

# Phenorice Processing - Iran Test Area

*Lorenzo Busetto*

*2 October 2017*

## Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Method</b>	<b>1</b>
<b>3</b>	<b>Results</b>	<b>2</b>
3.1	Rice crop intensity maps . . . . .	2
3.2	Sowing dates maps . . . . .	3
3.3	Rice harvesting maps . . . . .	5

## 1 Introduction

This document shortly describes the results of a preliminary analysis conducted over the Sari study area using the PhenoRice algorithm to map rice cultivate areas and analyze the spatial and temporal variability of parameters related to agro-practices such as crop intensity and sowing and harvesting dates, starting from time series of MODIS 250m resolution imagery

## 2 Method

The analysis was conducted starting from MODIS time series (Products MOD13Q1 and MOD11A2) for the period 2010 - 2016. data was preprocessed using the MODISTp MODISTp “R” package and successively analyzed using the PhenoRice algorithm.

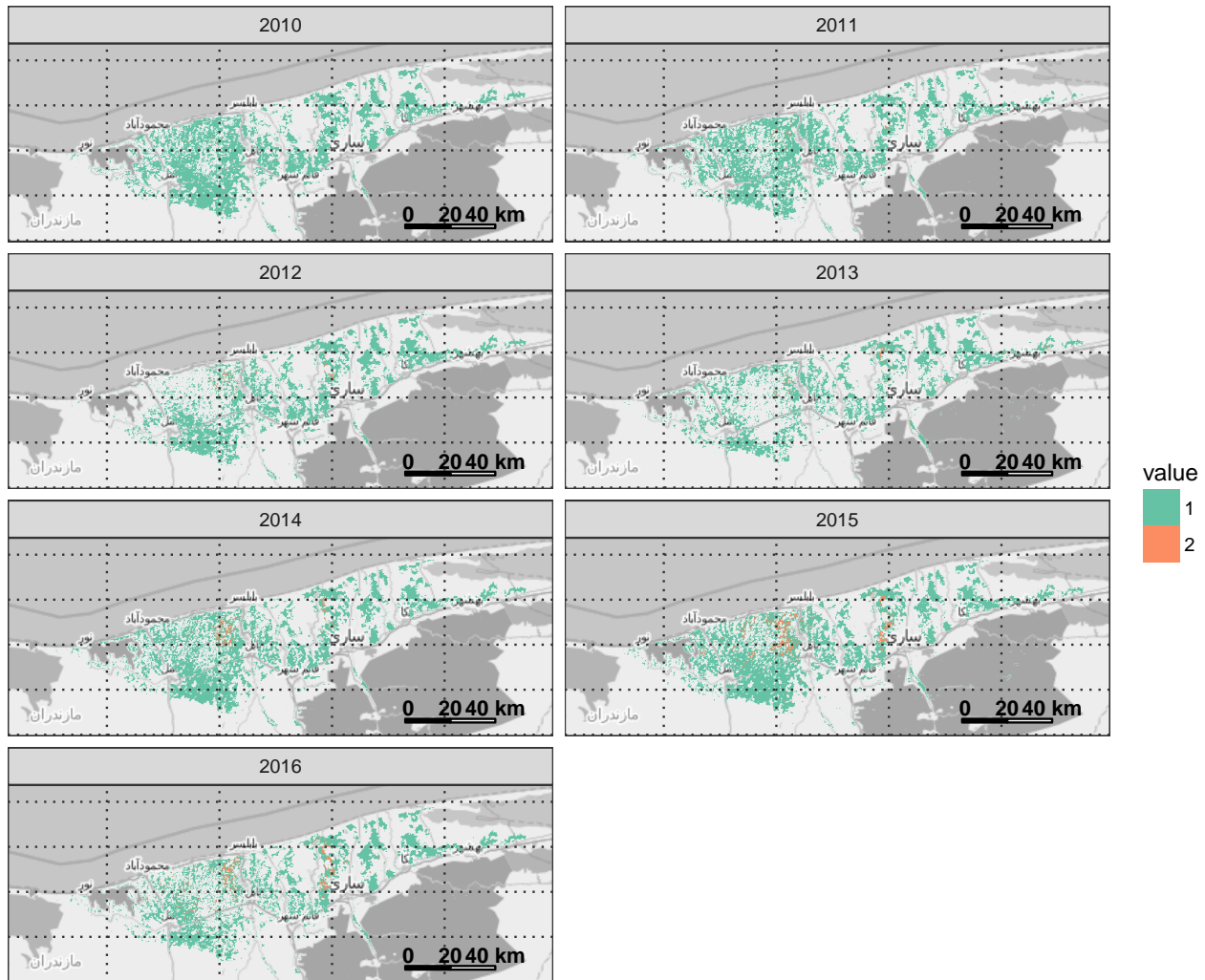
Results were then postprocessed and plotted using dedicated “R” scripts.

