PAT (Practical Assessment Task) – Grade 11: Phase 1	
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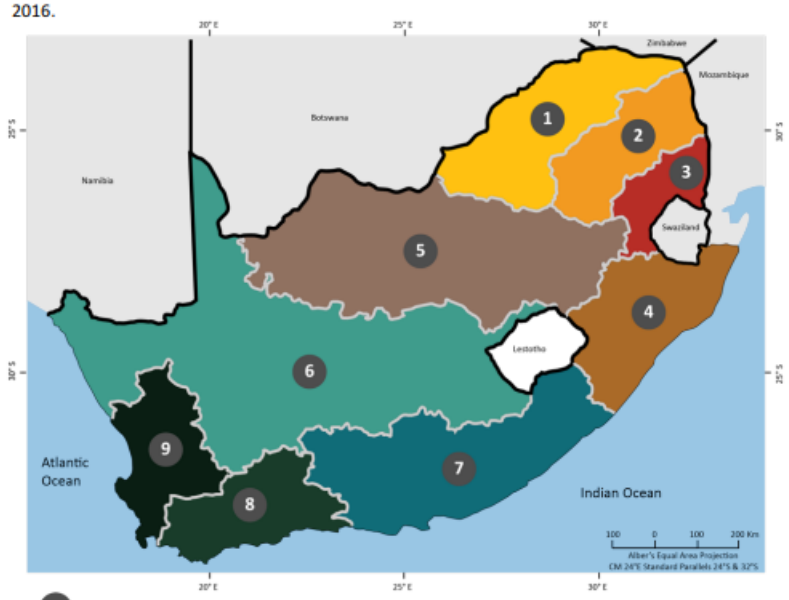
Topic	Water Resource Management
Proof of research	

The Water Management Areas of South Africa

The map below depicts the boundaries of the nine Water Management Areas and Catchment Management Agencies.

Source: Department Water and Sanitation (DWS), Directorate: Catchment Management, April 2016.



1. Limpopo
2. Olifants
3. Inkomati-Usuthu
4. Pongola-Mtamvuna
5. Vaal
6. Orange
7. Mzimvubu-Tsitsikamma
8. Breede-Gouritz
9. Berg-Olifants

WMA & CMA Boundaries
International Boundaries

	follows the boundary of the Orange Vaal Water User Association until it meets the boundary of Water Management Area 5. Hence, the lower portions of quaternary catchments C92B and C92C are included in this Water Management Area. Primary drainage region F (excluding quaternary catchments F50D, F60B, F60C, F60D and F60E).
7. Mzimvubu-Tsitsikamma: Major rivers include the Mzimvubu, Mtata, Mbashe, Buffalo, Nahoon, Groot Kei and Keiskamma, Fish, Kowie, Boesmans, Sundays, Gamtoos, Kromme, Groot and Tsitsikamma	Primary drainage regions P, Q, R, S, L, M and N, tertiary drainage regions T11 to T13, T20, T31 to T36, T60, T70, T80, T90, K80 and K90
8. Breede-Gouritz: Major rivers include the Breede, Sonderend, Sout, Bot, Palmiet, Gouritz, Olifants, Kamanassie, Gamka, Buffels, Touws, Goukou and Duiwenhoks	Primary drainage region H and J; Tertiary drainage regions G40 (excluding quaternary catchment G40A) and G50; Tertiary drainage regions K10 to K70
9. Berg-Olifants: Major rivers include the Berg, Diep and Steenbras, Olifants, Doorn, Krom, Sand and Sout	Tertiary drainage regions G10 to G30 and quaternary catchment G40A; Primary drainage region E and tertiary drainage regions F60 (excluding quaternary catchment F60A) and quaternary catchment F50D

5. Vaal Major: rivers include the Wilge, Liebenbergsvlei, Mooi, Renoster, Vals, Sand, Vet, Harts, Molopo and Vaal	Tertiary drainage regions C11 to C13, C21 to C25, C31 to C33, C41 to C43, C60, C70 and C81 to C83; Tertiary drainage regions, C91, C92 (excluding the lower portions of quaternary catchments C92B and C92C), D41 and and portions of quaternary catchments D42C, D42D, D73A, D73B, D73C, D73D and D73E. The western boundary runs from the border between South Africa and Botswana along the boundary of the Kalahari East Water User Association (WUA). It follows the boundary of the mentioned WUA in a westerly direction to a point, west of the Langberge, 19 kilometres west of Beeshoek, near Postmasburg. The Water Management Area boundary then runs South East to meet the watershed between quaternary catchments D73A and D73B. The boundary then follows this watershed and that between D73A and D71B, until it meets the boundary of the Hay district. It follows this boundary until it meets the watershed between D71B and C92C. The Water Management Area boundary continues along this watershed until it meets the boundary of the Orange Vaal Water User Association. It continues south-easterly on this boundary until it meets the watershed between C92B and C51M where it follows this watershed and that between C92B and C51L. Thereafter it follows the watershed between C51L and C91E. It continues on this watershed until it reaches the farm boundary of Wolwe Dam 87. The Water Management Area boundary then follows the mentioned farm boundary up to the farm boundary of Vaalboschhoek 85. It then follows successive farm boundaries as they meet, progressively moving in a westerly direction, namely: Weltevrede 117, Vaalpan 118, Koppiesdam 119, Spijt Fontein 122, Kareebosch 130, Osfontein 121, Benaauwheidsfontein 442, Olifantskop 196, Sussana 197, and Olifantsdam 170. The Water Management Area boundary then follows the eastern boundary of Olifantsdam 170 in a northerly direction to include the farm Olifantsrug 293 until it meets the watershed between C91E and C52L. Hereafter, the Water Management Area boundary follows the boundaries of the drainage regions as mentioned initially in this description.
6. Orange: Major rivers include the Modder, Riet, Caledon, Kraai, Ongers, Hartbees and Orange	Tertiary drainage regions C51 (excluding a portion of quaternary catchment C51L), C52 (excluding a small portion of quaternary catchment C52L), D12 to D14, the portions of D15 and D18 that falls within the boundary of the RSA, D21, the portion of D23 that falls within the boundary of the RSA, D24 (excluding the portion of quaternary catchment D24A that falls in Lesotho), D31 to D35; Tertiary drainage region D42 (excluding portions of quaternary catchments D42C and D42D), D51 to D58, D61, D62, D71 to D73 (excluding portions of quaternary catchments D73A, D73B, D73C, D73D and D73E), D81, D82. In the area of the confluence of the Vaal and Orange Rivers the Water Management Area boundary

