

Dissolved Gas in the Snake and Columbia Rivers

1969-1984

Modeled by CRiSP

**Pamela Shaw
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Introduction

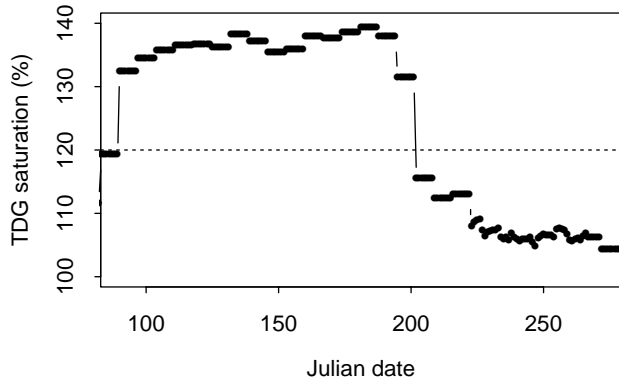
These dissolved gas profiles for 1969-1984 were created using CRiSP and historic spill and flow data. In CRiSP the gas going into the tailwater of a particular dam is a direct function of the spill at that dam and the dissolved gas coming from upstream. The gas production equations in CRiSP were fit to gas data from 1995-1998 and so should only be used as a relative measure of gas during the 70s and 80s. Differences in operations and to the physical structures in those years could have led to significantly different gas patterns. To capture these an analysis of gas and spill data from that period would have to be done to refit the gas production equations to better represent the dynamics of that period.

The strengths of these portraits are that they provide a relative measure of the gas in the Columbia and Snake Rivers from year to year. Years with significantly higher gas are years with significantly higher spill. Another interesting thing to look for are the number of dams which had significant spill, with some years having several consecutive dams spilling versus others with isolated instances.

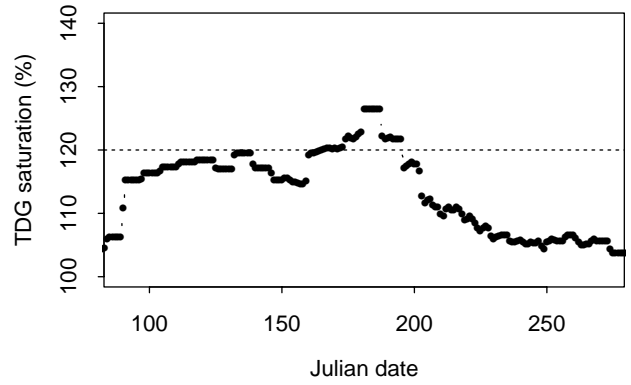
This is a first pass at modeling the gas in these years, any input on how to best calibrate and improve these predictions is welcome.

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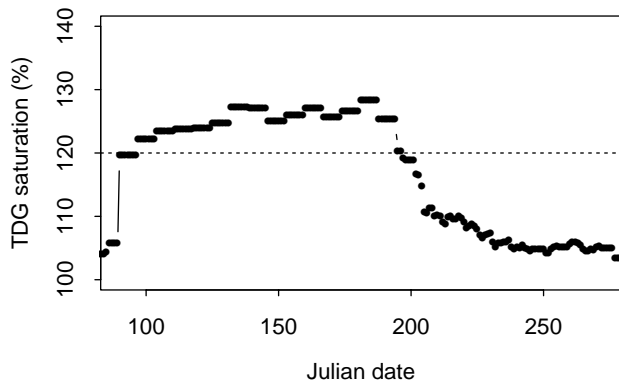
CHJ Tailwater Gas 1969



