

6. WAM COVERAGE DIAGRAMS

The following sections present the sites selected for the simulations as well as the results of the preliminary siting study and WAM coverage diagrams.

6.1. PRE-SELECTED SITES

The proposed sites have been selected by IDAC.

Thales has run simulations according to inputs from IDAC in order to provide to IDAC the possibility to select the sites which can fulfil the coverage requirements.

Thales will be pleased to elaborate the siting concept with IDAC and further on work out a concept which will cover the areas of interest of IDAC and satisfy the operational needs.

The following table includes the sites as provided by IDAC and used by Thales for the coverage simulations.

SITE NAME	COORDINATES	GROUND ELEVATION (Feet)	COMMENTS
Sites for MDST			
El Mogote	19°29'2.00"N 070°29'20.77"W	3130ft	Antennas Site
Cafeto	19°30'11.80"N 070°31'1.73"W	2960ft	2 Antennas
Carlos Diaz Site 1	19°32'14.64"N 070°34'36.46"W	2280ft	2nd Antenna 470 Mts from Site1
Carlos Diaz Site 2	19°32'8.23"N 070°34'18.79"W	3415ft	Many HF Antennas
La Cumbre	19°32'1.42"N 070°37'27.17"W	2715ft	1 Antenna
Jacagua	19°32'1.08"N 070°40'50.38"W	1990ft	1 antenna
Cerro Gordo	19°25'43.34"N 070°49'4.45"W	1580ft	No Antennas available
Juncalito	19°12'29.45"N 070°48'28.01"W	3960ft	1 Antenna
Cerro Prieto	19° 9'27.55"N 070°49'7.06"W	4560ft	No Antennas available
Santo Cerro	19°17'36.56"N 070°33'34.70"W	1170ft	1 Antenna
Alto Banderas	18°48'28.73"N 070°37'5.94"W	9030ft	2 Antennas (IDAC Site) can be used to link between North and the West side
Sites for MDPP			
Isabel de Torres	19°45'51.02"N 070°42'36.40"W	2560ft	1 Antenna
Claro Sosua	19°45'52.57"N 070°30'58.59"W	70ft	1 Antenna
Jamao	19°37'59.28"N 070°26'39.78"W	270ft	1 Antenna
TWR MDPP	19°45'19.73"N 070°33'52.00"W	50ft	TWR Hight ?
Carlos Diaz			The tree above sites can be combined with this Site.
Sites for MDBH			
El Curro	18°22'48.78"N 071° 1'35.13"W	4462ft	1 Antenna
Loma Hoz	18°10'2.33"N 071°16'54.63"W	5475ft	Many Antennas and IDAC Site
Sierra de Bahoruco	18°17'6.28"N 071°42'23.50"W	7740ft	1 Antenna
Los Bolos	18°39'2.13"N 071°40'31.22"W	5160ft	No Antennas available

Table 4: Site List

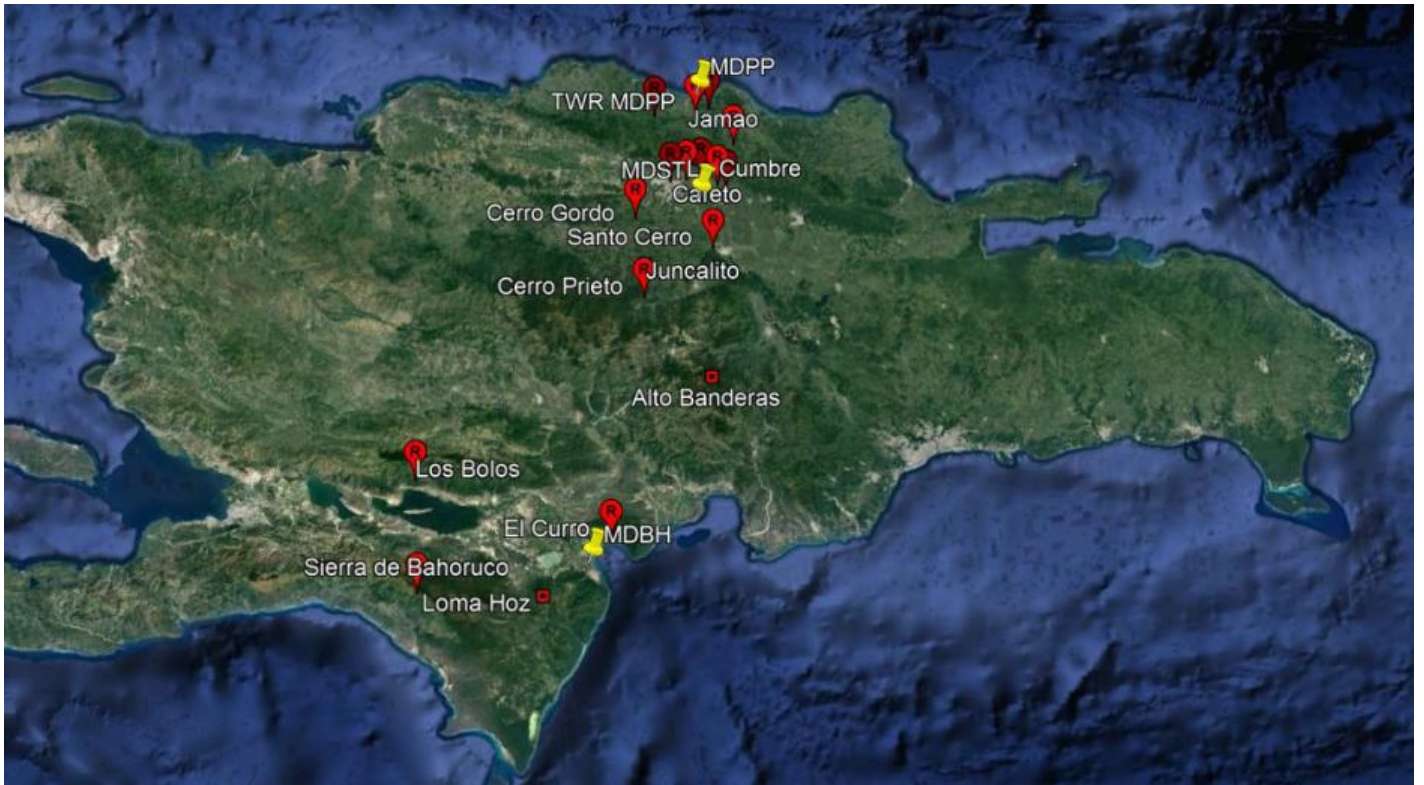


Figure 6-1: WAM Sites location



Figure 6-2: WAM Sites location –zoom in MDPP-MDST region

6.3. SYSTEM PERFORMANCE DIAGRAMS

Thales has performed 2 alternative simulations using the provided sites:

- 1) **Configuration 1:** WAM coverage simulation using all sites with the configuration as shown in Chapter 6.3.1.1
- 2) **Configuration 2:** WAM coverage simulation using a reduced set of sites with the configuration a shown in Chapter 6.3.2.1

For each configuration coverage on the following heights is shown:

- 1) 500ft AGL and 1000ft AGL
- 2) 1000ft ASL, 5000ft ASL and 10000ft ASL
- 3) From 10000ft ASL to 40000ft ASL in steps of 10000ft

For all sites top mount position has been assumed and high gain (11,5 dB) omni antennas have been used.

Thales will be pleased to update the configurations above based on information from IDAC regarding the areas and heights which need to have full WAM coverage.

6.3.1 WAM coverage for configuration 1

6.3.1.1 Sites used for Configuration 1

Site nbr	SITE NAME	COORDINATES	GROUND ELEVATION (Feet)	Antenna	Receiver/ Transmitter
1	El Mogote	19°29'2.00"N 070°29'20.77"W	3130ft	Omni 11,5dB	Receiver
2	Cafeto	19°30'11.80"N 070°31'1.73"W	2960ft	Omni 11,5dB	Receiver
3	Carlos Diaz Site 1	19°32'14.64"N 070°34'36.46"W	2280ft	Omni 11,5dB	Receiver/ Transmitter
4	Carlos Diaz Site 2	19°32'8.23"N070°34'18.79"W	3415ft	Omni 11,5dB	Receiver
5	La Cumbre	19°32'1.42"N0 070°37'27.17"W	2715ft	Omni 11,5dB	Receiver
6	Jacagua	19°32'1.08"N0 070°40'50.38"W	1990ft	Omni 11,5dB	Receiver
7	Cerro Gordo	19°25'43.34"N070°49'4.45"W	1580ft	Omni 11,5dB	Receiver
8	Juncalito	19°12'29.45"N070°48'28.01"W	3960ft	Omni 11,5dB	Receiver/ Transmitter
9	Cerro Prieto	19° 9'27.55"N 070°49'7.06"W	4560ft	Omni 11,5dB	Receiver
10	Santo Cerro	19°17'36.56"N070°33'34.70"W	1170ft	Omni 11,5dB	Receiver
11	Alto Banderas	18°48'28.73"N070°37'5.94"W	9030ft	Omni 11,5dB	Receiver/ Transmitter
12	Isabel de Torres	19°45'51.02"N 070°42'36.40"W	2560ft	Omni 11,5dB	Receiver
13	Claro Sosua	19°45'52.57"N 070°30'58.59"W	70ft	Omni 11,5dB	Receiver
14	Jamao	19°37'59.28"N 070°26'39.78"W	270ft	Omni 11,5dB	Receiver
15	TWR MDPP	19°45'19.73"N 070°33'52.00"W	50ft	Omni 11,5dB	Receiver
16	El Curro	18°22'48.78"N 071° 1'35.13"W	4462ft	Omni 11,5dB	Receiver
17	Loma Hoz	18°10'2.33"N 071°16'54.63"W	5475ft	Omni 11,5dB	Receiver/ Transmitter
18	Sierra de Bahoruco	18°17'6.28"N 071°42'23.50"W	7740ft	Omni 11,5dB	Receiver
19	Los Bolos	18°39'2.13"N 071°40'31.22"W	5160ft	Omni 11,5dB	Receiver

