



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

**BULLETIN NO. : 01 (ARB/02/2019)**

**TIME OF ISSUE: 1115 HOURS IST**

**DATED: 22.09.2019**

**FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)**

**TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)**

**CONTROL ROOM NDMA (FAX.NO. 26701729)**

**CABINET SECRETARIAT (FAX.NO.23012284, 23018638)**

**PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)**

**SECRETARY, MOES, (FAX NO. 24629777)**

**H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)**

**DIRECTOR GENERAL, DOORDARSHAN (23385843)**

**DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)**

**PIB MOES (FAX NO. 23389042)**

**UNI (FAX NO. 23355841)**

**D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)**

**DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)**

**CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)**

**ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)**

**ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)**

**ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)**

**CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)**

**CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)**

**CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)**

**CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)**

**Sub: Depression over eastcentral and adjoining northeast Arabian Sea off Gujarat coast**

Latest satellite imageries and surface observations indicate that a depression has formed over eastcentral and adjoining northeast Arabian sea off Gujarat coast and lay centred at 0830 hrs IST of today, the 22<sup>nd</sup> September, 2019 near latitude 19.8°N and longitude 69.4°E, about 150 km southwest of Veraval (Gujarat), 610 km south-southeast of Karachi (Pakistan) and 1220 km east-southeast of Muscat (Oman). It is very likely to intensify further into a deep depression during next 12 hours and into a cyclonic storm during subsequent 24 hours. It is very likely to move west-northwestwards towards Oman coast during next 72 hours.

**Warnings:**

**(i) Rainfall:**

- Light to moderate rainfall at many places with isolated heavy falls is likely over coastal districts of Saurashtra and Kutch during next 24 hours and decrease thereafter.

**(ii) Wind warning**

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely to prevail along & off Gujarat coast during next 48 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely to prevail over eastcentral and adjoining northeast Arabian Sea which is likely to become 55-65 kmph gusting to 75 kmph from today, the 22<sup>nd</sup> evening. It is likely to become gale wind speed reaching 65-75 kmph gusting to 85 kmph over northeast and adjoining eastcentral Arabian Sea from 23<sup>rd</sup> evening for subsequent 24 hours. It is likely to decrease thereafter gradually becoming squally wind speed reaching 55-65 kmph gusting to 75 kmph over northwest and adjoining westcentral Arabian Sea from 24<sup>th</sup> evening.

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**

**(iii) Sea condition**

The sea condition is very likely to be very rough along & off Gujarat coast during next 48 hours. It is also very likely to be very rough over eastcentral and adjoining northeast Arabian Sea on 22<sup>nd</sup> and becoming very rough to high from 23<sup>rd</sup> evening for subsequent 24 hours. It would become very rough over northwest and adjoining westcentral Arabian Sea from 23<sup>rd</sup> evening for subsequent 48 hours.

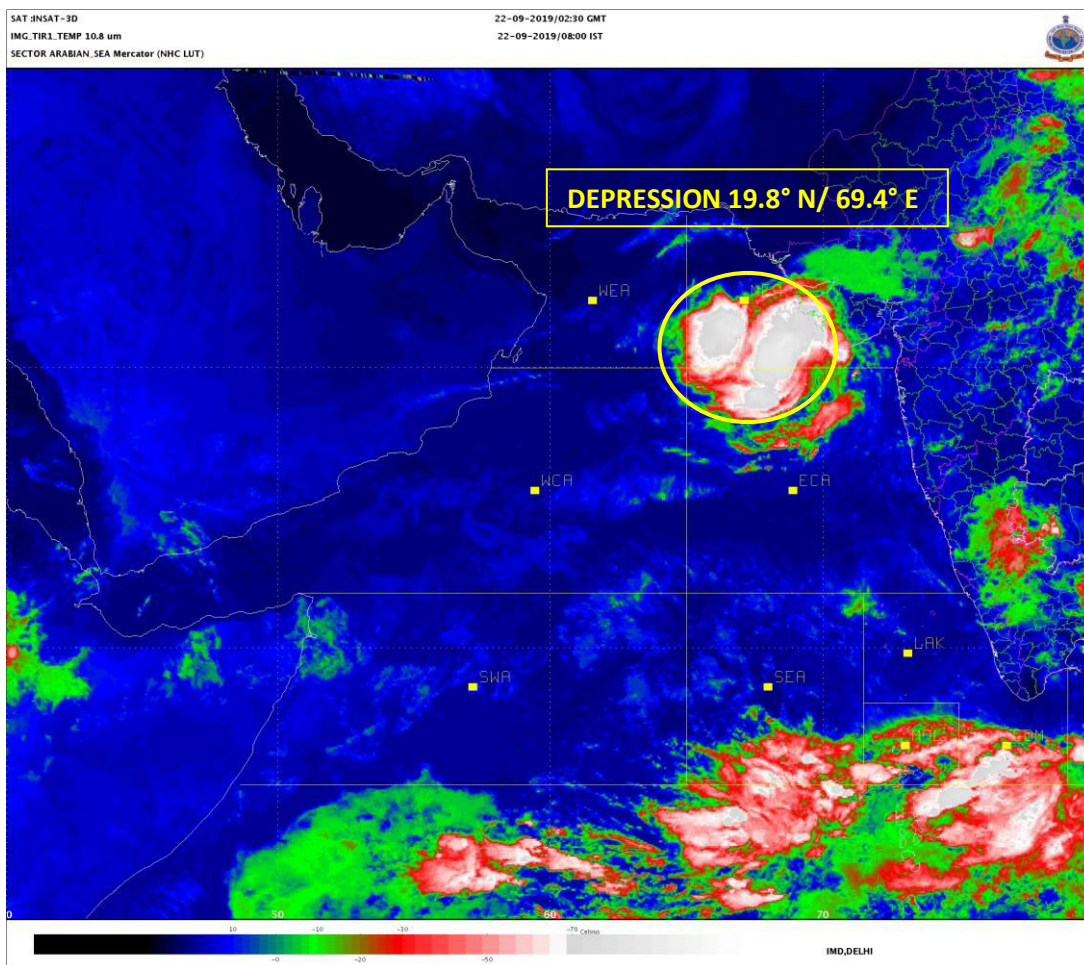
**(i) Fishermen Warning**

The fishermen are advised not to venture into eastcentral and adjoining northeast Arabian along & off Gujarat coast during next 48 hours. They are advised not to venture into eastcentral and adjoining northeast Arabian Sea during next 48 hours and into westcentral & adjoining northwest Arabian Sea during 23<sup>rd</sup> evening and 25<sup>th</sup>.

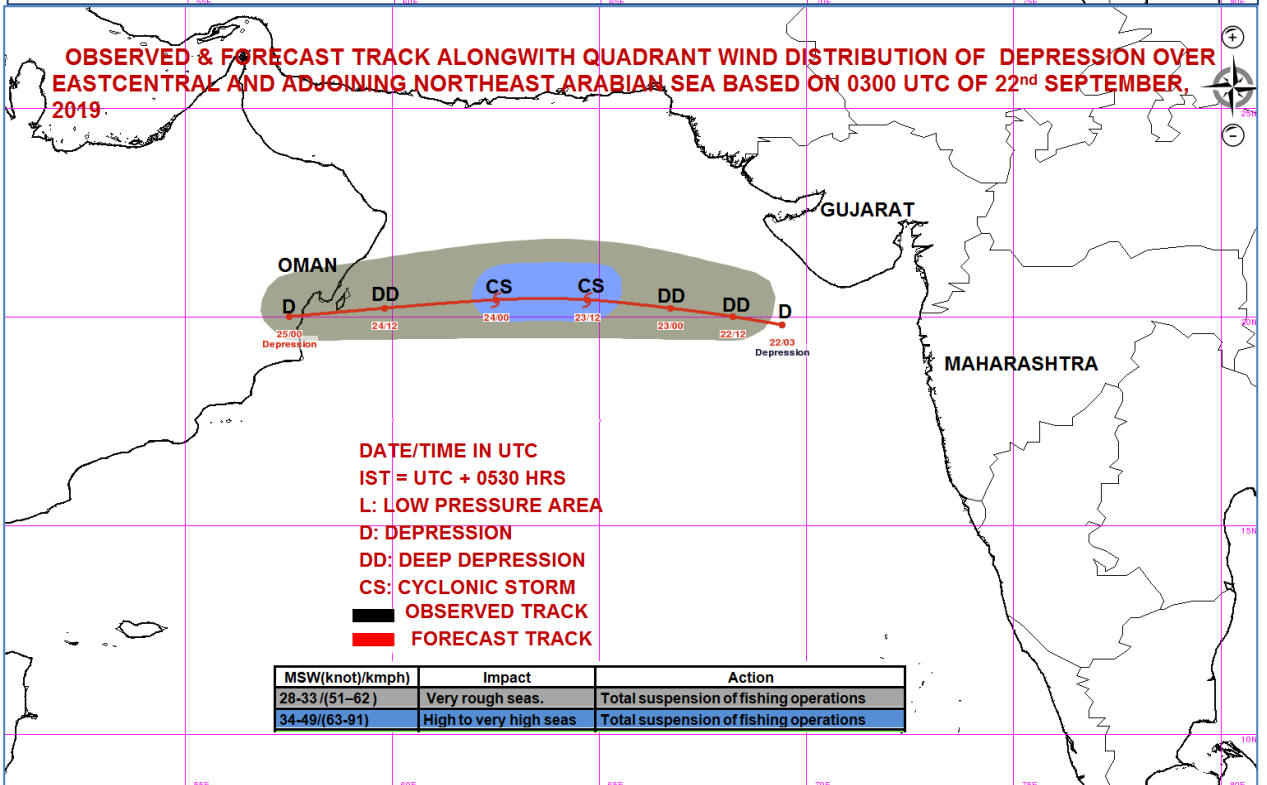
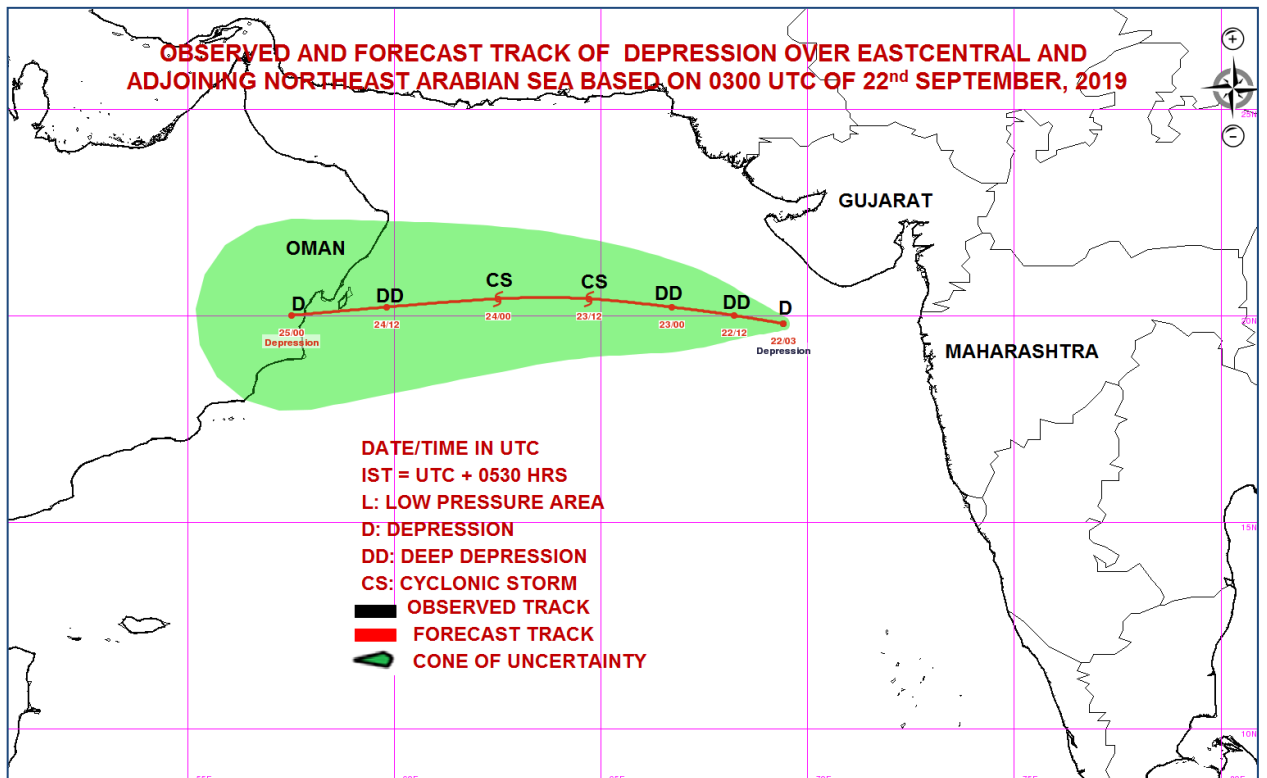
*The next bulletin will be issued at 1430 hrs IST of 22<sup>nd</sup> September, 2019.*