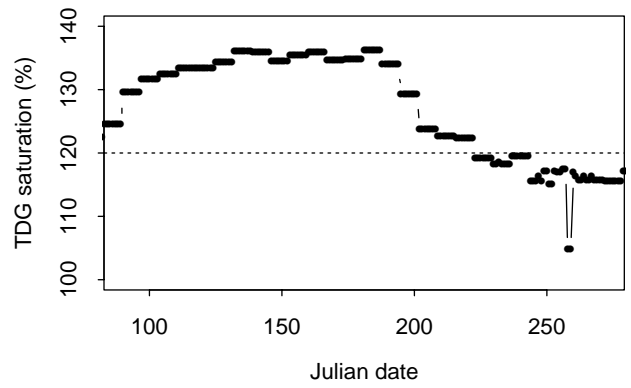
WEL Tailwater Gas 1969



RRH Tailwater Gas 1969



RIS Tailwater Gas 1969



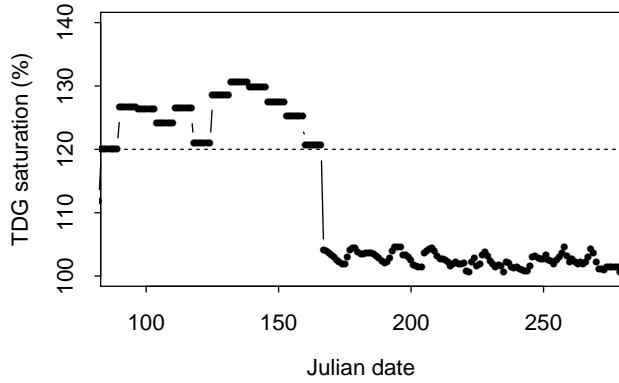
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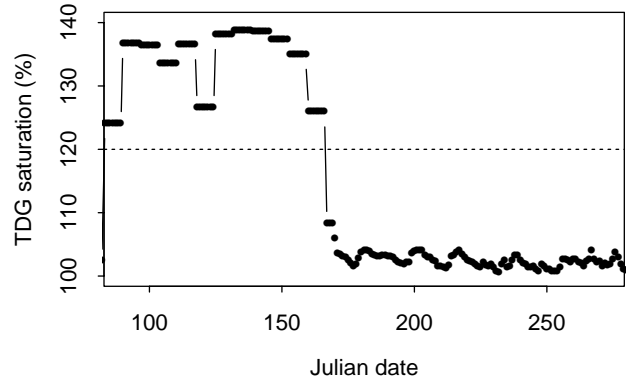
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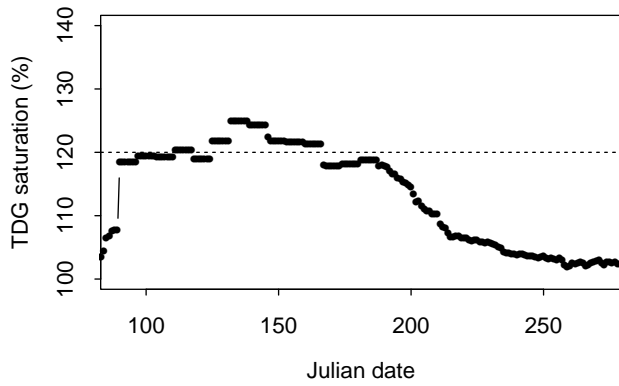
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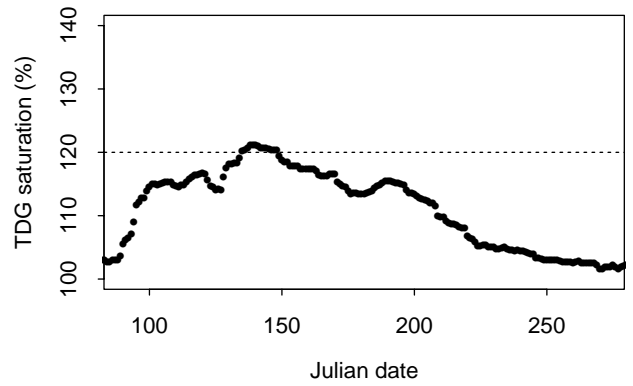
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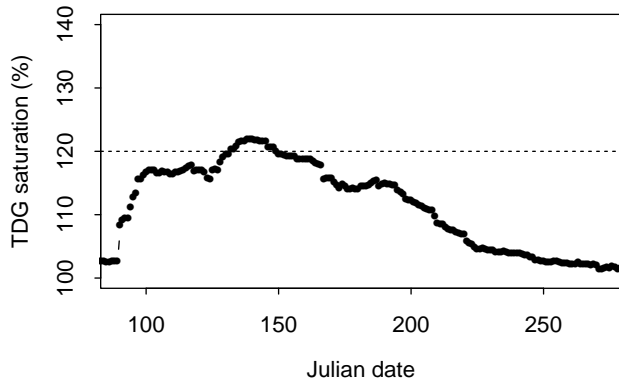
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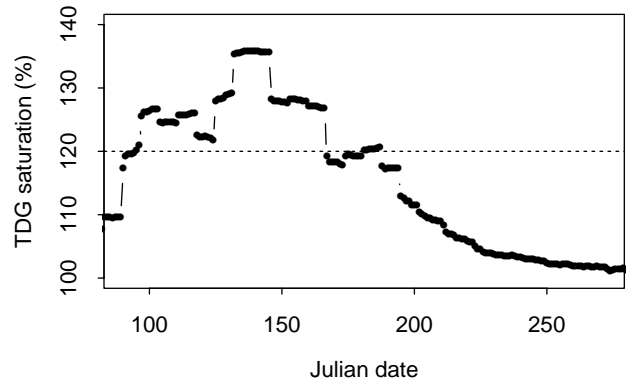
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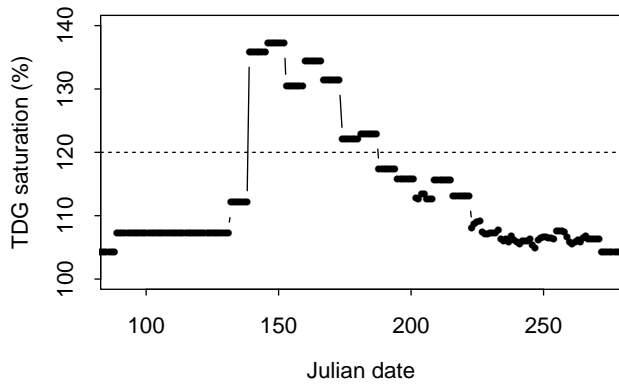
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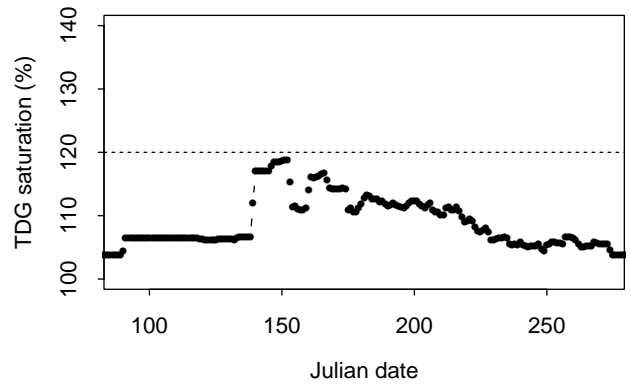
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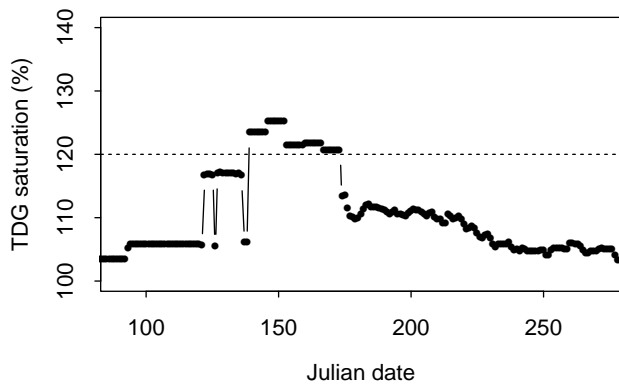
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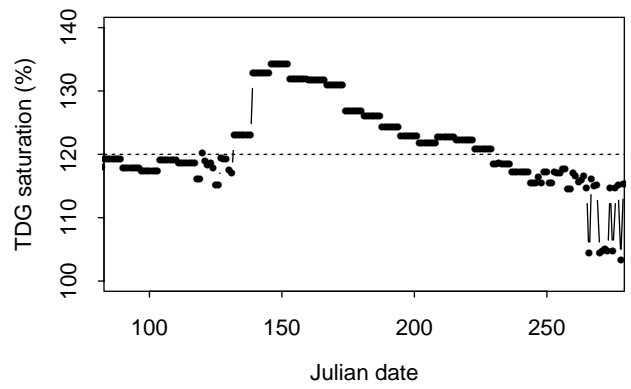
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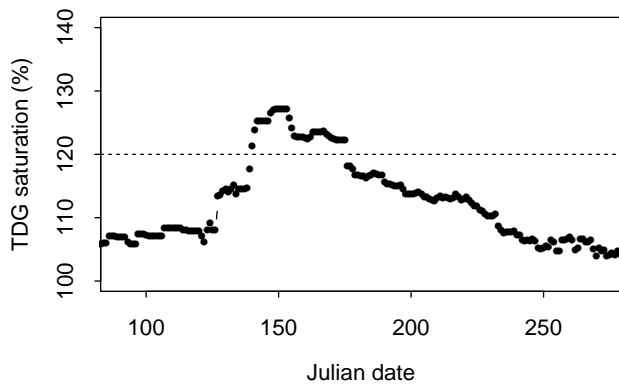
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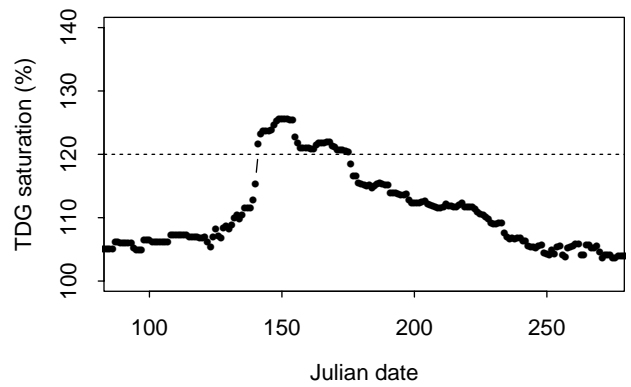
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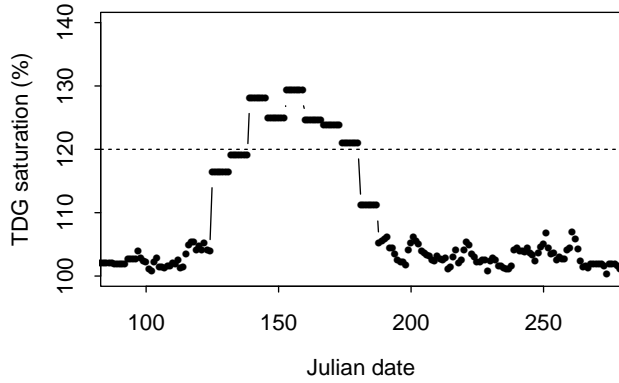
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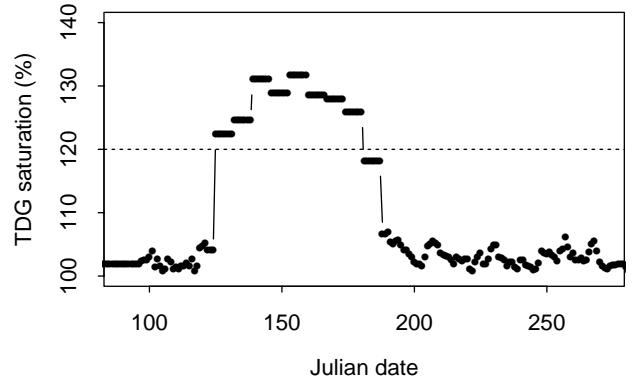
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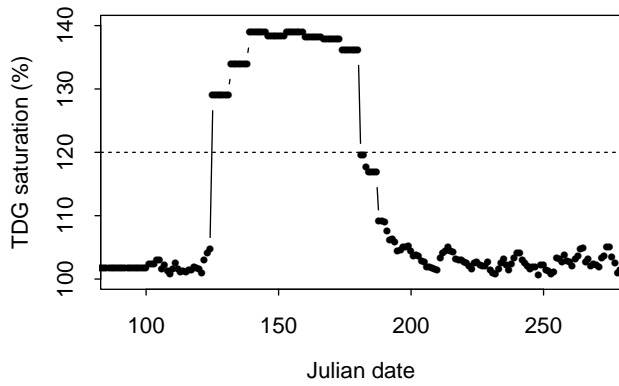
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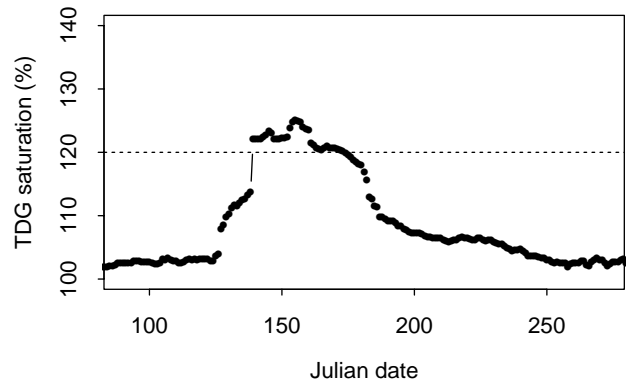
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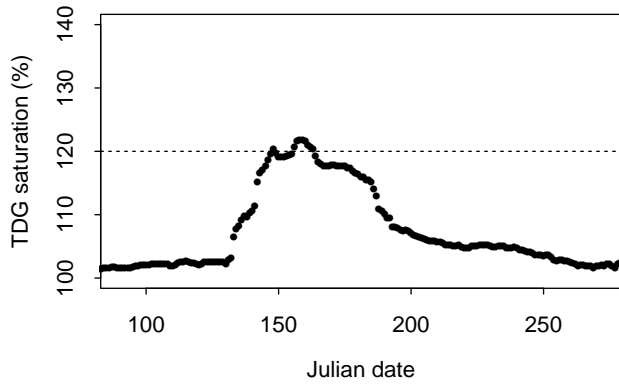
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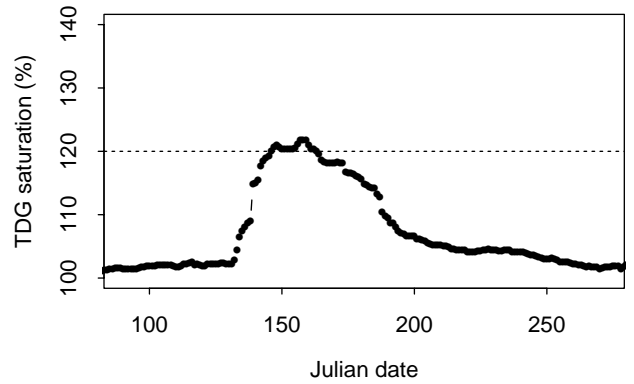
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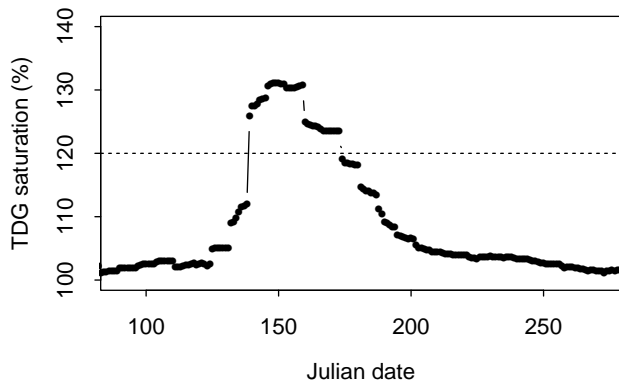
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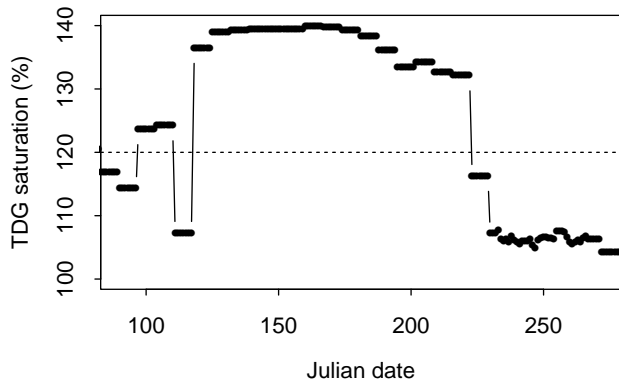
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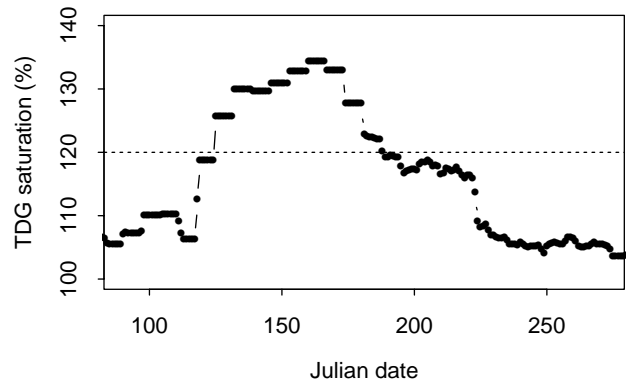
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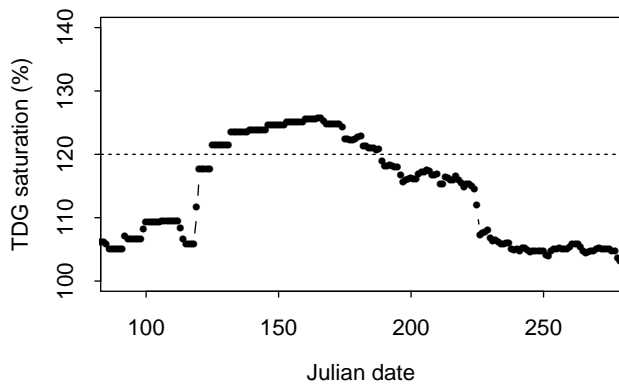
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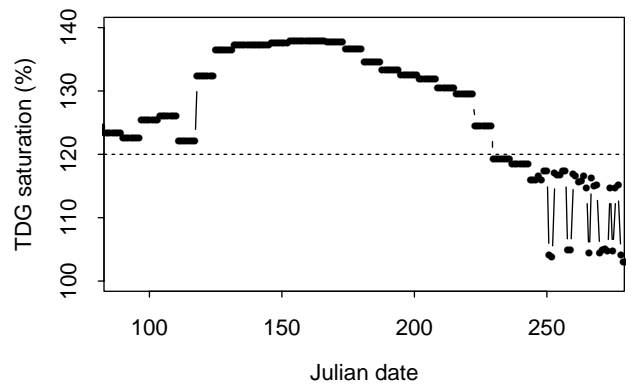
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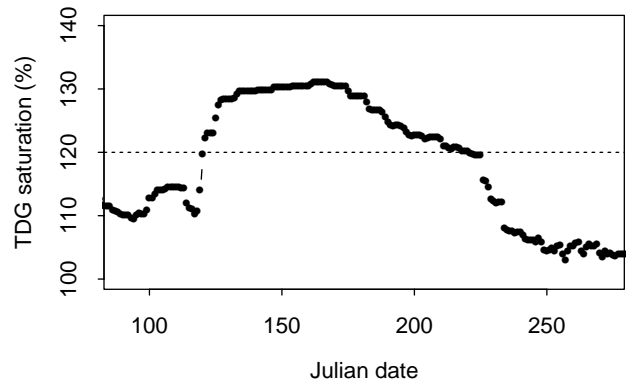
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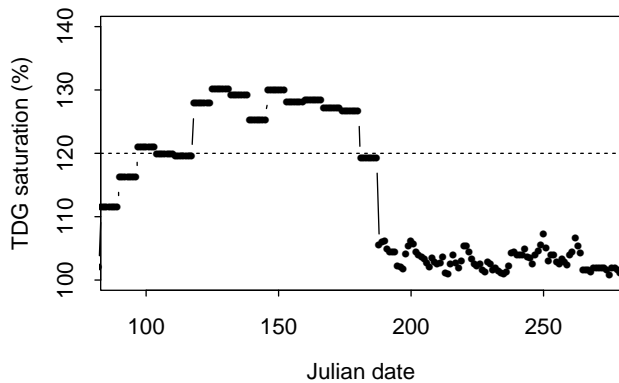
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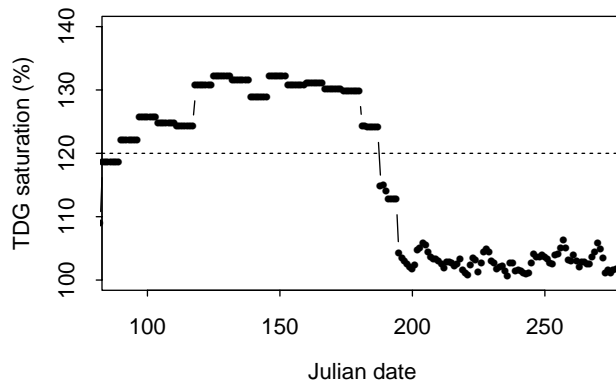
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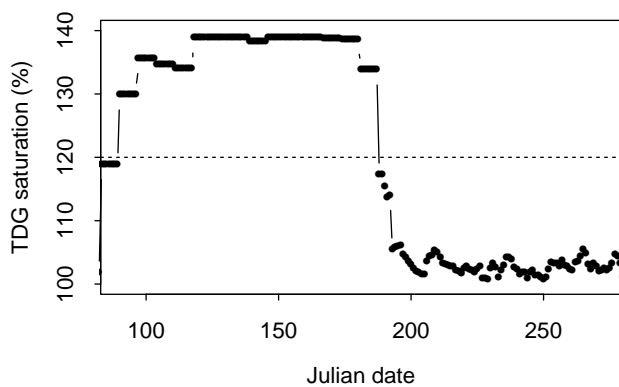
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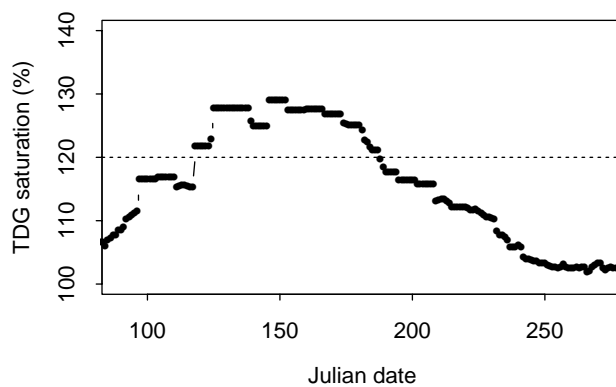
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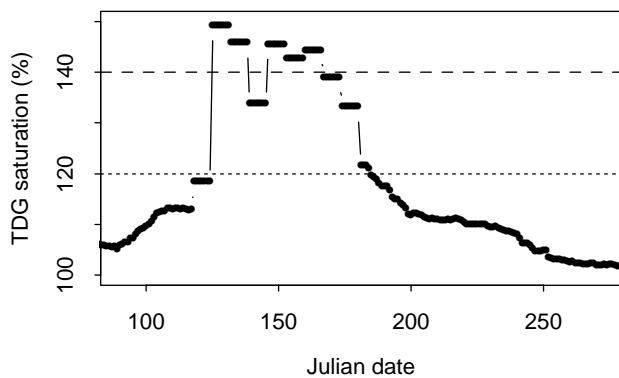
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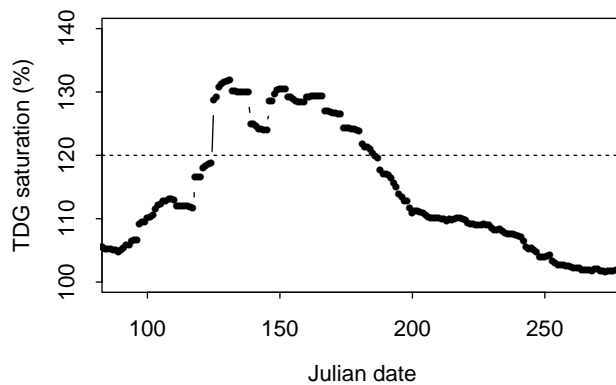
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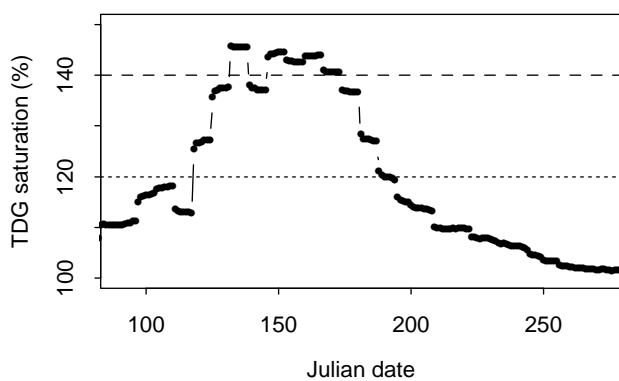
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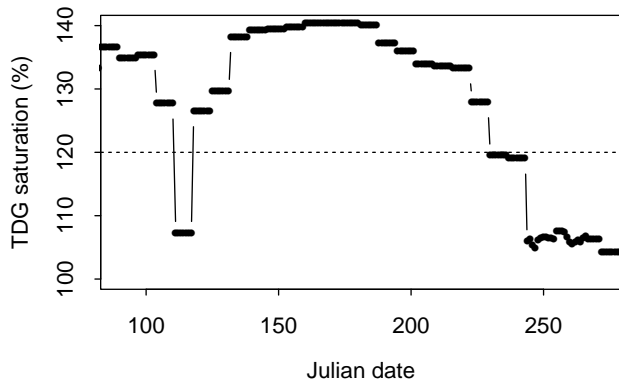
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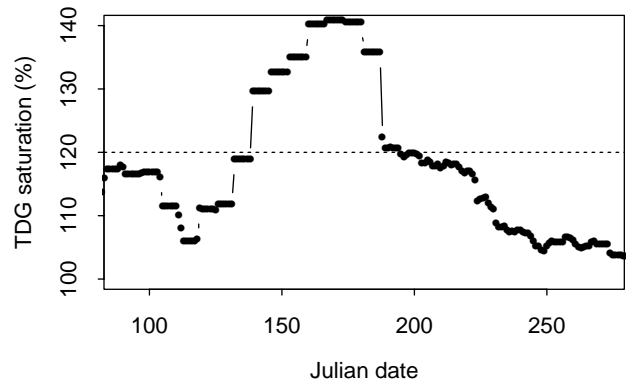
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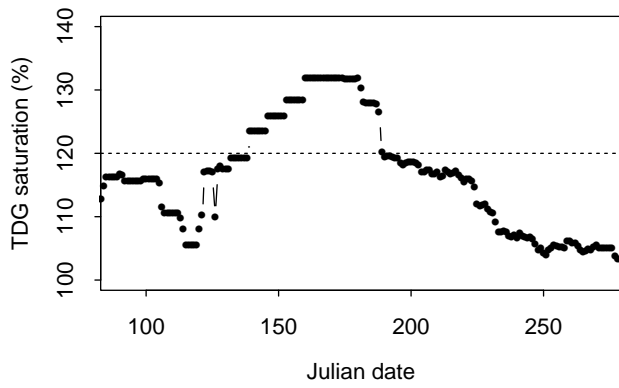
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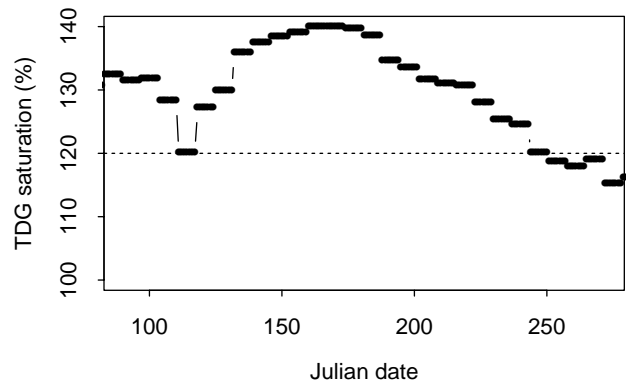
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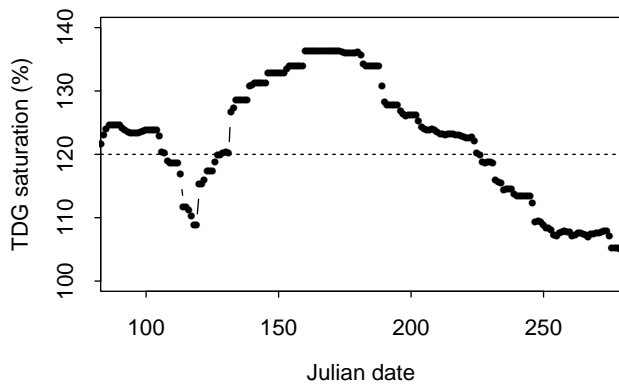
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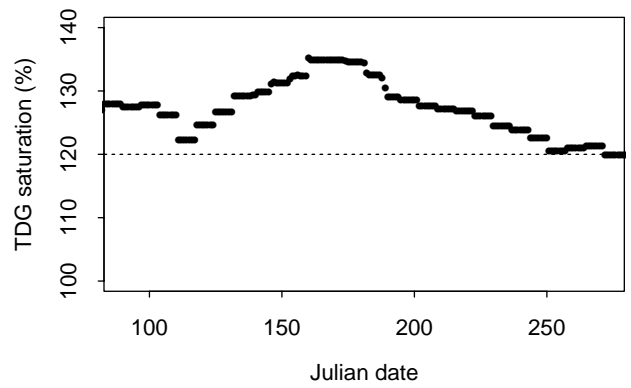
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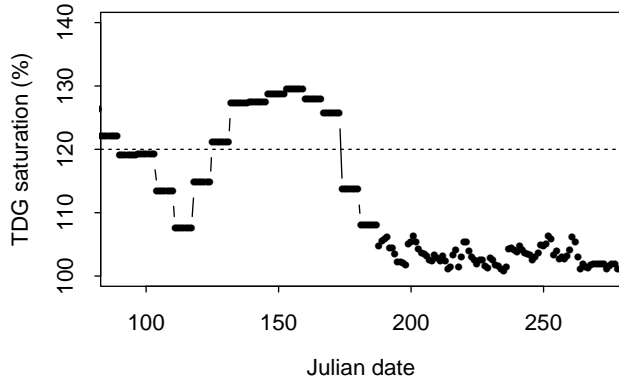
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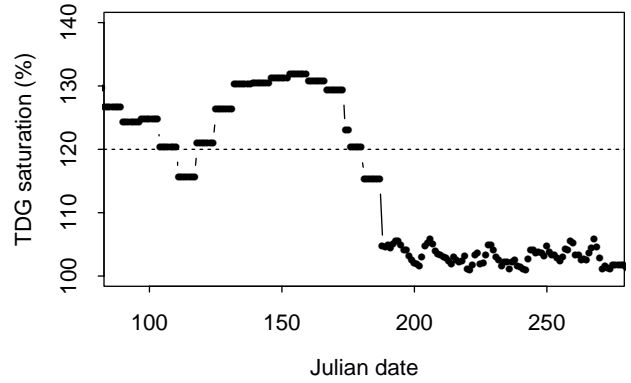