Table 5: Site List for Configuration 1

6.3.1.2 Coverage diagrams for Configuration 1

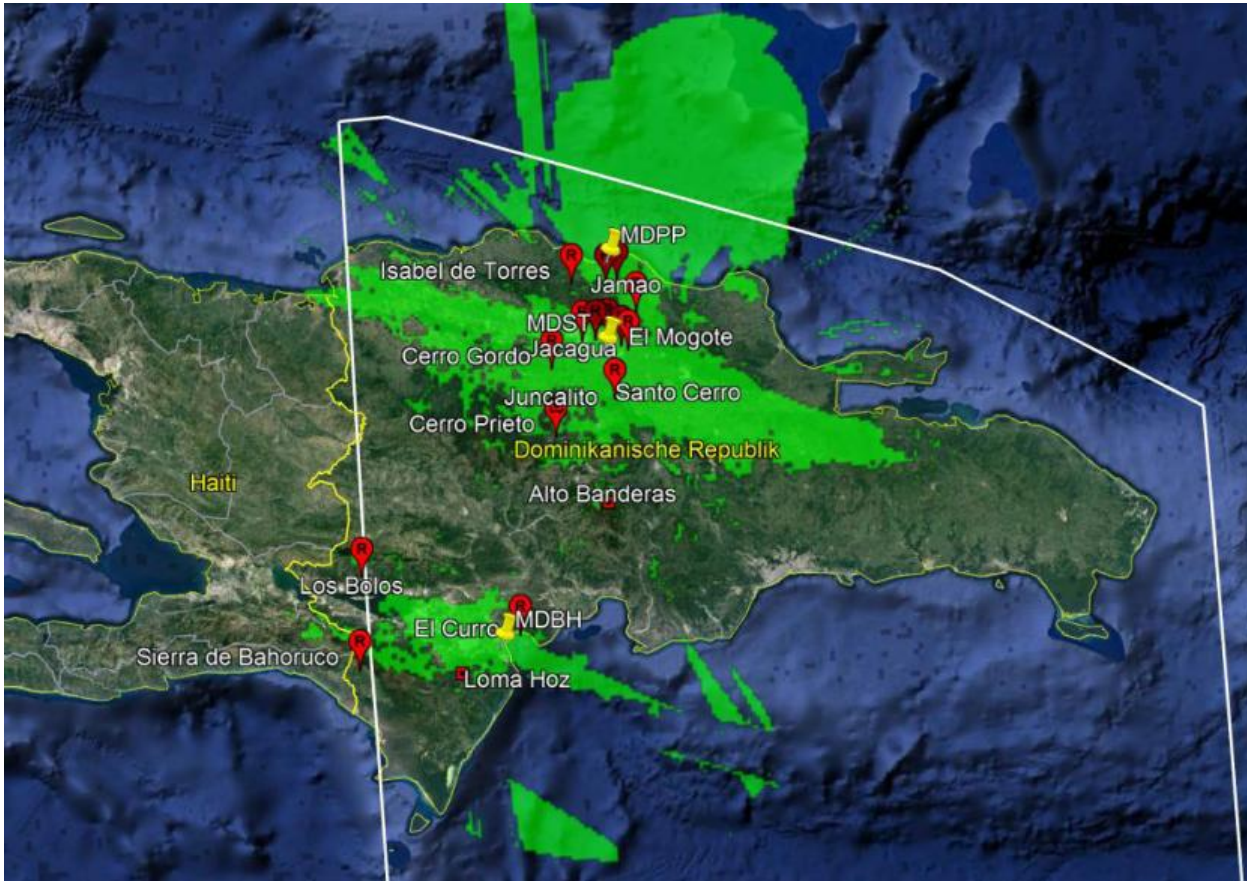


Figure 6-3: Configuration 1 - Coverage at 500ft AGL N-situation

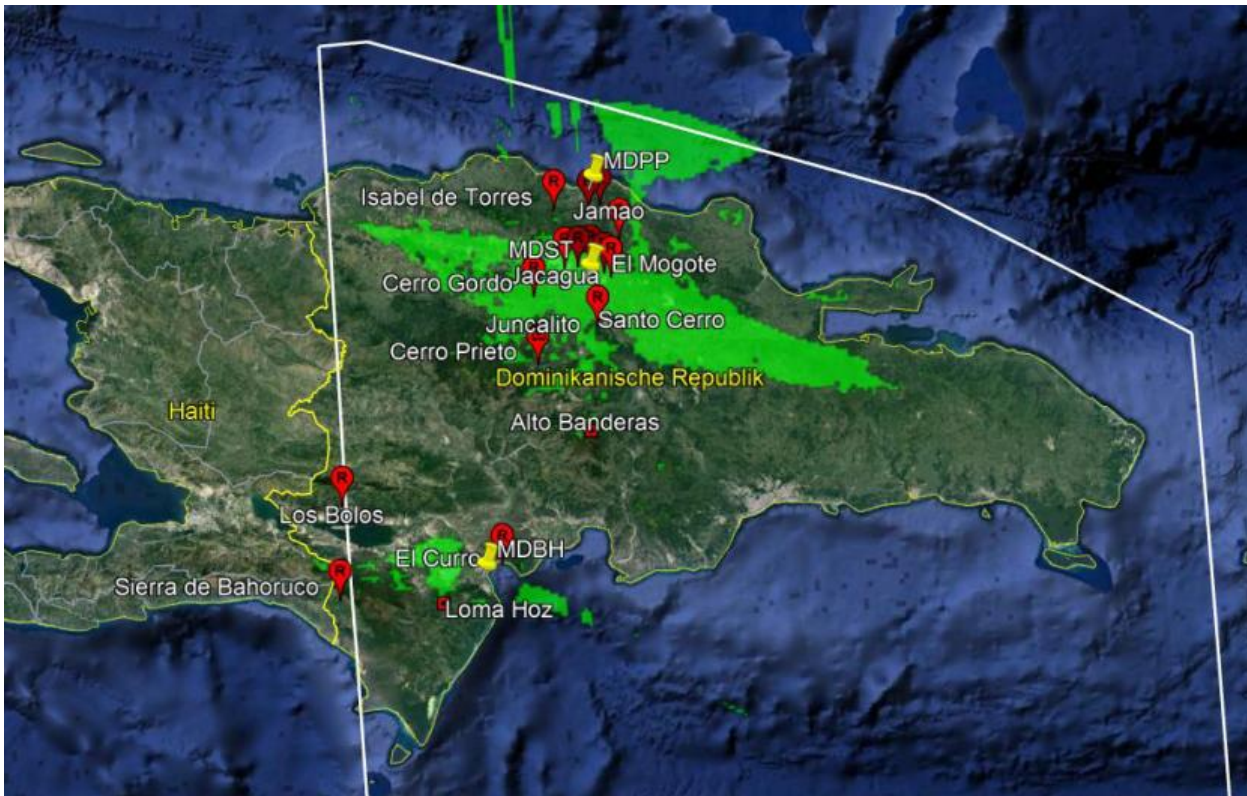


Figure 6-4: Configuration 1 - Coverage at 500ft AGL N-situation

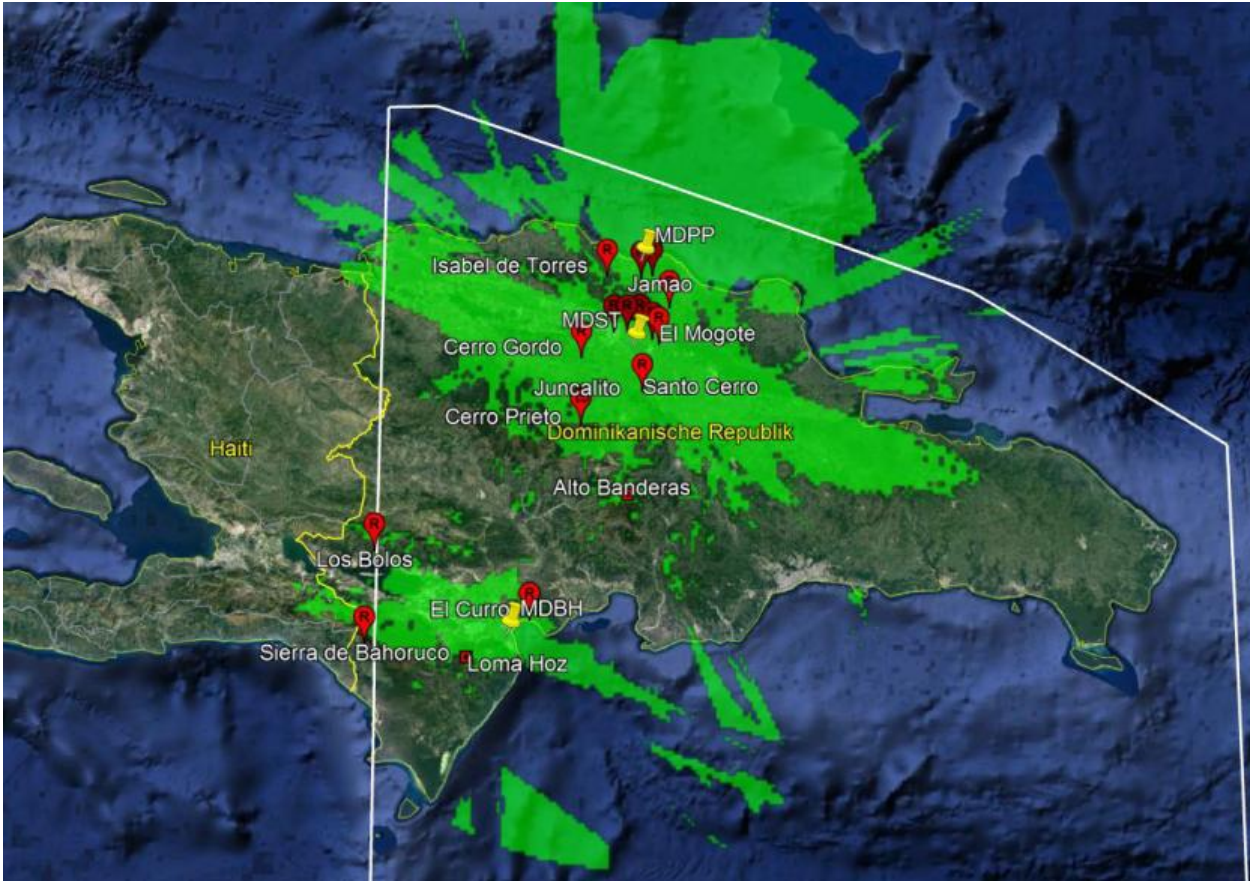


Figure 6-5: Configuration 1 - Coverage at 1000ft AGL N-situation

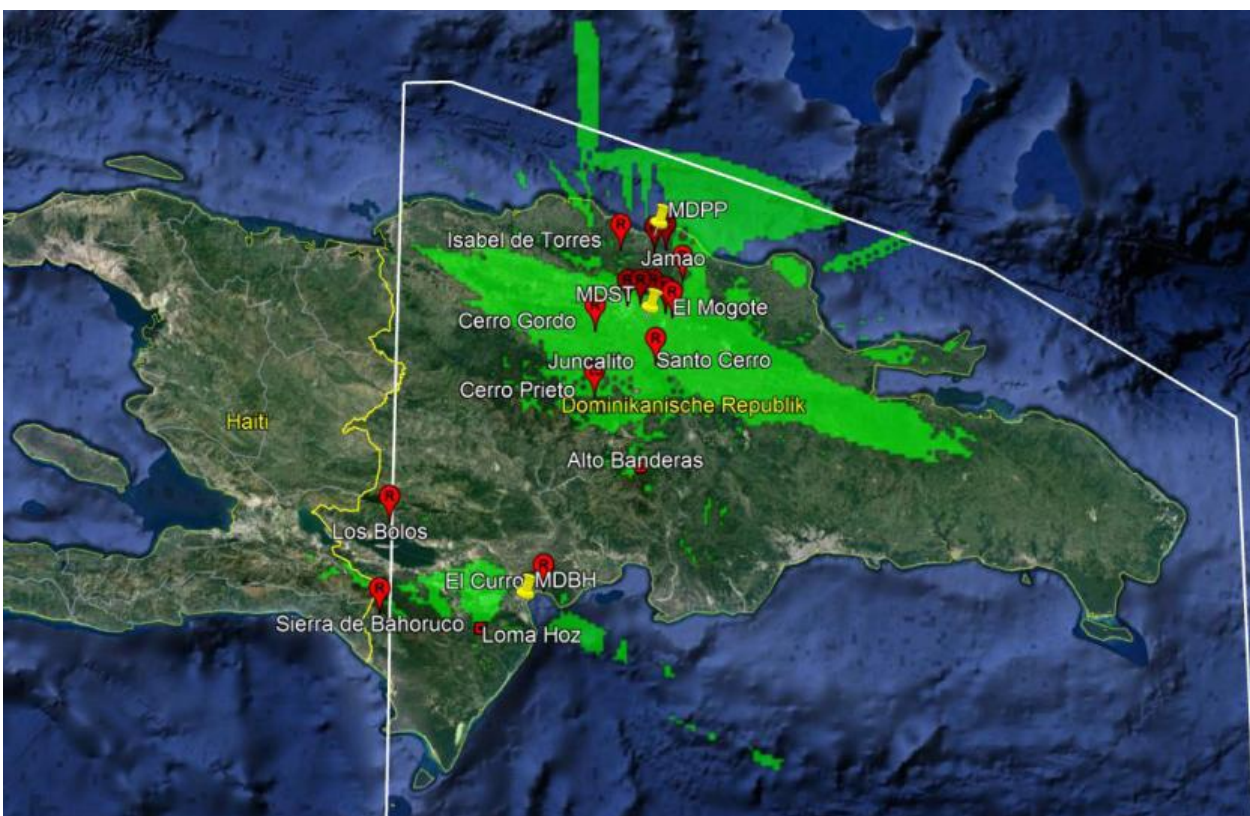


Figure 6-6: Configuration 1 - Coverage at 1000ft AGL N-1-situation

WAM System for Dominican Republic

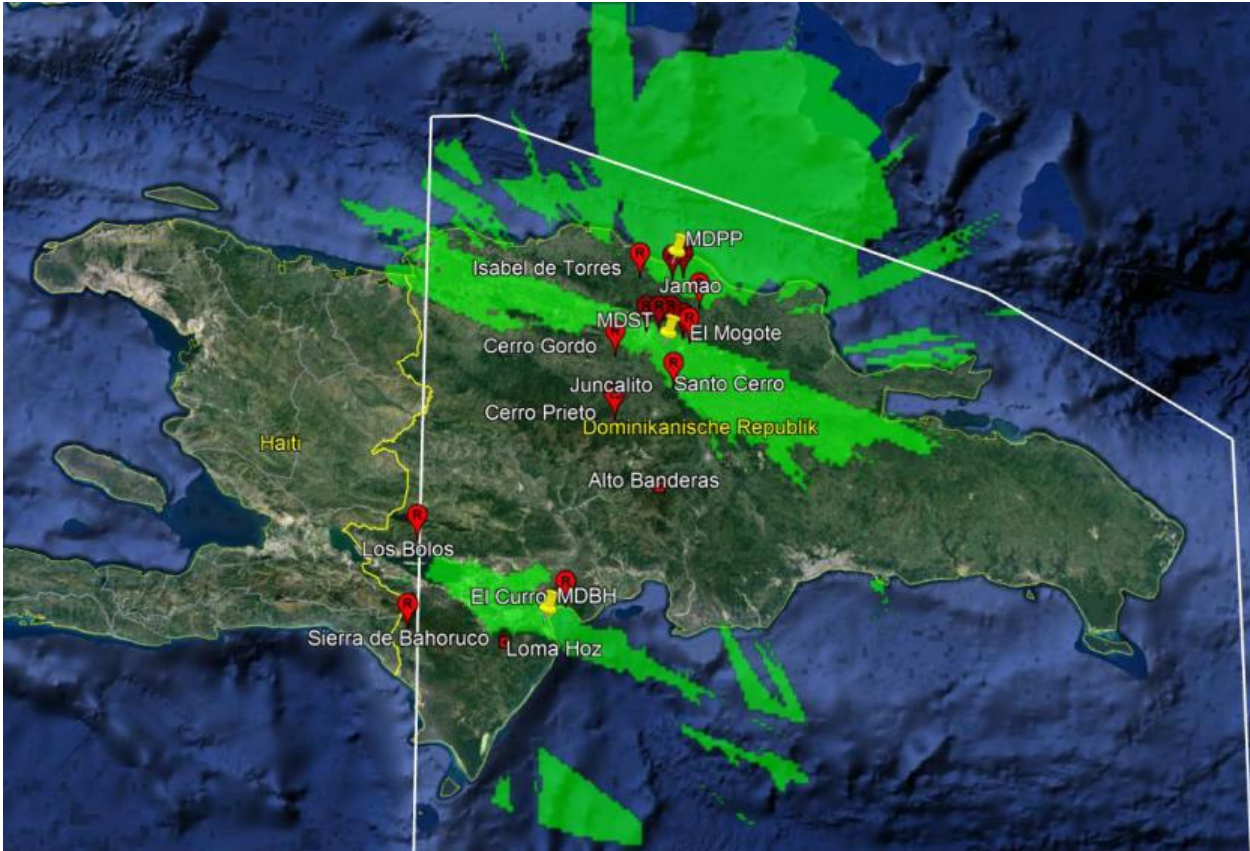


Figure 6-7: Configuration 1 - Coverage at 1000ft ASL N-situation

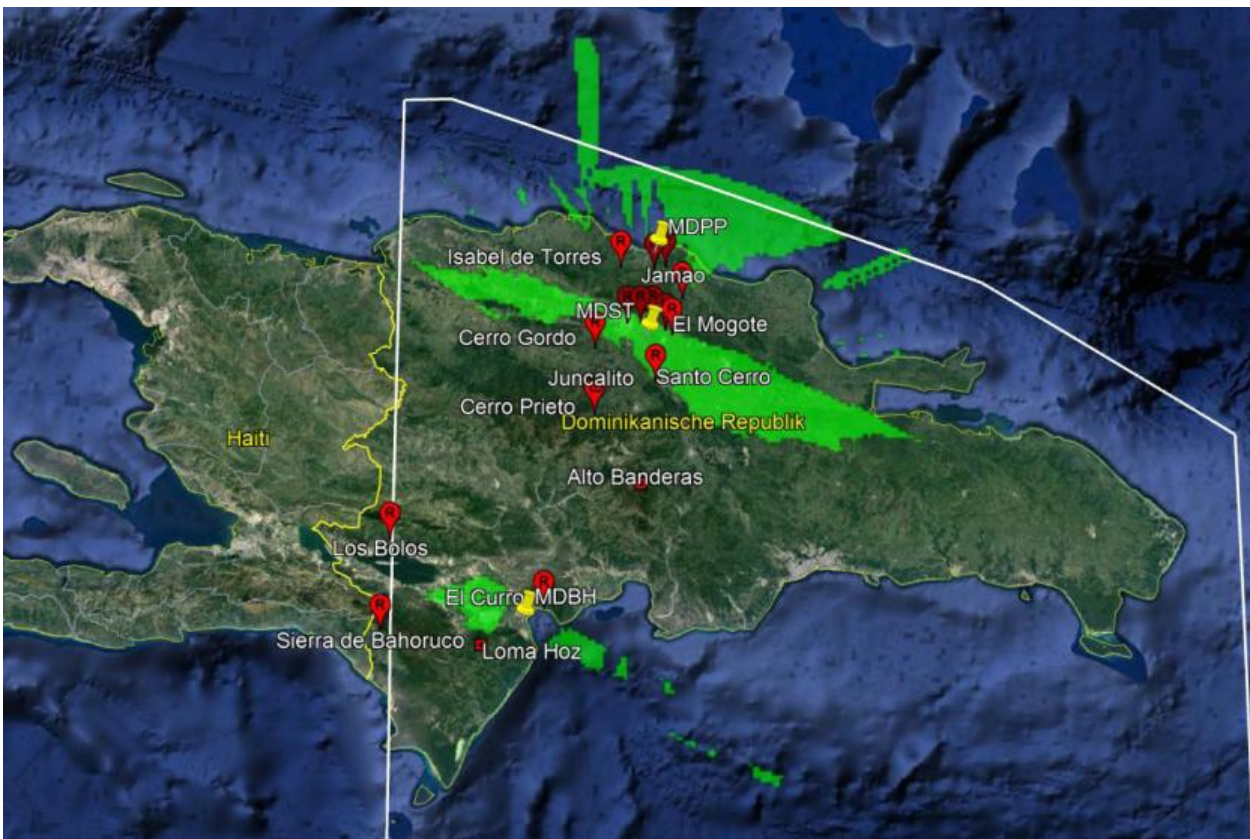


Figure 6-8: Configuration 1 - Coverage at 1000ft ASL N-1-situation

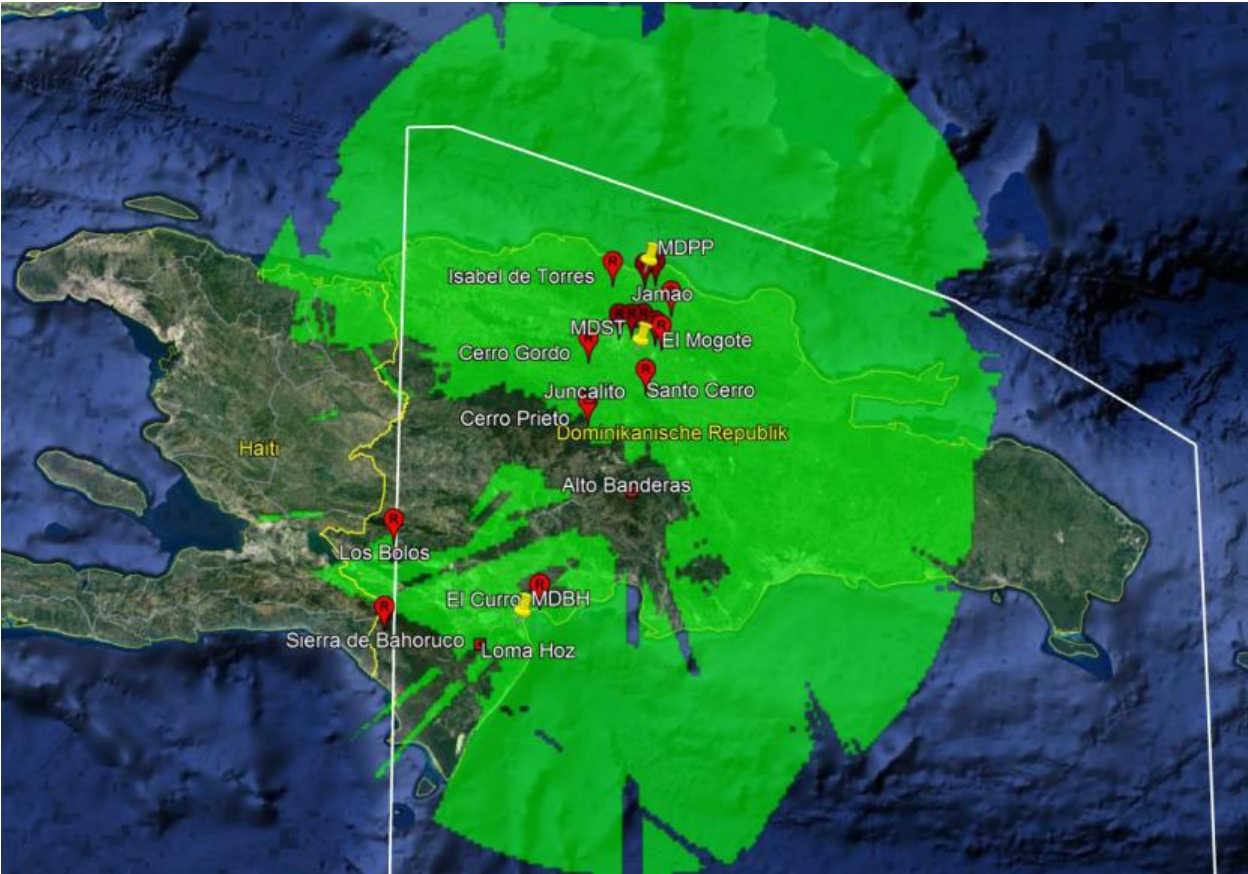


Figure 6-9: Configuration 1 - Coverage at 5000ft ASL N-situation