### 3 Results

Results are here summarized as multi-year maps (original outputs in TIFF format can be made available if needed).

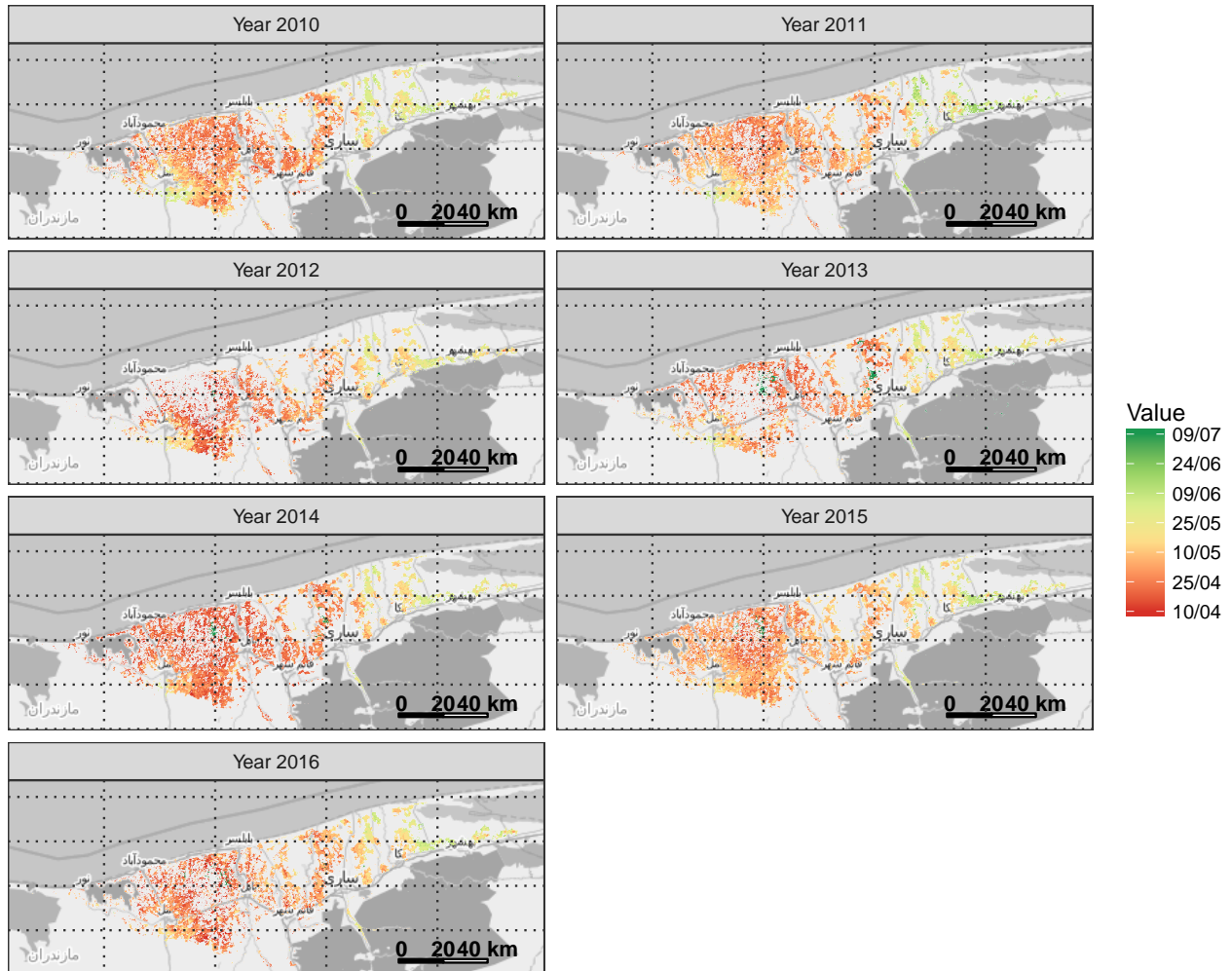
### 3.1 Rice crop intensity maps

The following maps show the number of rice seasons detected by PhenoRice over the study area located nearby Sari, in the analyzed period. The maps show that only one rice season is generally identified, though a double season is detected in some areas in the central part of the map.