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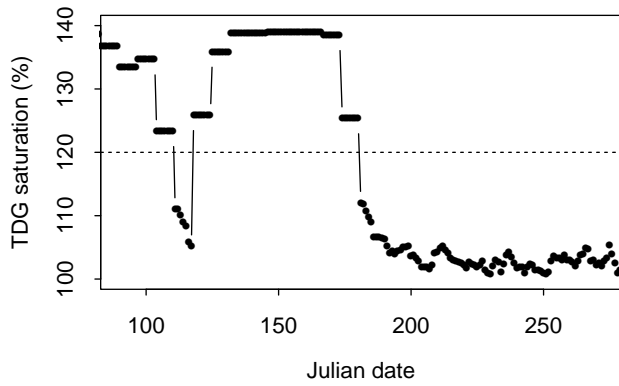
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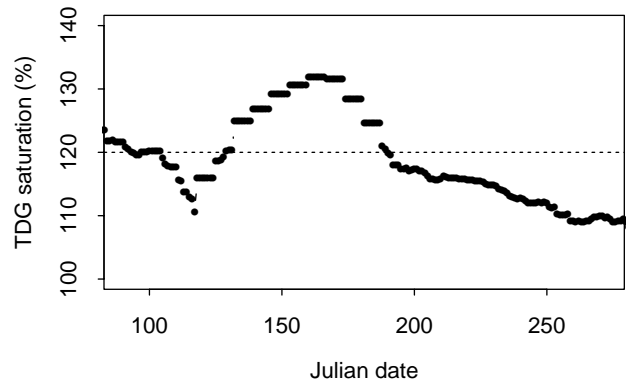
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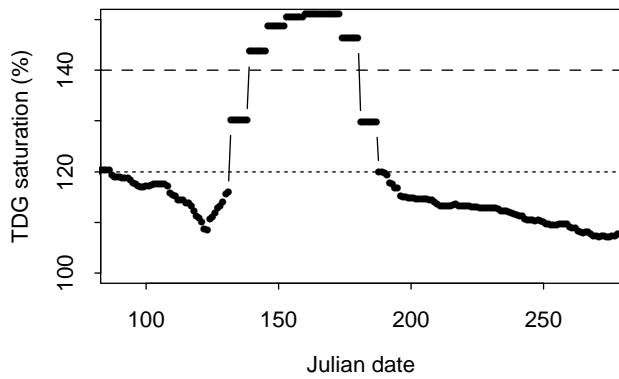
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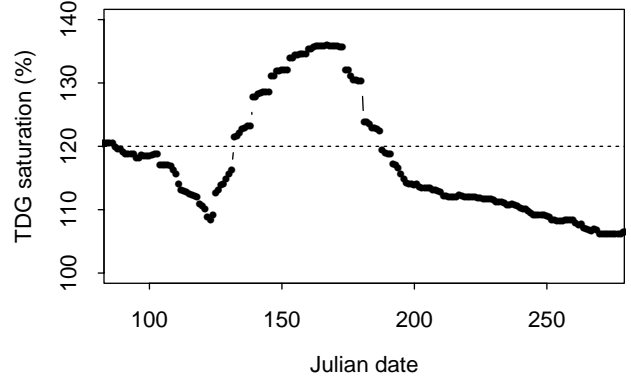
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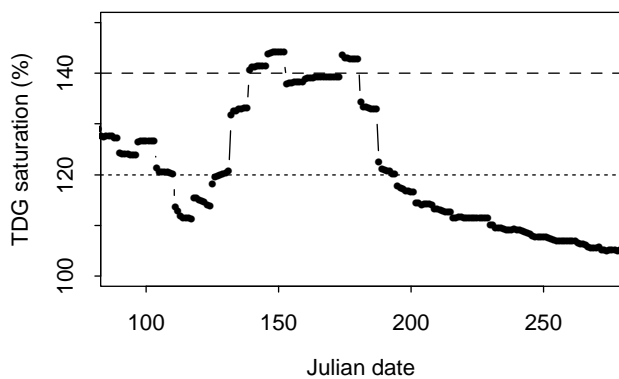
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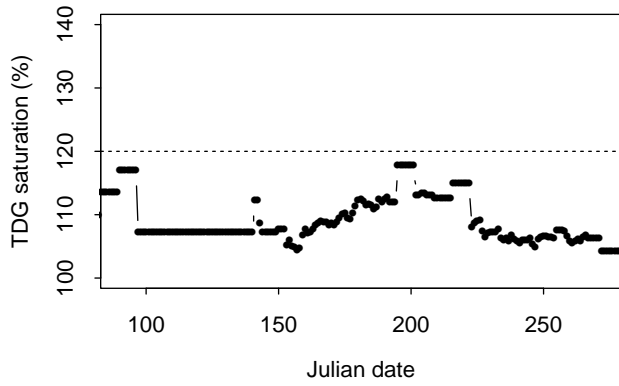
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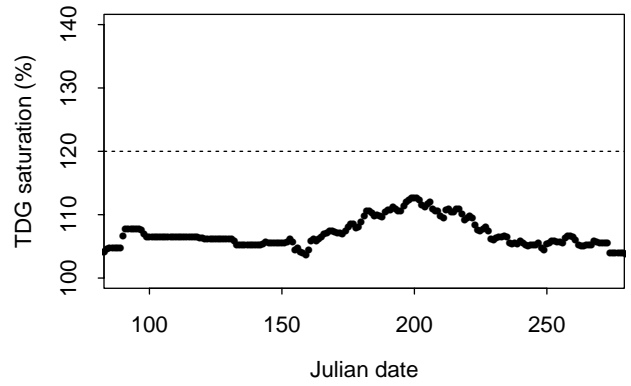
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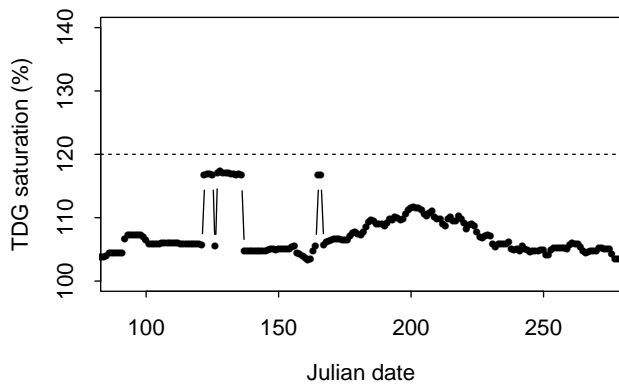
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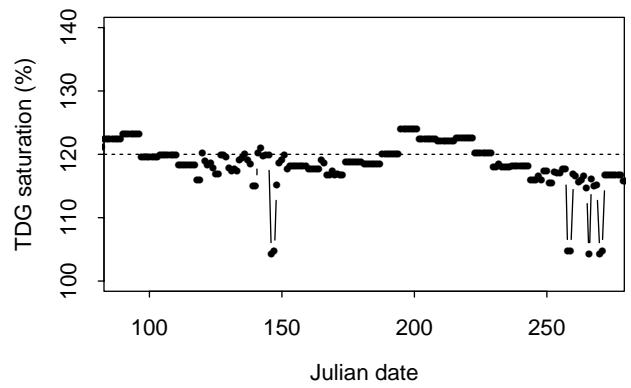
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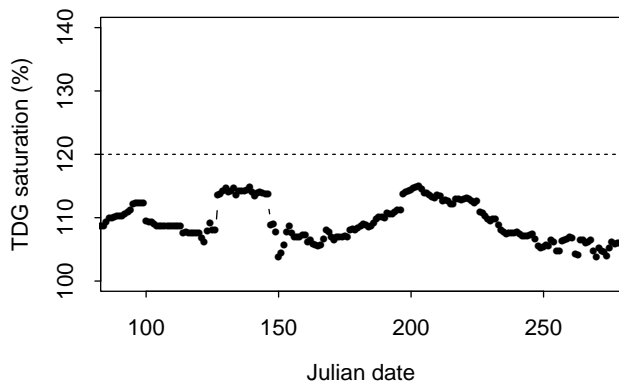
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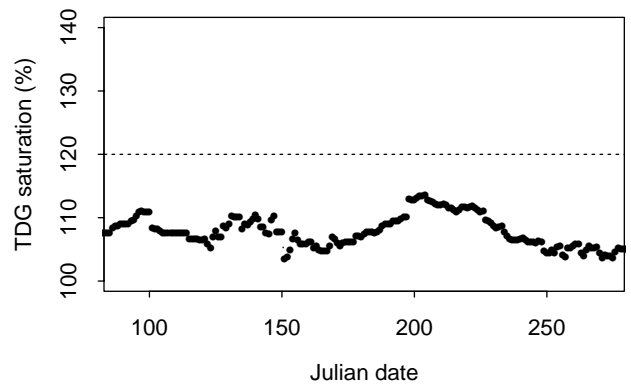
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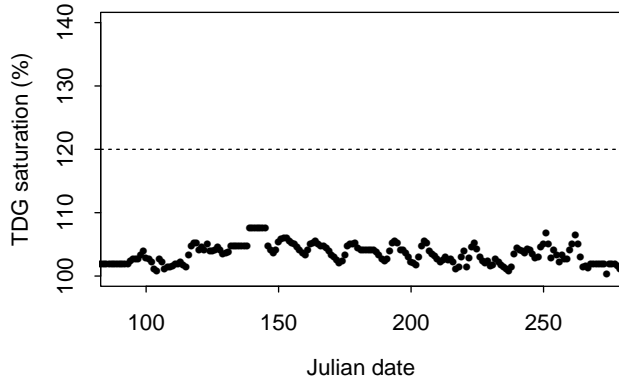
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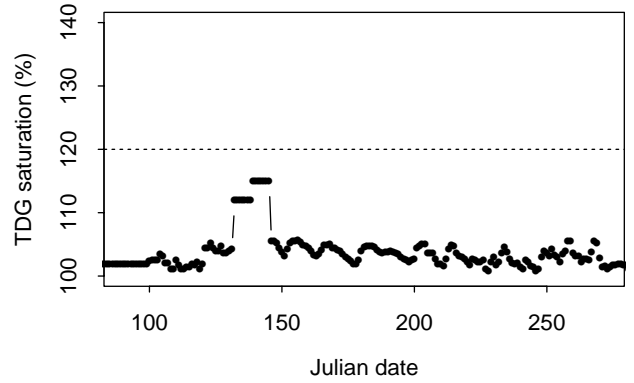
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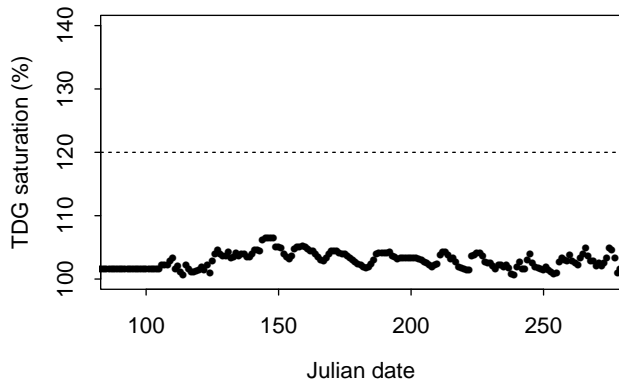
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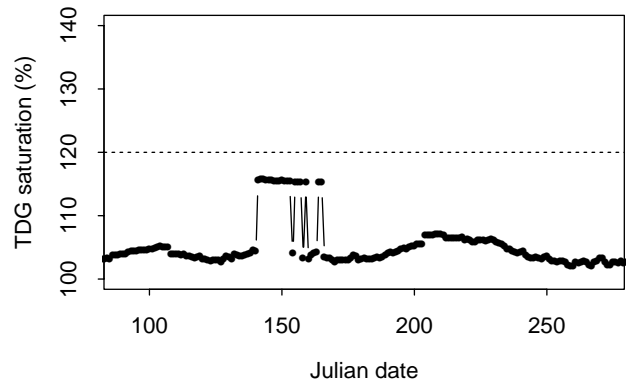
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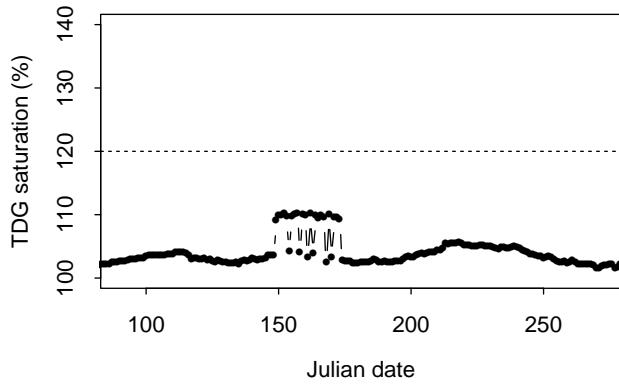
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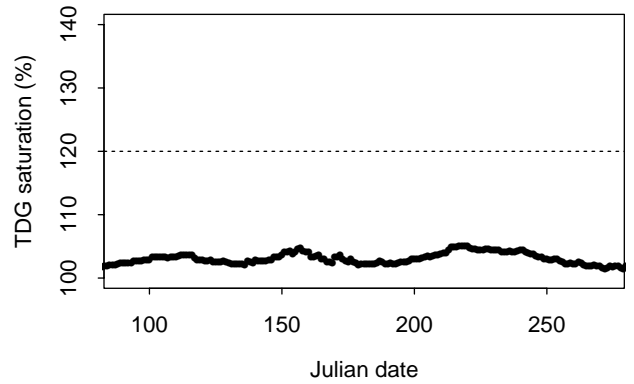
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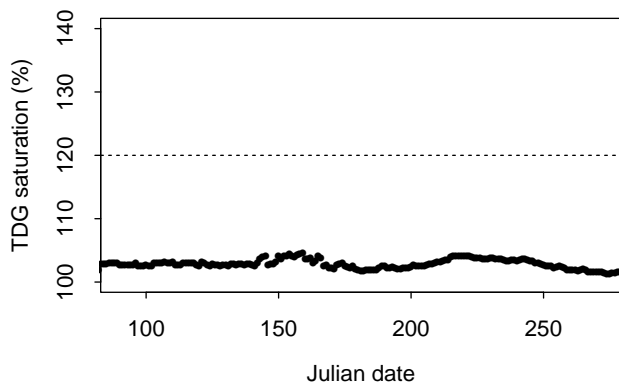
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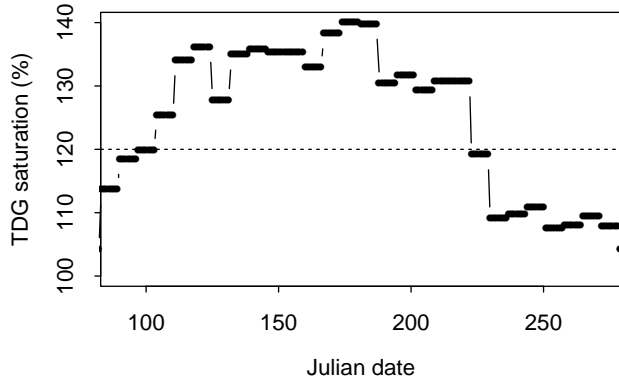
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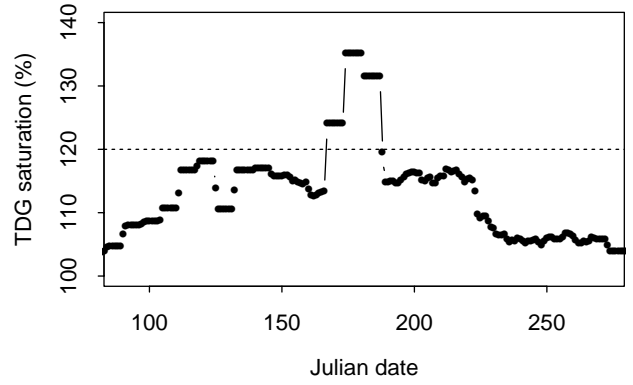
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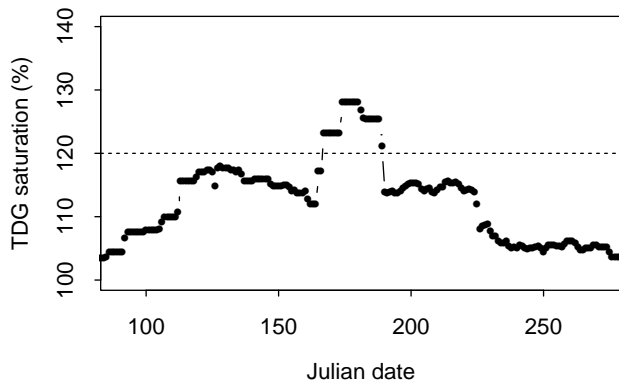
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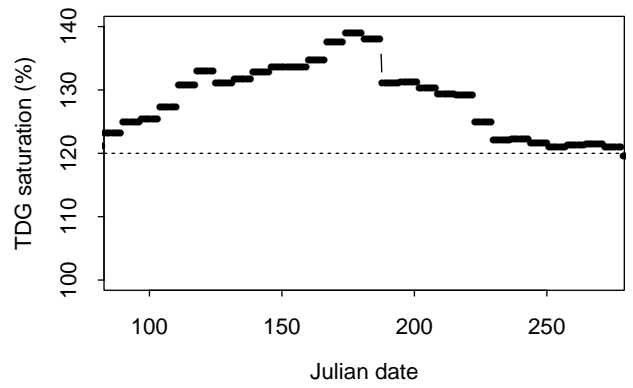
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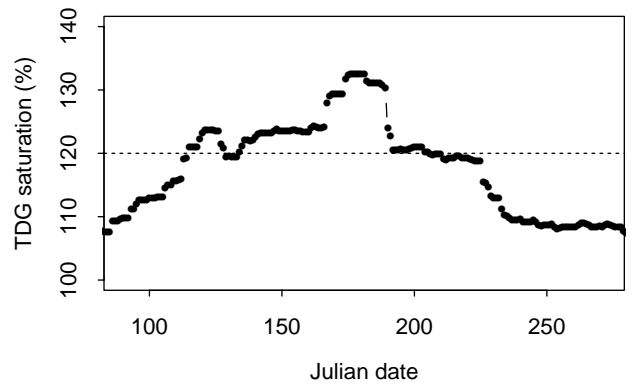
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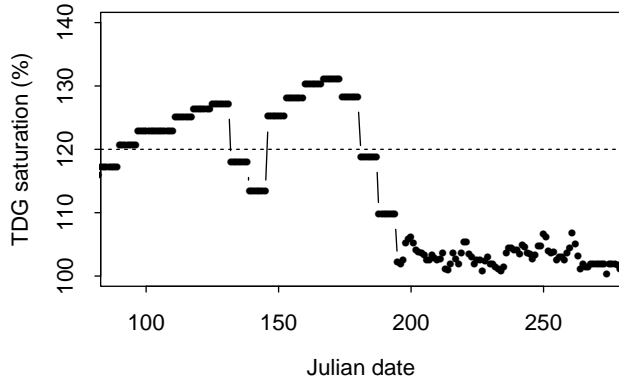
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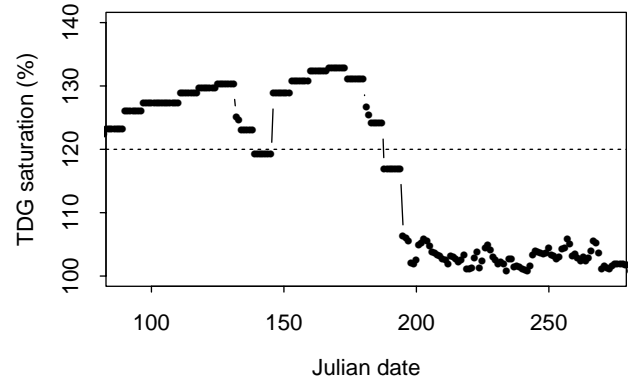
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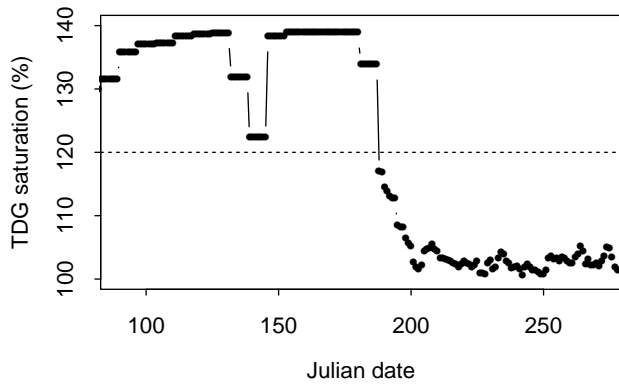
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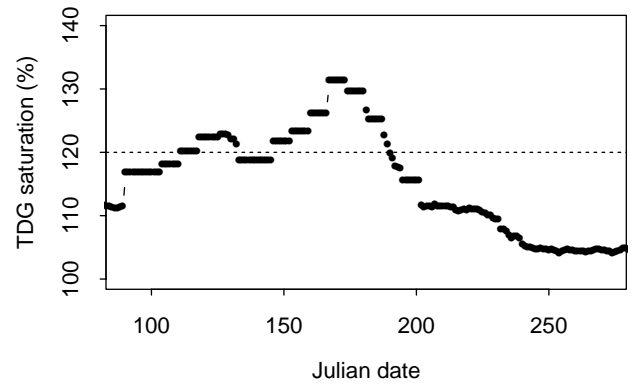
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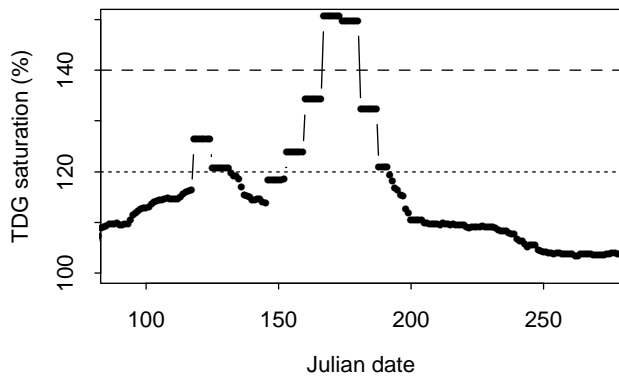
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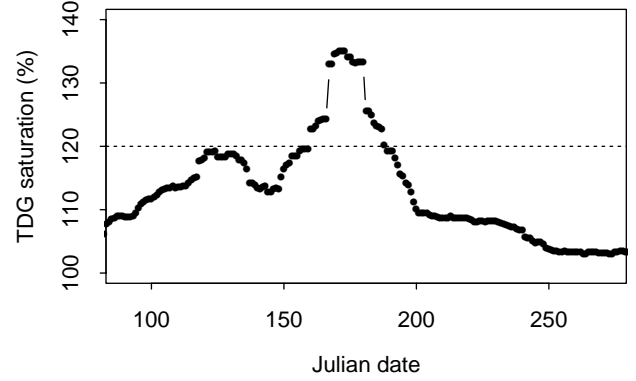
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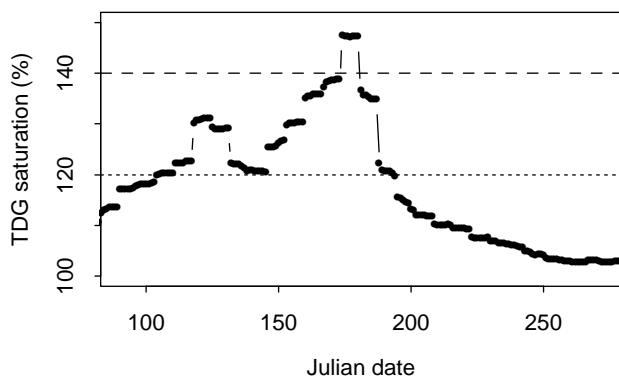
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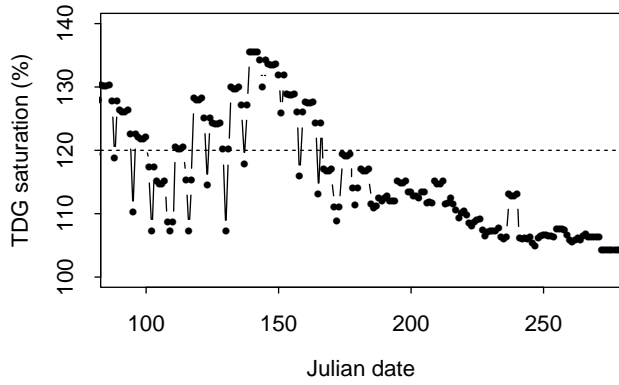
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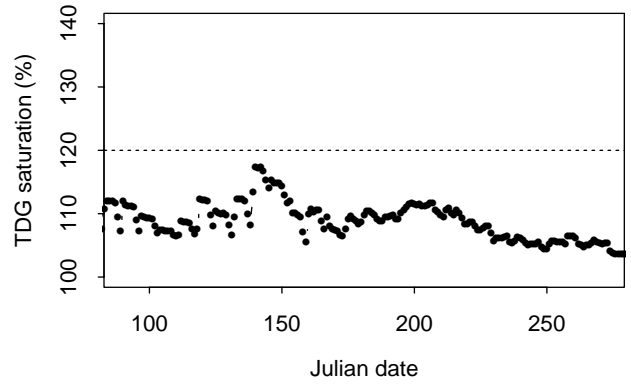
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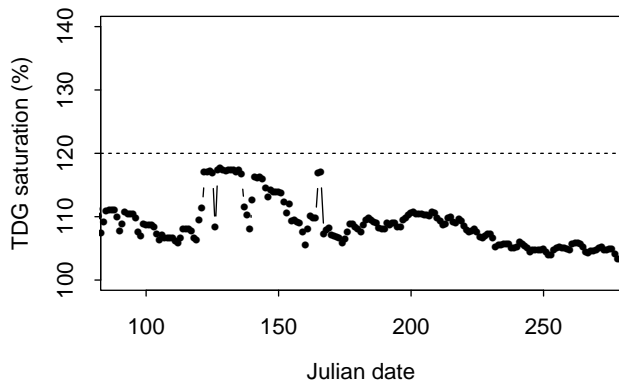
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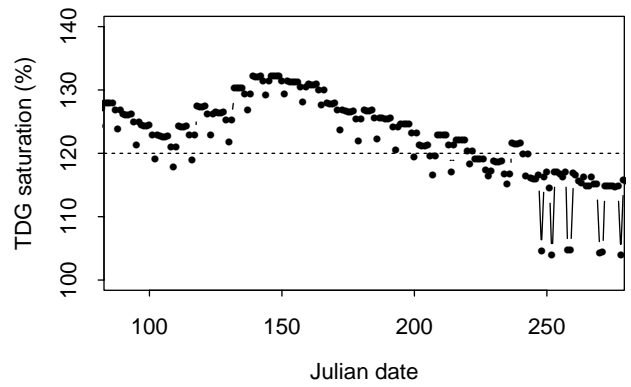
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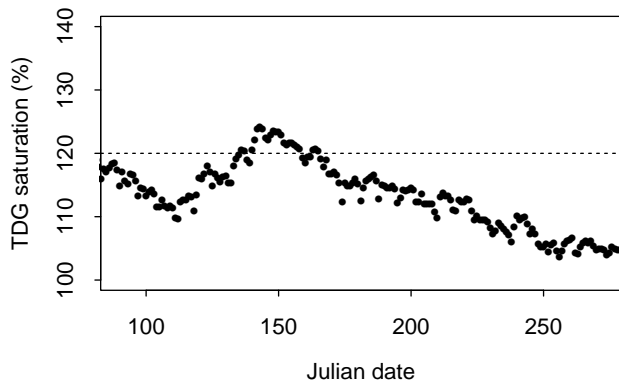
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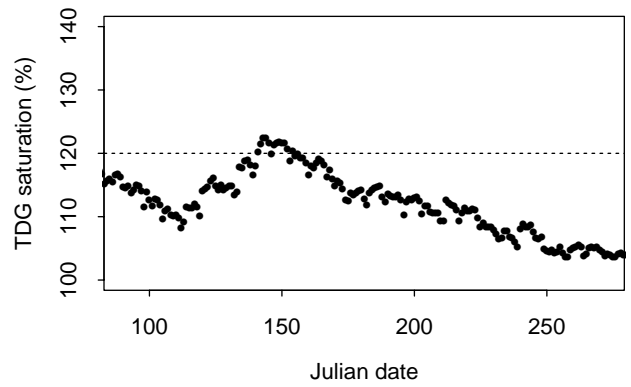
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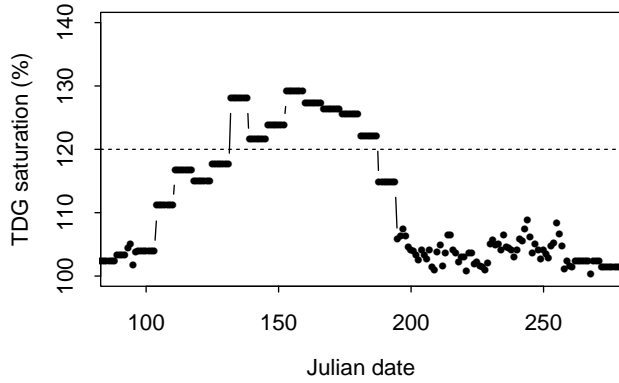
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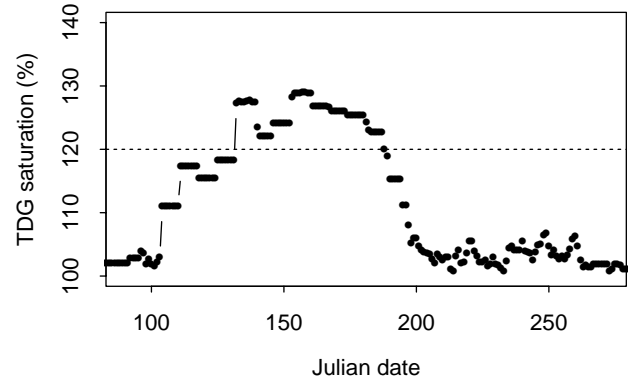
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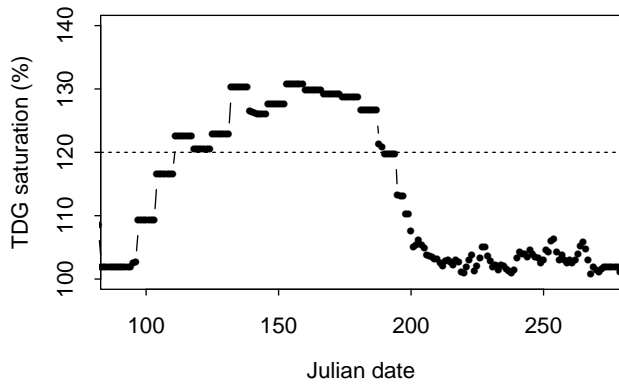
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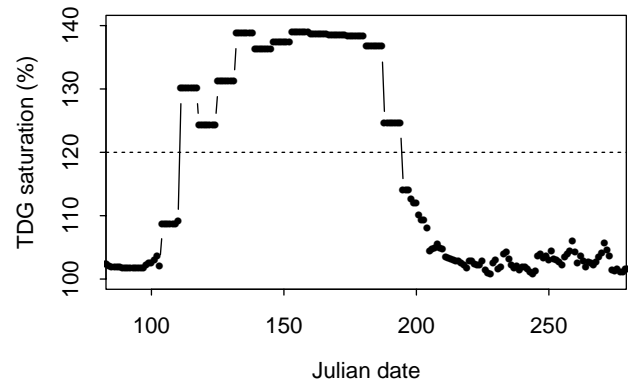
LGS Tailwater Gas 1975