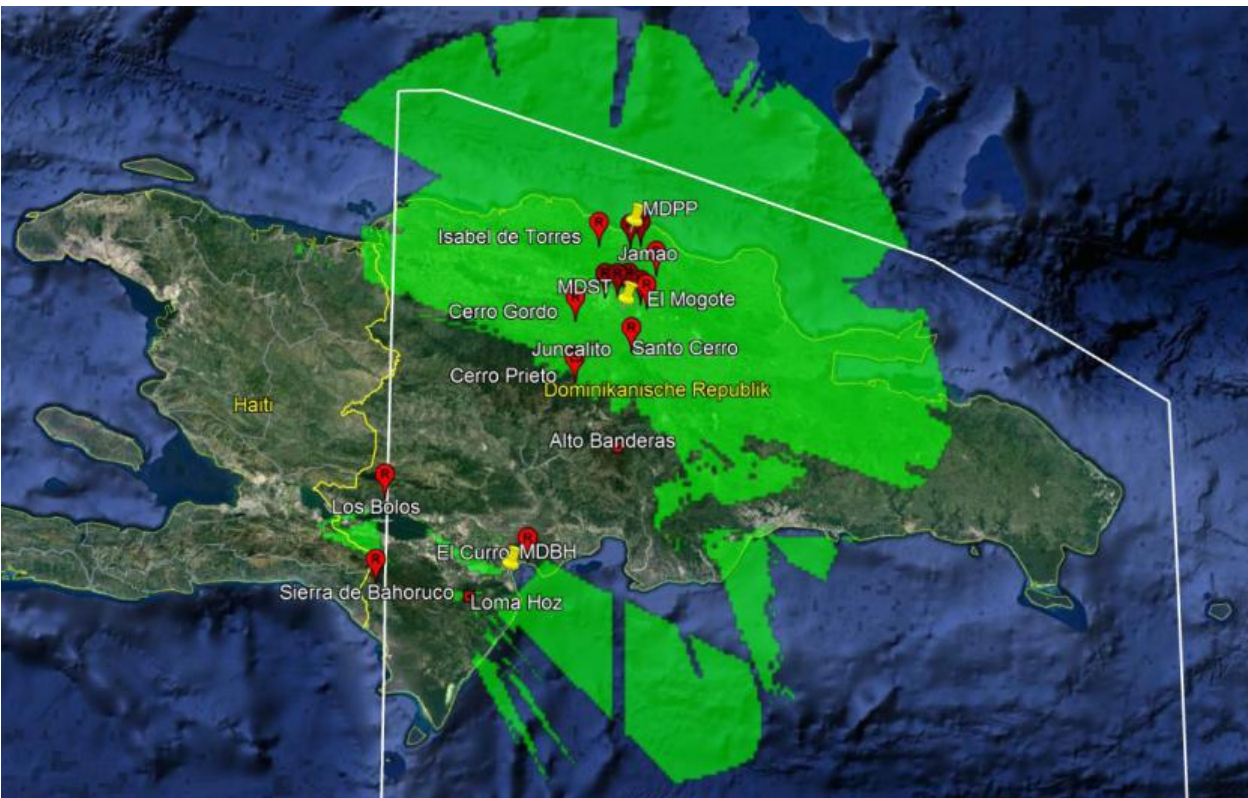


Figure 6-10: Configuration 1 - Coverage at 5000ft ASL N-1-situation

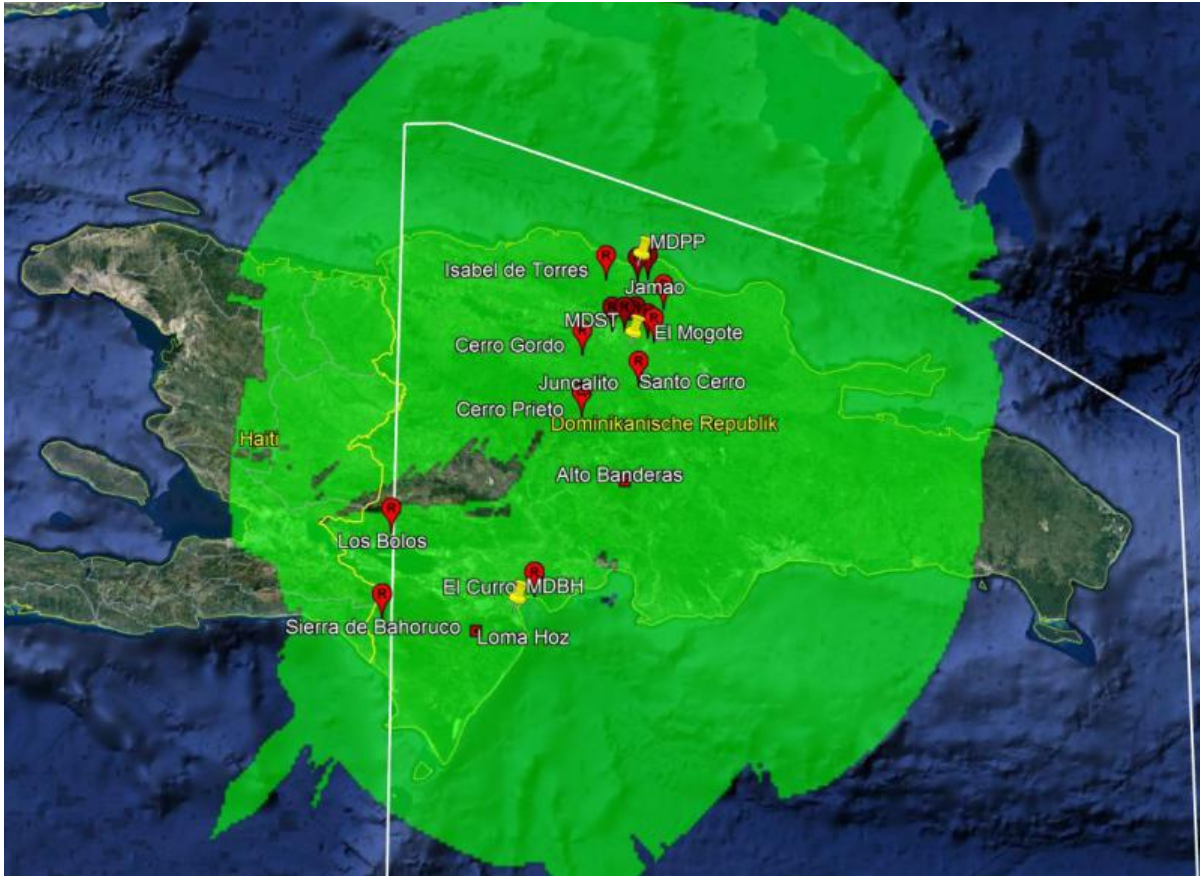


Figure 6-11: Configuration 1 - Coverage at 10000ft ASL N-situation



Figure 6-12: Configuration 1 - Coverage at 10000ft ASL N-1-situation

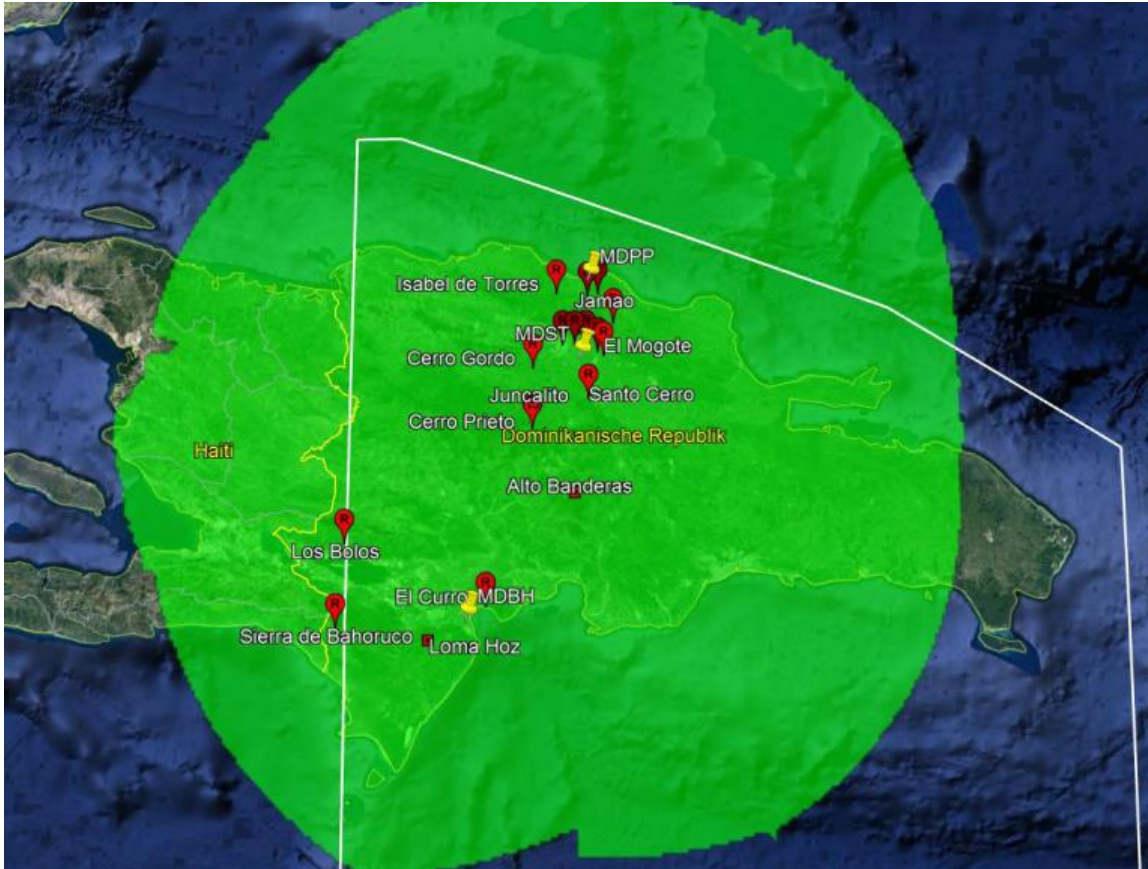


Figure 6-13: Configuration 1 - Coverage at 20000ft ASL N-situation

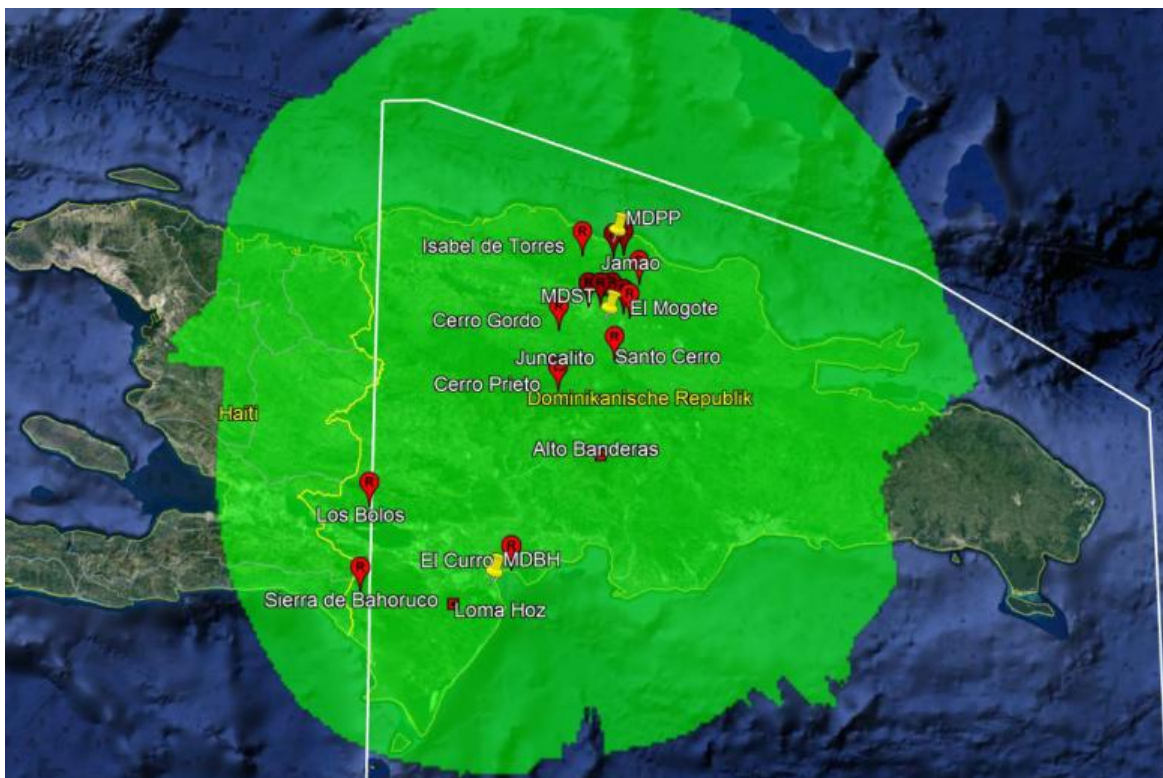


Figure 6-14: Configuration 1 - Coverage at 20000ft ASL N-1-situation

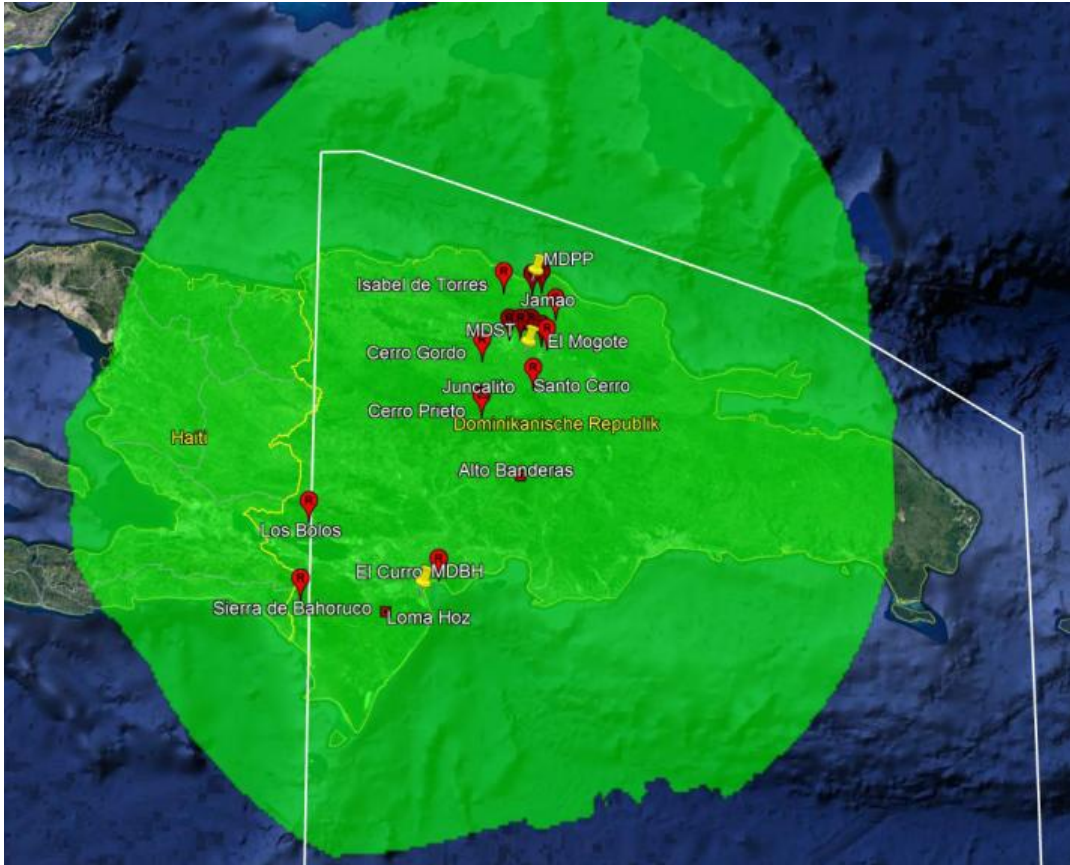


Figure 6-15: Configuration 1 - Coverage at 30000ft ASL N-situation

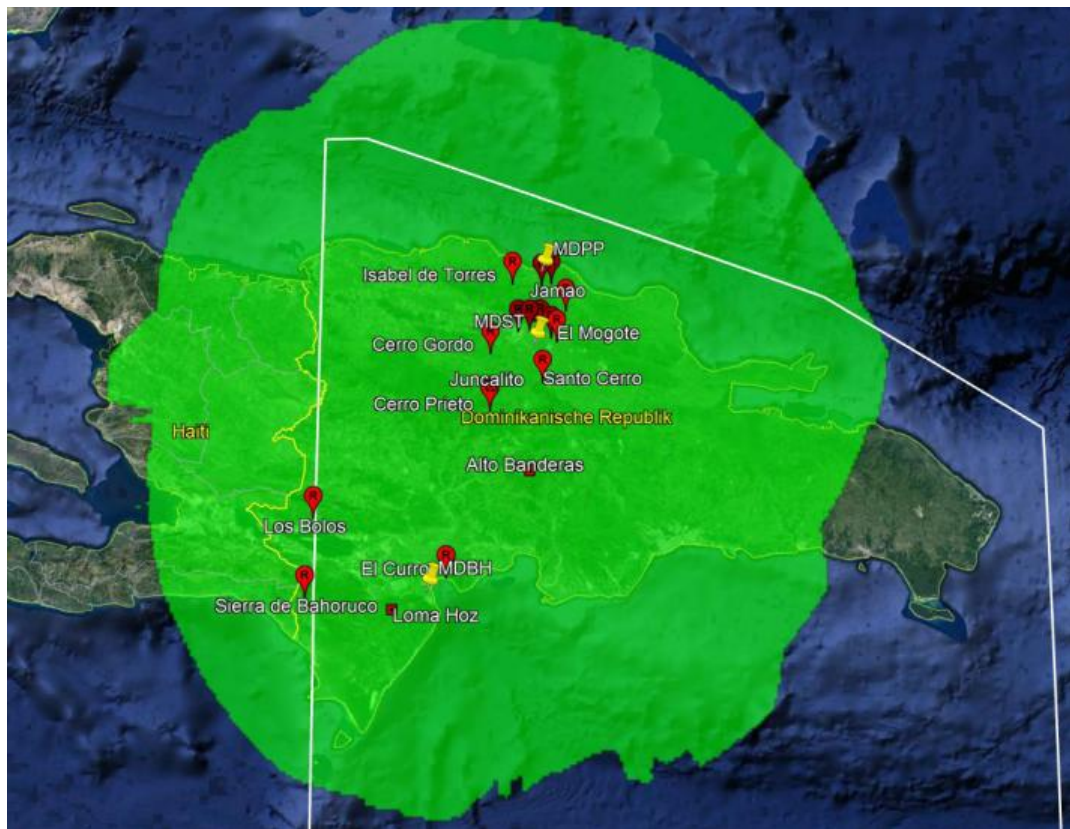


Figure 6-16: Configuration 1 - Coverage at 30000ft ASL N-1-situation

WAM System for Dominican Republic

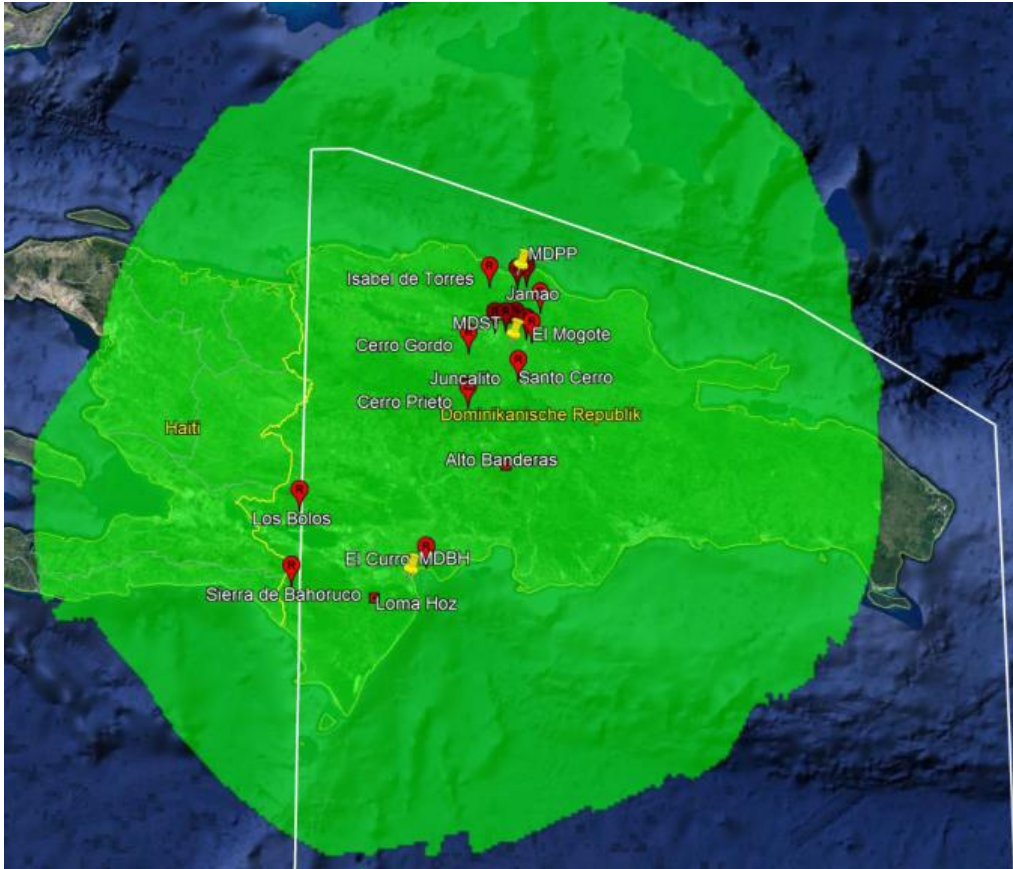