**(Neetha K Gopal)**  
**Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



MSW(knot)/kmph)	Impact	Action
28-33/(51-62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
50-63/(92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



**India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)**

**BULLETIN NO. : 02 (ARB/02/2019)**

**TIME OF ISSUE: 1300 HOURS IST**

**DATED: 22.09.2019**

**FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)**

**TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)**

**CONTROL ROOM NDMA (FAX.NO. 26701729)**

**CABINET SECRETARIAT (FAX.NO.23012284, 23018638)**

**PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)**

**SECRETARY, MOES, (FAX NO. 24629777)**

**H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)**

**DIRECTOR GENERAL, DOORDARSHAN (23385843)**

**DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)**

**PIB MOES (FAX NO. 23389042)**

**UNI (FAX NO. 23355841)**

**D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)**

**DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)**

**CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)**

**ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)**

**ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)**

**ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)**

**CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)**

**CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)**

**CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)**

**CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)**

**Sub: Depression over northeast and adjoining eastcentral Arabian Sea off Gujarat coast**

The depression over eastcentral and adjoining northeast Arabian sea off Gujarat coast moved west-northwestwards with a speed of 15 kmph during past 03 hours and lay centred at 1130 hrs IST of today, the 22<sup>nd</sup> September, 2019 over northeast and adjoining eastcentral Arabian Sea near latitude 20.0°N and longitude 69.0°E, about 170 km west-southwest of Veraval (Gujarat), 570 km south-southeast of Karachi (Pakistan) and 1170 km east-southeast of Muscat (Oman). It is very likely to intensify further into a deep depression during next 12 hours and into a cyclonic storm during subsequent 24 hours. It is very likely to move west-northwestwards towards Oman coast during next 72 hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
22.09.19/1130	20.0/69.0	45-55 gusting to 66	Depression
22.09.19/2330	20.3/67.8	50-60 gusting to 70	Deep Depression
23.09.19/1130	20.5/66.3	55-65 gusting to 75	Deep Depression
23.09.19/2330	20.7/64.1	65-75 gusting to 85	Cyclonic Storm
24.09.19/1130	20.6/61.9	65-75 gusting to 85	Cyclonic Storm
24.09.19/2330	20.4/59.5	55-65 gusting to 75	Deep Depression
25.09.19/1130	20.3/57.3	40-50 gusting to 60	Depression

**Warnings:**

**(i) Rainfall:**

- Light to moderate rainfall at many places with isolated heavy falls is likely over coastal districts of Saurashtra and Kutch during next 24 hours and decrease thereafter.

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**(ii) Wind warning**

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely to prevail along & off Gujarat coast during next 48 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely to prevail over eastcentral and adjoining northeast Arabian Sea which is likely to become 55-65 kmph gusting to 75 kmph from today, the 22<sup>nd</sup> evening. It is likely to become gale wind speed reaching 65-75 kmph gusting to 85 kmph over northeast and adjoining eastcentral Arabian Sea from 23<sup>rd</sup> evening for subsequent 24 hours. It is likely to decrease thereafter gradually becoming squally wind speed reaching 55-65 kmph gusting to 75 kmph over northwest and adjoining westcentral Arabian Sea from 24<sup>th</sup> evening.

**(iii) Sea condition**

The sea condition is very likely to be very rough along & off Gujarat coast during next 48 hours. It is also very likely to be very rough over eastcentral and adjoining northeast Arabian Sea on 22<sup>nd</sup> and becoming very rough to high from 23<sup>rd</sup> evening for subsequent 24 hours. It would become very rough over northwest and adjoining westcentral Arabian Sea from 23<sup>rd</sup> evening for subsequent 48 hours.

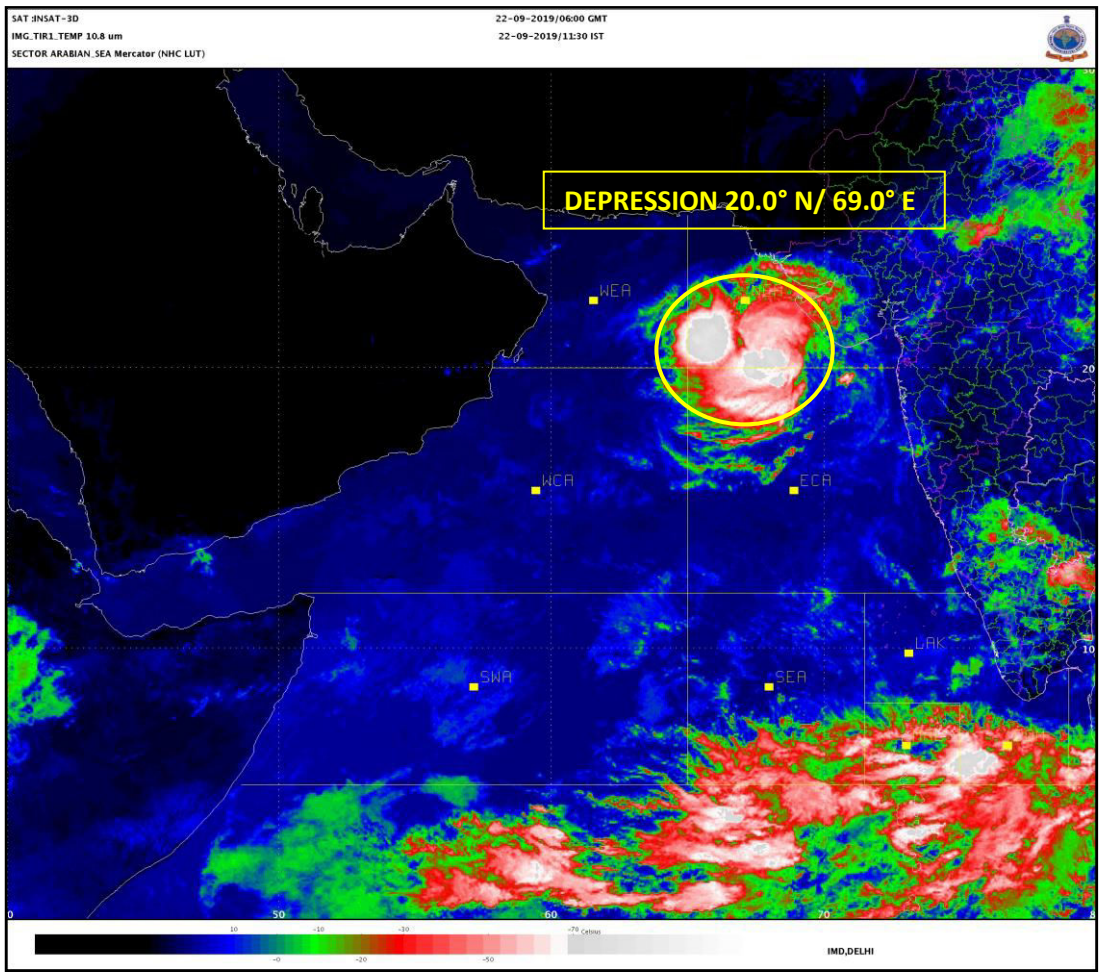
**(i) Fishermen Warning**

The fishermen are advised not to venture into eastcentral and adjoining northeast Arabian along & off Gujarat coast during next 48 hours. They are advised not to venture into eastcentral and adjoining northeast Arabian Sea during next 48 hours and into westcentral & adjoining northwest Arabian Sea during 23<sup>rd</sup> evening and 25<sup>th</sup>.

*The next bulletin will be issued at 2030 hrs IST of 22<sup>nd</sup> September, 2019.*

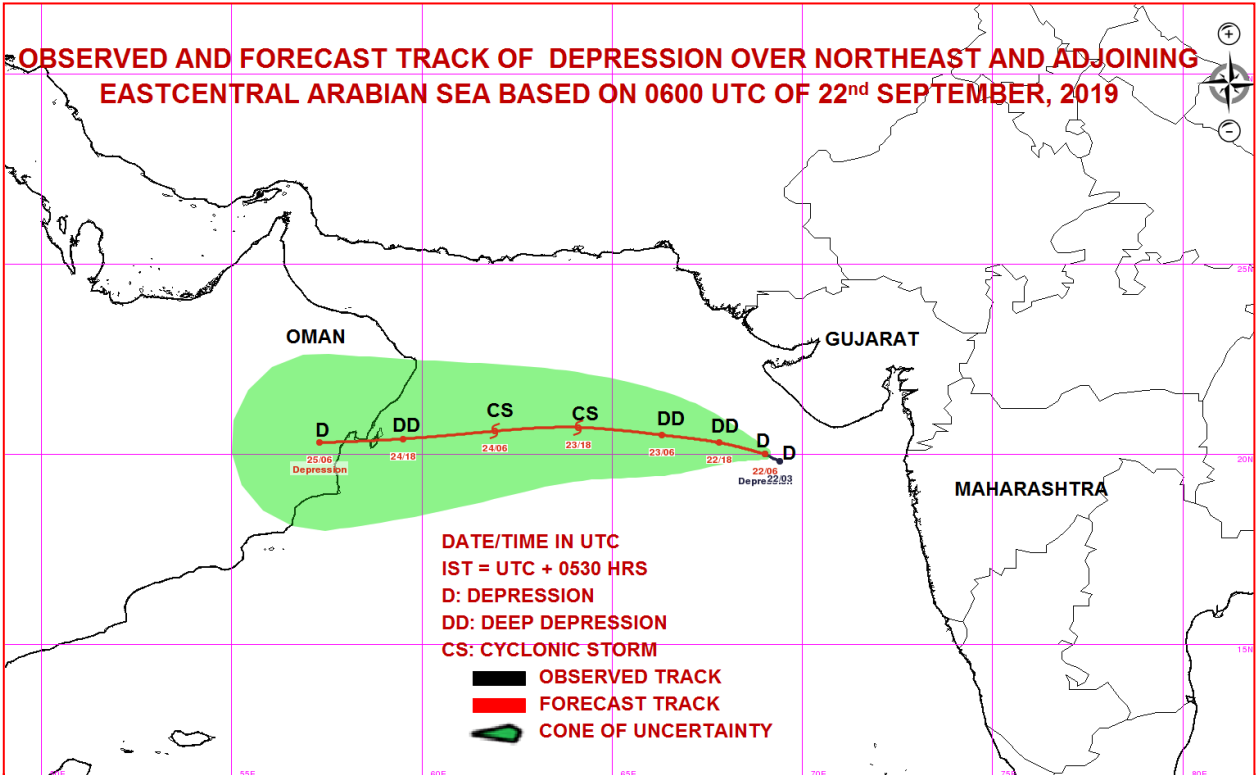
**(Neetha K Gopal)**  
**Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**

