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Multi-sensor Landsat time series

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Geoscience Australia

National Earth Observation Group

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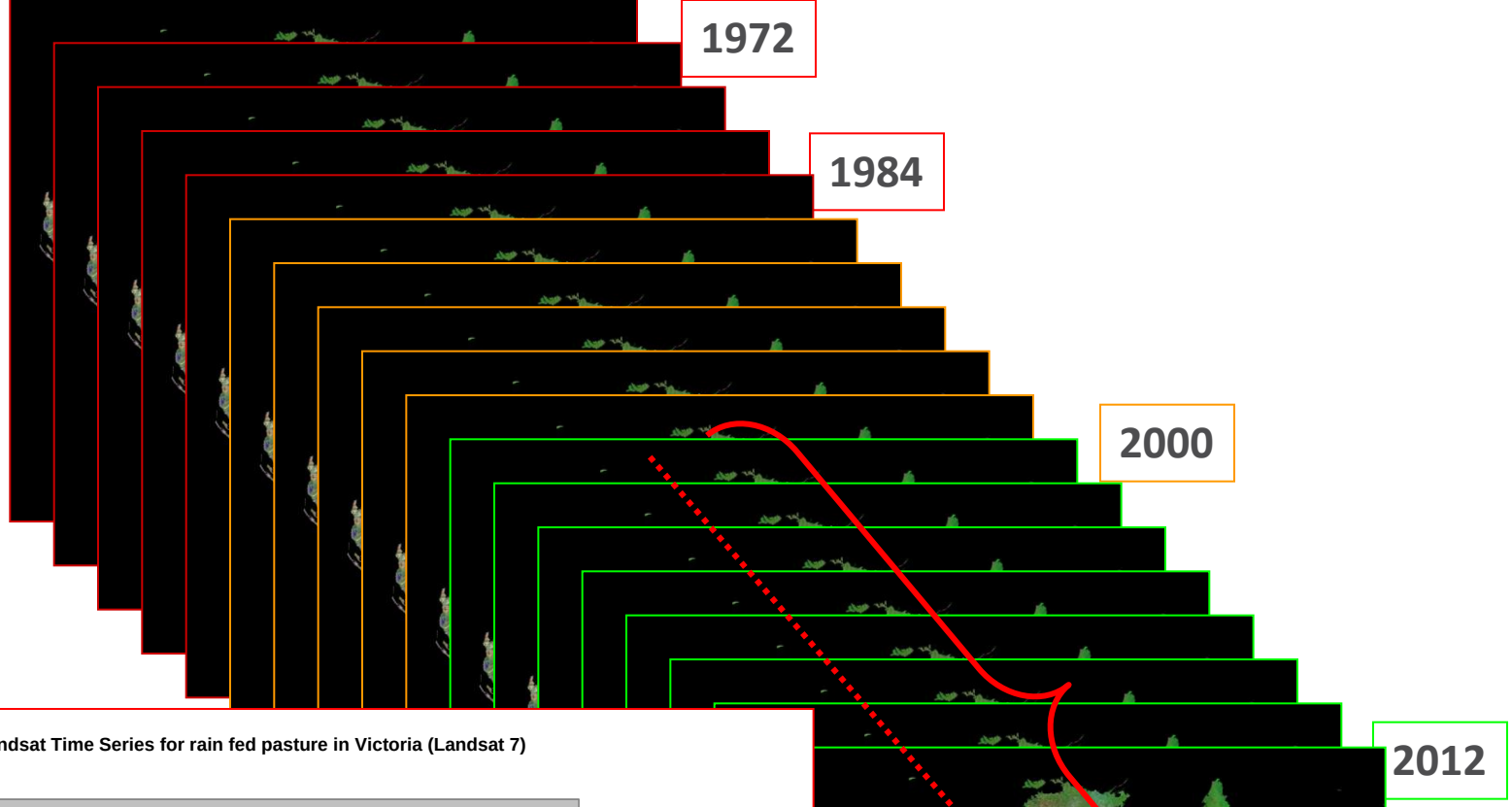
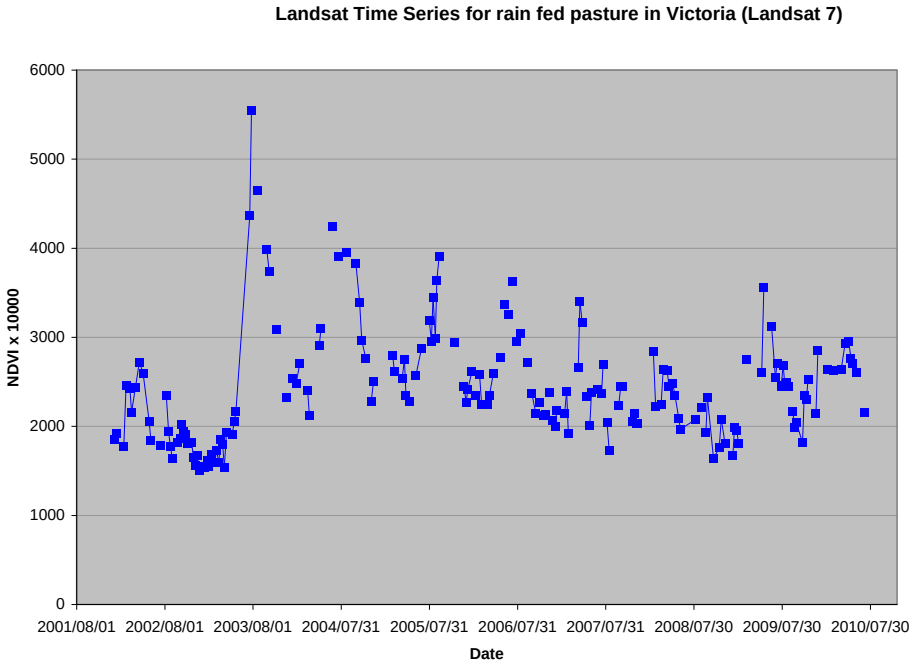
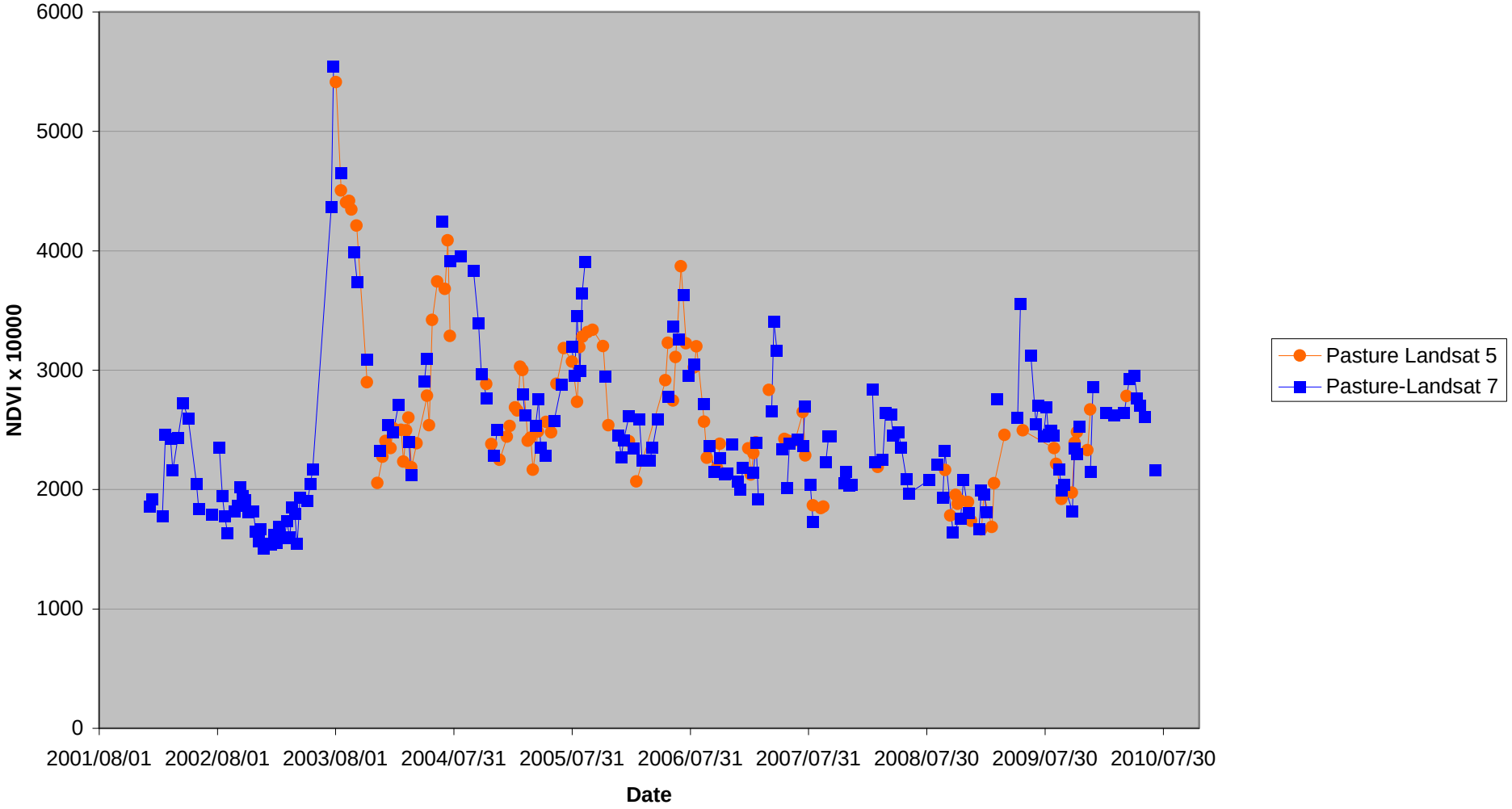