Figure 6-17: Configuration 1 - Coverage at 40000ft ASL N-situation

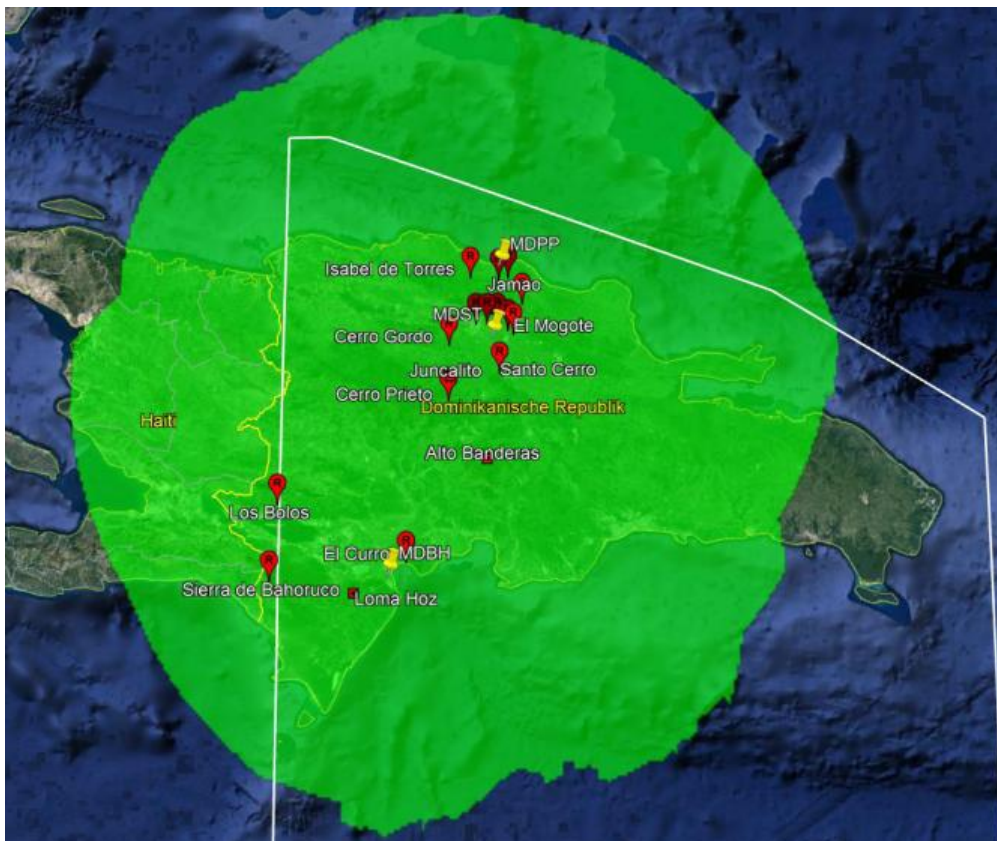


Figure 6-18: Configuration 1 - Coverage at 40000ft ASL N-1-situation

6.3.2 WAM coverage for configuration 2 (reduced nbr of sites)

6.3.2.1 Sites used for Configuration 2

Site nbr	SITE NAME	COORDINATES	GROUND ELEVATION (Feet)	Antenna	Receiver/ Transmitter
1	El Mogote	19°29'2.00"N 070°29'20.77"W	3130ft	Omni 11,5dB	Receiver
2	Cafeto	19°30'11.80"N 070°31'1.73"W	2960ft	Omni 11,5dB	n.a.
3	Carlos Diaz Site 1	19°32'14.64"N 070°34'36.46"W	2280ft	Omni 11,5dB	Receiver
4	Carlos Diaz Site 2	19°32'8.23"N070°34'18.79"W	3415ft	Omni 11,5dB	n.a.
5	La Cumbre	19°32'1.42"N0 070°37'27.17"W	2715ft	Omni 11,5dB	n.a.
6	Jacagua	19°32'1.08"N0 070°40'50.38"W	1990ft	Omni 11,5dB	Receiver
7	Cerro Gordo	19°25'43.34"N070°49'4.45"W	1580ft	Omni 11,5dB	Receiver