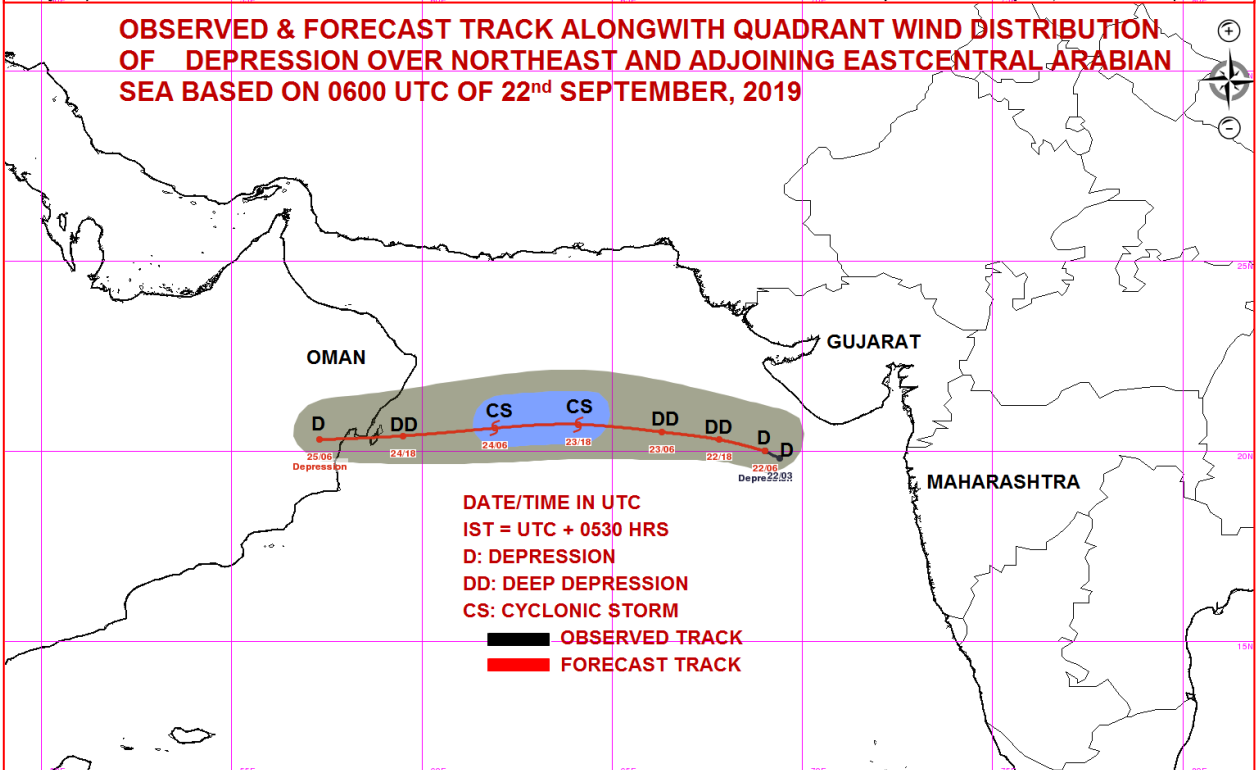


Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

**OBSERVED AND FORECAST TRACK OF DEPRESSION OVER NORTHEAST AND ADJOINING EASTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 22<sup>nd</sup> SEPTEMBER, 2019**



**OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER NORTHEAST AND ADJOINING EASTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 22<sup>nd</sup> SEPTEMBER, 2019**



MSW(knot)/kmph)	Impact	Action
28-33/(51-62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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**BULLETIN NO. : 03 (ARB/02/2019)**

**TIME OF ISSUE: 1930 HOURS IST**

**DATED: 22.09.2019**

**FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)**

**TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)**

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**DIRECTOR GENERAL, DOORDARSHAN (23385843)**

**DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)**

**PIB MOES (FAX NO. 23389042)**

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**CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)**

**CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)**

**CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)**

**Sub: Depression intensified into a Deep Depression over northeast and adjoining eastcentral Arabian Sea off Gujarat coast**

The depression over northeast and adjoining eastcentral Arabian sea off Gujarat coast moved west-northwestwards with a speed of 16 kmph during past 06 hours; intensified into a Deep Depression and lay centred at 1730 hrs IST of today, the 22<sup>nd</sup> September, 2019 over northeast and adjoining eastcentral Arabian Sea near latitude 20.4°N and longitude 68.2°E, about 230 km west-southwest of Veraval (Gujarat), 510 km south-southeast of Karachi (Pakistan) and 1080 km east-southeast of Muscat (Oman). It is very likely to intensify further into a cyclonic storm during next 12 hours. It is very likely to move initially west-northwestwards and then nearly westwards towards Oman coast during next 72 hours.

Forecast track and intensity are given in the following table:

<b>Date/Time(IST)</b>	<b>Position (Lat. °N/ long. °E)</b>	<b>Maximum sustained surface wind speed (Kmph)</b>	<b>Category of cyclonic disturbance</b>
22.09.19/1730	20.4/68.2	50-60 gusting to 70	Deep Depression
22.09.19/2330	20.5/67.5	55-65 gusting to 75	Deep Depression
23.09.19/0530	20.6/66.9	60-70 gusting to 80	Cyclonic Storm
23.09.19/1130	20.6/66.0	65-75 gusting to 85	Cyclonic Storm
23.09.19/1730	20.6/65.0	65-75 gusting to 85	Cyclonic Storm
24.09.19/0530	20.6/62.9	60-70 gusting to 80	Cyclonic Storm
24.09.19/1730	20.5/60.8	50-60 gusting to 70	Deep Depression
25.09.19/0530	20.3/58.8	40-50 gusting to 60	Depression
25.09.19/1730	20.1/56.8	20-30 gusting to 40	Low

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



## Warnings:

### (i) Rainfall:

- Light to moderate rainfall at many places with isolated heavy falls is likely over coastal districts of Saurashtra and Kutch during next 12 hours and decrease thereafter.

### (ii) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely to prevail along & off Gujarat coast during next 36 hours.
- Squally wind speed reaching 50-60 kmph gusting to 70 kmph very likely to prevail over northeast and adjoining eastcentral Arabian Sea which is likely to become gale wind speed reaching 65-75 kmph gusting to 85 kmph over northeast and adjoining eastcentral Arabian Sea during 23<sup>rd</sup> morning to 24<sup>th</sup> morning and become 50-60 kmph gusting to 70 kmph for subsequent 12 hours. It is likely to be squally wind speed reaching 55-65 kmph gusting to 75 kmph over northwest and adjoining westcentral Arabian Sea and along and off Oman coast from 24<sup>th</sup> morning and become 45-55 kmph gusting to 65 kmph from 25<sup>th</sup> morning for subsequent 12 hours.

### (iii) Sea condition

The sea condition is very likely to be very rough along & off Gujarat coast during next 36 hours. It is also very likely to be very rough over northeast and adjoining eastcentral Arabian Sea on 22<sup>nd</sup> and becoming very rough to high from 23<sup>rd</sup> morning to 24<sup>th</sup> morning and over northwest and adjoining westcentral Arabian Sea from 24<sup>th</sup> morning to 24<sup>th</sup> evening. It would become very rough over northwest and adjoining westcentral Arabian Sea and along and off Oman coast from 24<sup>th</sup> evening for subsequent 24 hours.

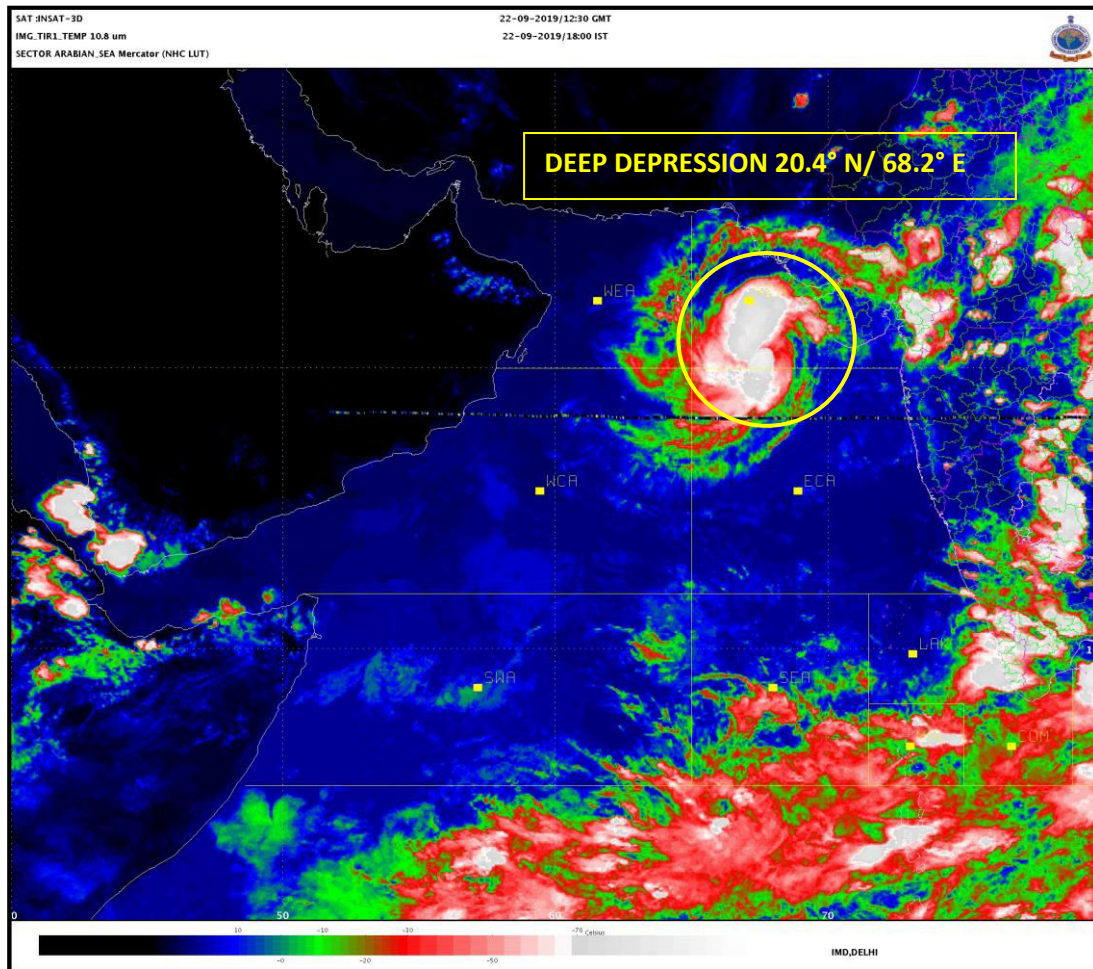
### (i) Fishermen Warning

The fishermen are advised not to venture into northeast and adjoining eastcentral Arabian along & off Gujarat coast during next 36 hours. They are advised not to venture into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning and into northwest & adjoining westcentral Arabian Sea during 23<sup>rd</sup> evening to 25<sup>th</sup> evening