1972
1984
2000
2012


Landsat Time Series for rain fed pasture in Victoria (Landsat 7)
NDVI x 10000
6000
5000
4000
3000
2000
1000
0
2001/08/01
2002/08/01
2003/08/01
2004/07/31
2005/07/31
2006/07/31
2007/07/31
2008/07/30
2009/07/30
2010/07/30
Date
Pasture-Landsat 7

Landsat Time Series for rain fed pasture in Victoria (Combining Landsat 5 and 7)



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Two birds: One stone

Q1: How to generate a time series of observations for objects relevant to decision makers

Q2: How to increase the observation frequency of objects that lie in areas with low observation frequency

- SLC gaps
- Cloud
- Outside of side-lap

A: Generate an aggregate time series using all pixels within an object

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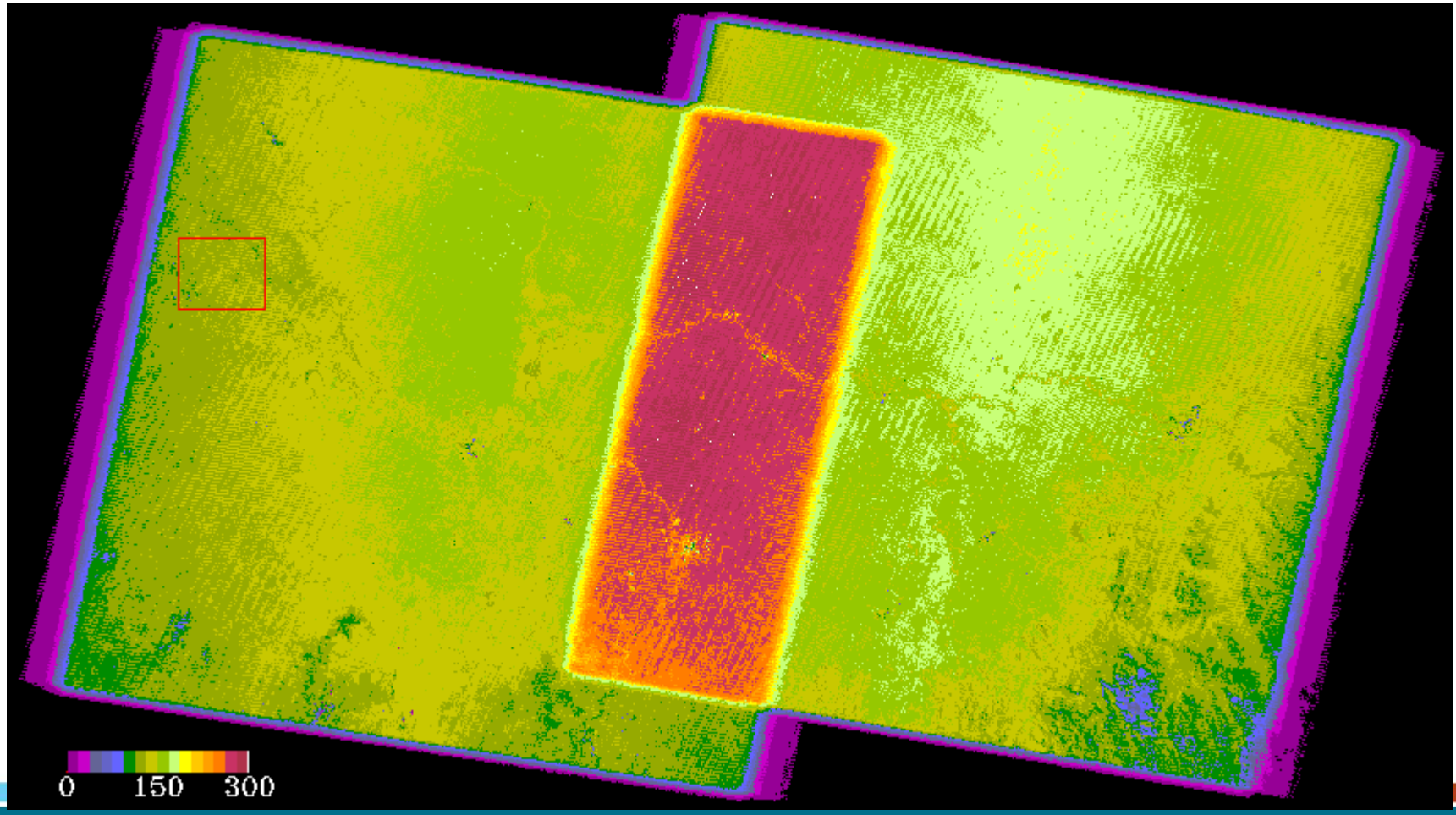
The number of Landsat observations over an 8 year period