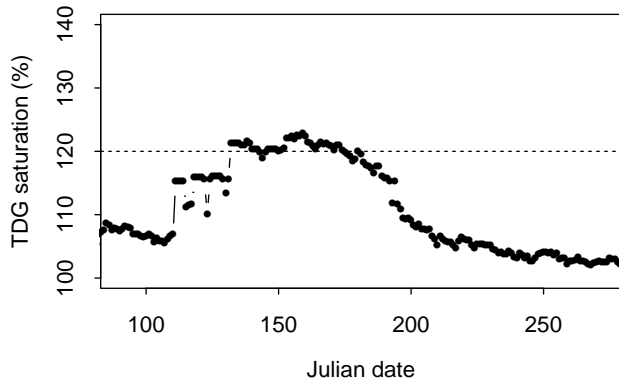
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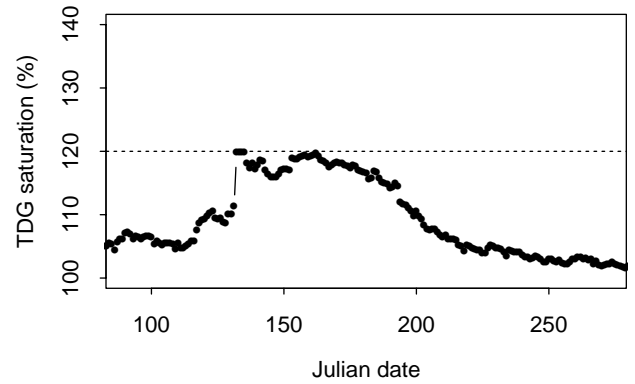
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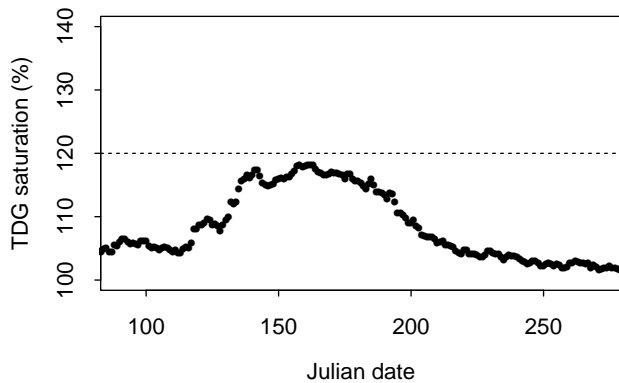
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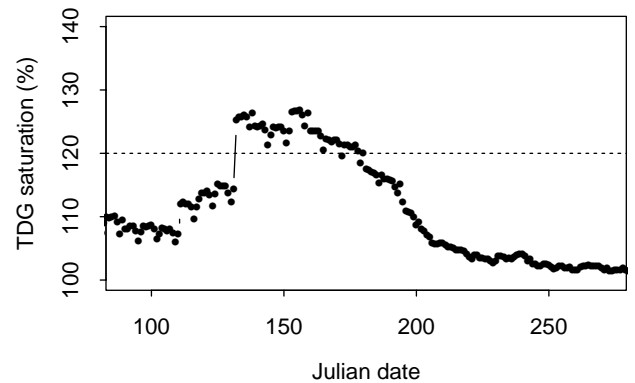
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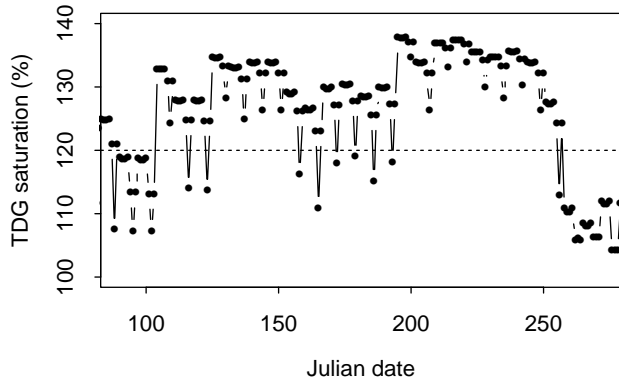
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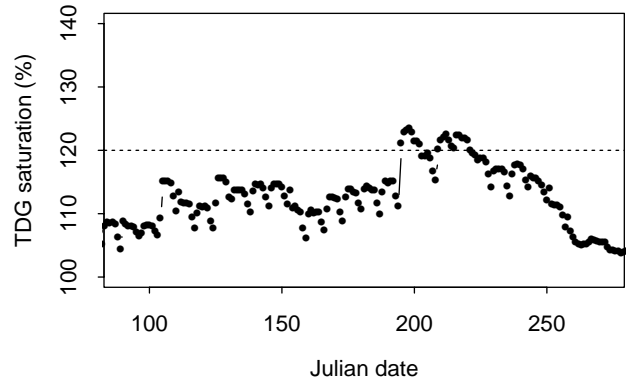
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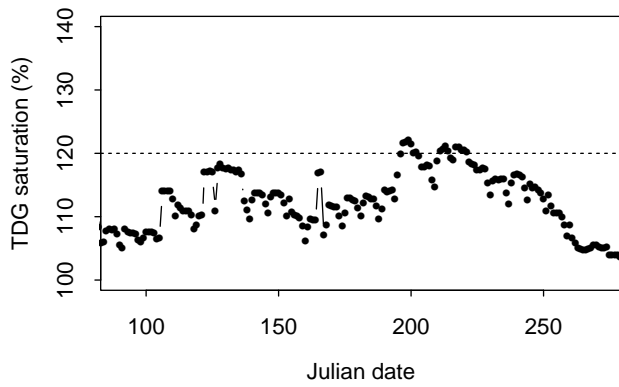
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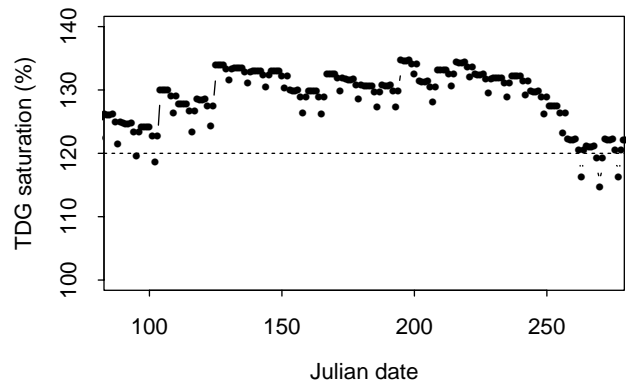
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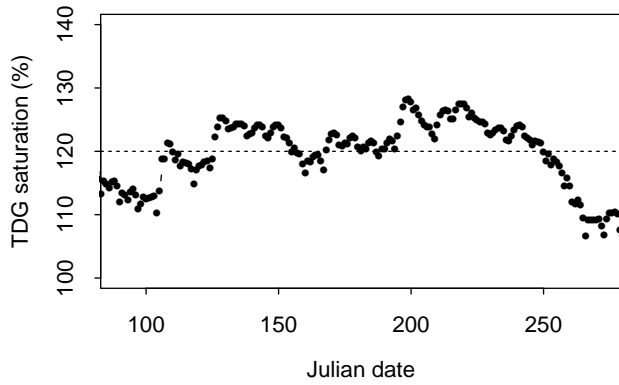
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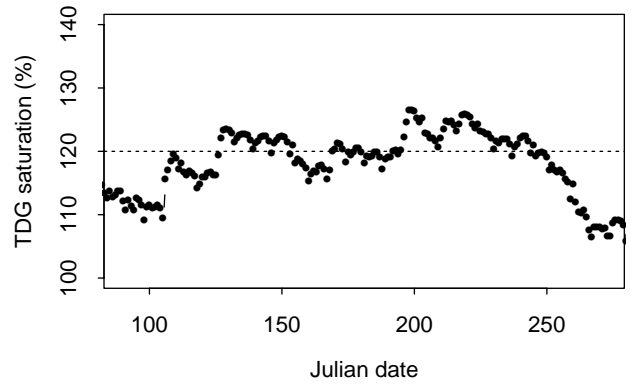
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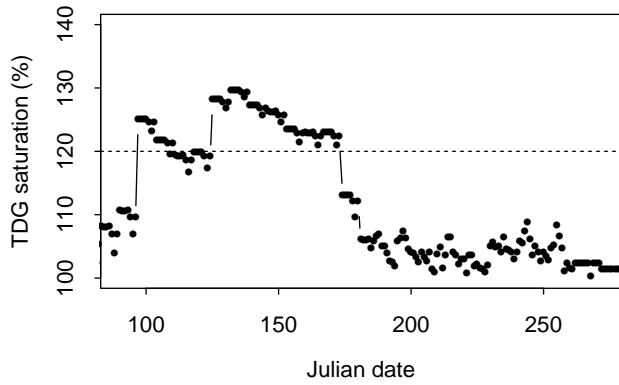
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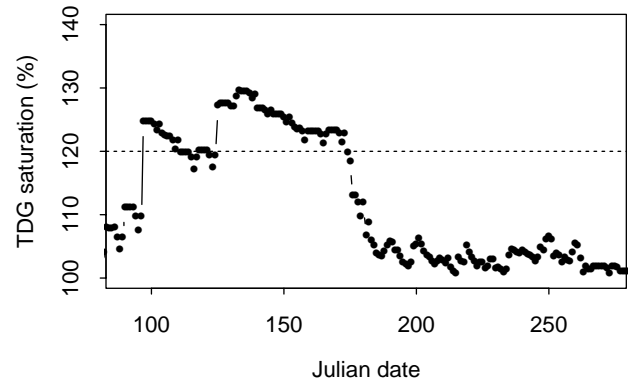
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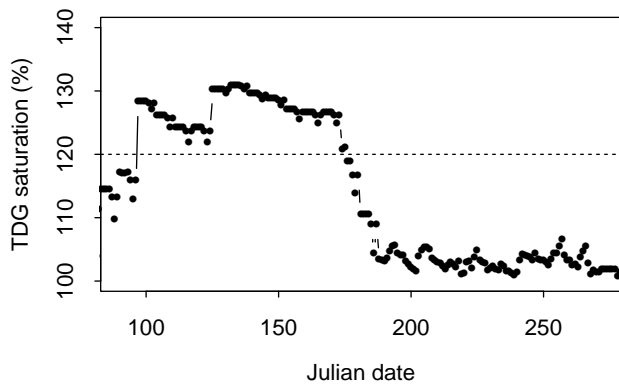
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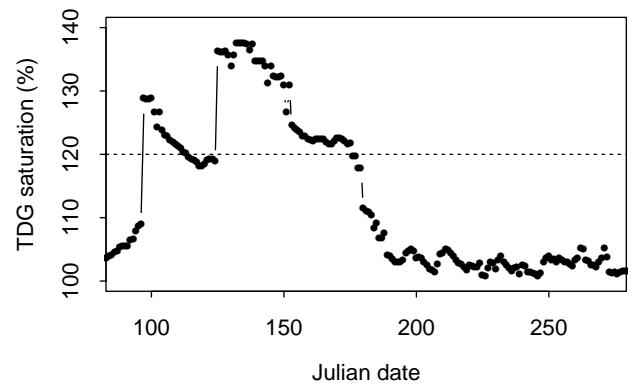
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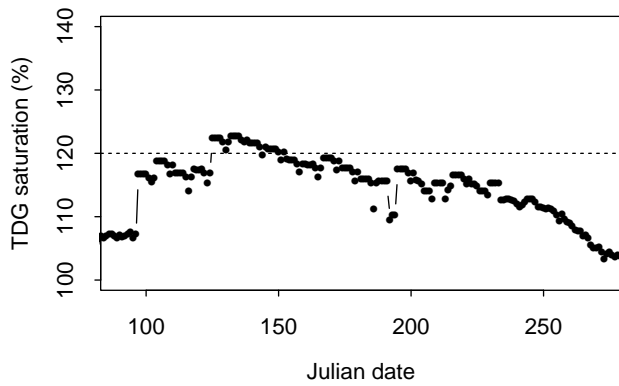
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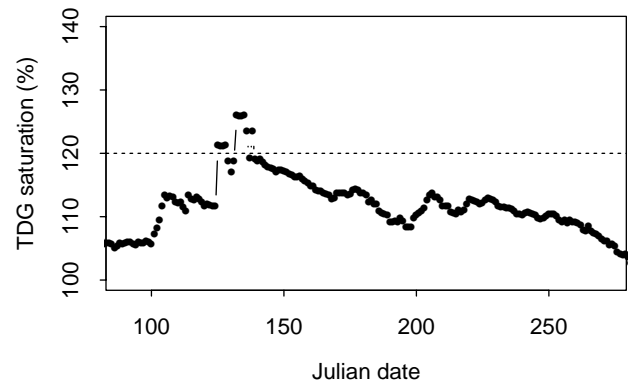
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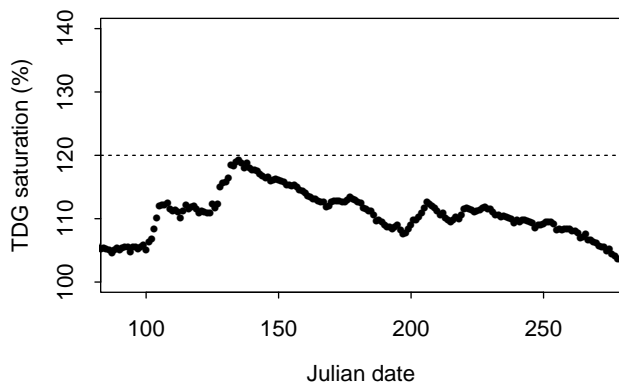
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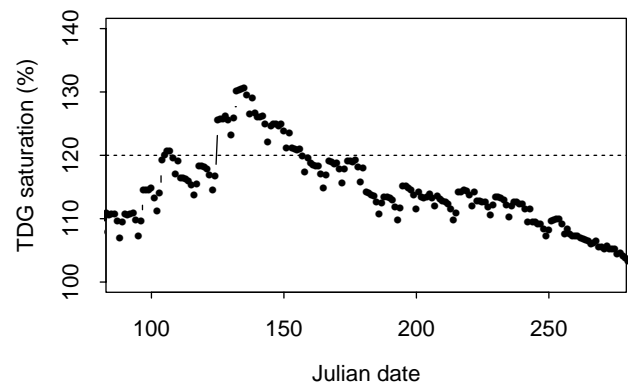
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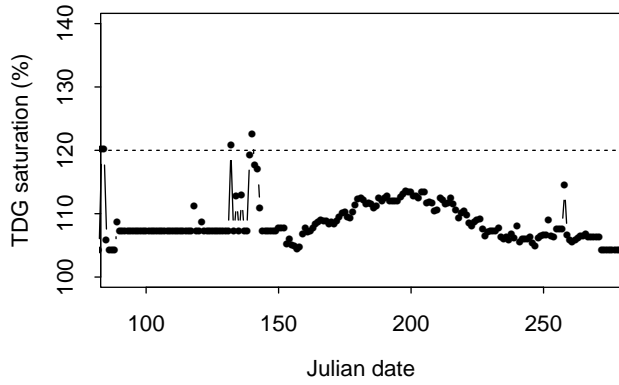
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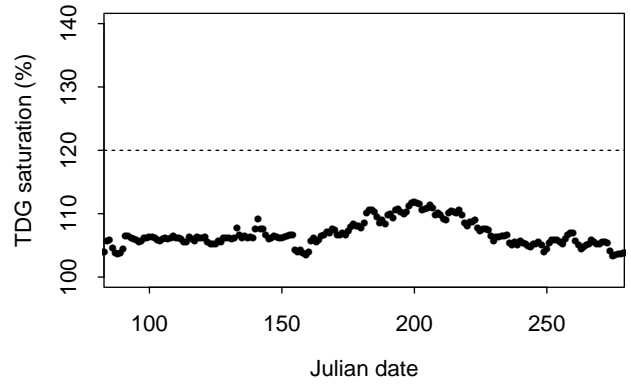
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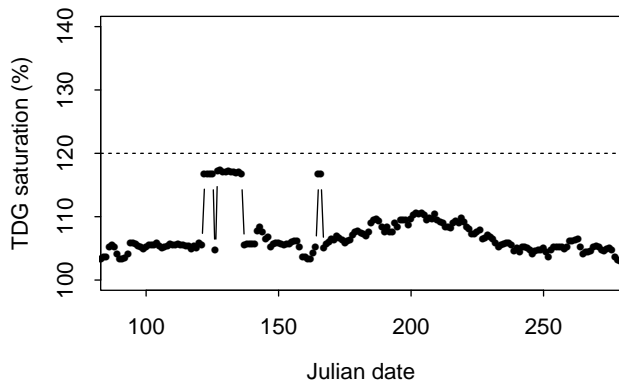
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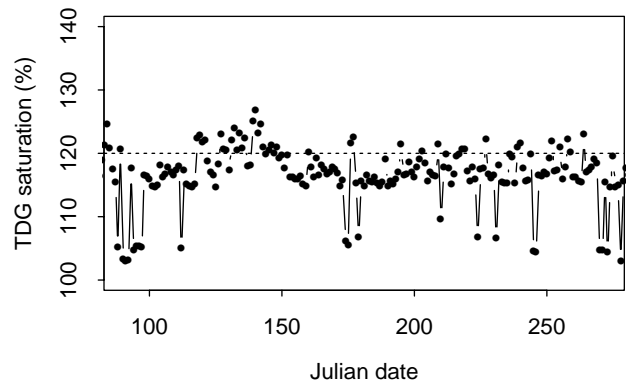
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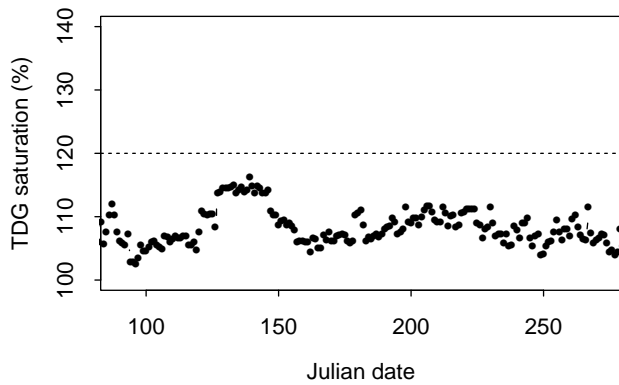
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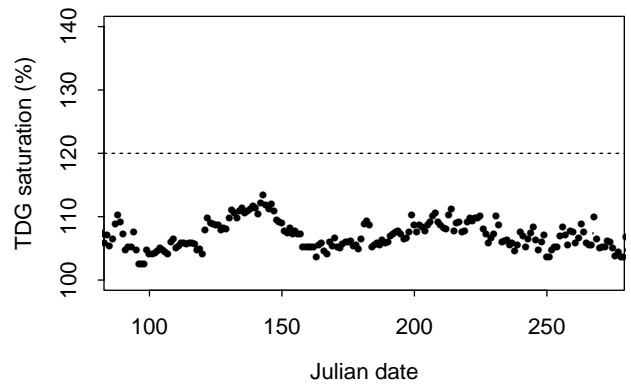
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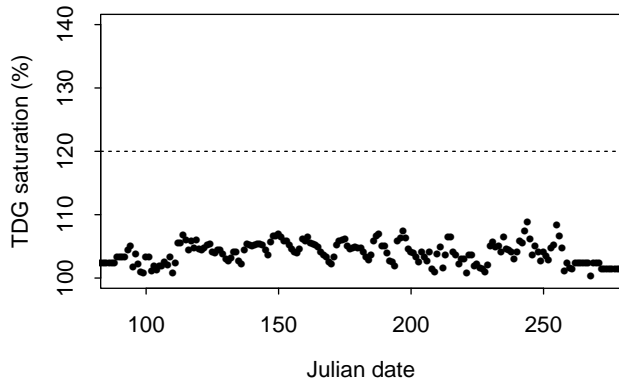
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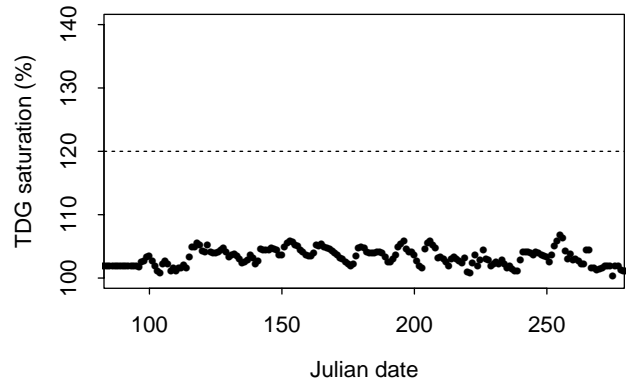
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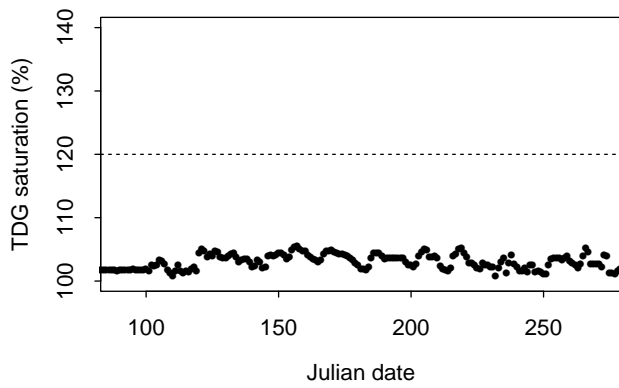
LGR Tailwater Gas 1977