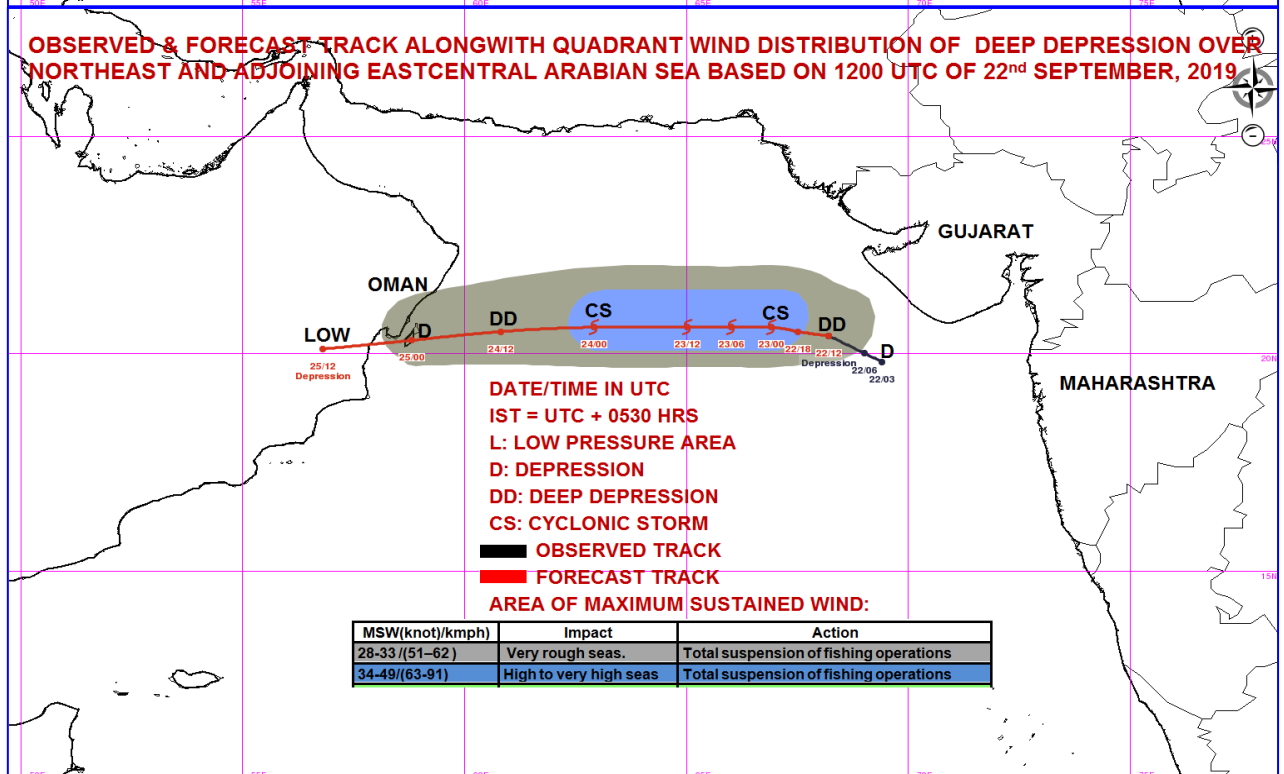
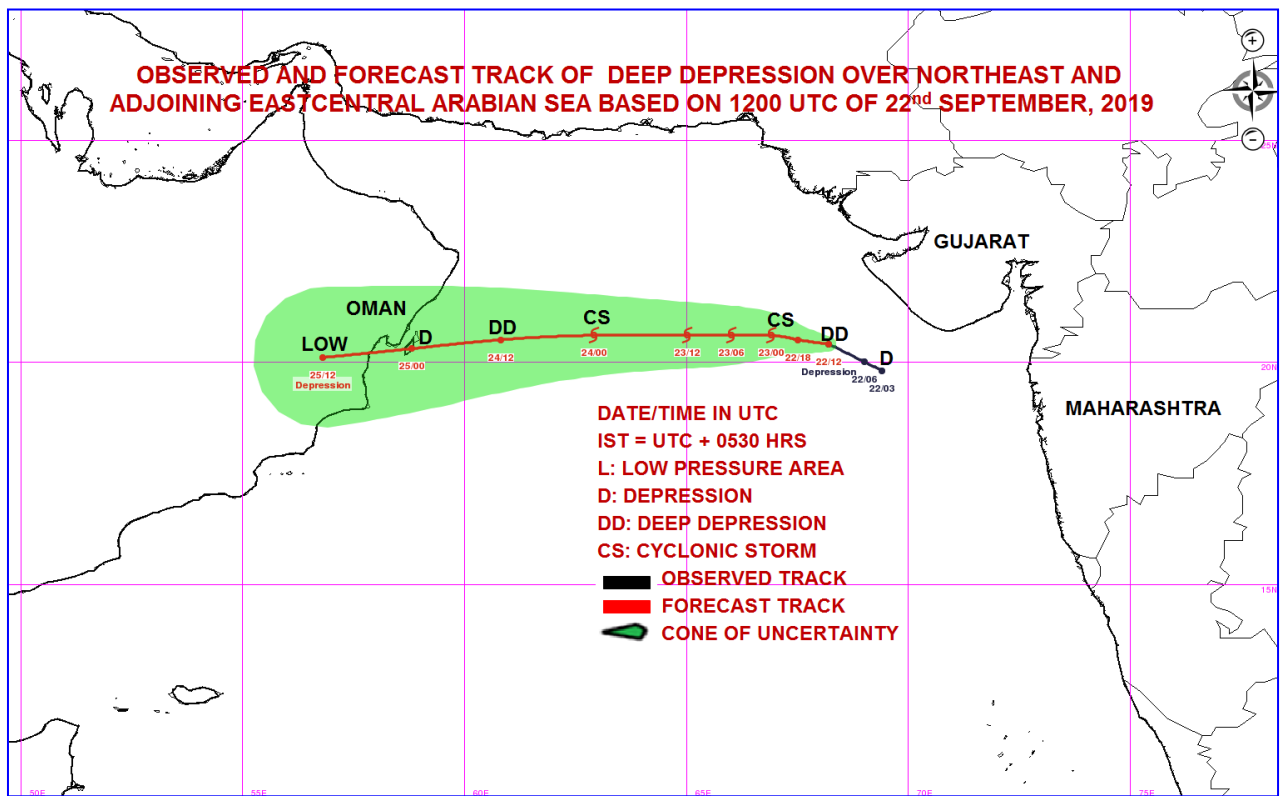
*The next bulletin will be issued at 0230 hrs IST of 23<sup>rd</sup> September, 2019.*

**(Neetha K Gopal)**  
**Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)**

**BULLETIN NO. : 04 (ARB/02/2019)**

**TIME OF ISSUE: 0130 HOURS IST**

**DATED: 23.09.2019**

**FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)**

**TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)**

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**CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)**

**CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)**

**Sub: Deep Depression over northeast and adjoining eastcentral Arabian Sea**

The Deep Depression over northeast and adjoining eastcentral Arabian sea moved nearly westwards with a speed of 18 kmph during past 06 hours and lay centred at 2330 hrs IST of yesterday, the 22<sup>nd</sup> September, 2019 over northeast and adjoining eastcentral Arabian Sea near latitude 20.5°N and longitude 67.2°E, about 330 km west of Veraval (Gujarat), 490 km south of Karachi (Pakistan) and 980 km east-southeast of Muscat (Oman). It is very likely to intensify into a cyclonic storm during next 06 hours. It is very likely to move initially west-northwestwards and then nearly westwards towards Oman coast during next 60 hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
22.09.19/2330	20.5/67.2	55-65 gusting to 75	Deep Depression
23.09.19/0530	20.6/66.6	60-70 gusting to 80	Cyclonic Storm
23.09.19/1130	20.6/65.7	65-75 gusting to 85	Cyclonic Storm
23.09.19/1730	20.6/64.7	70-80 gusting to 90	Cyclonic Storm
23.09.19/2330	20.6/63.6	75-85 gusting to 95	Cyclonic Storm
24.09.19/1130	20.5/61.5	65-75 gusting to 85	Cyclonic Storm
24.09.19/2330	20.4/59.6	55-65 gusting to 75	Deep Depression
25.09.19/1130	20.2/57.5	40-50 gusting to 60	Depression

**Warnings:**

**(i) Rainfall:**

- Light to moderate rainfall at many places is likely over coastal districts of Saurashtra and Kutch during next 12 hours and decrease thereafter.

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**(ii) Wind warning**

- Squally wind, speed reaching 45-55 kmph gusting to 65 kmph, very likely to prevail along & off Gujarat coast during next 24 hours.
- Squally wind speed reaching 50-60 kmph gusting to 70 kmph very likely to prevail over northeast and adjoining eastcentral Arabian Sea which is likely to become gale wind speed reaching 65-75 kmph gusting to 85 kmph over northeast and adjoining eastcentral Arabian Sea during 23<sup>rd</sup> morning to 24<sup>th</sup> morning and become 50-60 kmph gusting to 70 kmph for subsequent 12 hours. It is likely to be squally wind speed reaching 55-65 kmph gusting to 75 kmph over northwest and adjoining westcentral Arabian Sea and along and off Oman coast from 24<sup>th</sup> morning and become 45-55 kmph gusting to 65 kmph from 25<sup>th</sup> morning for subsequent 12 hours.

**(iii) Sea condition**

The sea condition is very likely to be very rough along & off Gujarat coast during next 24 hours. Sea conditions are very rough over northeast and adjoining eastcentral Arabian Sea and likely to become very rough to high from 23<sup>rd</sup> morning upto 24<sup>th</sup> morning and over northwest and adjoining westcentral Arabian Sea from 24<sup>th</sup> morning to 24<sup>th</sup> evening. It would become very rough over northwest and adjoining westcentral Arabian Sea and along and off Oman coast from 24<sup>th</sup> evening for subsequent 24 hours.

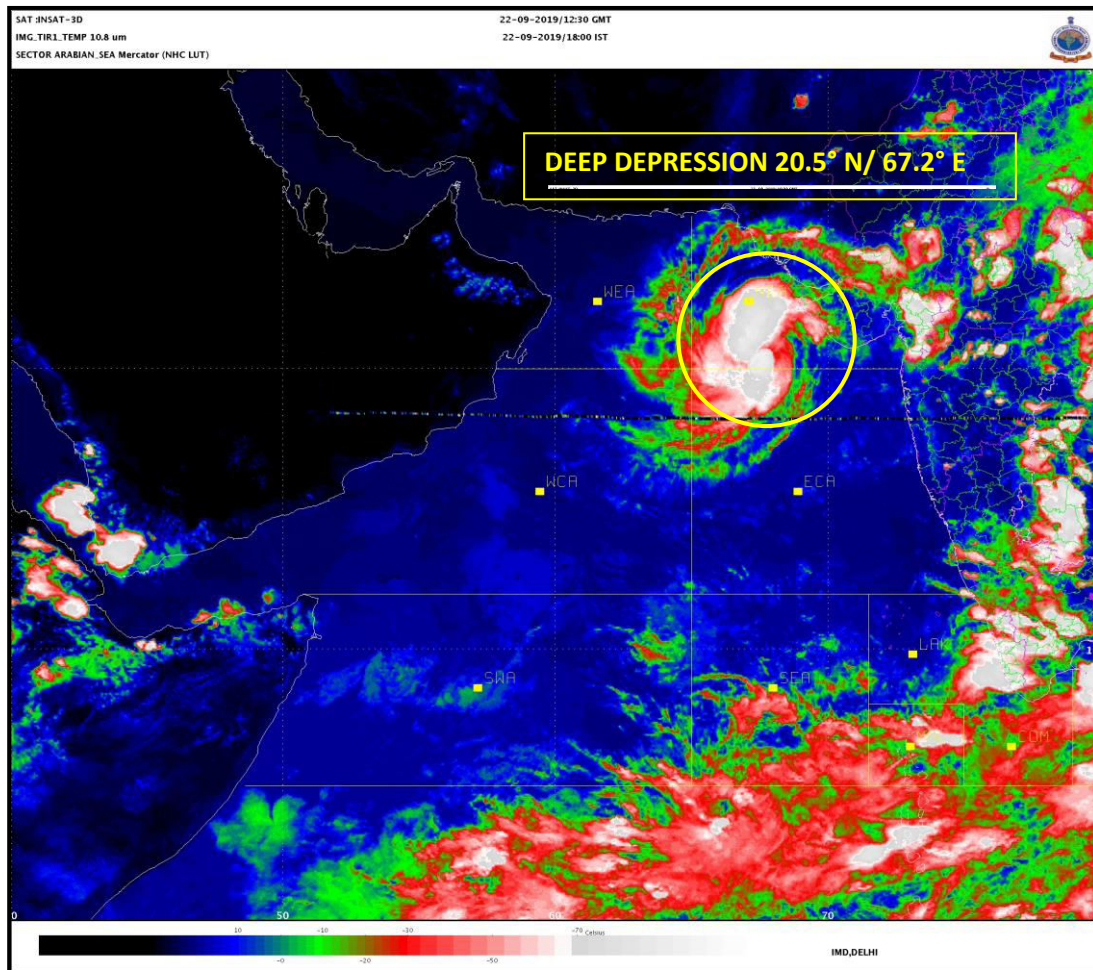
**(i) Fishermen Warning**

The fishermen are advised not to venture into northeast and adjoining eastcentral Arabian Sea along & off Gujarat coast during next 24 hours. They are advised not to venture into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning and into northwest & adjoining westcentral Arabian Sea during 23<sup>rd</sup> evening to 25<sup>th</sup> evening.