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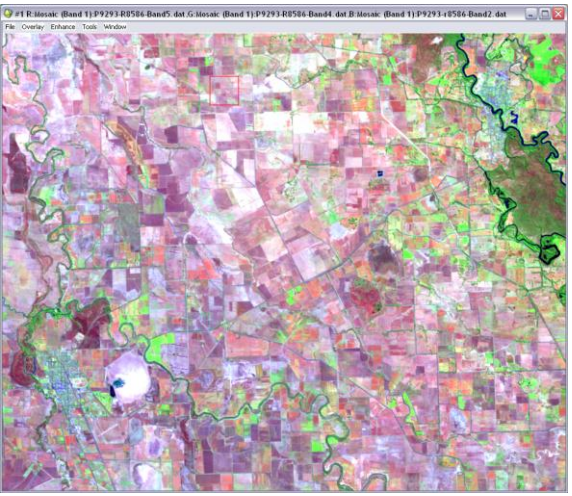
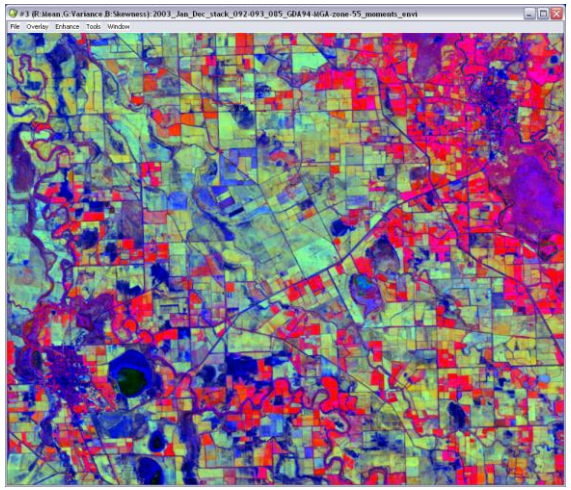
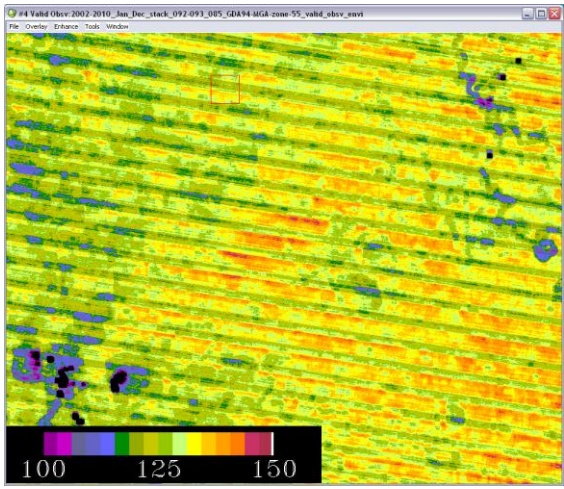
False colour image

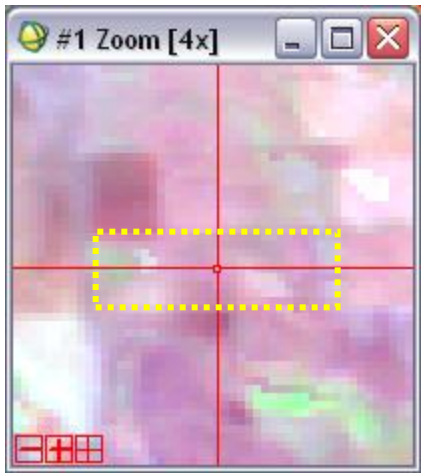
Mean, SD, skewness of the NDVI Time series 2002-10

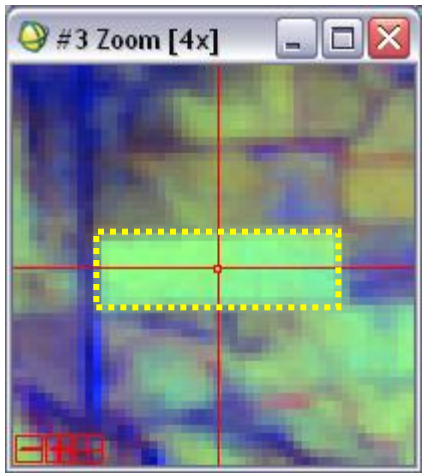
Number of observations Time series 2002-10