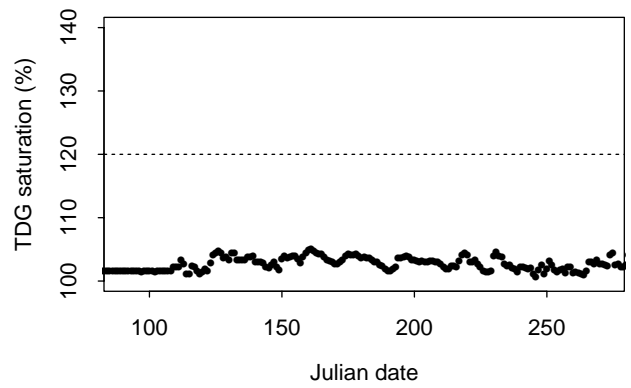
LGS Tailwater Gas 1977



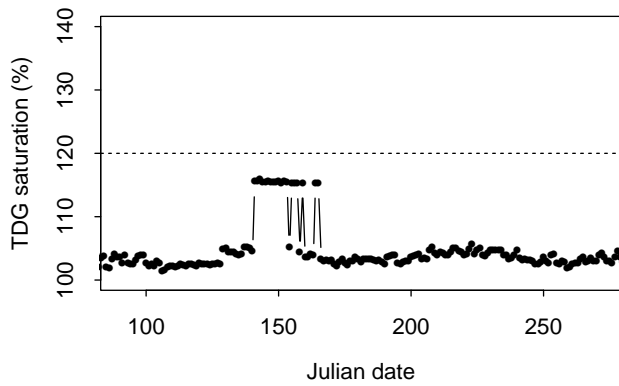
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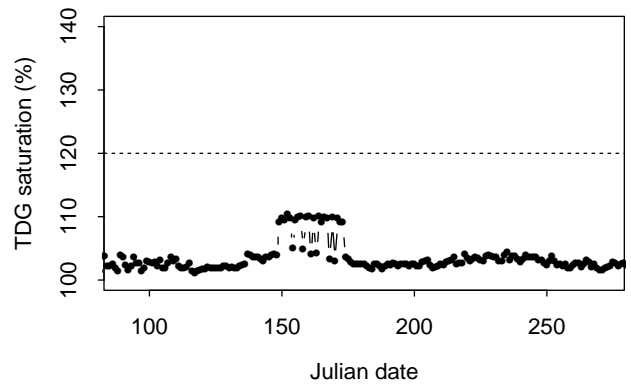
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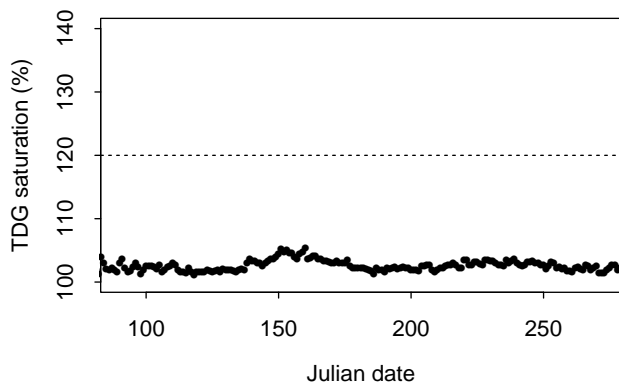
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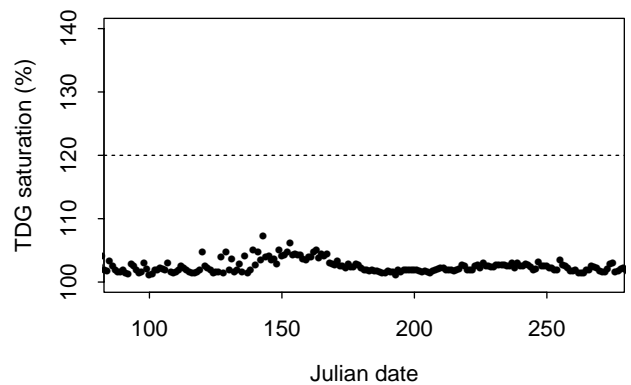
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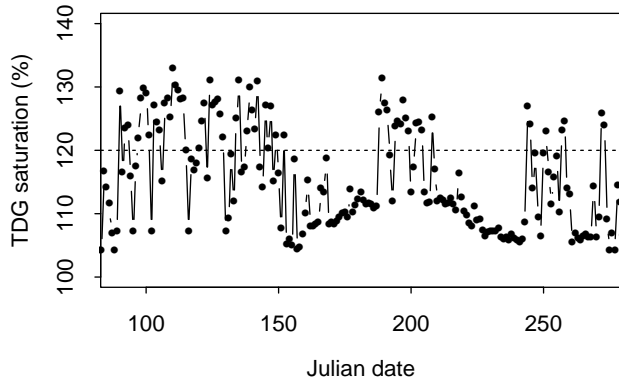
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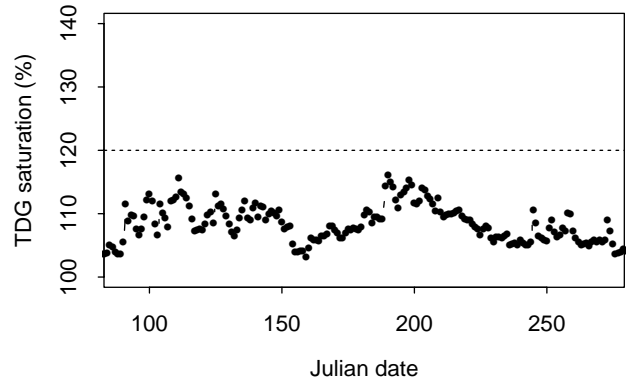
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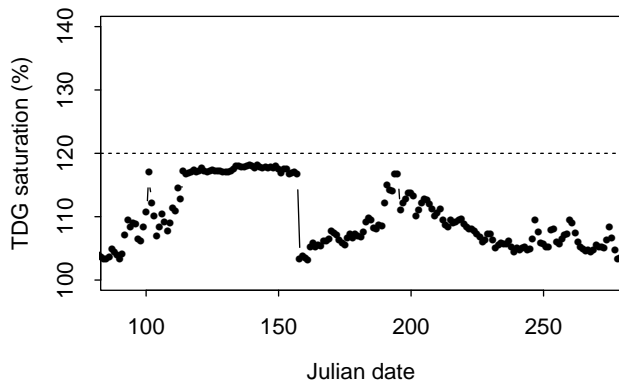
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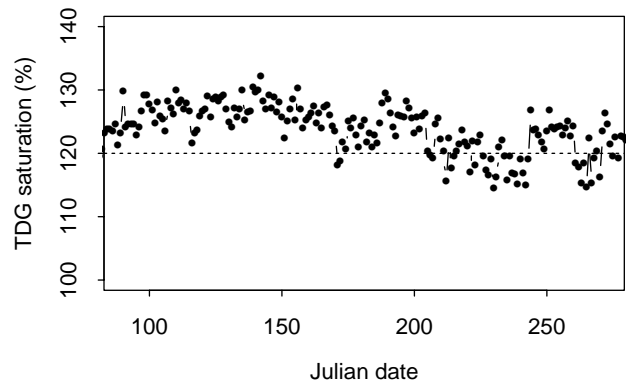
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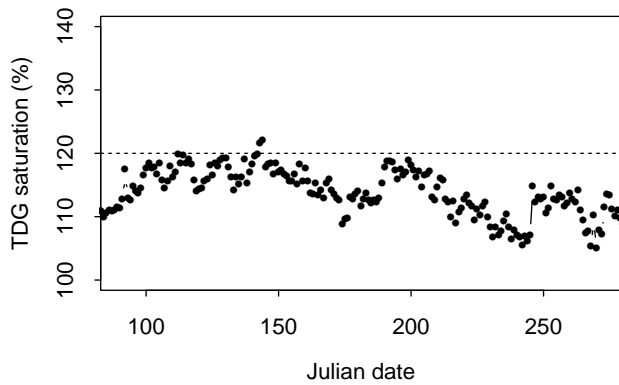
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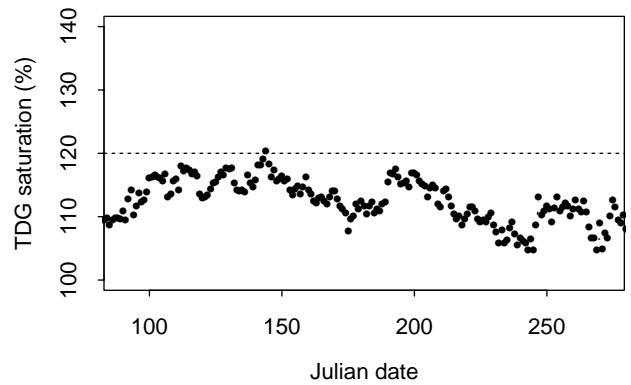
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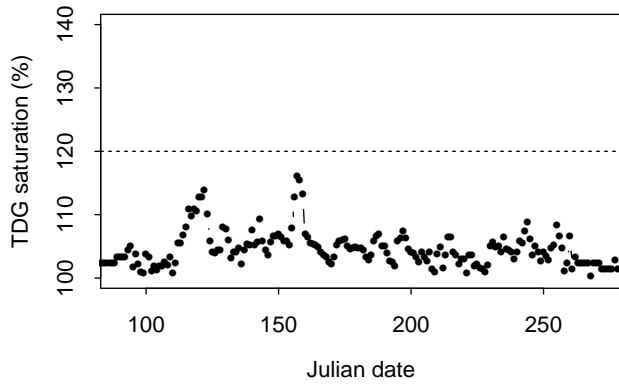
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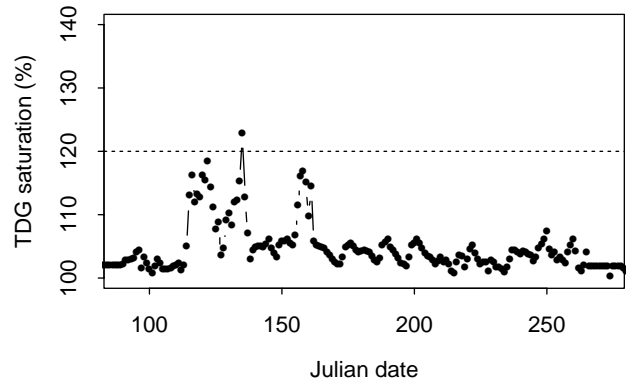
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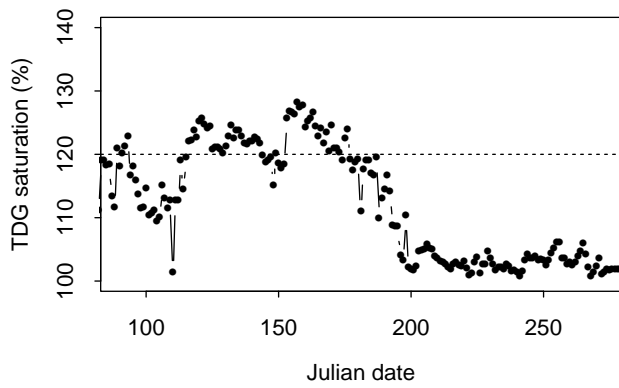
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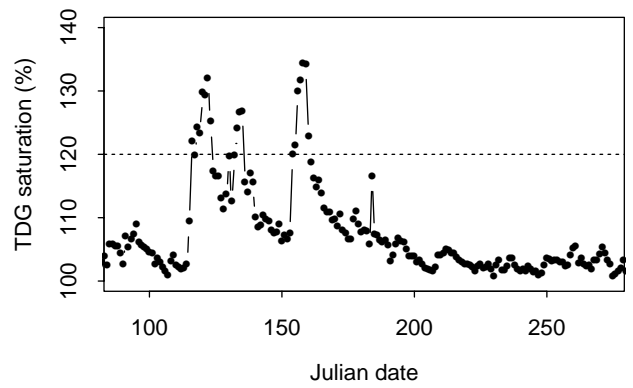
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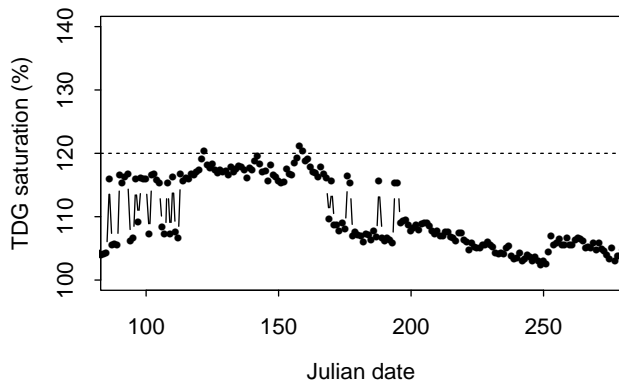
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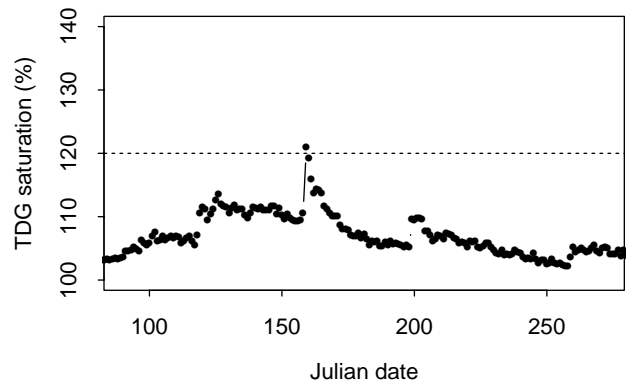
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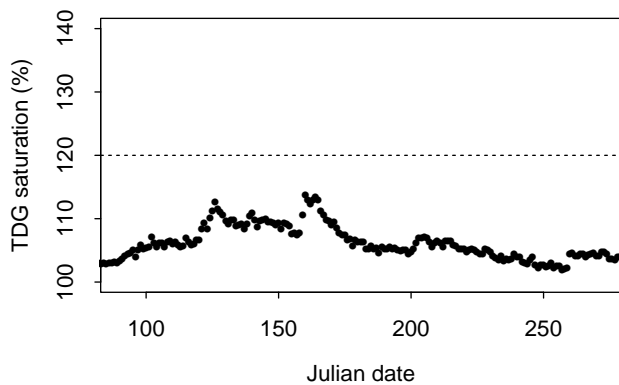
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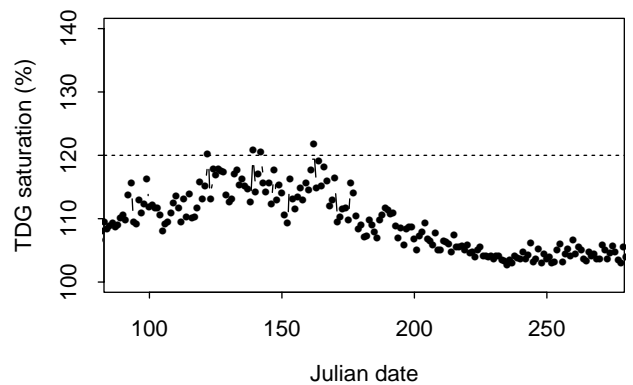
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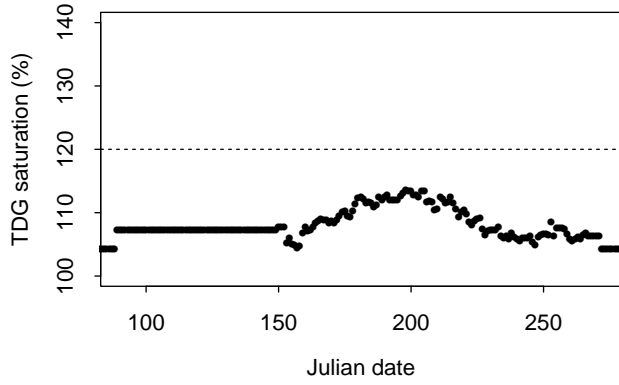
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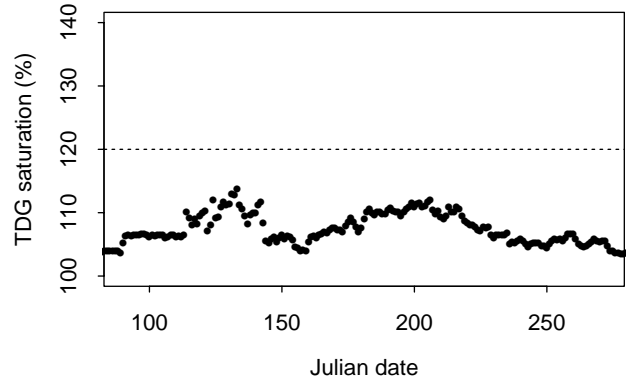
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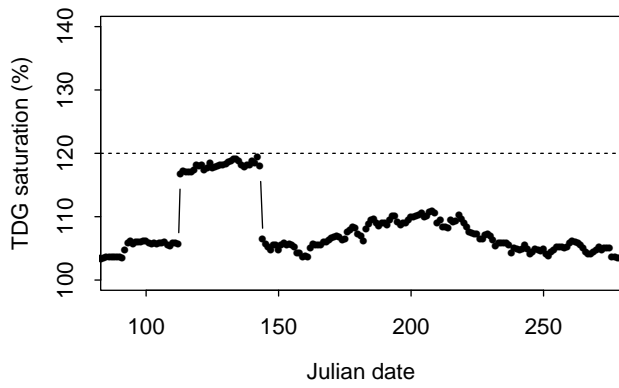
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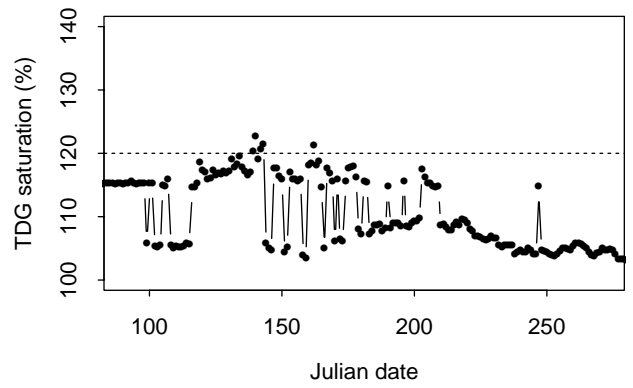
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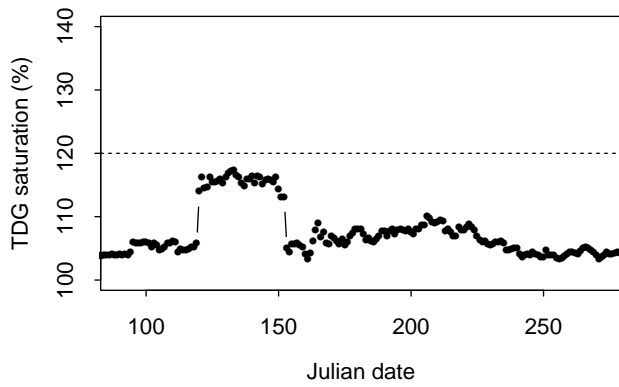
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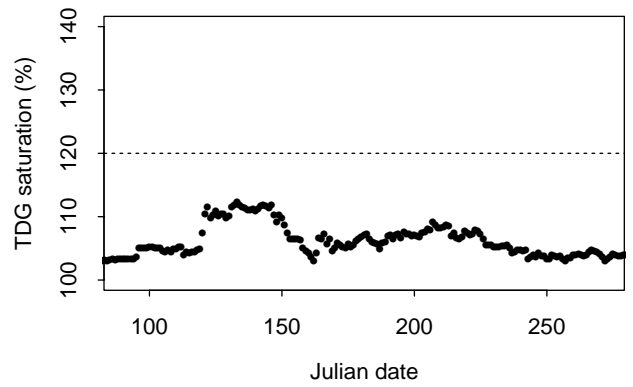
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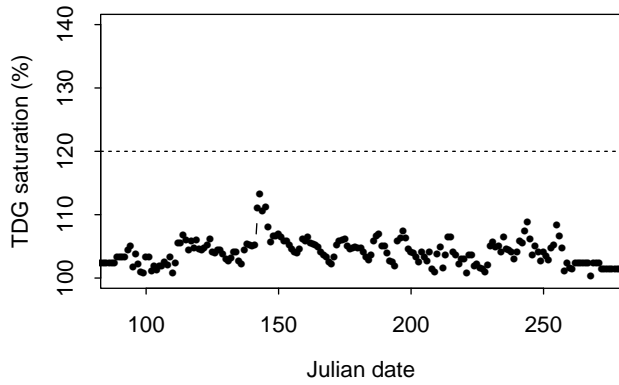
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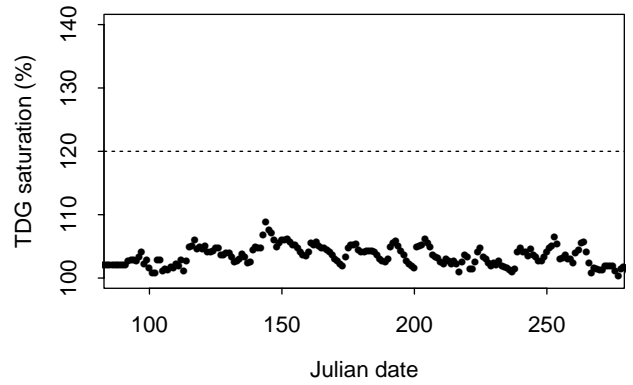
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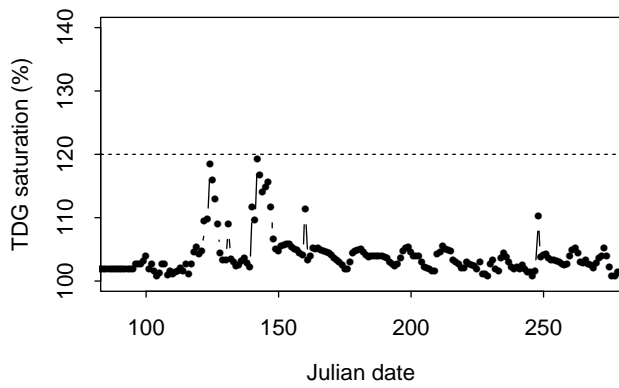
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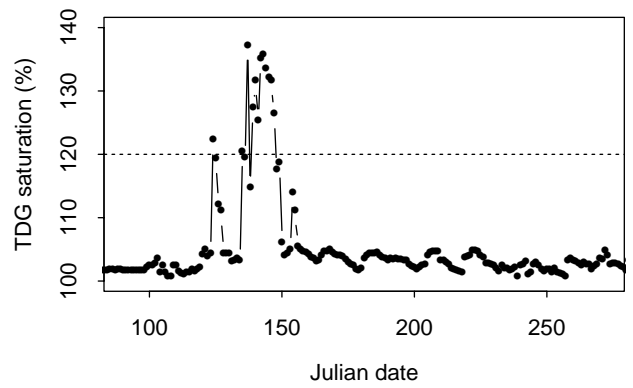
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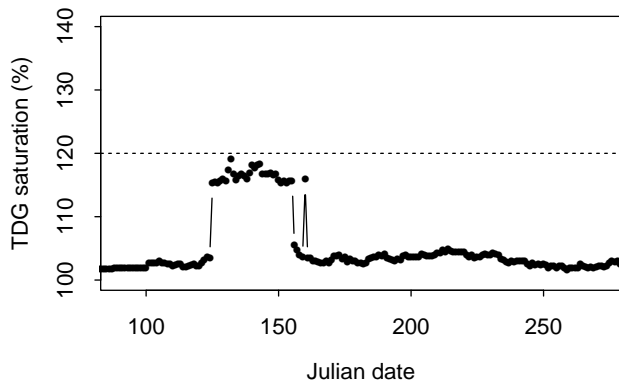