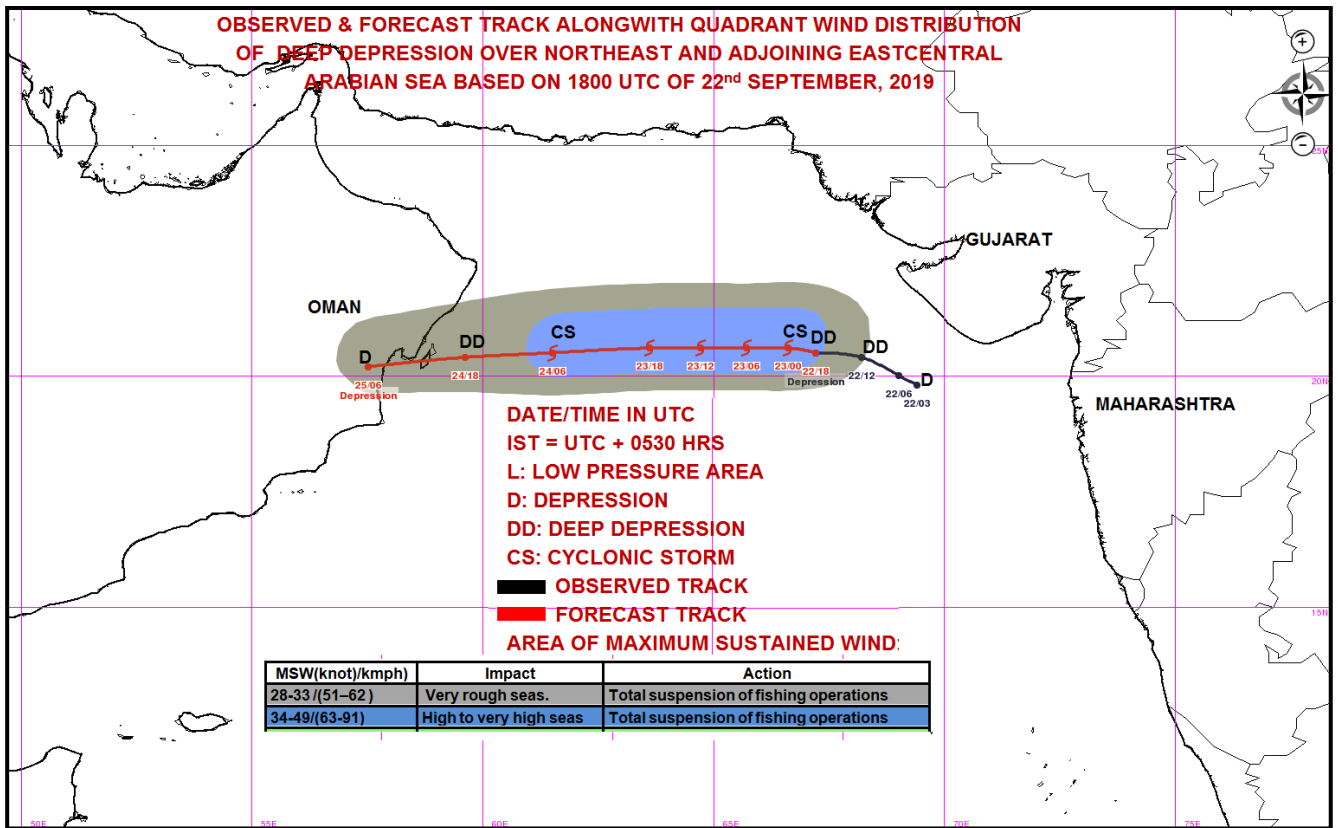
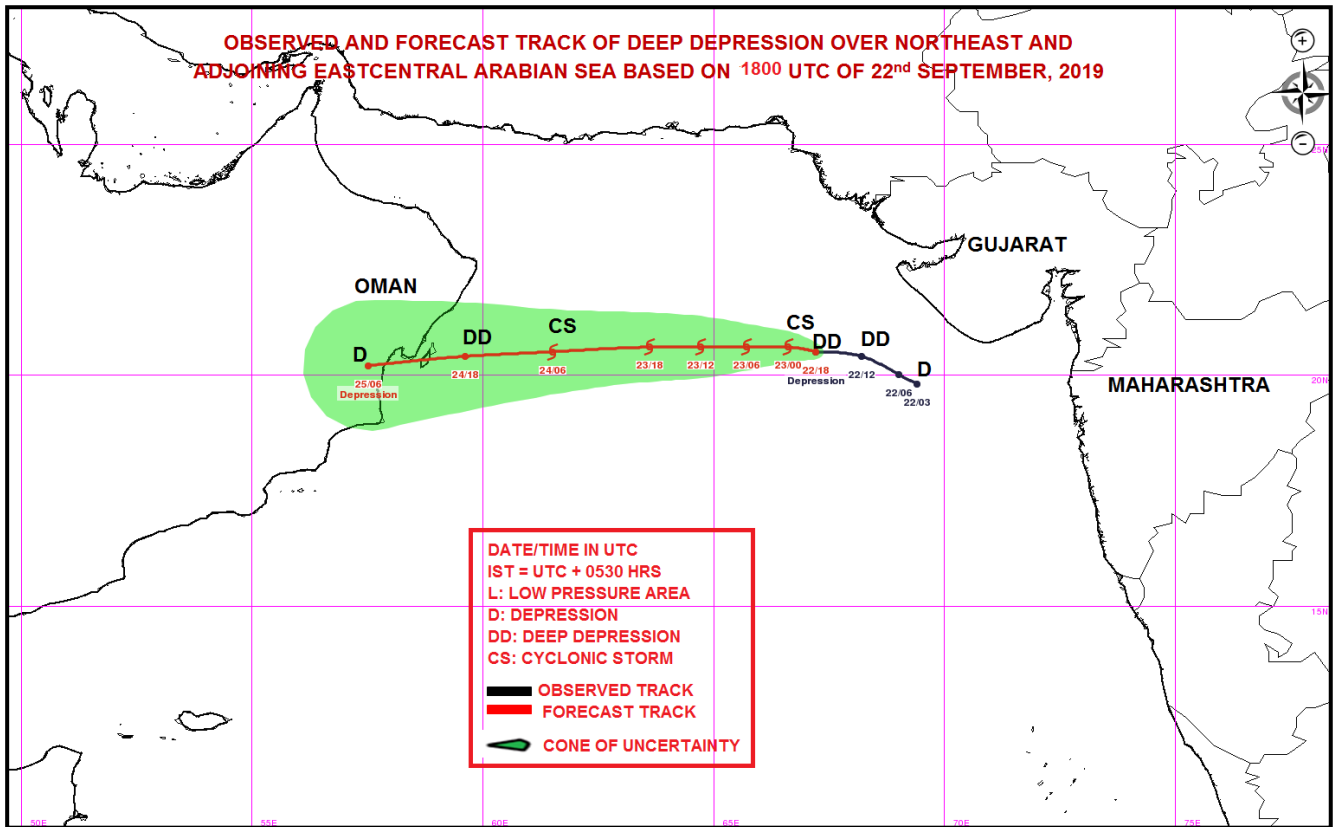
*The next bulletin will be issued at 0830 hrs IST of 23<sup>rd</sup> September, 2019.*

**(Krishna Mishra)**  
**Scientist-B, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 05 (ARB/02/2019)

TIME OF ISSUE: 0830 HOURS IST

DATED: 23.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Deep Depression over northeast and adjoining eastcentral Arabian Sea intensified into Cyclonic Storm 'HIKAA'**

The Deep Depression over northeast and adjoining eastcentral Arabian sea moved nearly westwards with a speed of 17 kmph during past 06 hours, intensified into a **Cyclonic Storm 'HIKAA'** and lay centred at 0530 hrs IST of today, the 23<sup>rd</sup> September, 2019 over northeast and adjoining eastcentral Arabian Sea near latitude 20.5°N and longitude 66.2°E, about 500 km west-southwest of Veraval (Gujarat), 430 km south-southwest of Karachi (Pakistan) and 760 km east-southeast of Masirah (Oman). It is very likely to move nearly westwards and reach Oman coast by 25<sup>th</sup> September early morning. It is likely to intensify further during next 24 hours and weaken gradually thereafter.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
23.09.19/0530	20.5/66.2	60-70 gusting to 80	Cyclonic Storm
23.09.19/1130	20.5/65.3	65-75 gusting to 85	Cyclonic Storm
23.09.19/1730	20.4/64.5	70-80 gusting to 90	Cyclonic Storm
23.09.19/2330	20.4/63.2	75-85 gusting to 95	Cyclonic Storm
24.09.19/0530	20.4/62.0	70-80 gusting to 90	Cyclonic Storm
24.09.19/1730	20.2/60.0	60-70 gusting to 80	Cyclonic Storm
25.09.19/0530	19.9/57.6	45-55 gusting to 65	Depression
25.09.19/1730	19.5/55.5	35-45 gusting to 55	Well Marked Low

**Warnings:**

**(i) Wind warning**

- Squally wind, speed reaching 40-50 kmph gusting to 60 kmph, very likely to prevail along & off Gujarat coast during next 12 hours.

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



- Gale wind, speed reaching 60-70 kmph gusting to 80 kmph very likely to prevail over northeast and adjoining eastcentral Arabian Sea, which is likely to become 70-80 kmph gusting to 90 kmph over northeast and adjoining eastcentral Arabian Sea by 23<sup>rd</sup> evening and decrease thereafter becoming 55-65 kmph gusting to 75 kmph by 24<sup>th</sup> morning. It is likely to be squally wind speed reaching 55-65 kmph gusting to 75 kmph, over northwest and adjoining westcentral Arabian Sea and is likely to increase gradually becoming 75-85 kmph gusting to 95 kmph from 24<sup>th</sup> morning for subsequent 06 hours. It will gradually decrease thereafter becoming 45-55 kmph gusting to 65 kmph by 25<sup>th</sup> morning along & off Oman coast.

**(ii) Sea condition**

The sea condition is very likely to be rough to very rough along & off Gujarat coast during next 06 hours. Sea conditions will be high over northeast and adjoining eastcentral Arabian Sea during next 12 hours and very rough during subsequent 12 hours. Sea conditions will be rough to very rough over northwest and adjoining westcentral Arabian Sea during next 12 hours and high during subsequent 24 hours. It will become rough to very rough thereafter.

