forecast.

Final Remarks

- Studies of planted area are crucial to improve the accuracy of food production estimates and reduce the uncertainty of the market.

- The analysis of weather variables are as important as studies of planted area.

- All this information is essential to the designing of accurate yield prediction models.

- Once we make progress in these areas of study we will be better prepared to evaluate the sustainability of our food production systems on a large scale.