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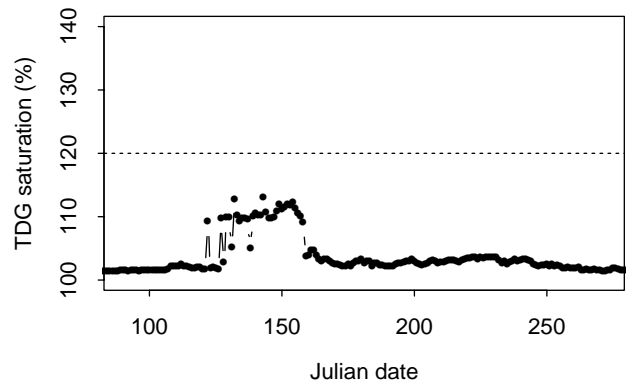
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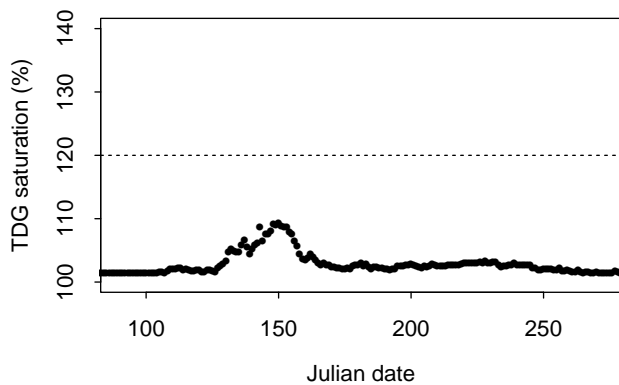
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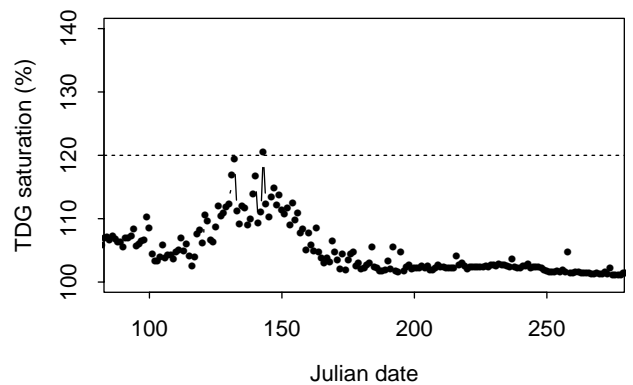
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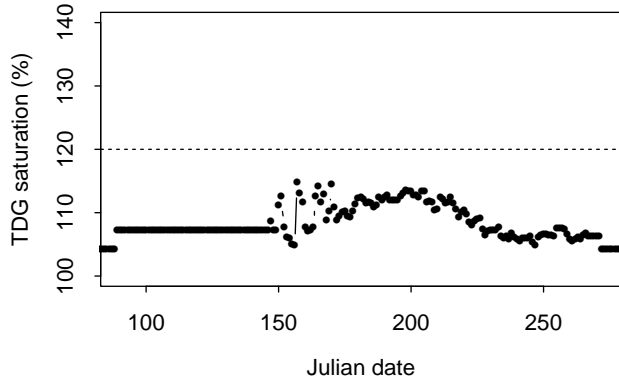
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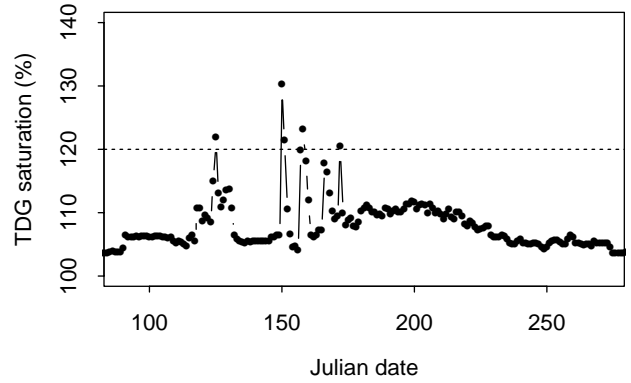
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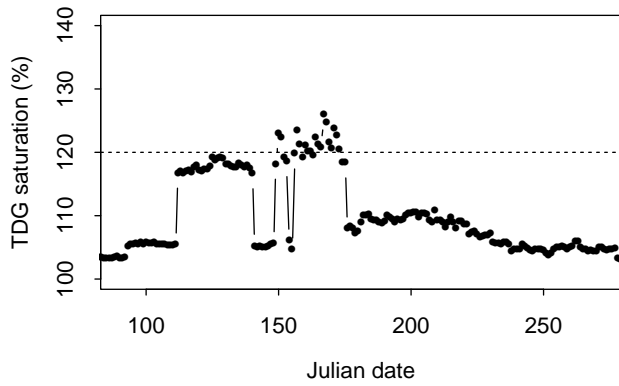
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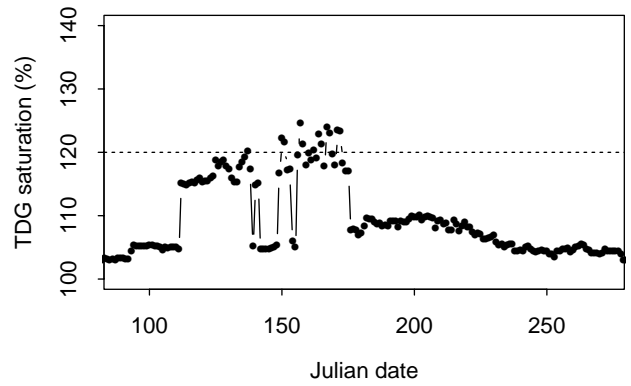
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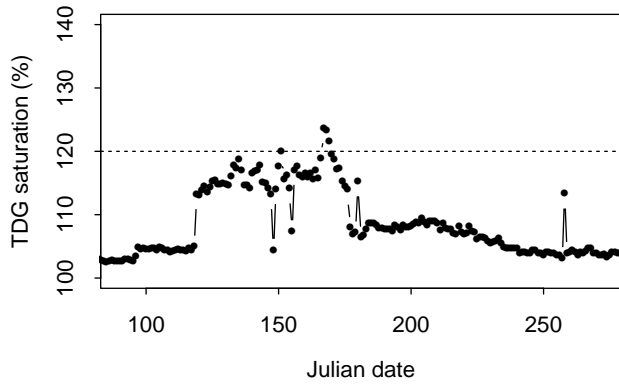
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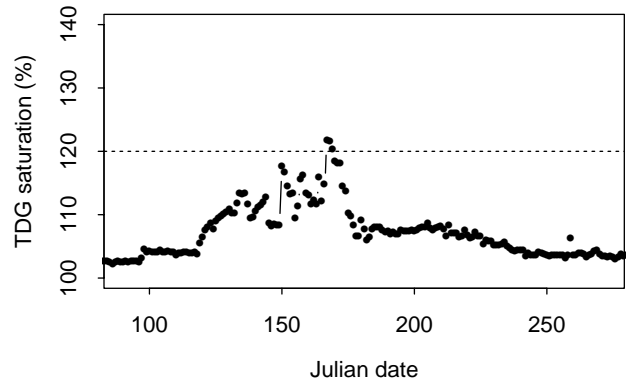
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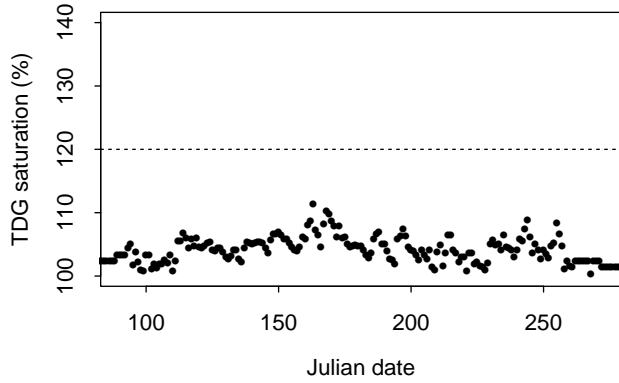
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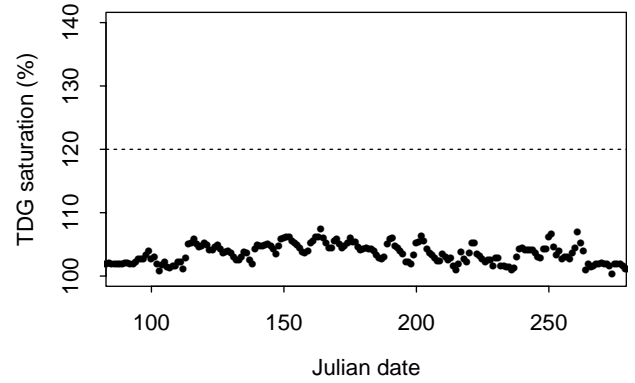
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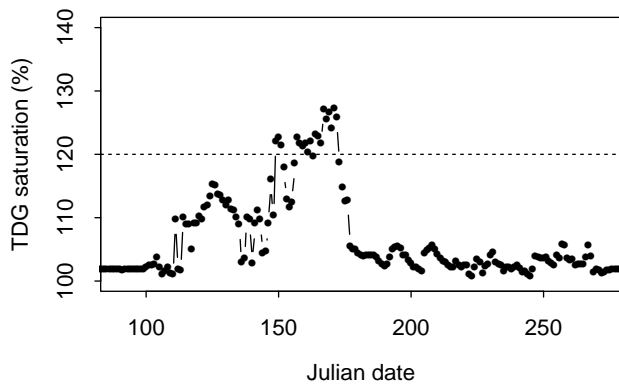
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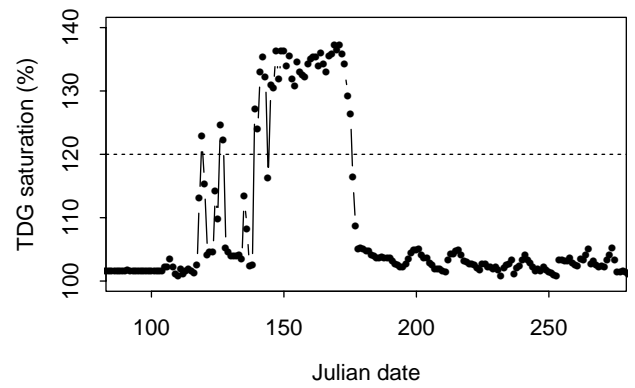
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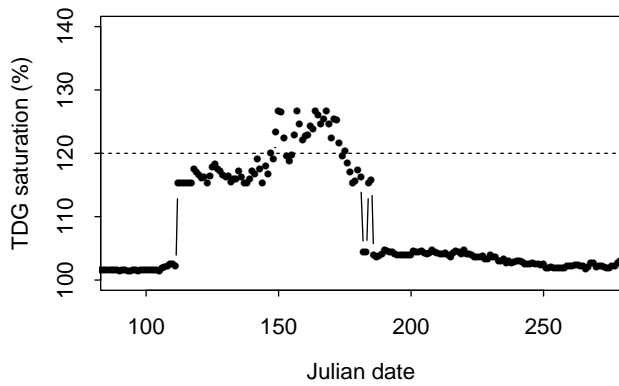
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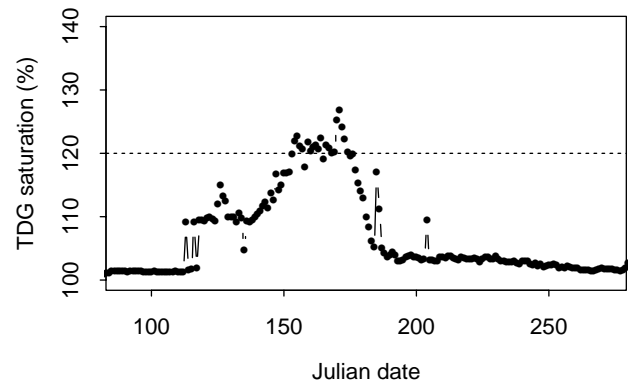
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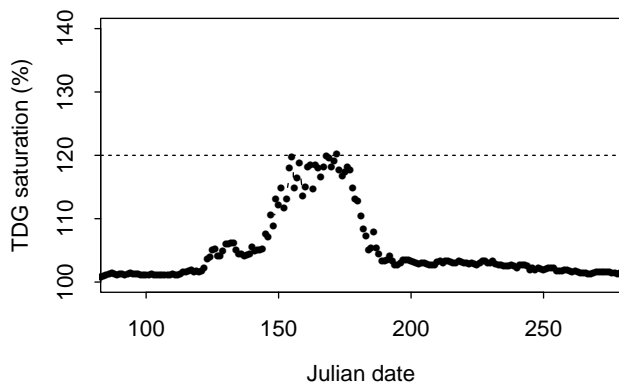
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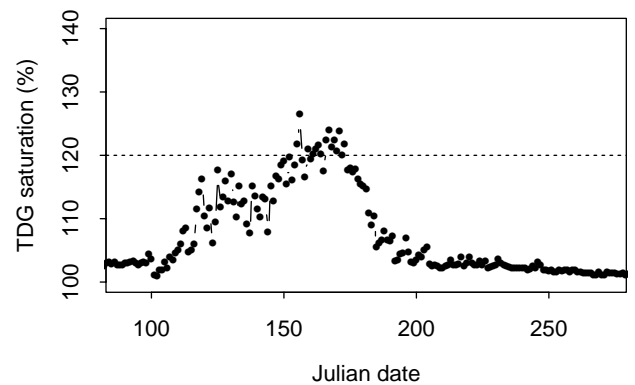
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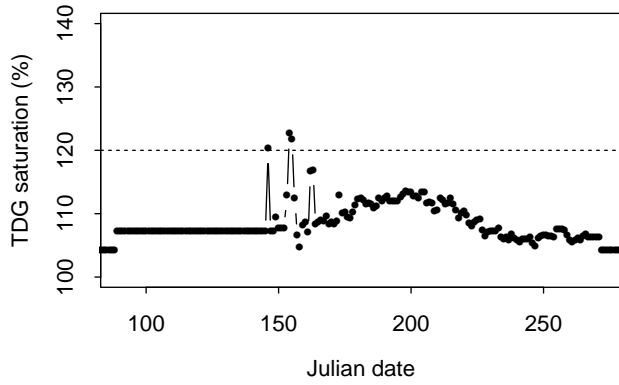
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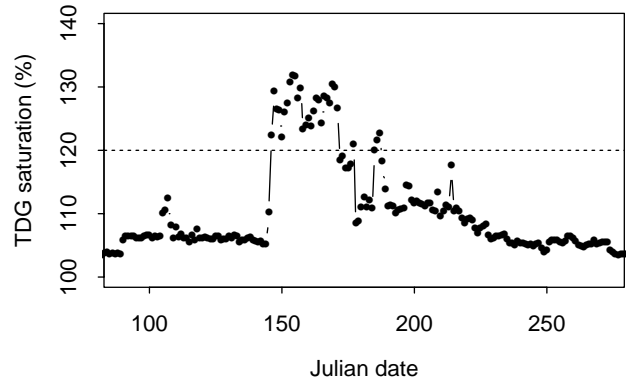
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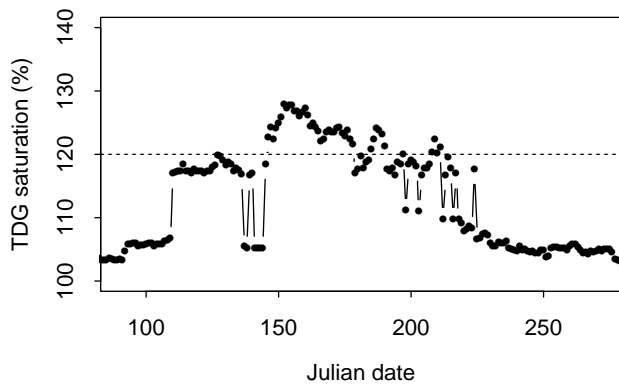
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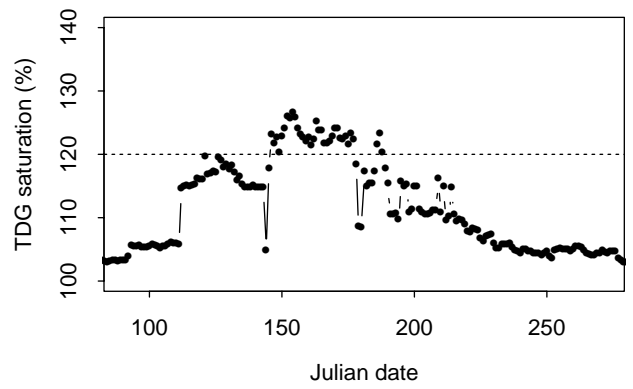
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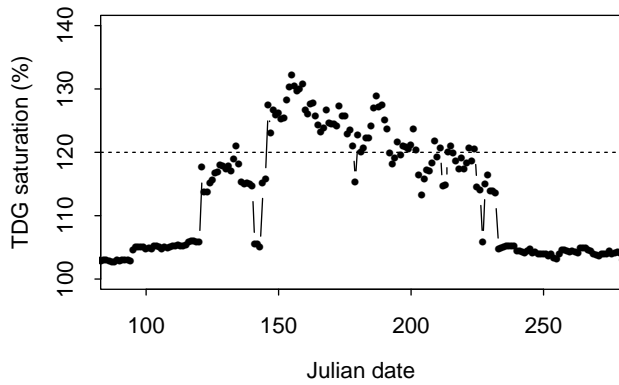
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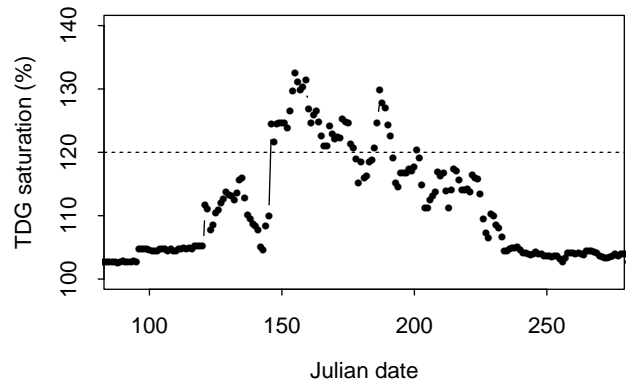
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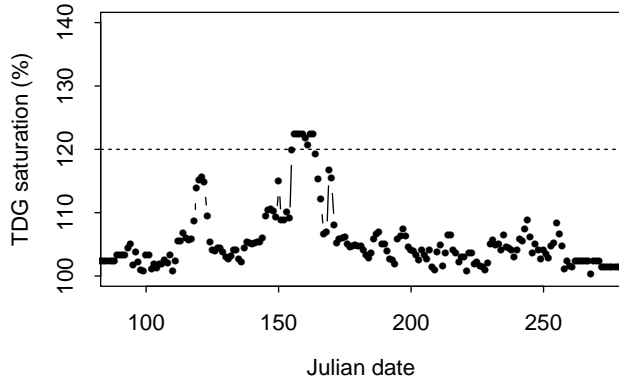
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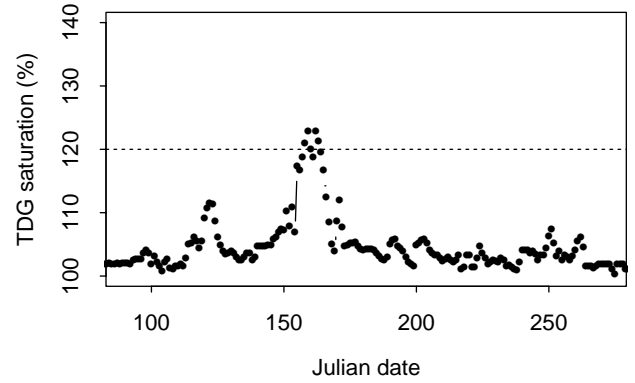
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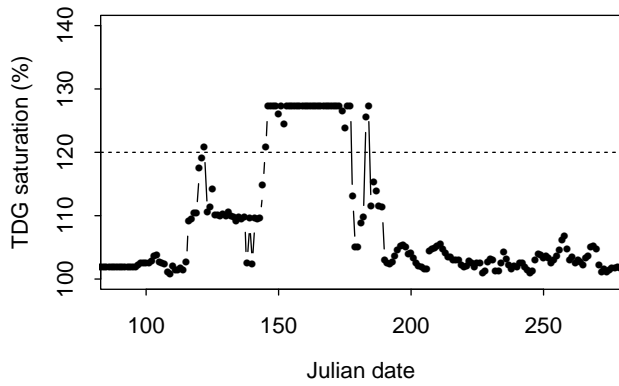
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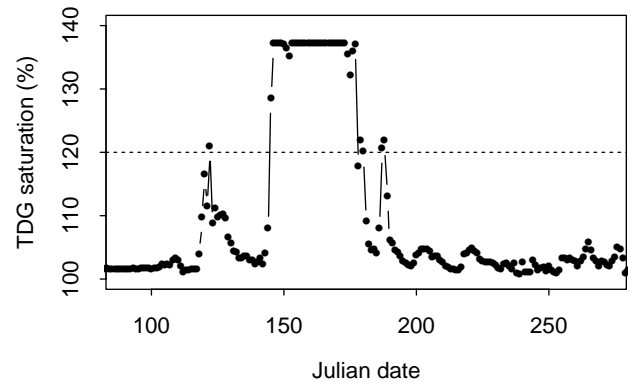
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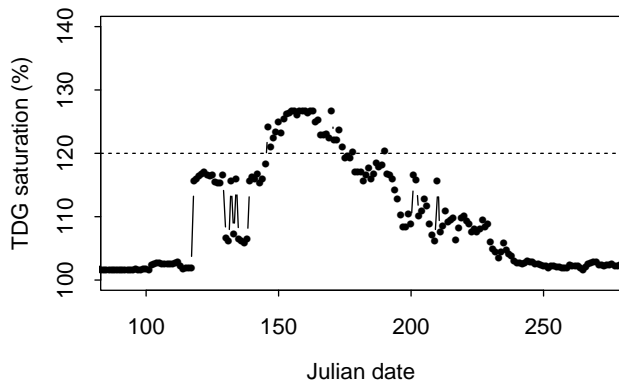
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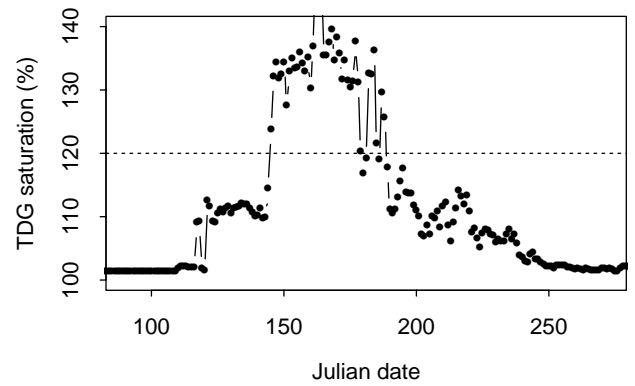
IHR Tailwater Gas 1981