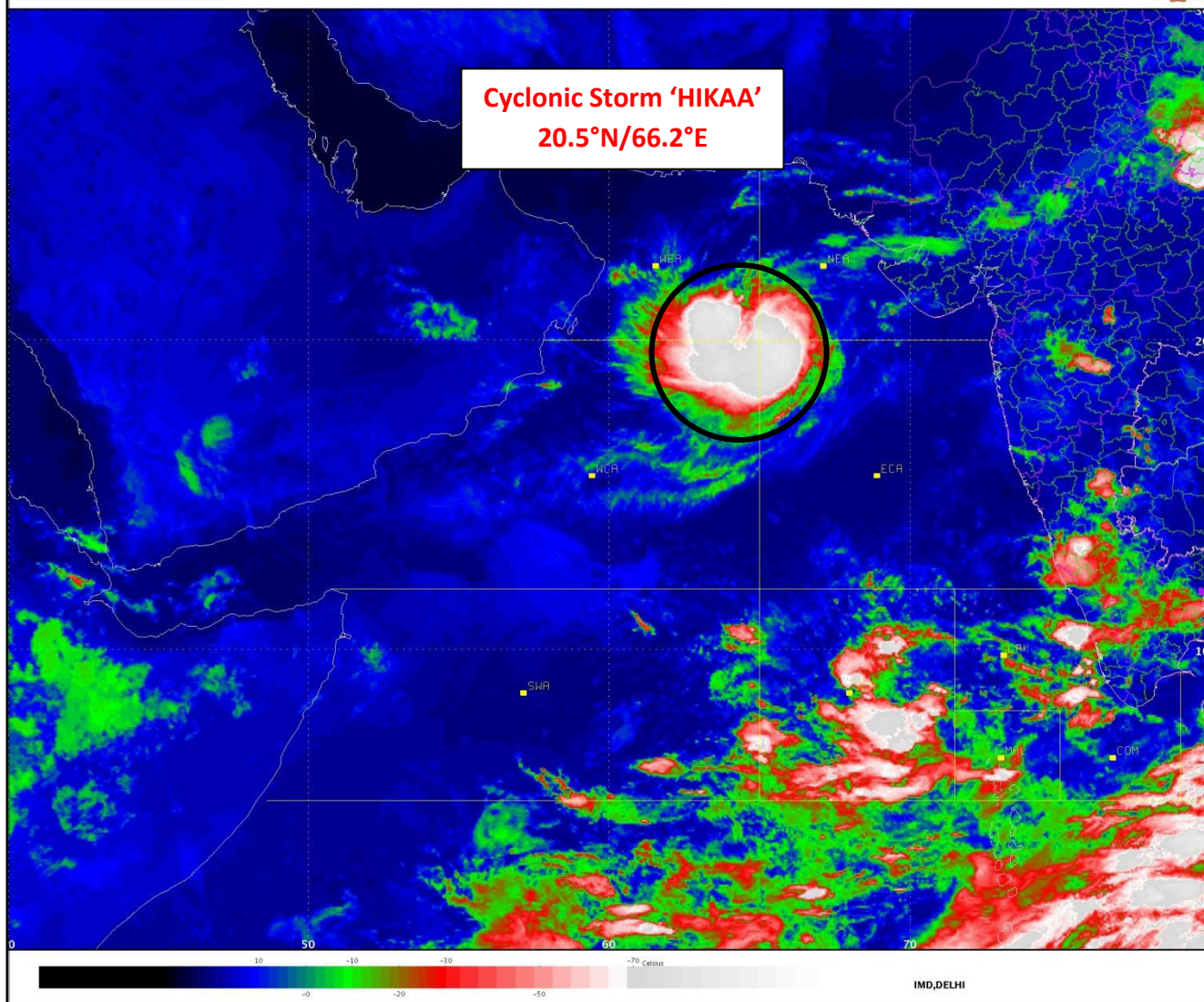
**(iii) Fishermen Warning**

The fishermen are advised not to venture into northeast and adjoining eastcentral Arabian Sea along & off Gujarat coast during next six hours. They are advised not to venture into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning and into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

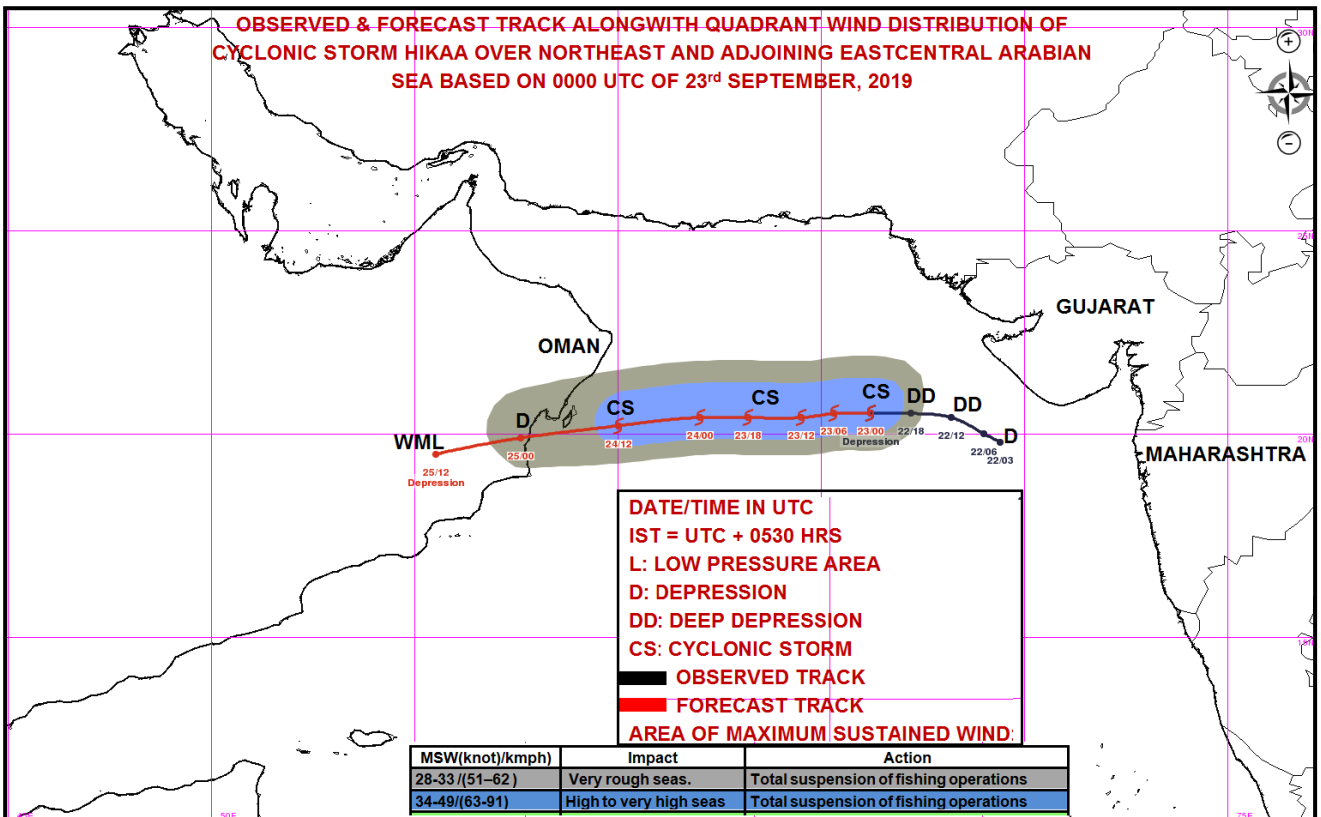
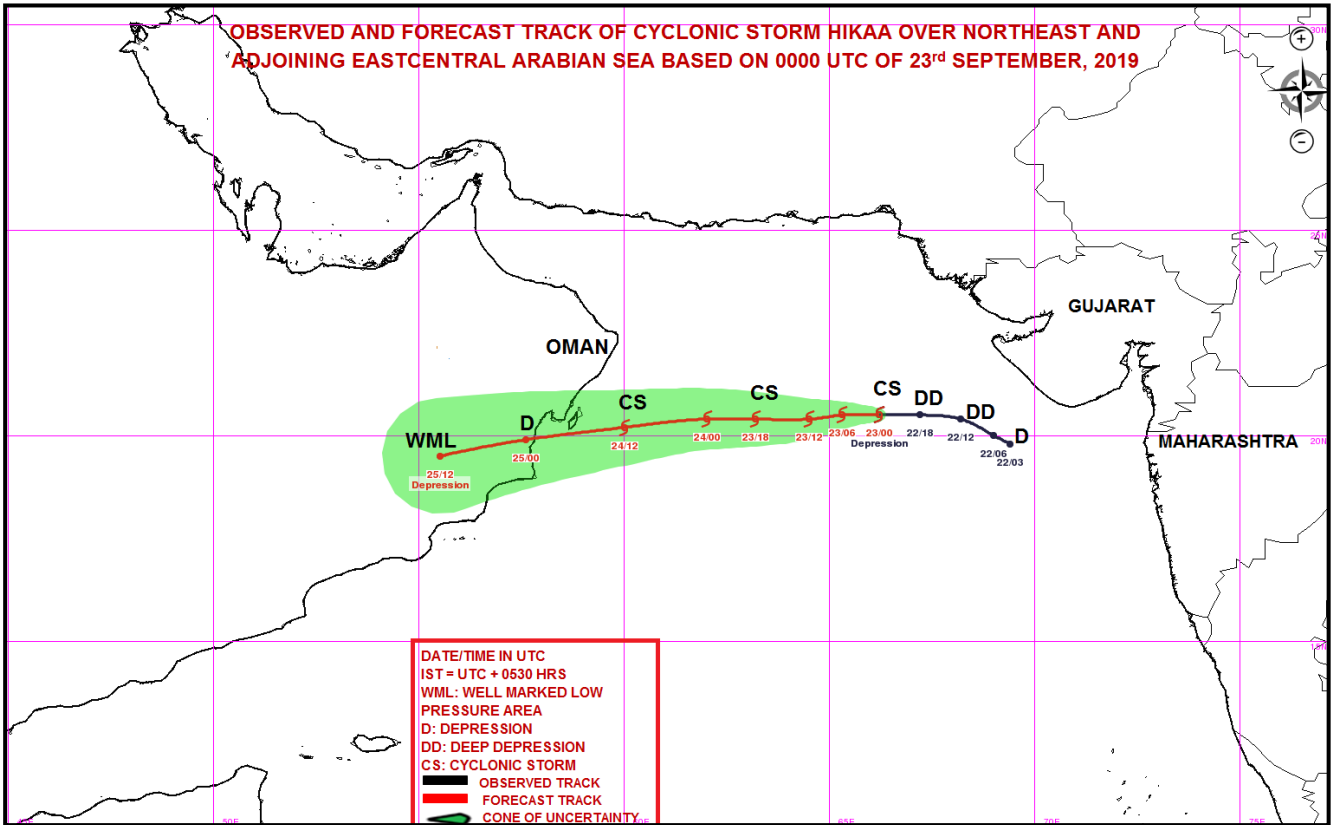
*The next bulletin will be issued at 1130 hrs IST of 23<sup>rd</sup> September, 2019.*

**(Krishna Mishra)  
Scientist-B, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/  
Thiruvananthapuram.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 06 (ARB/02/2019)

TIME OF ISSUE: 1130 HOURS IST

DATED: 23.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Cyclonic Storm 'HIKAA' over northeast and adjoining eastcentral Arabian Sea**

The **Cyclonic Storm 'HIKAA'** over northeast and adjoining eastcentral Arabian sea moved nearly westwards with a speed of 17 kmph during past 06 hours and lay centred at 0830 hrs IST of today, the 23<sup>rd</sup> September, 2019 over the same region near latitude 20.4°N and longitude 65.7°E, about 490 km west-southwest of Veraval (Gujarat), 520 km south-southwest of Karachi (Pakistan) and 710 km east-southeast of Masirah (Oman). **It is likely to intensify further during next 24 hours and weaken gradually thereafter. It is very likely to move nearly westwards and cross Oman coast between latitude 19°N and 20°N during early hours of 25<sup>th</sup> September 2019 as a deep depression.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
23.09.19/0830	20.4/65.7	60-70 gusting to 80	Cyclonic Storm
23.09.19/1130	20.3/65.3	65-75 gusting to 85	Cyclonic Storm
23.09.19/1730	20.2/64.5	70-80 gusting to 90	Cyclonic Storm
23.09.19/2330	20.1/63.2	75-85 gusting to 95	Cyclonic Storm
24.09.19/0530	20.0/62.0	70-80 gusting to 90	Cyclonic Storm
24.09.19/1730	19.8/60.0	60-70 gusting to 80	Cyclonic Storm
25.09.19/0530	19.6/57.6	45-55 gusting to 65	Depression
25.09.19/1730	19.4/55.5	35-45 gusting to 55	Well Marked Low

**Warnings:**

**(i) Wind warning**

- Strong wind, speed reaching 30-40 kmph gusting to 50 kmph, very likely to prevail along & off Gujarat coast during next 12 hours and decrease thereafter.