WATER MANAGEMENT AREA and major rivers	BOUNDARY DESCRIPTION
1. Limpopo: Major rivers include the Limpopo, Matlabas, Mokolo, Lephalala, Mogalakwena,Sand, Nzhelele, Mutale, and Luvuvhu	Primary drainage region A
2. Olifants: Major rivers include Elands, Wilge, Steelpoort, Olifants and Letaba.	Primary drainage region B
3. Inkomati-Usuthu: Major rivers include Nwanedzi, Sabie, Crocodile (East), Komati and Usuthu	Primary drainage region X and the portions of tertiary drainage regions W51 to W56 falling within the boundary of the RSA
4. Pongola-Mtamvuna: Major rivers include the Pongola, Mhlatuze, Mfolozi, Mkuze, Thukela, Mvoti, Umgeni, Umkomazi, Umzimkulu and Mtamvuna	Tertiary drainage regions W11 to W13, W20, W31 to W32, W41, W45, and the portions of W42, W43, W44, W57 and W70 falling within the boundary of the RSA; Primary drainage regions V and U; Tertiary drainage regions T40, T51 and T52

NEW NINE (9) WATER MANAGEMENT AREAS OF SOUTH AFRICA

I, Nomvula Mokonyane, Minister of Water and Sanitation hereby, in terms of Section 5 subsection 5(1) of the National Water Act, 1998 (Act No 36 of 1998) declare that –

a) Nine water management areas has been established as contained in the Schedule hereto as a component of the National Water Resource Strategy 2;

b) The boundaries for each water management area are described; and that

c) A Catchment Management Agency (CMA) will be established in each Water Management Area.

Table design

Field name	Data type	Description of data
SourceID	Integer	A unique number that identifies each water allocation
SourceName	Text	The name of the water source, such as a river, dam, or
SourceType	Text	The type of water source (e.g., River, Dam, Borehole).
Province	Text	The province where the water source is located.
Sector	Text	The sector that uses the water (e.g., Agriculture,
CapacityML	Integer	The total capacity of the water source in megalitres
AllocatedML	Integer	The volume of water allocated to the sector in
UsedML	Integer	The volume of water actually used by the sector in ML.
DateRecorded	Date	The date when the data was recorded.
IsActive	Boolean	Shows whether the source is currently active (Yes or No).

Actual data

(minimum 10 rows)

WaterData

SourceID	SourceName	Source Typ	Province	Sector	CapacityML	AllocatedML	UsedML	DateRecorded	IsActive
1	Orange River	River	Northen Cape	Agriculture	120000	40000	38000	2025/03/10	☑
2	uThukela River	River	KwaZulu-Natal	Domestic	100000	20000	21000	2025/03/12	☑
3	Bloemhof Dam	Dam	North West / Free State	Industry	95000	15000	12000	2025/03/18	☑
4	Vaal River	River	Gauteng	Domestic	150000	30000	29000	2025/03/25	☑
5	Gariep Dam	Dam	Eastern Cape	Agriculture	130000	25000	26000	2025/03/28	☑
6	Limpopo Borehole	Borehole	Limpopo	Domestic	50000	10000	8000	2025/04/01	☐
7	Inyaka Dam	Dam	Mpumalanga	Agriculture	110000	30000	27000	2025/04/03	☑
8	Hartebeespoort	Dam	North West	Industry	87000	18000	17500	2025/04/05	☑
9	Umgeni River	River	KwaZulu-Natal	Domestic	92000	22000	21500	2025/04/07	☑
10	Clanwilliam Dam	Dam	Western Cape	Agriculture	98000	26000	24000	2025/04/10	☑

Calculated / Processed data

The amount of water (in megalitres) still available after usage is subtracted from the total capacity. It is calculated as CapacityML - UsedML.

A Yes/No field that shows whether more water was used than allocated. It is Yes if UsedML is greater than AllocatedML, otherwise No.