



# The value of space services

*Dr Lee-Anne McKinnell  
Managing Director Space Science  
South African National Space Agency (SANSA)*

# Space Weather & Magnetic Technology Products and Services

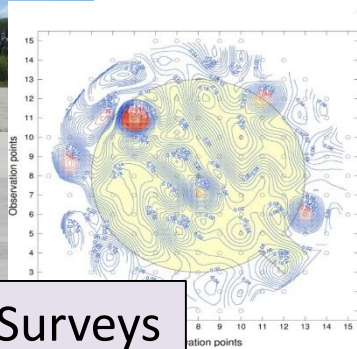


Space  
related  
solutions





# SERVICES DEVELOPED FROM SPACE KNOW-HOW



Compass Base Surveys

Space  
Weather  
Aviation



**AVIATION RELATED SERVICES  
FOR SUSTAINABLE DEVELOPMENT**



Landing  
Compass  
Calibration

Training and  
Skills  
Development



# UNIQUE FACILITIES AT SANSA



Helmholtz Coils System



Magnetic Clean Environment





## SECTORS

**Defence (safety and security)**

**Energy (protection of assets)**

**Aviation (safety of life)**

**Maritime (oceans protection)**

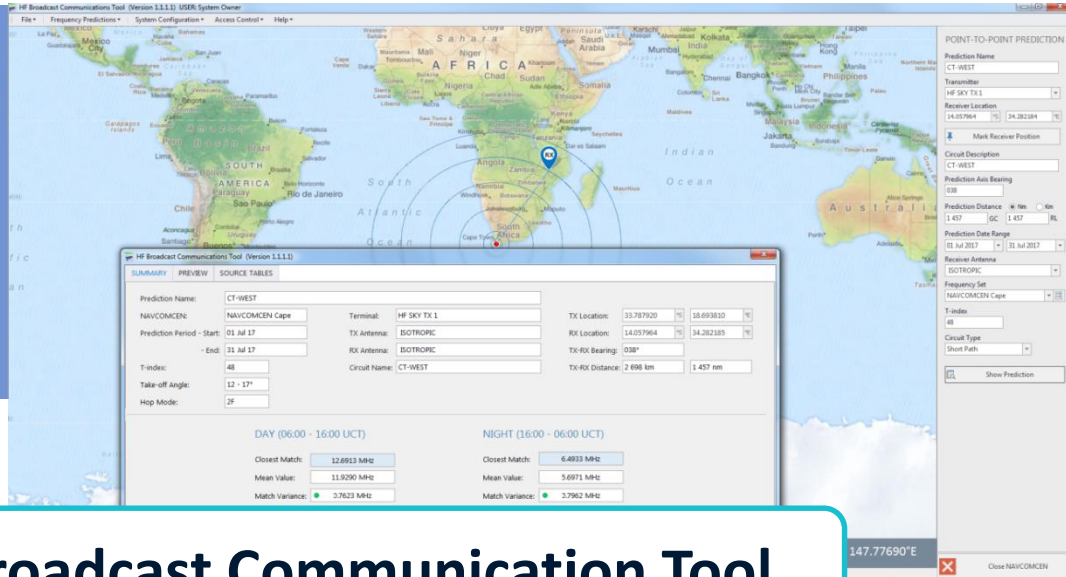


# INDUSTRY PARTNERSHIP: SPECIAL PRODUCTS




South African Navy  
HF Broadcast Communications Tool

NAVCOMCEN Cape      NAVCOMCEN Durban



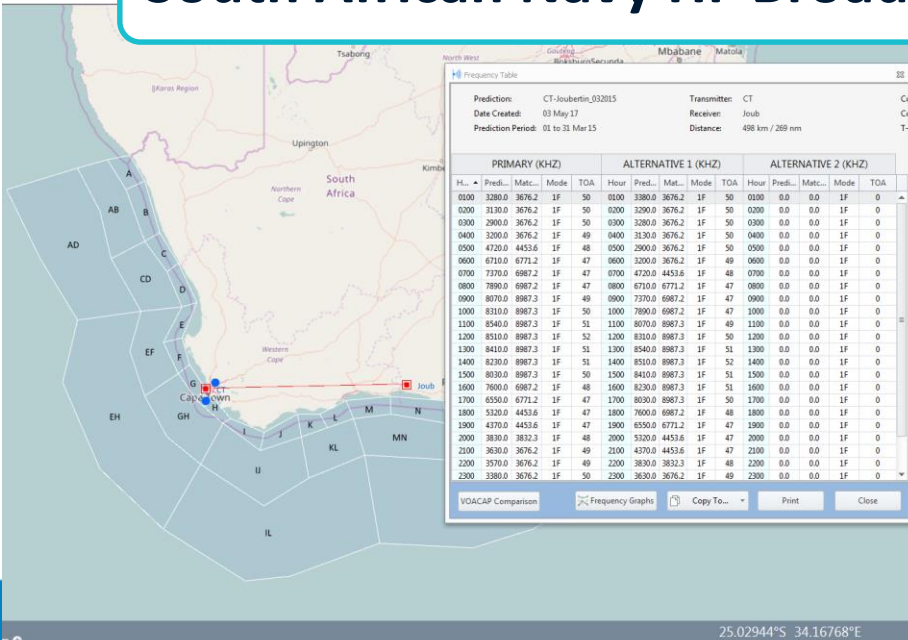
HF Broadcast Communications Tool (Version 1.11.1) - ISEK System Console