8	Juncalito	19°12'29.45"N070°48'28.01"W	3960ft	Omni 11,5dB	Receiver
9	Cerro Prieto	19° 9'27.55"N 070°49'7.06"W	4560ft	Omni 11,5dB	n.a.
10	Santo Cerro	19°17'36.56"N070°33'34.70"W	1170ft	Omni 11,5dB	Receiver
11	Alto Banderas	18°48'28.73"N070°37'5.94"W	9030ft	Omni 11,5dB	Receiver/ Transmitter
12	Isabel de Torres	19°45'51.02"N 070°42'36.40"W	2560ft	Omni 11,5dB	Receiver/ Transmitter
13	Claro Sosua	19°45'52.57"N 070°30'58.59"W	70ft	Omni 11,5dB	n.a.
14	Jamao	19°37'59.28"N 070°26'39.78"W	270ft	Omni 11,5dB	n.a.
15	TWR MDPP	19°45'19.73"N 070°33'52.00"W	50ft	Omni 11,5dB	Receiver
16	El Curro	18°22'48.78"N 071° 1'35.13"W	4462ft	Omni 11,5dB	Receiver
17	Loma Hoz	18°10'2.33"N 071°16'54.63"W	5475ft	Omni 11,5dB	Receiver
18	Sierra de Bahoruco	18°17'6.28"N 071°42'23.50"W	7740ft	Omni 11,5dB	Receiver/ Transmitter
19	Los Bolos	18°39'2.13"N 071°40'31.22"W	5160ft	Omni 11,5dB	Receiver