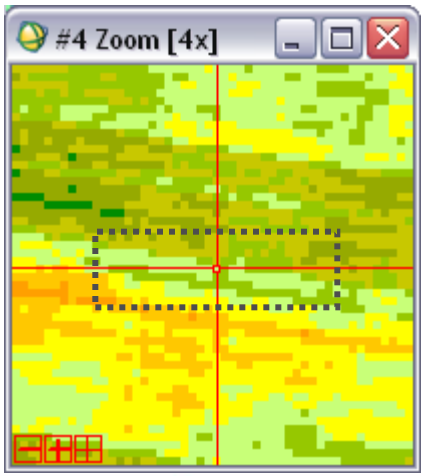












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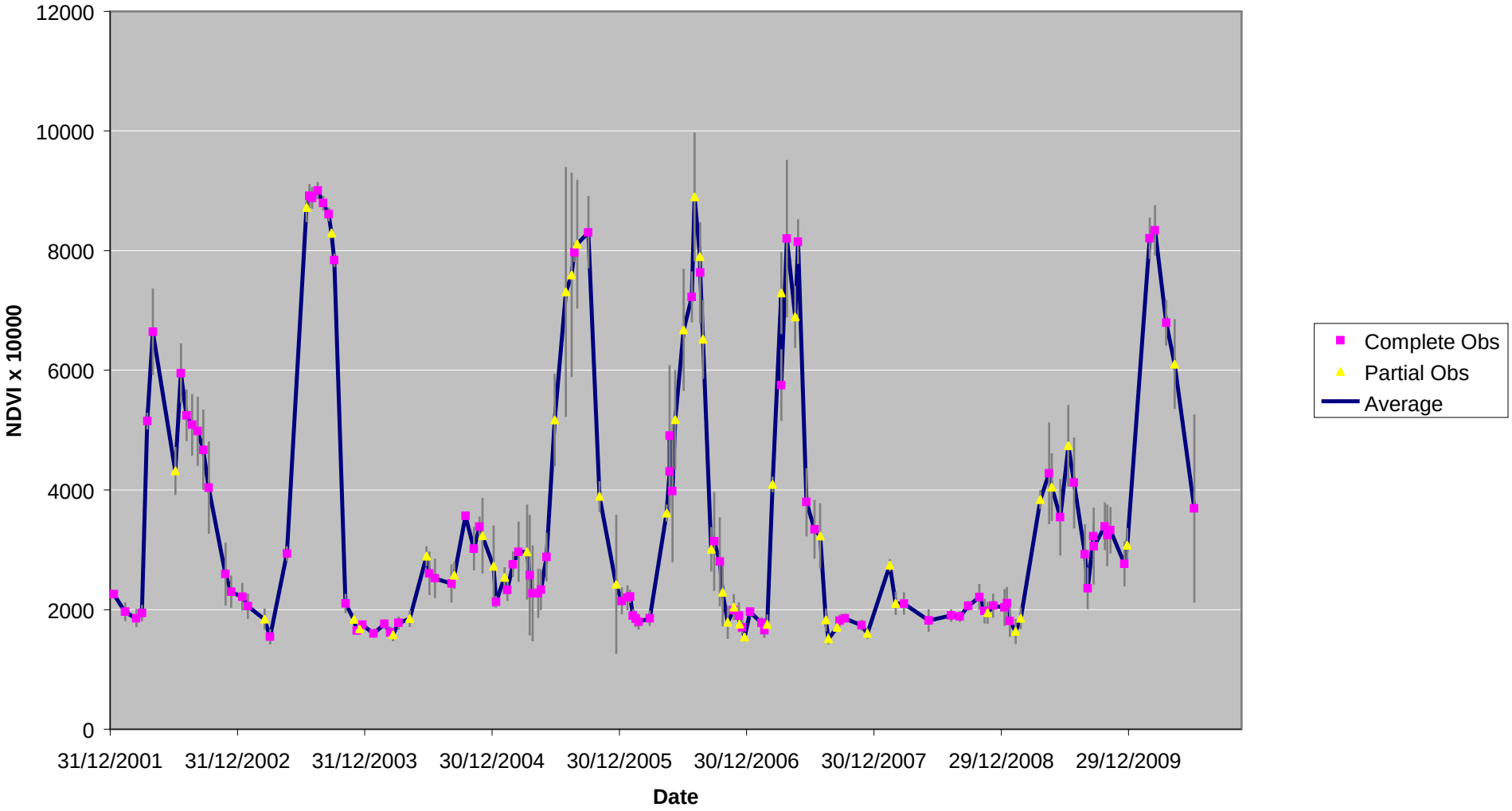
Per paddock time series