Prediction Name: CT-WEST  
NAVCOMCEN: NAVCOMCEN Cape  
Terminal: HF SKY TX 1  
TX Location: 31.787920 °N 18.693820 °E  
TX Antenna: ISOTROPIC  
RX Location: 14.057964 °N 14.282185 °E  
TX-RX Bearing: 038°  
TX-RX Distance: 2 698 km 1 457 nm

Closest Match: 12.6913 MHz  
Mean Value: 11.9200 MHz  
Match Variance: 3.7623 MHz

Closest Match: 6.4933 MHz  
Mean Value: 5.6971 MHz  
Match Variance: 3.7962 MHz

## South African Navy HF Broadcast Communication Tool



Frequency Table

Prediction: CT-Joubertin\_032015  
Date Created: 03 May 17  
Prediction Period: 01 to 31 Mar 15

Transmitter: CT  
Receiver: Joub  
Distance: 498 km / 269 nm

PRIMARY (KHZ)				ALTERNATIVE 1 (KHZ)				ALTERNATIVE 2 (KHZ)				
H.	Pred.	Matc.	Mode	Hour	Pred.	Matc.	Mode	Hour	Pred.	Matc.	Mode	
0100	3280.0	3676.2	1F	50	0100	3380.0	3676.2	1F	50	0100	0.0	0.0
0200	3130.0	3676.2	1F	50	0200	3290.0	3676.2	1F	50	0200	0.0	0.0
0300	2900.0	3676.2	1F	50	0300	3280.0	3676.2	1F	50	0300	0.0	0.0
0400	3200.0	3676.2	1F	49	0400	3130.0	3676.2	1F	50	0400	0.0	0.0
0500	4720.0	4453.6	1F	48	0500	2900.0	3676.2	1F	50	0500	0.0	0.0
0600	6710.0	6771.2	1F	47	0600	3200.0	3676.2	1F	49	0600	0.0	0.0
0700	7370.0	6987.2	1F	47	0700	4720.0	4453.6	1F	48	0700	0.0	0.0
0800	7890.0	6987.2	1F	47	0800	6710.0	6771.2	1F	47	0800	0.0	0.0
0900	8070.0	8987.3	1F	49	0900	7370.0	6987.2	1F	47	0900	0.0	0.0
1000	8310.0	8987.3	1F	50	1000	7890.0	6987.2	1F	47	1000	0.0	0.0
1100	8540.0	8987.3	1F	51	1100	8070.0	8987.3	1F	49	1100	0.0	0.0
1200	8510.0	8987.3	1F	52	1200	8310.0	8987.3	1F	50	1200	0.0	0.0
1300	8410.0	8987.3	1F	51	1300	8540.0	8987.3	1F	51	1300	0.0	0.0
1400	8230.0	8987.3	1F	51	1400	8510.0	8987.3	1F	52	1400	0.0	0.0
1500	8030.0	8987.3	1F	50	1500	8410.0	8987.3	1F	51	1500	0.0	0.0
1600	7600.0	6987.2	1F	48	1600	8230.0	8987.3	1F	51	1600	0.0	0.0
1700	6550.0	6771.2	1F	47	1700	8030.0	8987.3	1F	50	1700	0.0	0.0
1800	5320.0	4453.6	1F	47	1800	7600.0	6987.2	1F	48	1800	0.0	0.0
1900	4370.0	4453.6	1F	47	1900	6550.0	6771.2	1F	47	1900	0.0	0.0
2000	3830.0	3832.3	1F	48	2000	5320.0	4453.6	1F	47	2000	0.0	0.0
2100	3630.0	3676.2	1F	49	2100	4370.0	4453.6	1F	47	2100	0.0	0.0
2200	3570.0	3676.2	1F	49	2200	3830.0	3832.3	1F	48	2200	0.0	0.0
2300	3380.0	3676.2	1F	50	2300	3630.0	3676.2	1F	49	2300	0.0	0.0

Recall Prediction

Mobile Stations

Create Mobile Station

Show Mobile Station

Prediction Details

Prediction Name: CT-Joubertin\_032015  
Prediction Date Range: 01 to 31 Mar 15

Base Stations: CT: Joub

Expiry Date: 31 Mar 2015

T-index: 52  
Primary Mode: 1F

Distance: 498 km / 269 nm

Frequency Table      Unload Prediction

Measure Distance

Start Measure      Clear

Display

Show Offsets  
Show Callouts

Save Display Settings      Hide Mobile Stations

Clear Symbols      Reset to Default



National Communications Tool

Starting...

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SOUTH AFRICAN NATIONAL  
SPACE AGENCY