

Olifants Basin short profile

Name	Olifants river	Country	South Africa																																																				
Area	53,800 km ²	Altitude	From 2,300 m to 300 m (mean 1149 m asl)																																																				
Rainfall/Evapo	<p>Average rainfall: 630 mm Max: >2,000 mm Min: 400 mm: Modal/bimodal: modal (one rainy season Oct-Apr) Crop reference ET_o: 2068 mm/year (A-Pan) (source <i>Mc Cartney</i>)</p>	<table border="1"> <caption>Estimated data from the rainfall and evaporation chart</caption> <thead> <tr> <th>Month</th> <th>Rainfall (mm)</th> <th>Penman-Monteith Potential Evapotranspiration (mm)</th> <th>50% PE (mm)</th> </tr> </thead> <tbody> <tr><td>Oct</td><td>45</td><td>150</td><td>75</td></tr> <tr><td>Nov</td><td>90</td><td>160</td><td>80</td></tr> <tr><td>Dec</td><td>100</td><td>165</td><td>85</td></tr> <tr><td>Jan</td><td>105</td><td>160</td><td>85</td></tr> <tr><td>Feb</td><td>80</td><td>140</td><td>75</td></tr> <tr><td>Mar</td><td>65</td><td>130</td><td>70</td></tr> <tr><td>Apr</td><td>35</td><td>110</td><td>60</td></tr> <tr><td>May</td><td>10</td><td>80</td><td>45</td></tr> <tr><td>Jun</td><td>5</td><td>65</td><td>35</td></tr> <tr><td>Jul</td><td>5</td><td>75</td><td>40</td></tr> <tr><td>Aug</td><td>10</td><td>100</td><td>55</td></tr> <tr><td>Sep</td><td>15</td><td>130</td><td>70</td></tr> </tbody> </table>		Month	Rainfall (mm)	Penman-Monteith Potential Evapotranspiration (mm)	50% PE (mm)	Oct	45	150	75	Nov	90	160	80	Dec	100	165	85	Jan	105	160	85	Feb	80	140	75	Mar	65	130	70	Apr	35	110	60	May	10	80	45	Jun	5	65	35	Jul	5	75	40	Aug	10	100	55	Sep	15	130	70
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Landuse (estimates <i>WR90</i>)	Bushveld 40 %, Grassveld: 30%. Forest: 10%; cultivation 15 %; also mining (coal and heavy metals), industry, settlements.																																																						
Irrigation	Estimated 110,000 ha (<i>DWAF 91</i>) 94771 ha (<i>WARMS 2002</i>)																																																						
Water Indicators (rough estimates)	<p>Runoff coefficient: 5 -7 % (<i>FAO</i>) Renewable water available: < 1000 m³/year/pers (<i>State of the Environment report</i>) Regulated water (% rainfall and % run-off): 10 % and 40 % Beneficial (process) depleted fraction: 7 % Non-committed outflow: ≈ 5% of total runoff Water use per sector (depletion): Agriculture 70%, Mining-Industry 10 %, Domestic 20 %</p>																																																						
Drinking water	Mostly from surface water (treated and piped) for main cities (30 % population) but from boreholes for communities. Great improvement since ten years but still many problems to solve. Basic Free water introduced (25 l/c/d)																																																						
Main crop(s)	Maize (5 t/ha), Wheat (4.5 t/ha), Sorghum , Tobacco, Cotton, Sugar cane, Citrus (40 t/ha) and other tropical fruits. Yields highly variable by farm and region.																																																						
Population	<p>3, 4 million people (<i>BKS</i>); 2.8 million (<i>DWAF - ISP</i>); Density: 50 inhab/km² (but higher density in former homelands). Sex ratio: 1.08 % (more females). Population under 20: 49% (<i>1996 Census</i>). Race : Whites : 7 %, Blacks 91% (<i>1996 Census</i>). Estimated Population growth 1980-2000: around 2.9 % per annum but displacements and currently huge impact of HIV/AIDS. Unemployment: 45 % (<i>Economic information Systems</i>)</p>																																																						
Floods/Drought	Many dams offer some regulation; major flooding in 1996 and 2000. Frequent droughts (cycles).																																																						
Groundwater	Around 12% (source <i>BKS</i>) of withdrawals in the basin are from groundwater. For communities (boreholes). Commercial irrigation in Springbok Flats. Future development envisaged. Untapped potential. Necessity of protection.																																																						
Environmental and health issues	Some people still using surface water in rural areas (despite risks of Cholera when lack of sanitation).High risks of pollution from mines and Industry.Sedimentation. Erosion, forest fires.																																																						
Protected areas	Kruger Park (Transboundary Park) and Private Game Reserves. Unique Wild life. Conservation Area (Blyde)																																																						

Land/labour	Average farm size (irrigated): 24 ha Small scale farmers : < 1 ha	New minimum monthly wage for farm workers: 600 Rands (120 \$)
Land tenure	Private, Communal (in former homelands), state (parks, forests). Land redistribution process underway.	
Water Management	State : DWAF Basin level organizations: CMA in creation. and WUAs Municipalities for Domestic Water	
Allocation rules	The state is custodian. Licenses, including existing lawful use of repealed acts. General authorizations and Schedule One for small uses. Compulsory Licencing to redress inequities from the past.	
Hydropower	No	
Legal framework	A new National Water Act (1998) and Water Services Act (1997), Environment Act. RDP and GEAR.	
Politics, Civil Society	Importance of the past (Great Trek, Anglo Boer wars, Apartheid, Decentralization). Weak civil society, strong private sector, e.g mining. Need for the state to redress inequities from the past.	
Future developments	Two new dams envisaged and raising of one decided	

General basin layout map