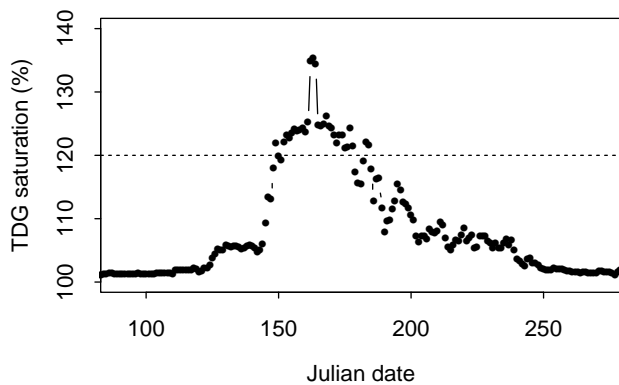
MCN Tailwater Gas 1981



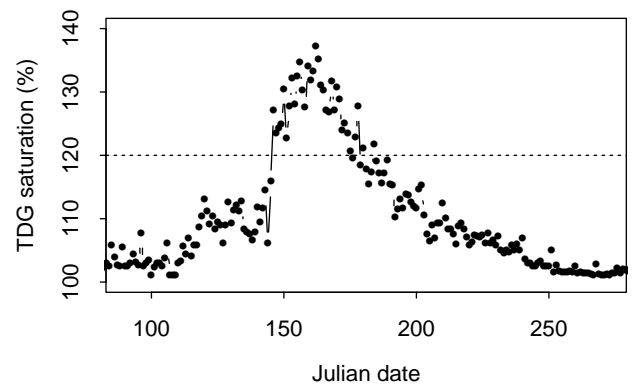
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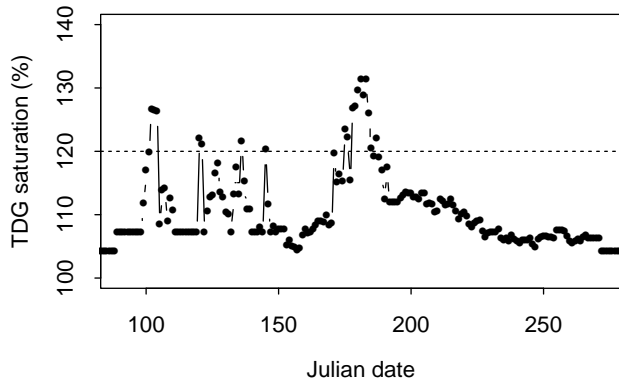
TDA Tailwater Gas 1981



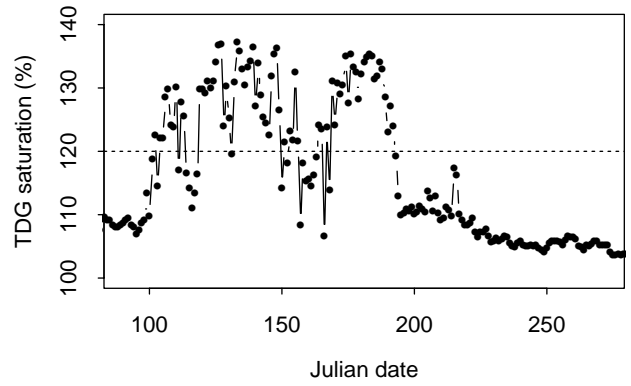
BON Tailwater Gas 1981



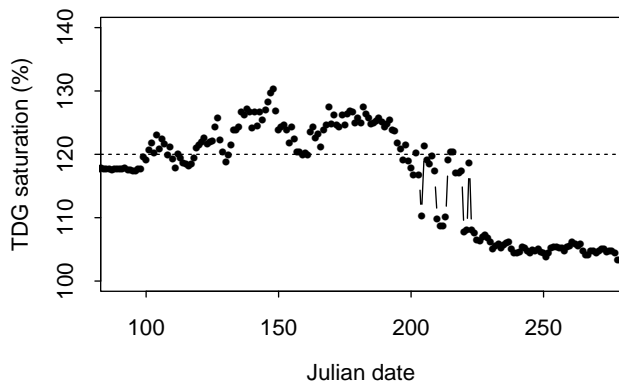
CHJ Tailwater Gas 1982



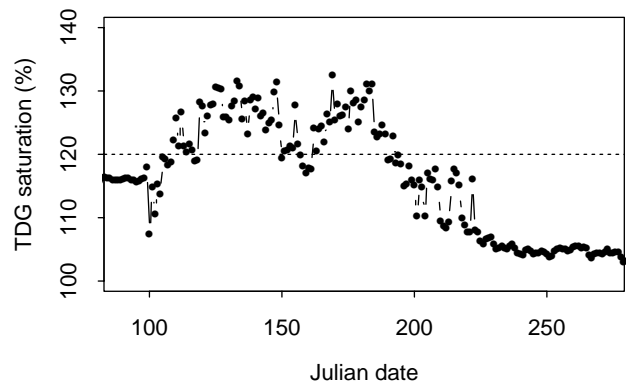
WEL Tailwater Gas 1982



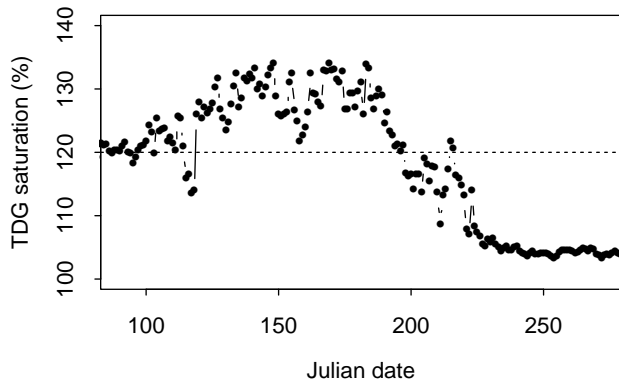
RRH Tailwater Gas 1982



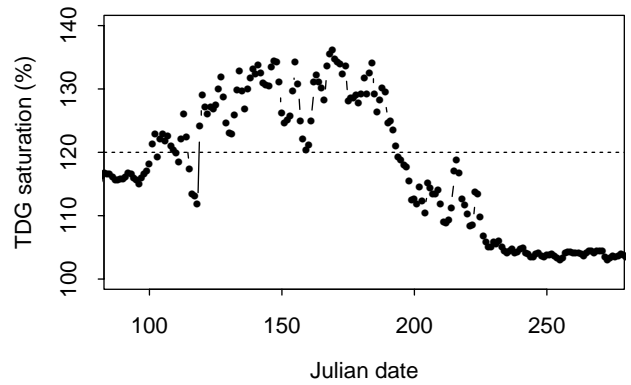
RIS Tailwater Gas 1982



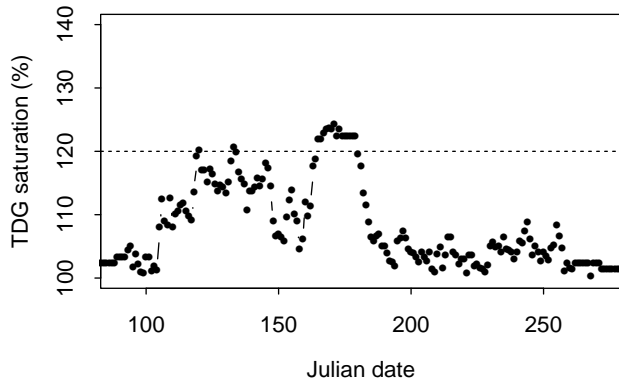
WAN Tailwater Gas 1982



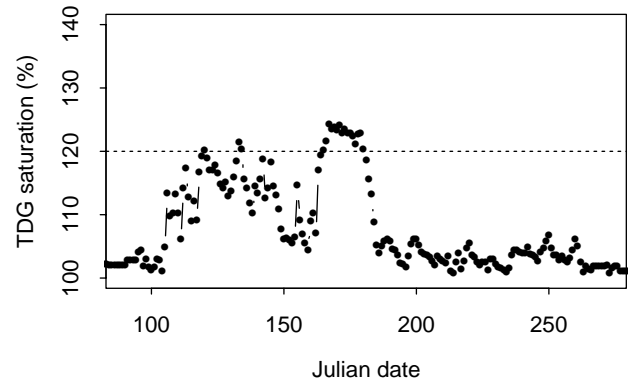
PRD Tailwater Gas 1982



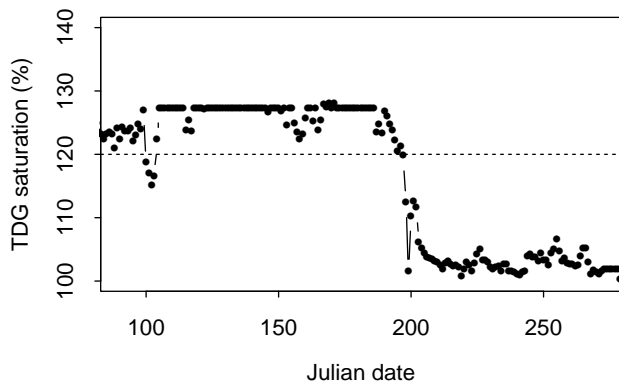
LGR Tailwater Gas 1982



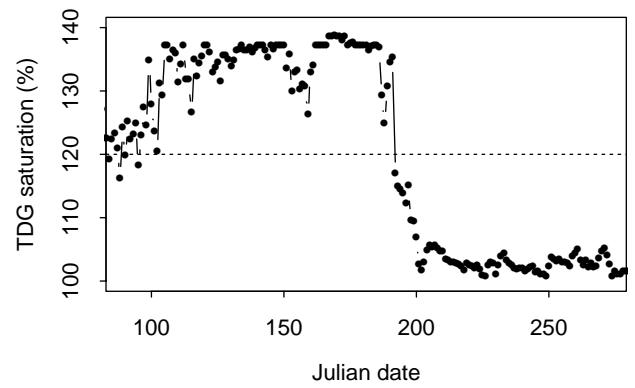
LGS Tailwater Gas 1982



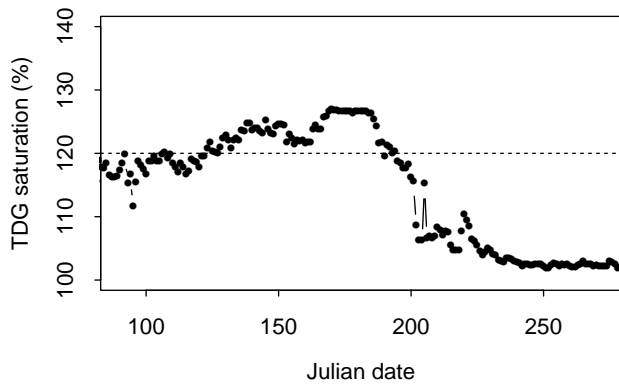
LMN Tailwater Gas 1982



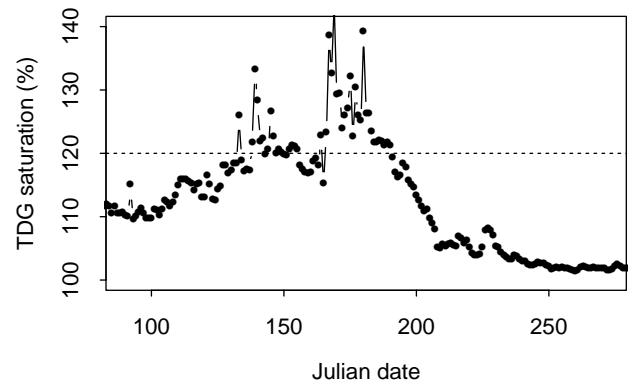
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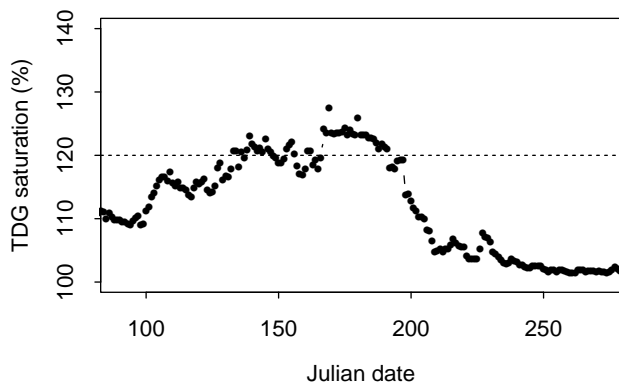
MCN Tailwater Gas 1982