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



- Gale wind, speed reaching 60-70 kmph gusting to 80 kmph very likely to prevail over northeast and adjoining eastcentral Arabian Sea, which is likely to become 70-80 kmph gusting to 90 kmph over northeast and adjoining eastcentral Arabian Sea by 23<sup>rd</sup> evening and decrease thereafter becoming 55-65 kmph gusting to 75 kmph by 24<sup>th</sup> morning. It is likely to be squally wind speed reaching 55-65 kmph gusting to 75 kmph, over northwest and adjoining westcentral Arabian Sea and is likely to increase gradually becoming 75-85 kmph gusting to 95 kmph from 24<sup>th</sup> morning for subsequent 06 hours. It will gradually decrease thereafter becoming 45-55 kmph gusting to 65 kmph by 25<sup>th</sup> morning along & off Oman coast.

**(ii) Sea condition**

The sea condition is very likely to be rough along & off Gujarat coast during next 12 hours. Sea conditions will be high over northeast and adjoining eastcentral Arabian Sea during next 12 hours and very rough during subsequent 12 hours. Sea conditions will be rough to very rough over northwest and adjoining westcentral Arabian Sea during next 12 hours and high during subsequent 24 hours. It will become rough to very rough thereafter.

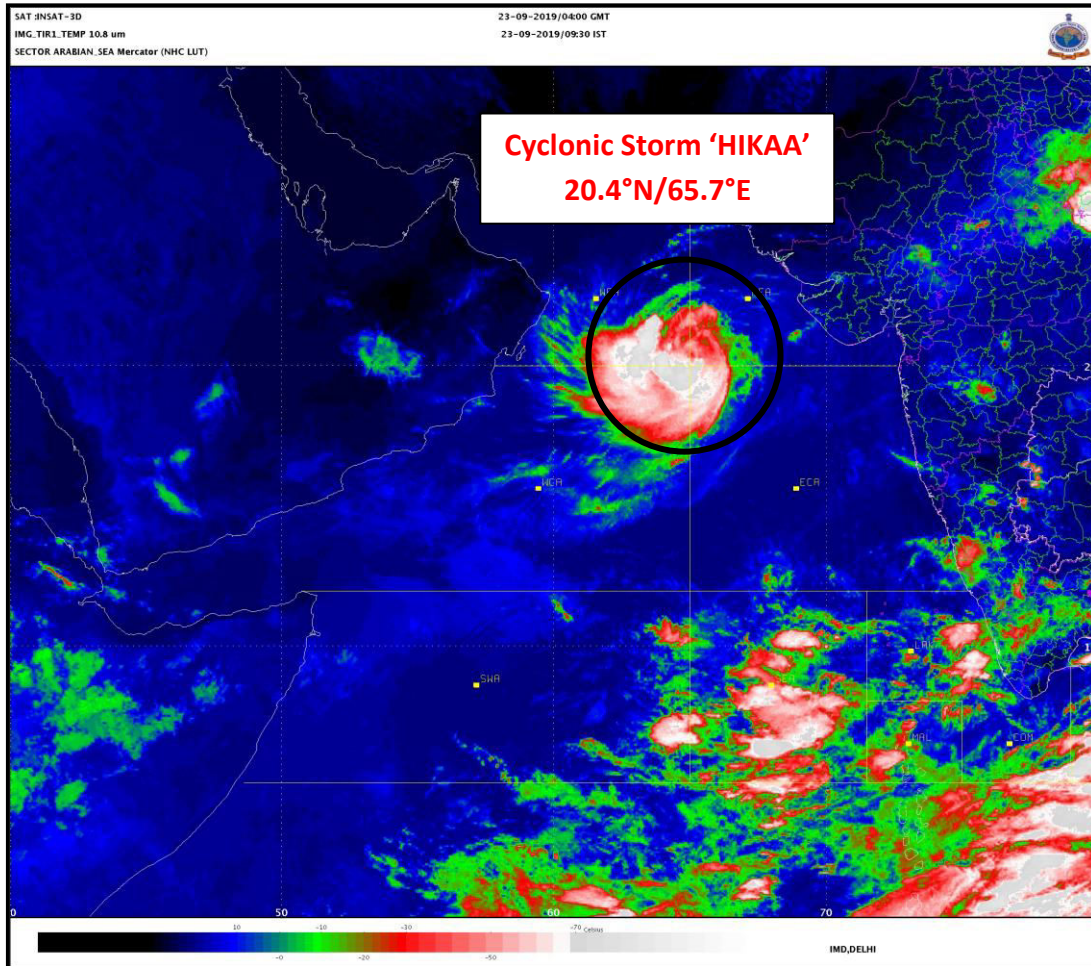
**(iii) Fishermen Warning**

The fishermen are advised not to venture into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning and into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

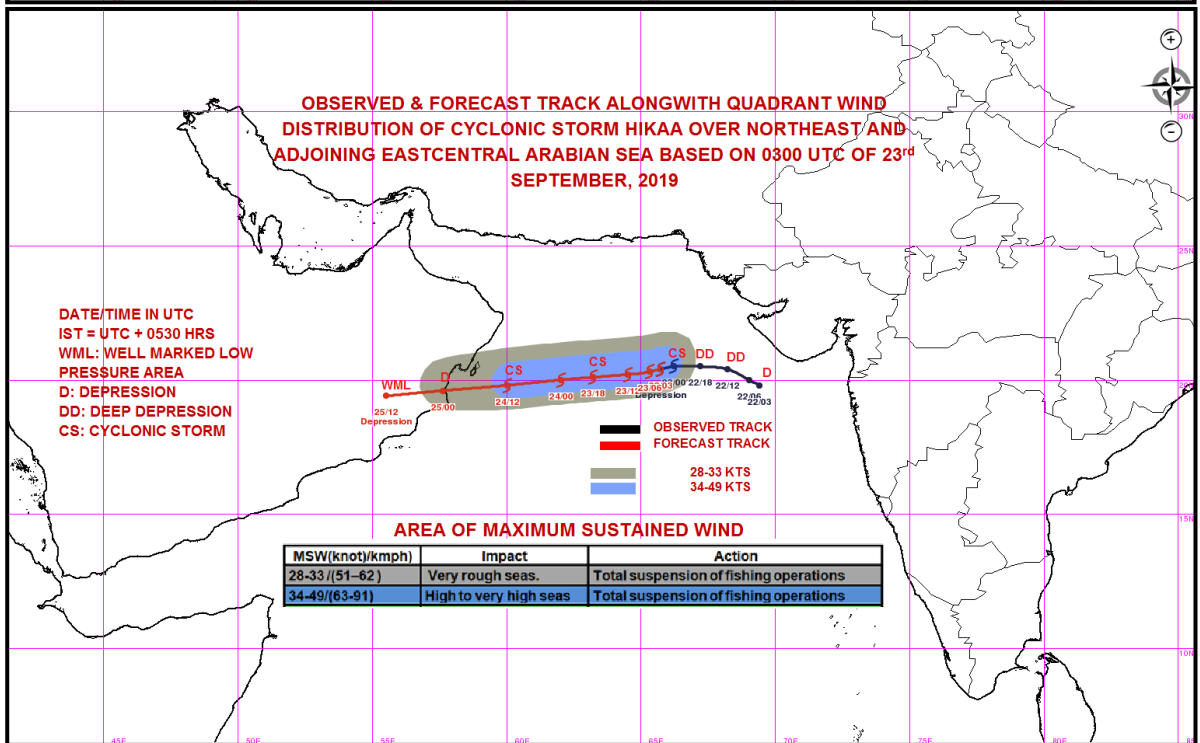
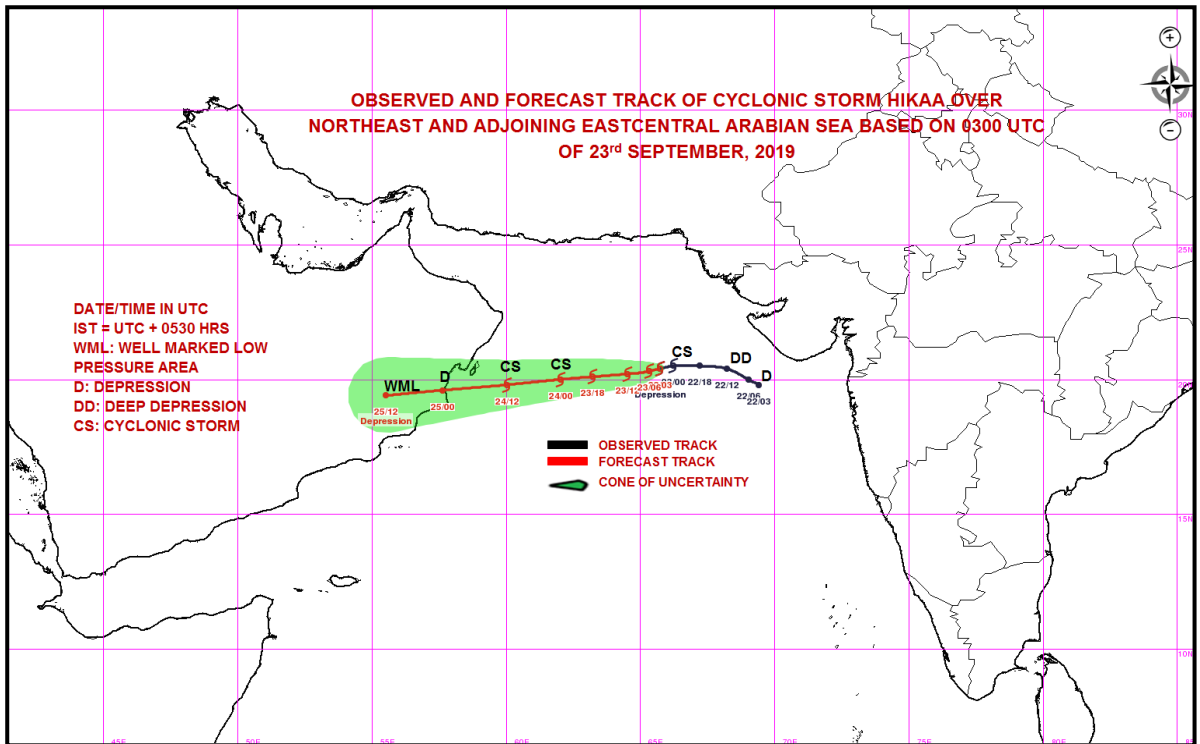
*The next bulletin will be issued at 1430 hrs IST of 23<sup>rd</sup> September, 2019.*

**(Neetha K Gopal)**  
**Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 07 (ARB/02/2019)

TIME OF ISSUE: 1340 HOURS IST

DATED: 23.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Cyclonic Storm 'HIKAA' over northeast and adjoining eastcentral Arabian Sea**

The **Cyclonic Storm 'HIKAA'** over northeast and adjoining eastcentral Arabian sea moved nearly westwards with a speed of 21 kmph during past 06 hours and lay centred at 1130 hrs IST of today, the 23<sup>rd</sup> September, 2019 over the same region near latitude 20.3°N and longitude 65.0°E, about 560 km west-southwest of Veraval (Gujarat), 560 km south-southwest of Karachi (Pakistan) and 630 km east-southeast of Masirah (Oman). It is likely to intensify further during next 12 hours and weaken gradually from 24<sup>th</sup> morning. It is very likely to move nearly westwards and cross Oman coast between latitude 19°N and 20°N during early hours of 25<sup>th</sup> September 2019 as a deep depression.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
23.09.19/1130	20.3/65.0	70-80 gusting to 90	Cyclonic Storm
23.09.19/1730	20.2/64.0	80-90 gusting to 100	Cyclonic Storm
23.09.19/2330	20.1/62.9	80-90 gusting to 100	Cyclonic Storm
24.09.19/0530	20.0/61.7	70-80 gusting to 90	Cyclonic Storm
24.09.19/1130	19.9/60.5	60-70 gusting to 80	Cyclonic Storm
24.09.19/2330	19.7/58.7	50-60 gusting to 70	Deep Depression
25.09.19/1130	19.5/56.8	35-45 gusting to 55	Depression

### Warnings:

#### (i) Wind warning

- Strong wind, speed reaching 30-40 kmph gusting to 50 kmph, very likely to prevail along & off Gujarat coast during next 06 hours and decrease thereafter.