Table 6: Site List for Configuration 2

6.3.2.2 Coverage diagrams for Configuration 2

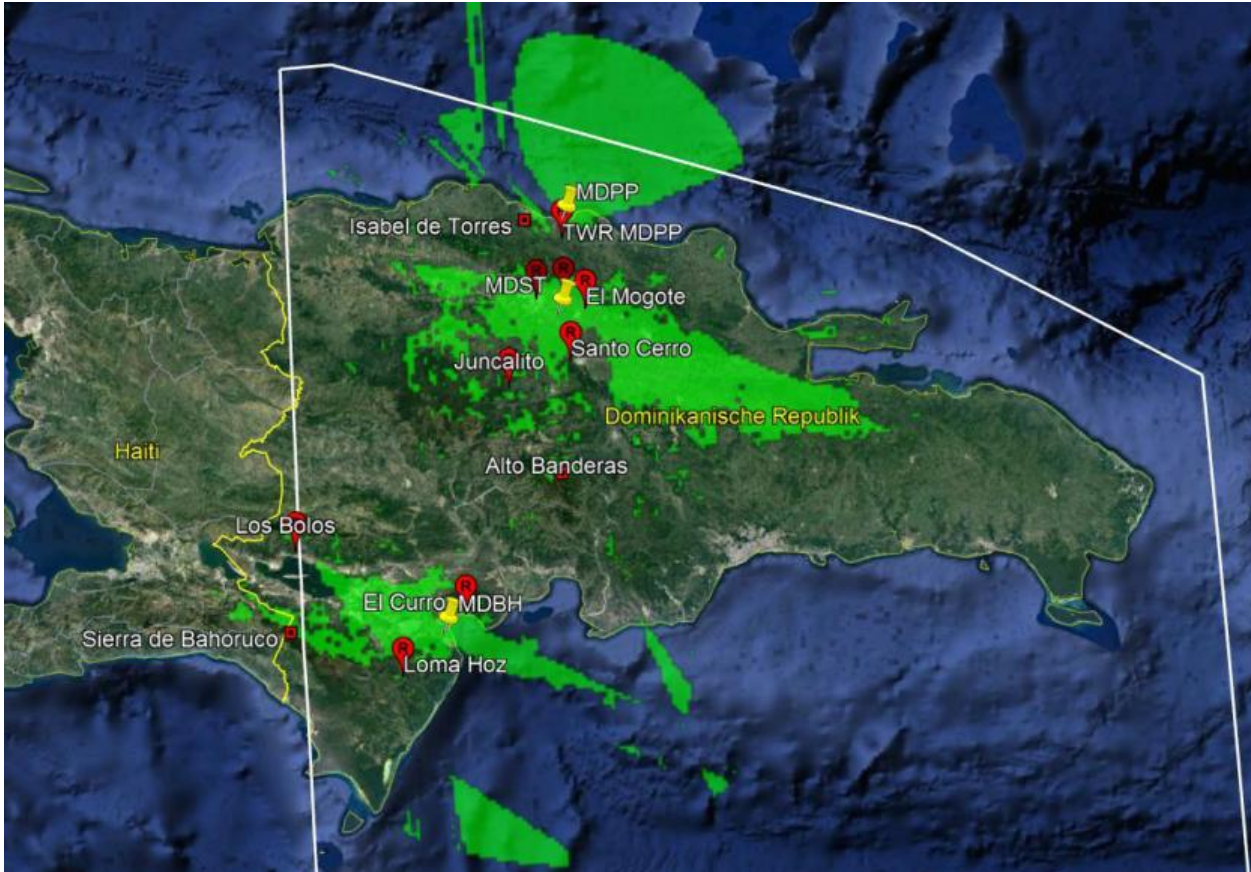


Figure 6-19: Configuration 2 - Coverage at 500ft AGL N-situation

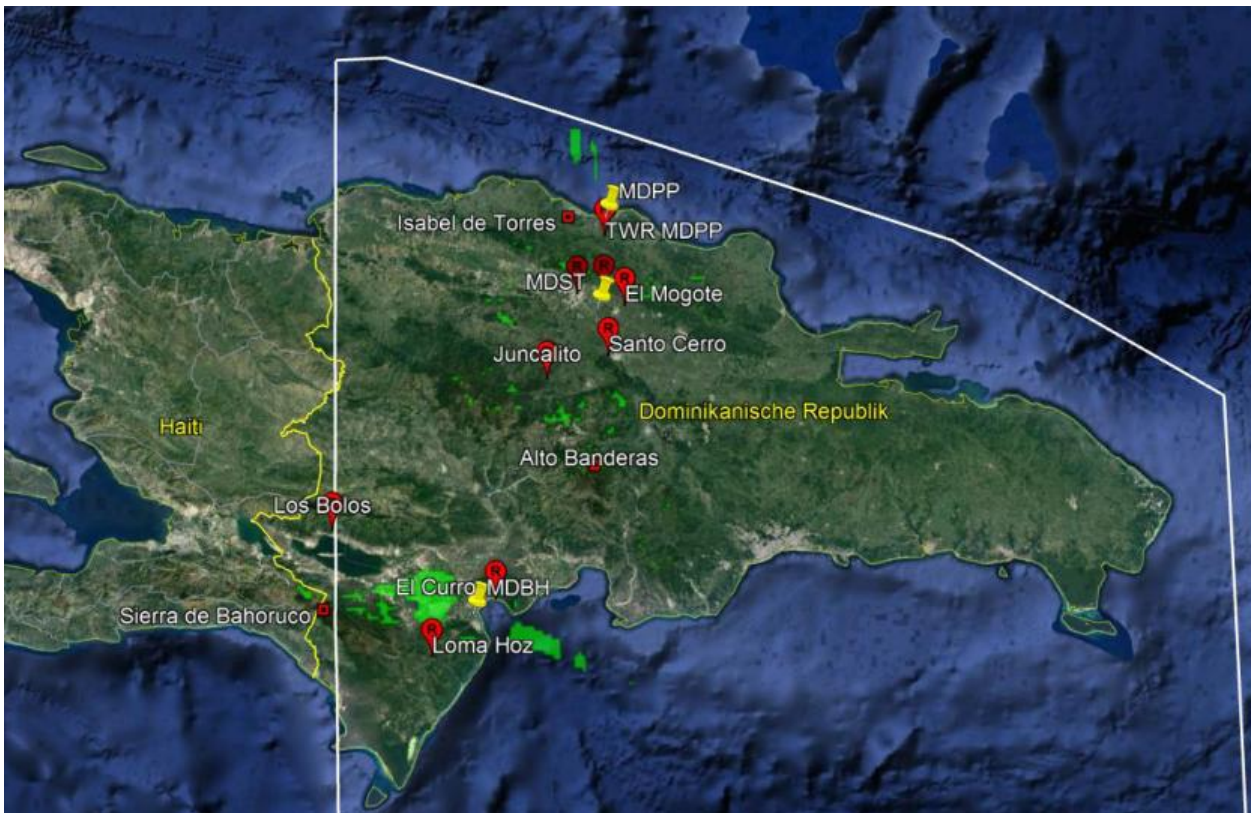


Figure 6-20: Configuration 2 - Coverage at 500ft AGL N-1-situation

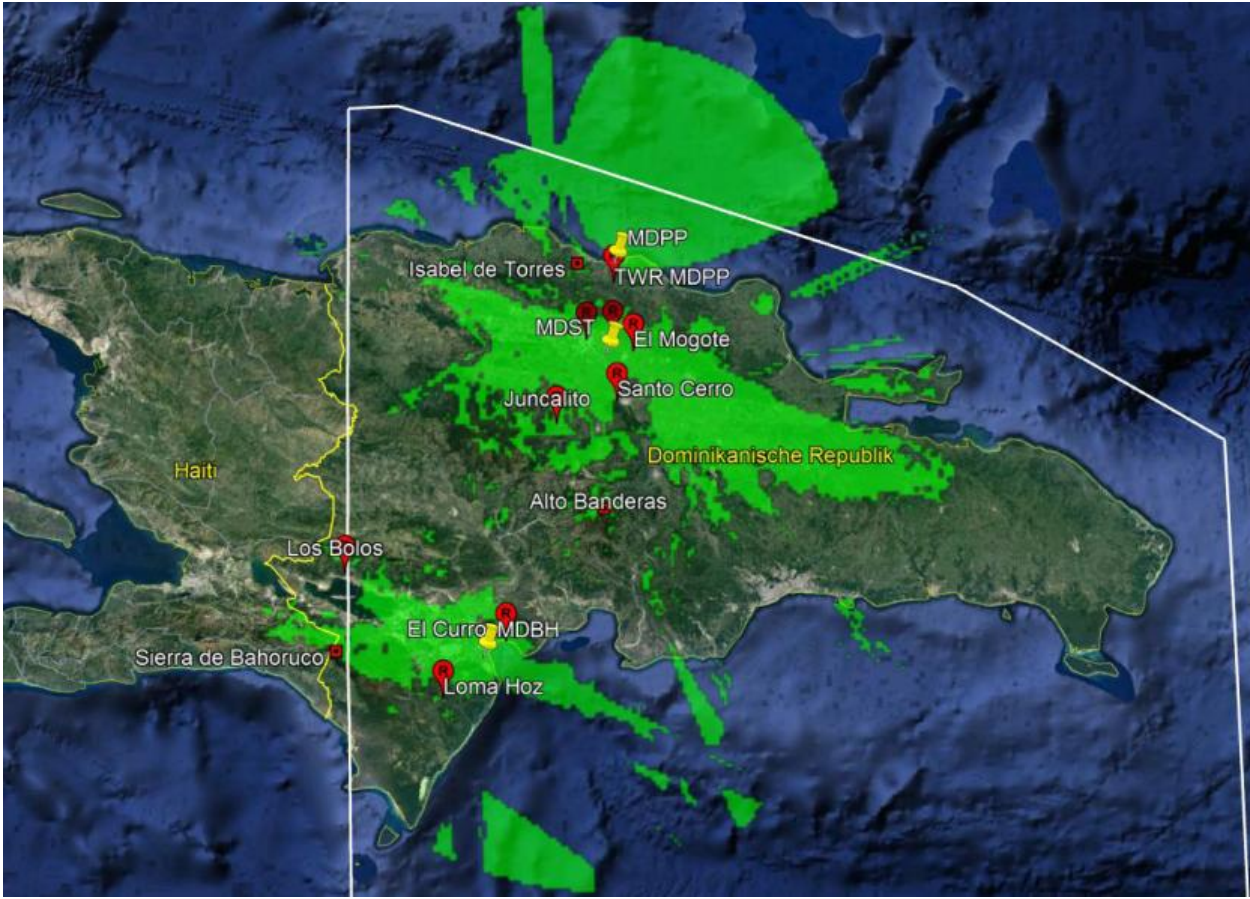


Figure 6-21: Configuration 2 - Coverage at 1000ft AGL N-situation



Figure 6-22: Configuration 2 - Coverage at 1000ft AGL N-situation

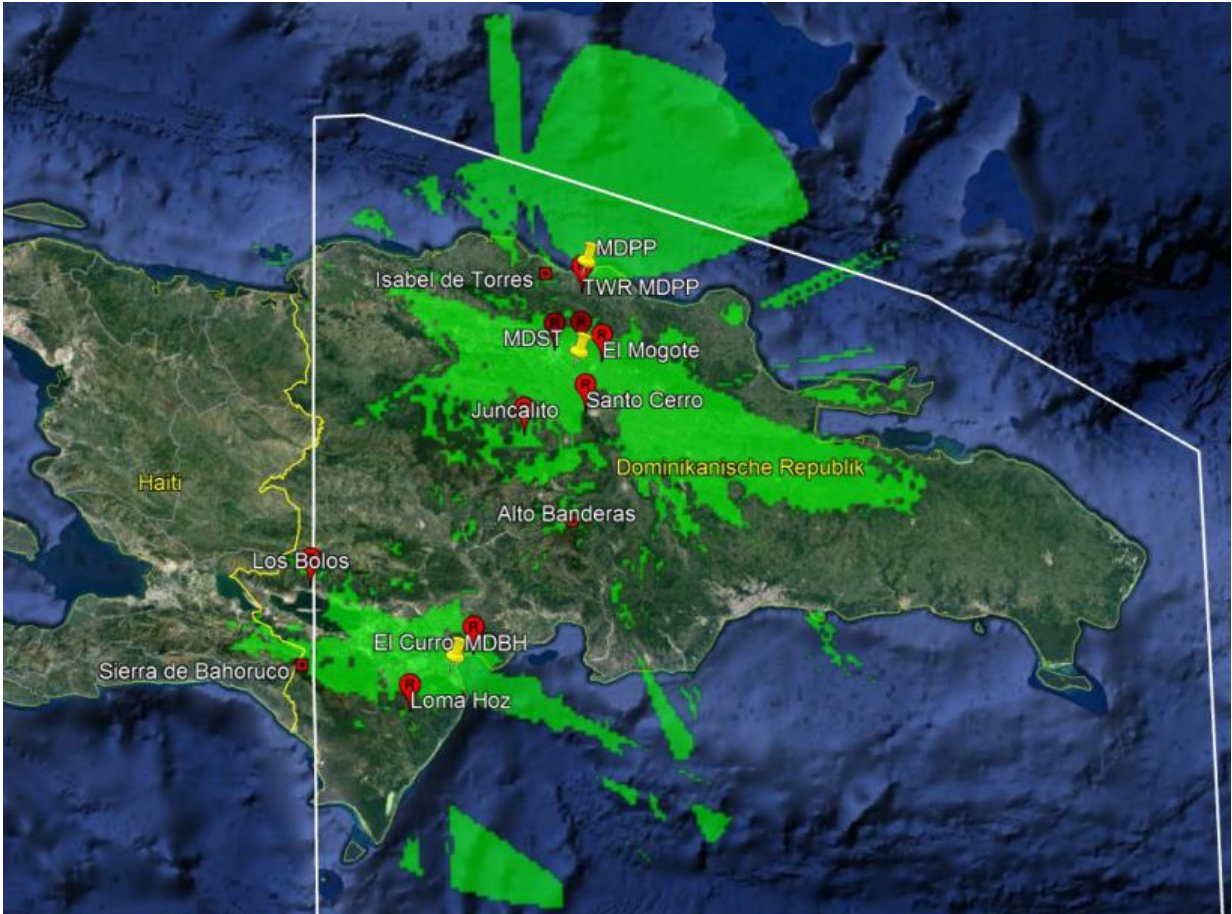


Figure 6-23: Configuration 2 - Coverage at 1000ft ASL N-situation

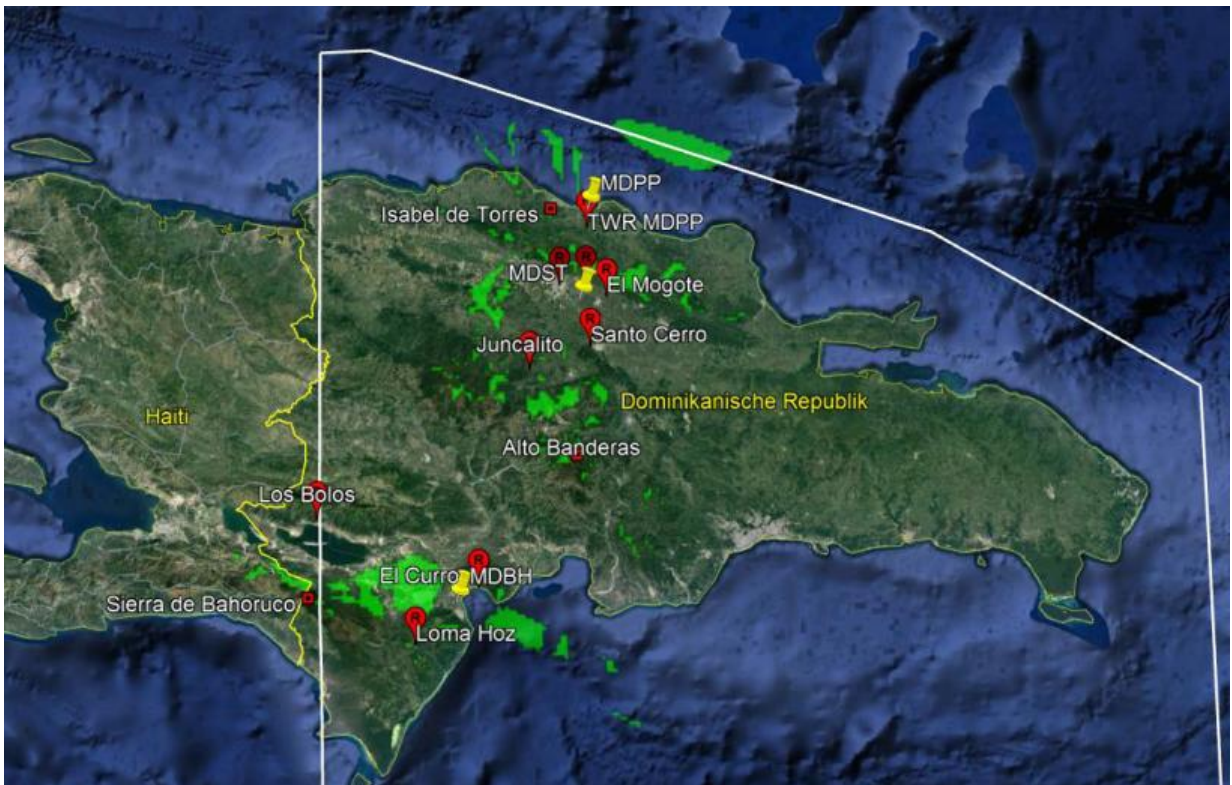