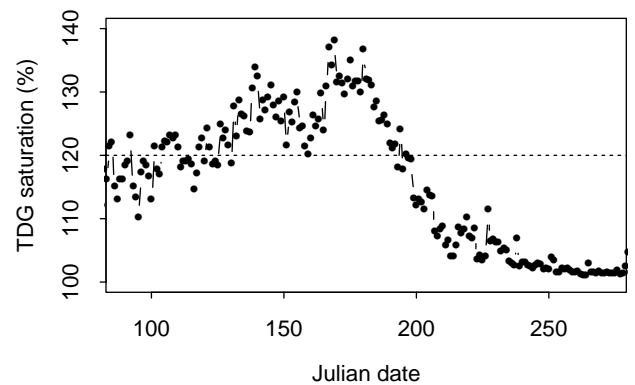
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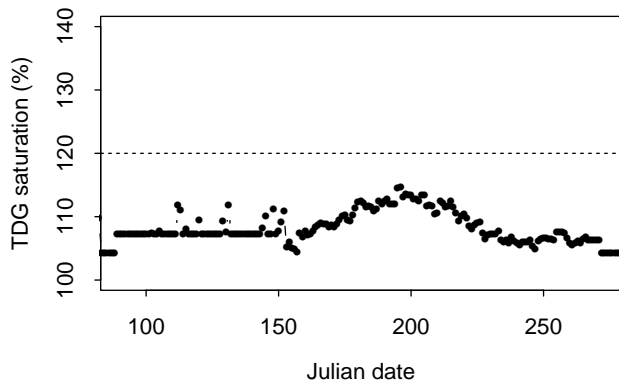
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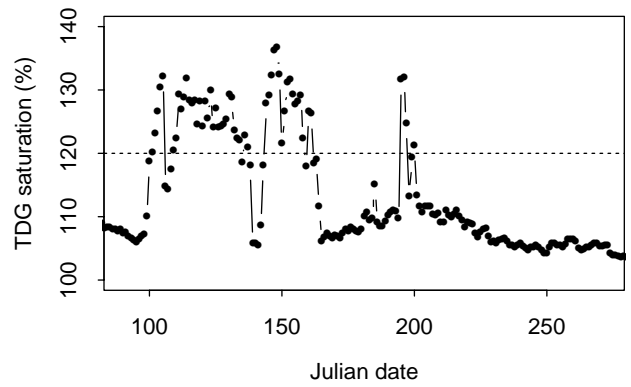
BON Tailwater Gas 1982



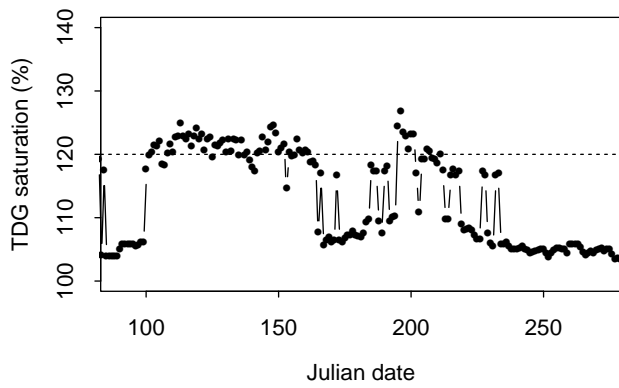
CHJ Tailwater Gas 1983



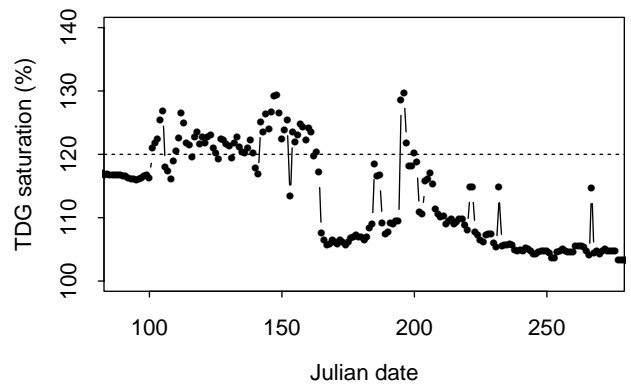
WEL Tailwater Gas 1983



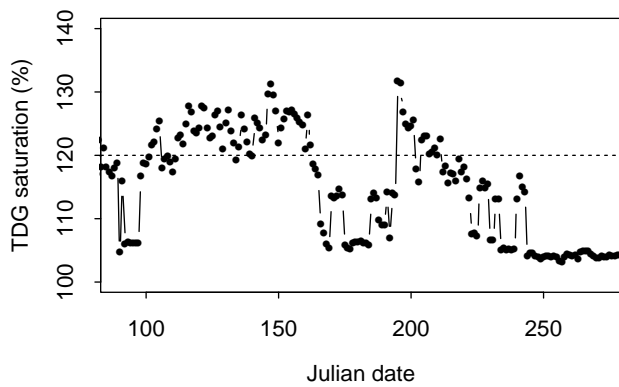
RRH Tailwater Gas 1983



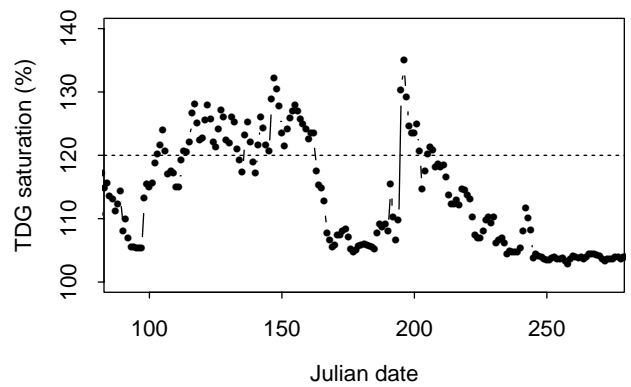
RIS Tailwater Gas 1983



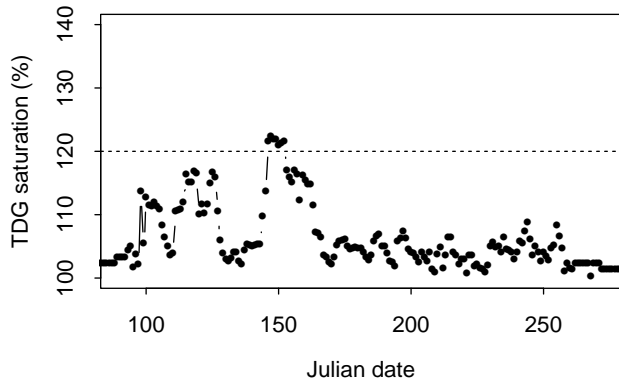
WAN Tailwater Gas 1983



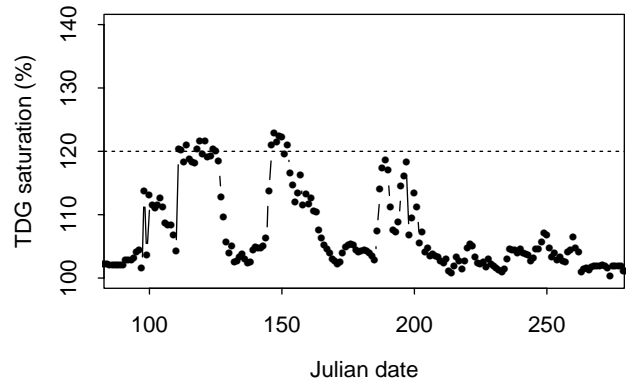
PRD Tailwater Gas 1983



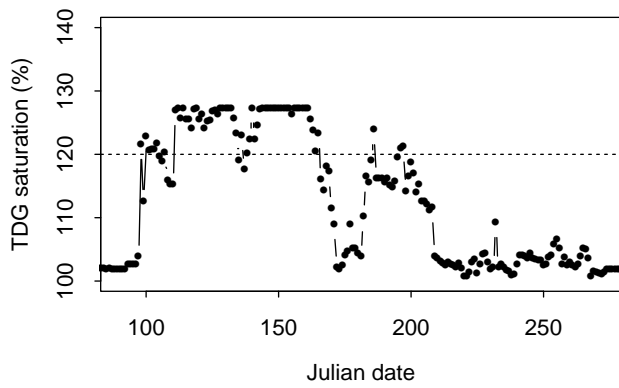
LGR Tailwater Gas 1983



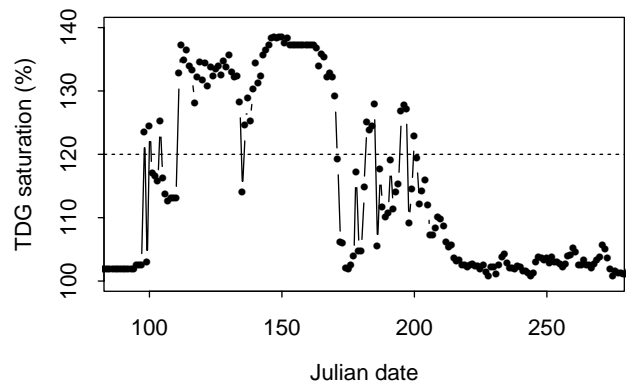
LGS Tailwater Gas 1983



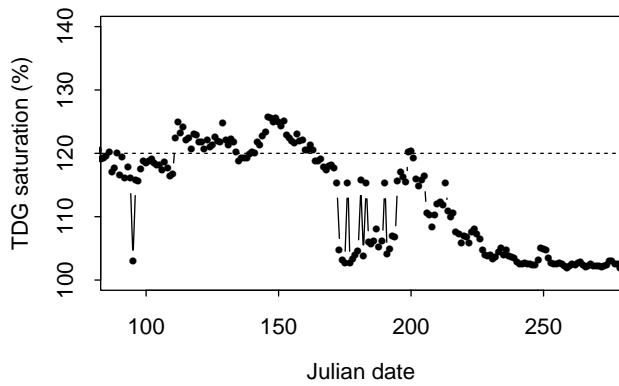
LMN Tailwater Gas 1983



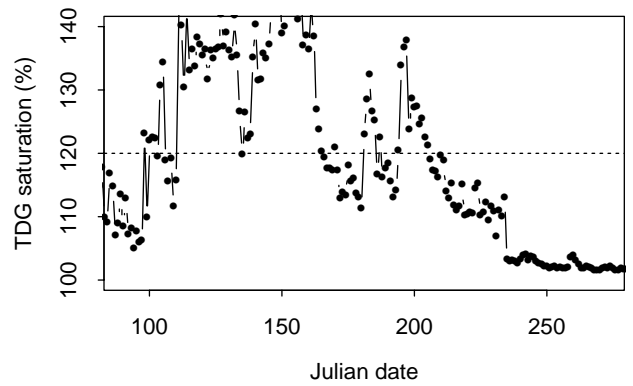
IHR Tailwater Gas 1983



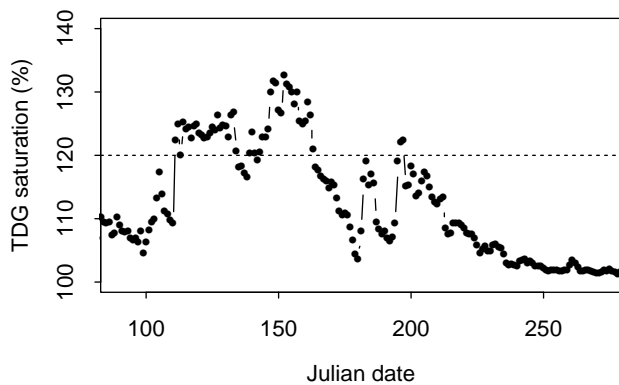
MCN Tailwater Gas 1983



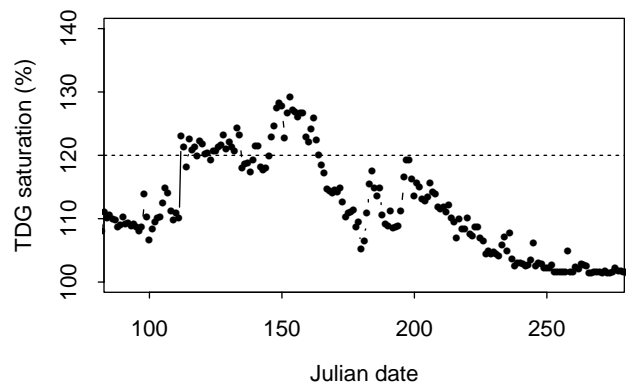
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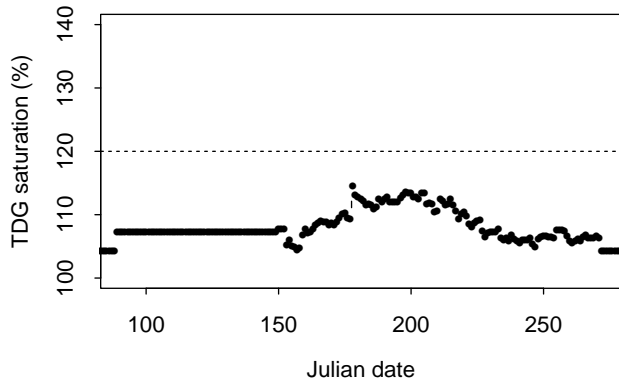
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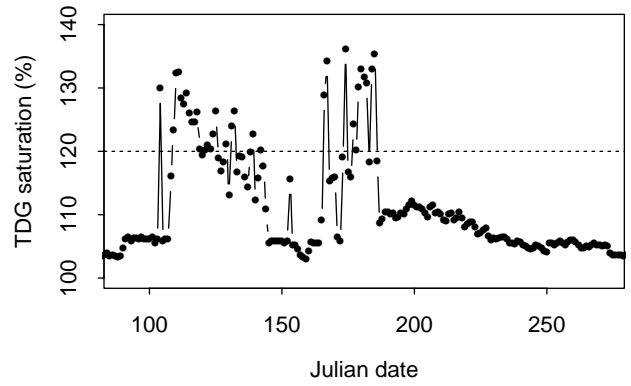
BON Tailwater Gas 1983



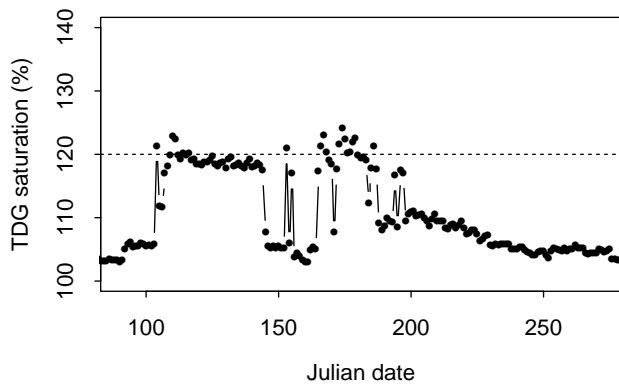
CHJ Tailwater Gas 1984



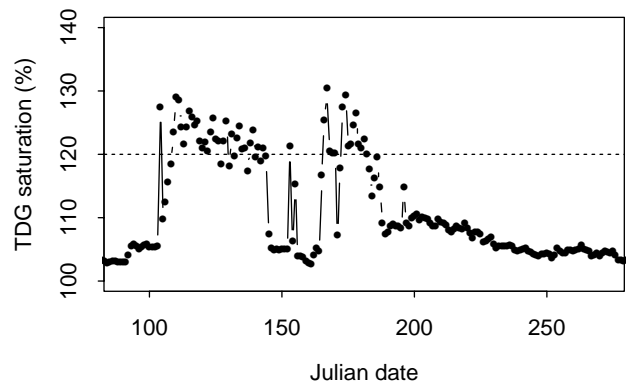
WEL Tailwater Gas 1984



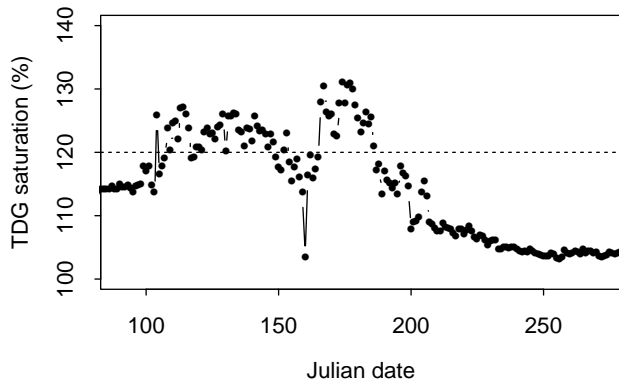
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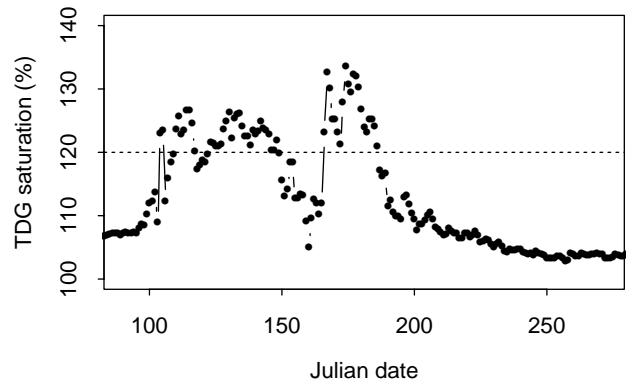
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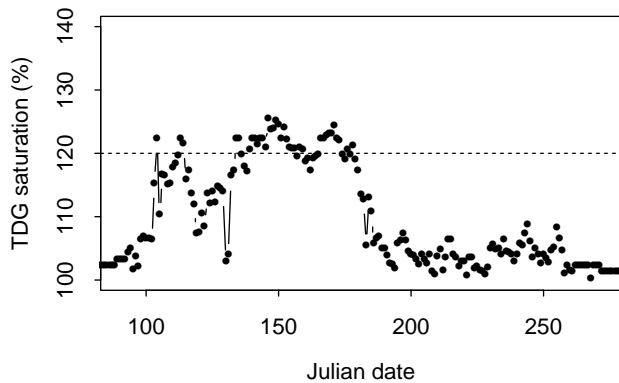
WAN Tailwater Gas 1984



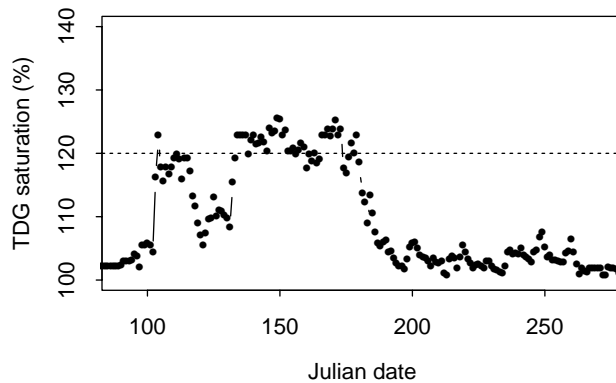
PRD Tailwater Gas 1984



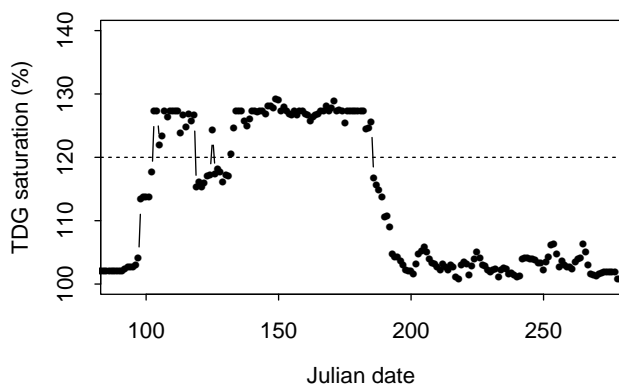
LGR Tailwater Gas 1984



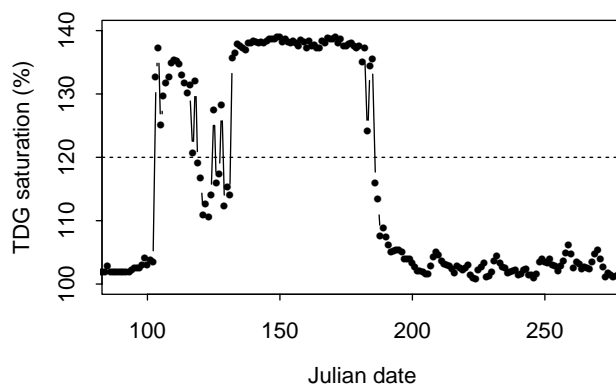
LGS Tailwater Gas 1984



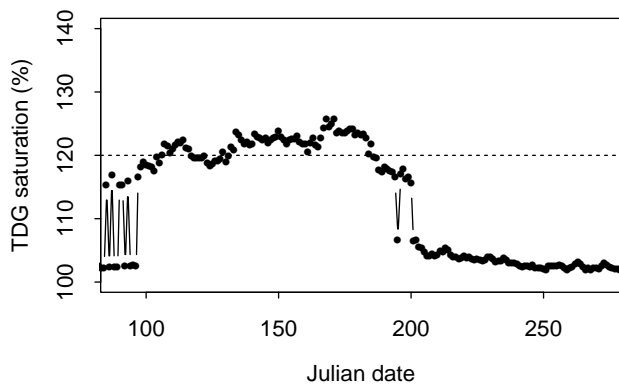
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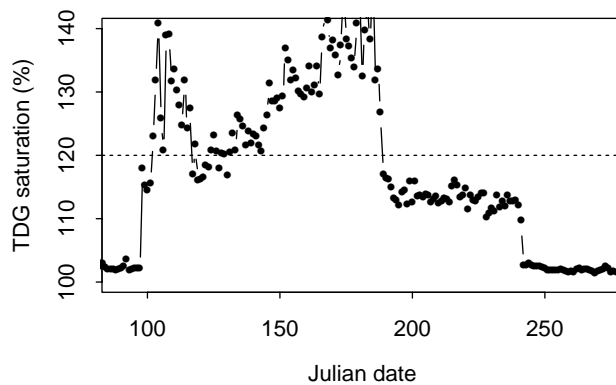
IHR Tailwater Gas 1984



MCN Tailwater Gas 1984



JDA Tailwater Gas 1984



TDA Tailwater Gas 1984



BON Tailwater Gas 1984