Number of pixels within paddock = 128
All 128 pixels were observed 102 times
Part of the paddock was observed 52 times

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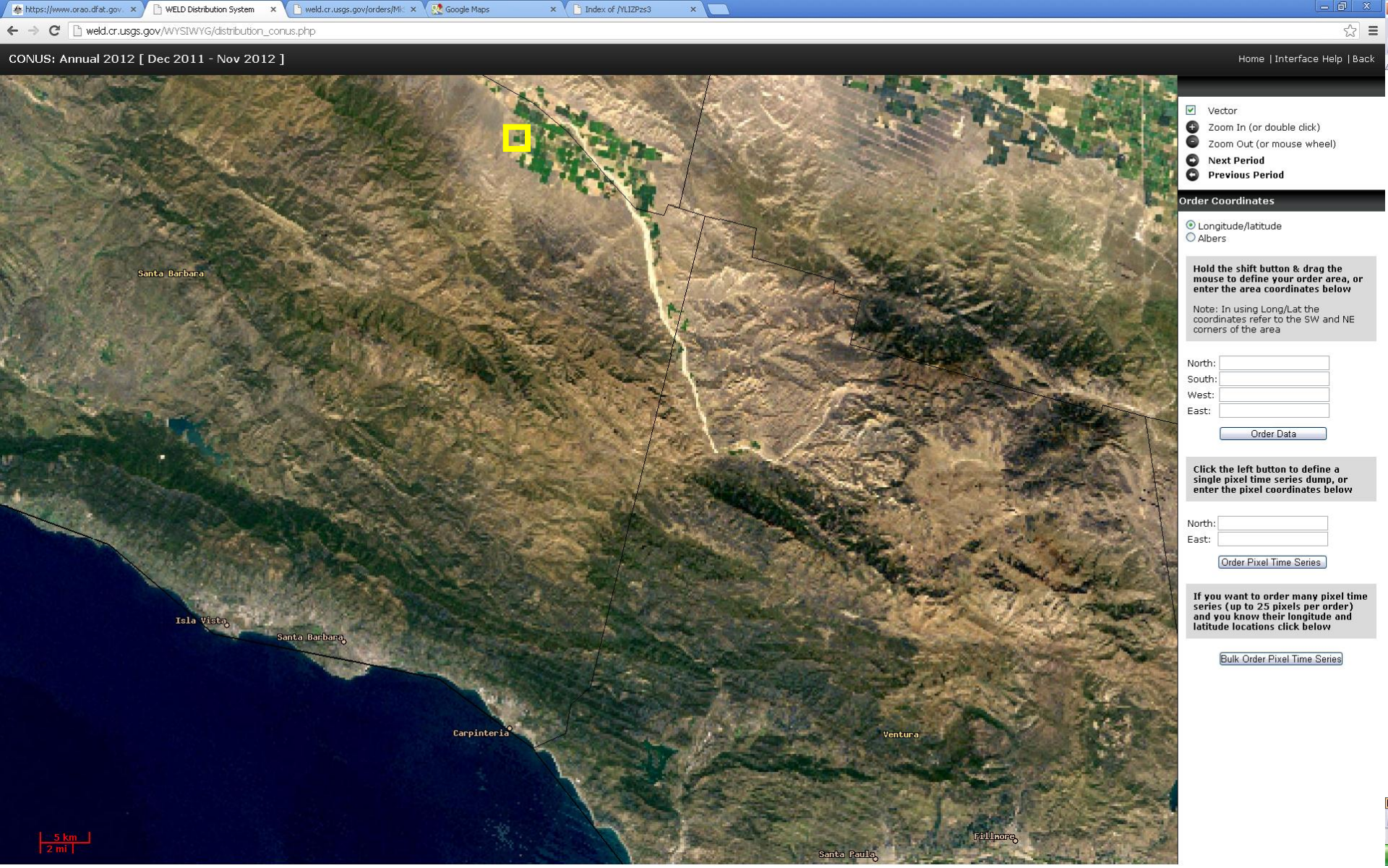