Figure 6-24: Configuration 2 - Coverage at 1000ft ASL N-1-situation

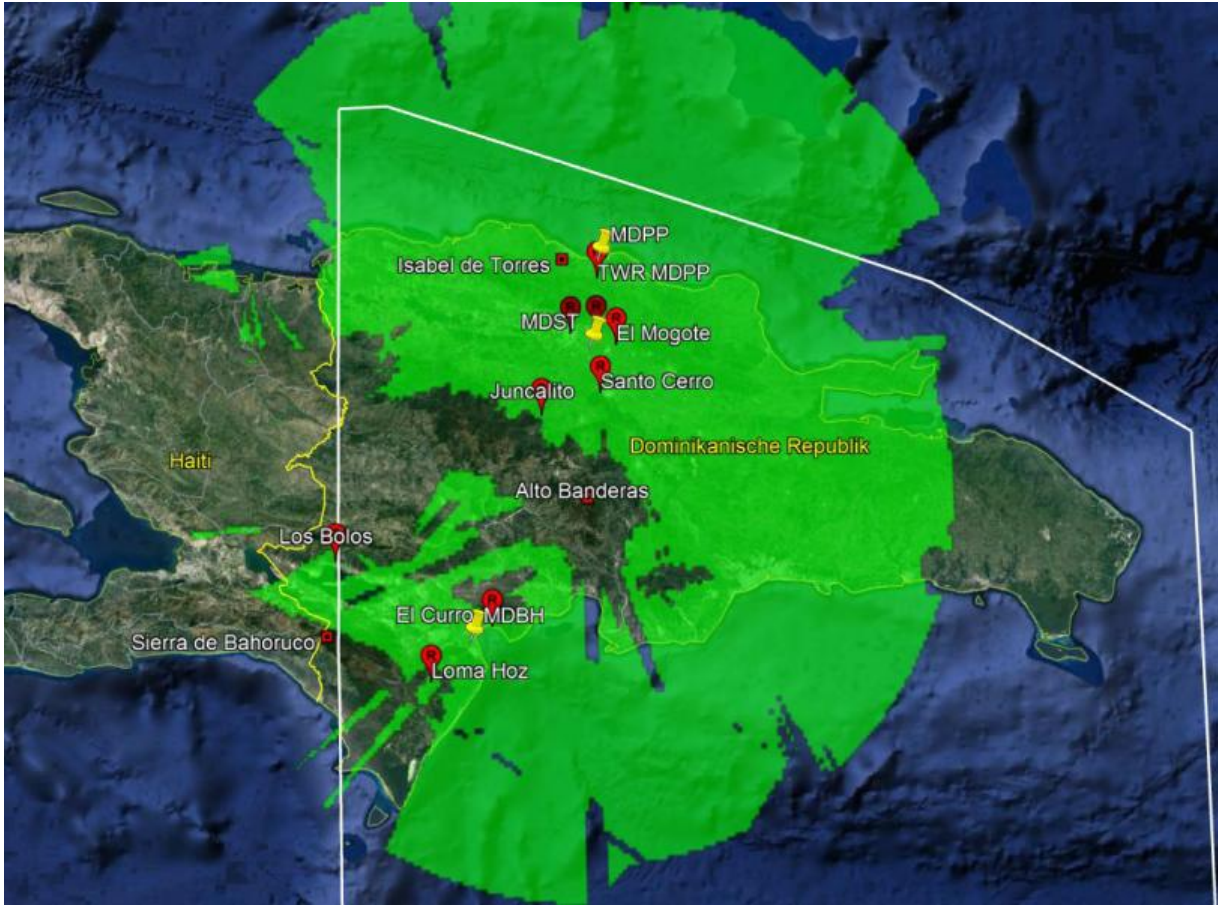


Figure 6-25: Configuration 2 - Coverage at 5000ft ASL N-situation

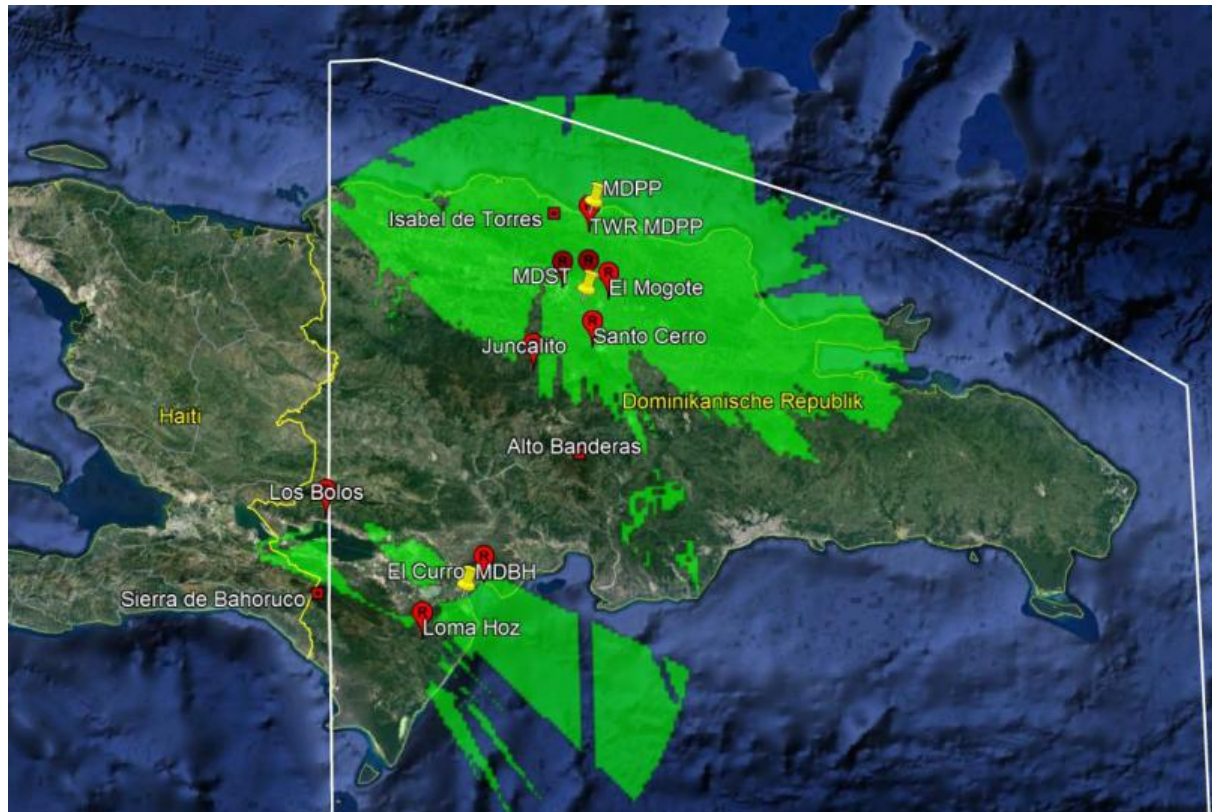


Figure 6-26: Configuration 2 - Coverage at 5000ft ASL N-1-situation

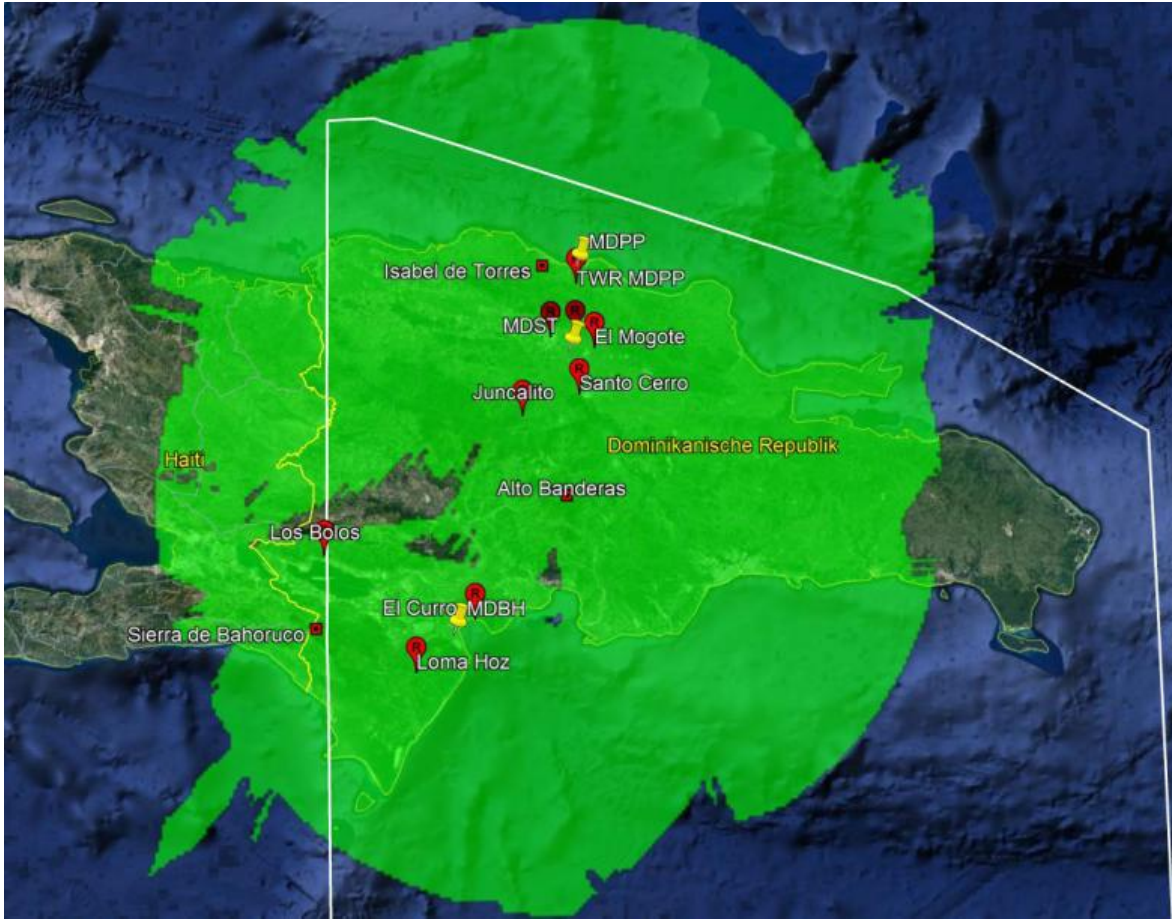


Figure 6-27: Configuration 2 - Coverage at 10000ft ASL N-situation

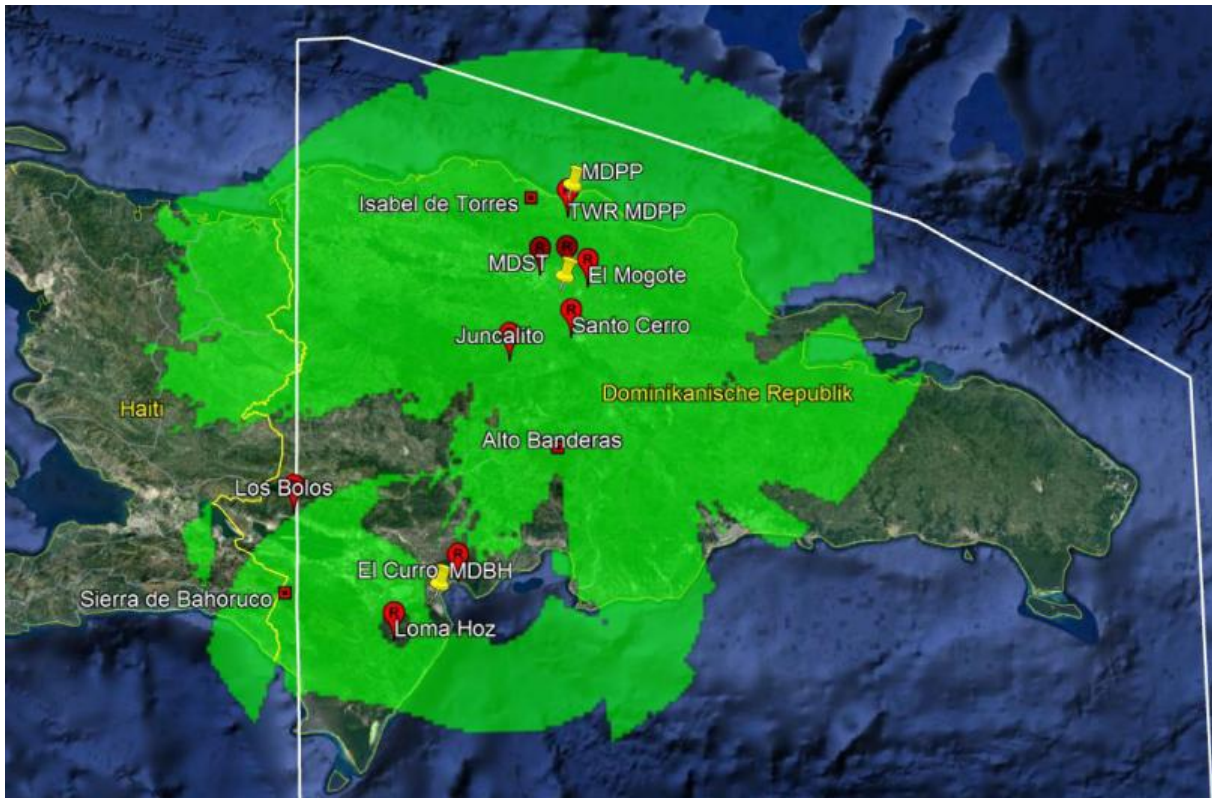


Figure 6-28: Configuration 2 - Coverage at 10000ft ASL N-1-situation

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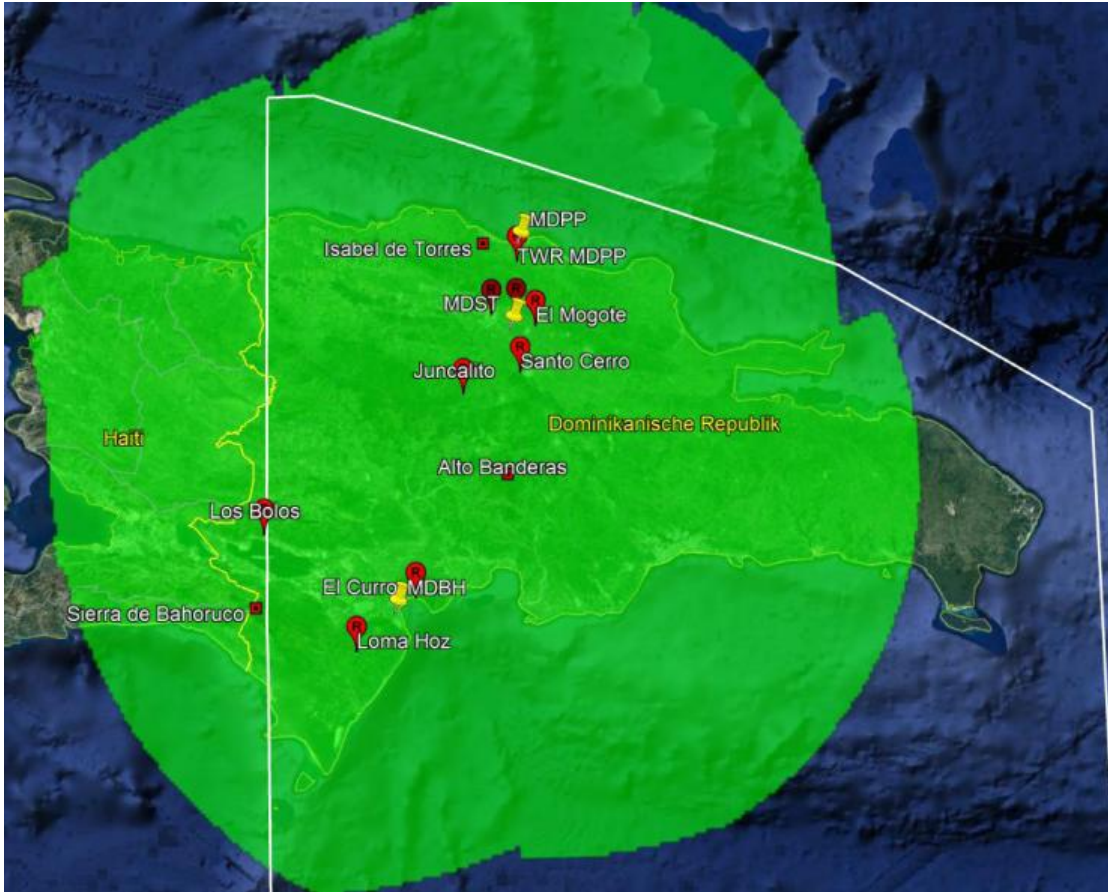