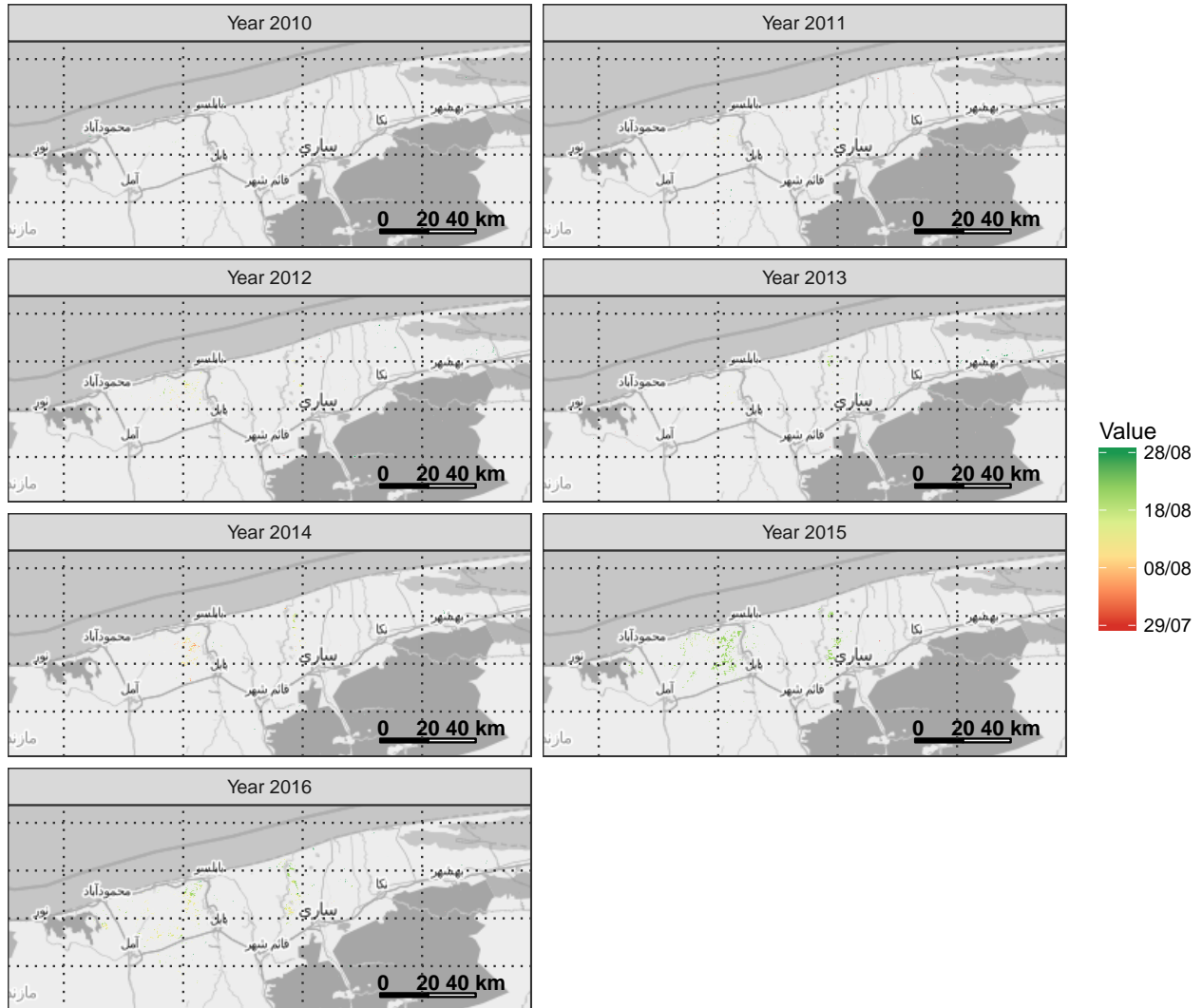


### 3.2 Sowing dates maps

The following maps show the estimated sowing dates in the analyzed period for the main rice season. The maps clearly highlight a strong variability in rice sowing dates, between the western (Sowing around the middle of April) and eastern parts (Sowing around end of May - beginning of June) of the study area.



The following maps show the estimated sowing dates in the analyzed period for the areas for which a second rice season was identified. The second detected rice season, though limited, seems to have expanded in recent years. Sowing dates are estimated to be generally between the beginning and the middle of August.



### 3.3 Rice harvesting maps

The following maps show the estimated harvesting dates in the analyzed period for the main rice season. The maps clearly highlight a strong variability in harvesting dates, between the western (Harvesting around end of July) and eastern parts (Harvesting around mid September) of the study area.