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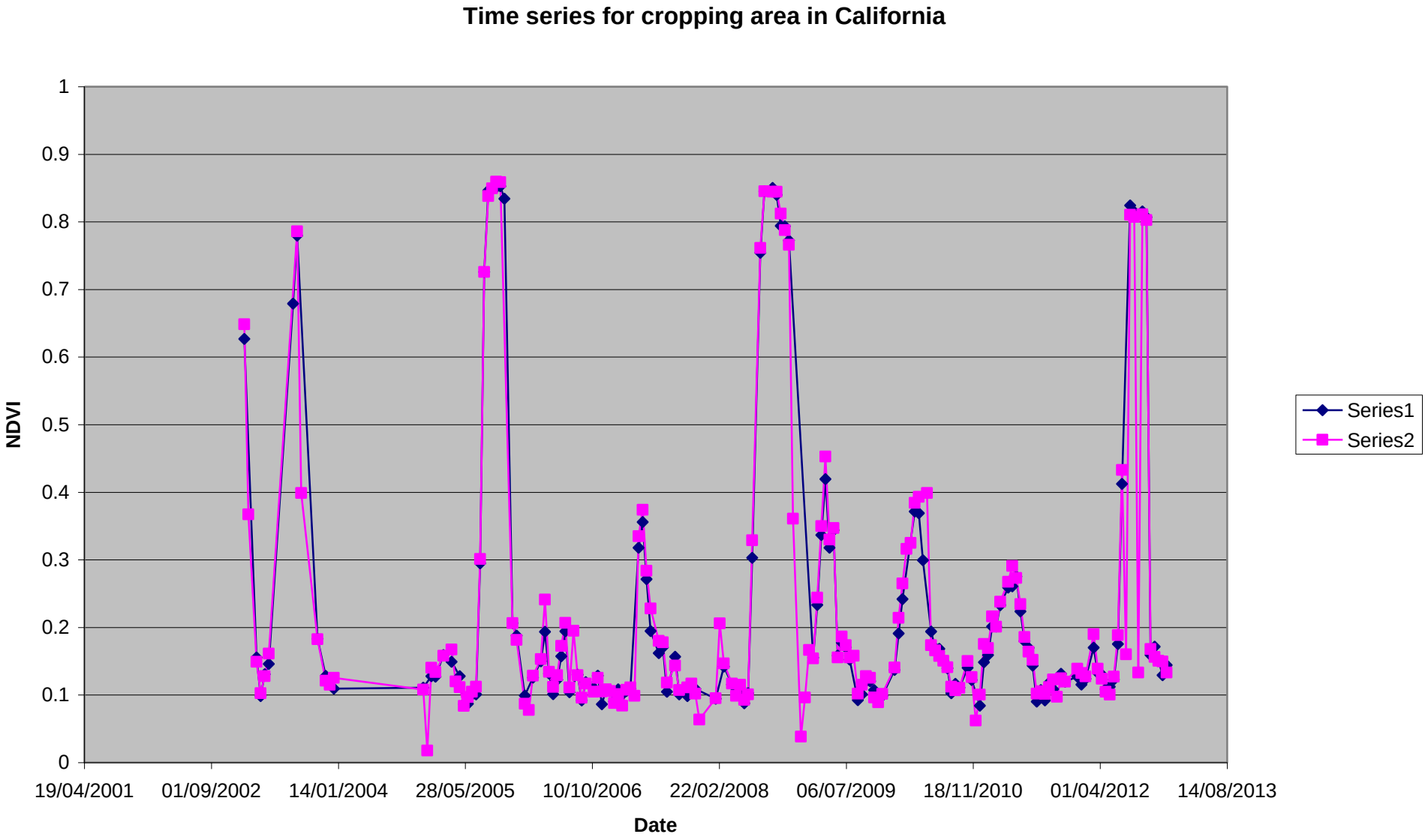

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