Figure 6-29: Configuration 2 - Coverage at 20000ft ASL N-situation

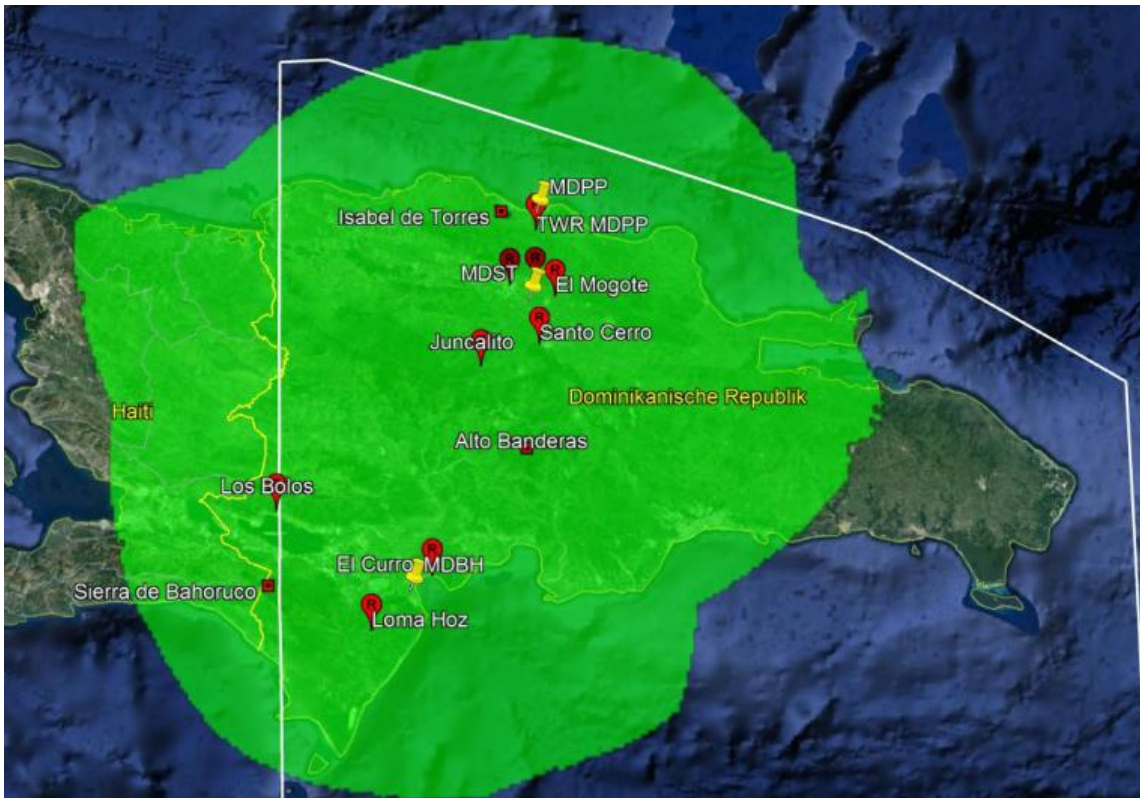


Figure 6-30: Configuration 2 - Coverage at 20000ft ASL N-1-situation

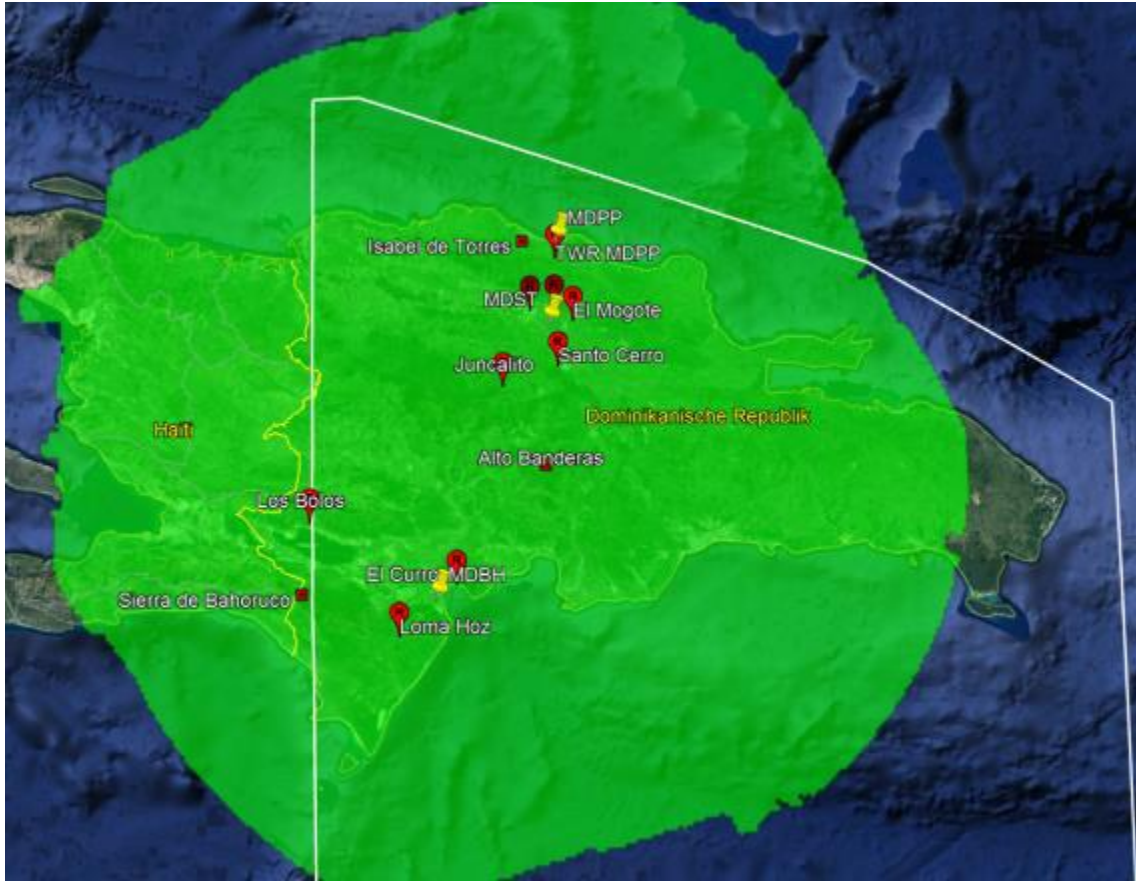


Figure 6-31: Configuration 2 - Coverage at 30000ft ASL N-situation

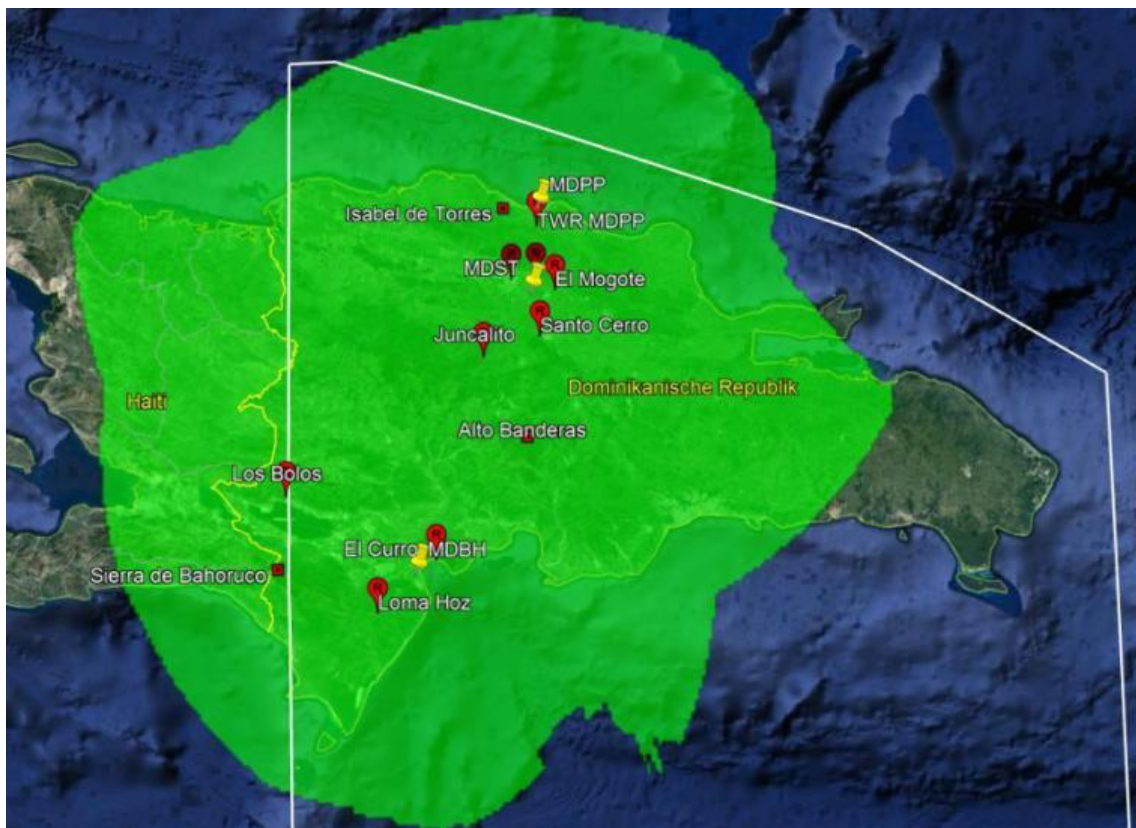


Figure 6-32: Configuration 2 - Coverage at 30000ft ASL N-1-situation

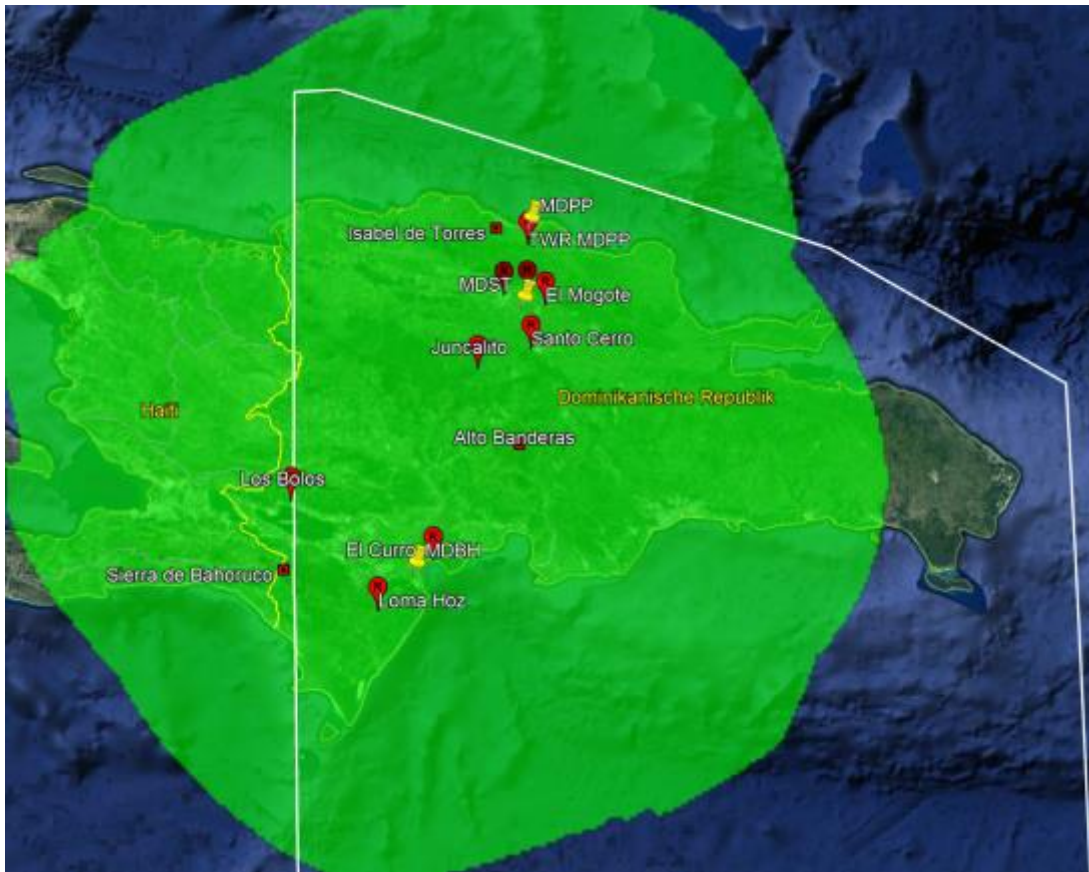


Figure 6-33: Configuration 2 - Coverage at 40000ft ASL N-situation

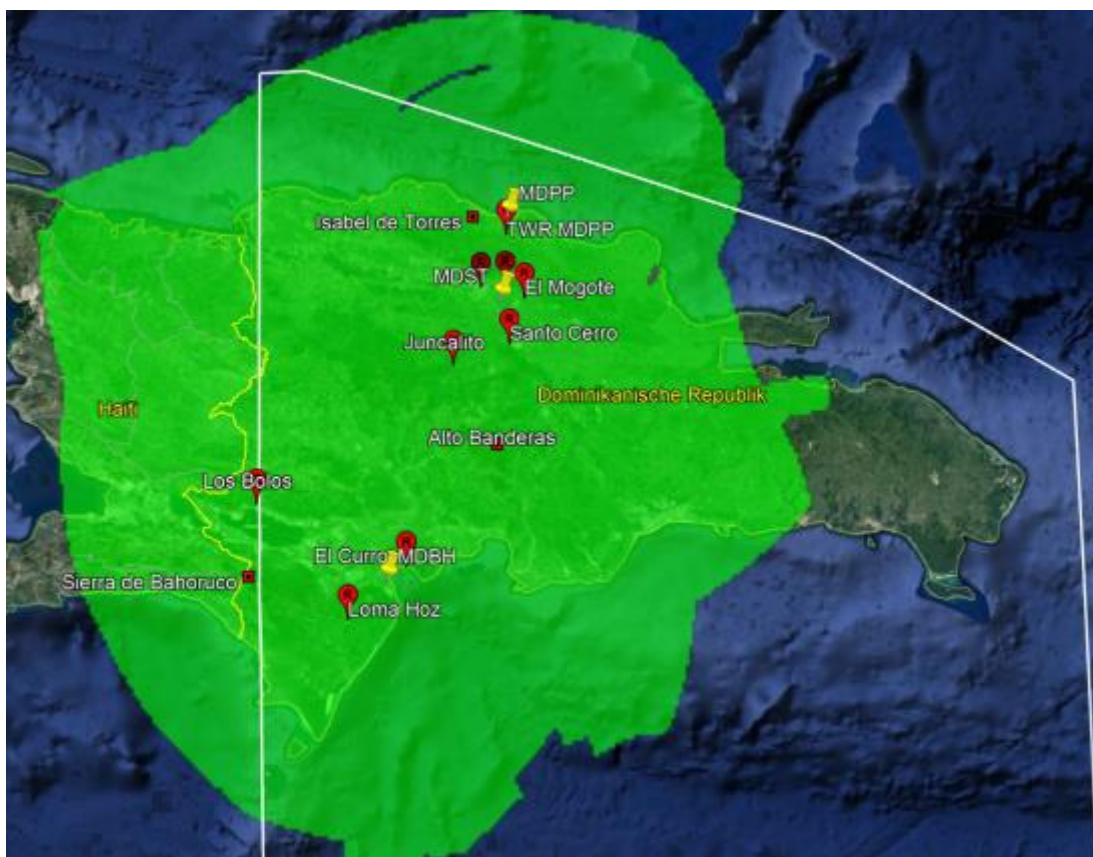


Figure 6-34: Configuration 2 - Coverage at 40000ft ASL N-1-situation