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

- Gale wind, speed reaching 70-80 kmph gusting to 90 kmph very likely to prevail over northeast and adjoining eastcentral Arabian Sea, which is likely to decrease thereafter becoming 55-65 kmph gusting to 75 kmph by 24<sup>th</sup> morning. It is likely to be squally wind speed reaching 55-65 kmph gusting to 75 kmph, over northwest and adjoining westcentral Arabian Sea and is likely to increase gradually becoming 80-90 kmph gusting to 100 kmph from 23<sup>rd</sup> evening for subsequent 06 hours. It will gradually decrease thereafter becoming 55-65 kmph gusting to 75 kmph by 25<sup>th</sup> morning along & off Oman coast.

**(ii) Sea condition**

The sea condition is very likely to be rough along & off Gujarat coast during next 06 hours. Sea conditions will be high over northeast and adjoining eastcentral Arabian Sea during next 12 hours and very rough during subsequent 12 hours. Sea conditions will be rough to very rough over northwest and adjoining westcentral Arabian Sea during next 06 hours and high during subsequent 24 hours. It will become rough to very rough thereafter.

**(iii) Fishermen Warning**

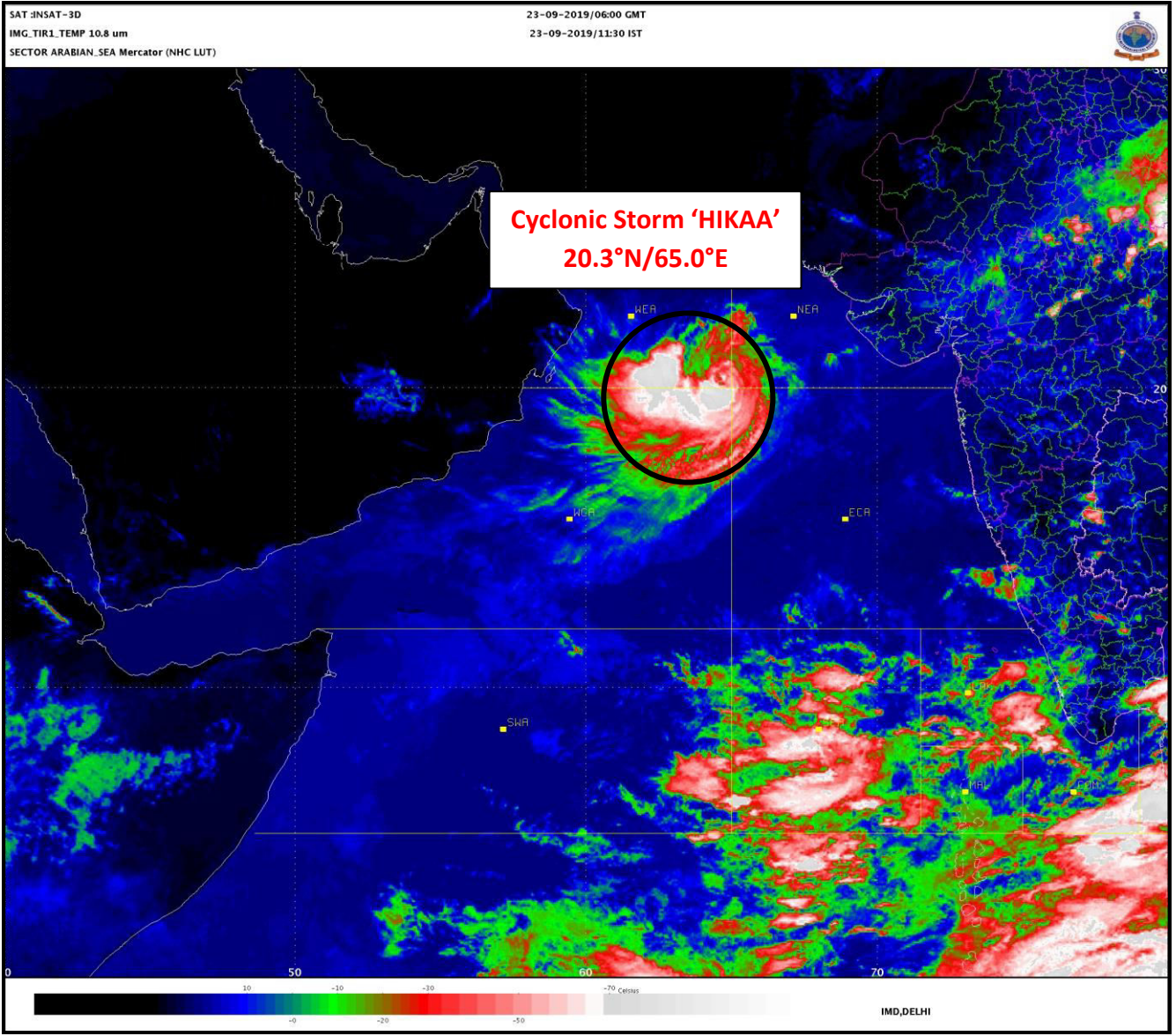
The fishermen are advised not to venture into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning and into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

*The next bulletin will be issued at 1730 hrs IST of 23<sup>rd</sup> September, 2019.*

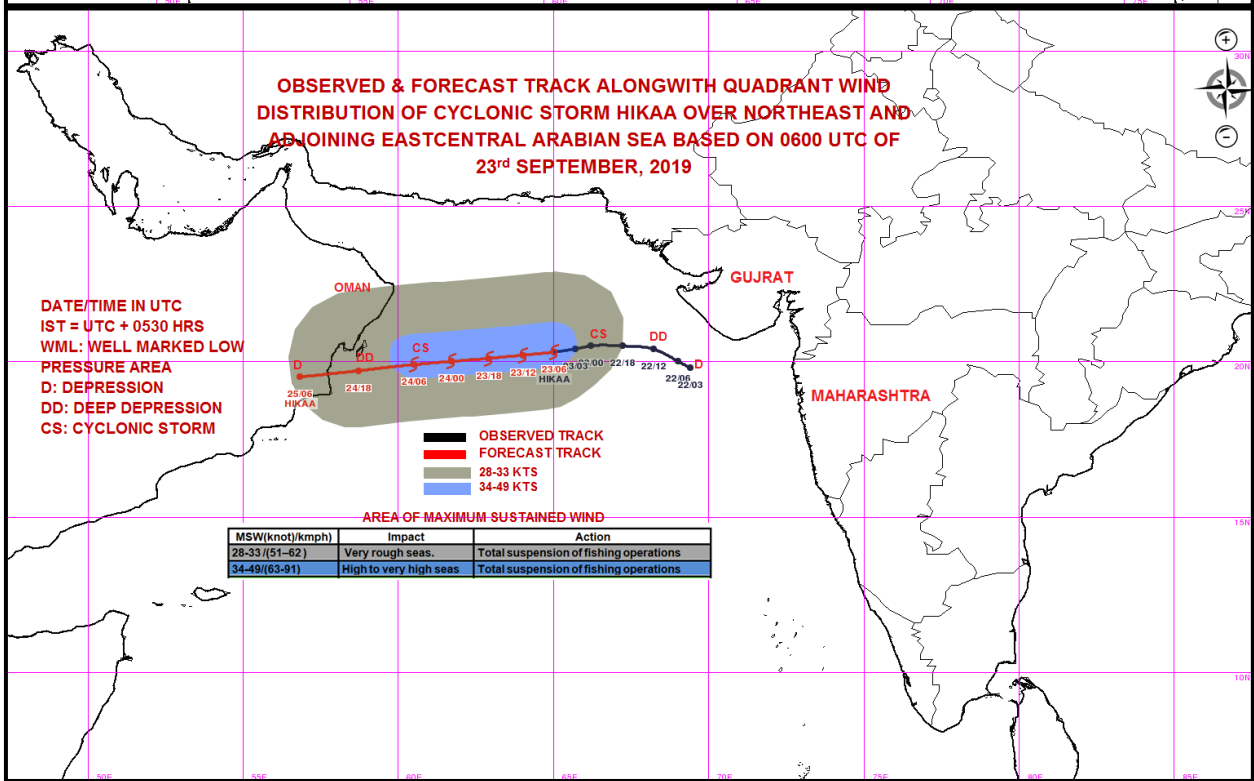
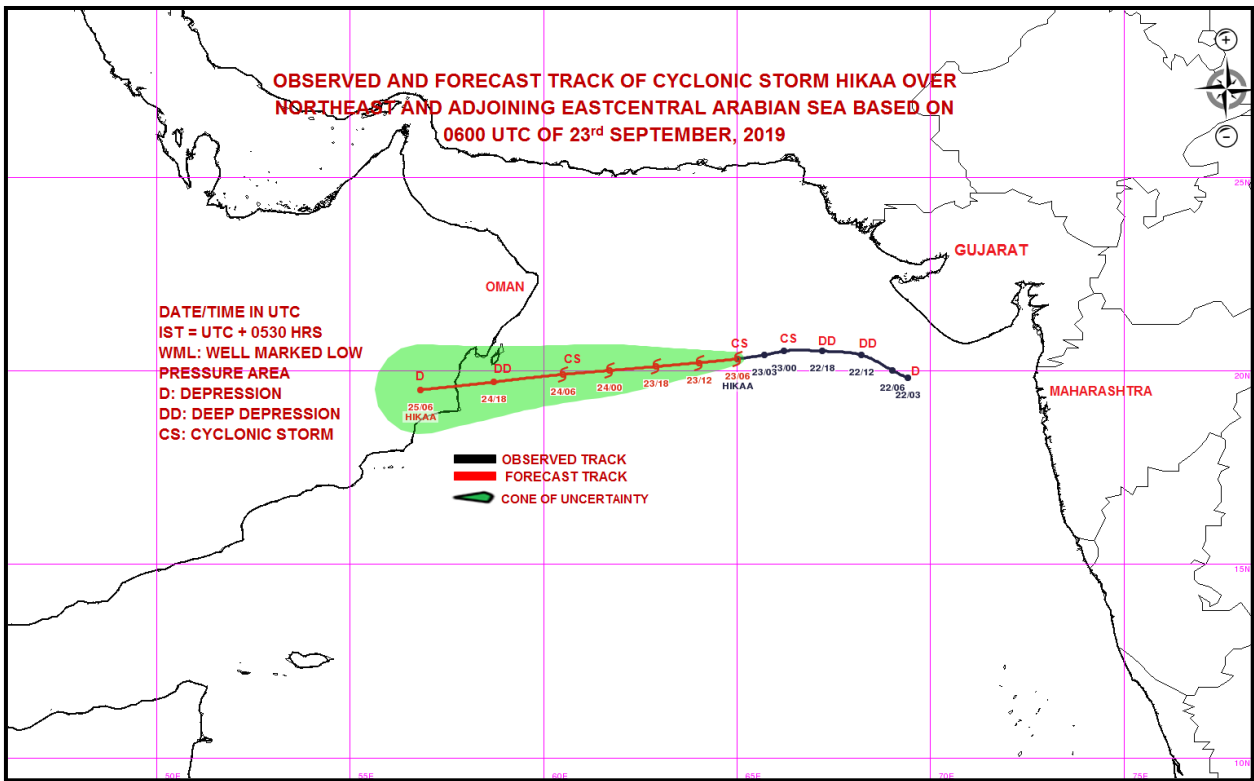
**(Neetha K Gopal)  
Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/  
Thiruvananthapuram.**





**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 08 (ARB/02/2019)

TIME OF ISSUE: 1730 HOURS IST

DATED: 23.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Cyclonic Storm 'HIKAA' intensified into a Severe Cyclonic Storm over northeast and adjoining northwest and central Arabian Sea**

The **Cyclonic Storm 'HIKAA'** over northeast and adjoining eastcentral Arabian sea moved nearly westwards with a speed of 26 kmph during past 06 hours and intensified into a Severe Cyclonic Storm over northeast and adjoining northwest and central Arabian Sea and lay centred at 1430 hrs IST of today, the 23<sup>rd</sup> September, 2019 near latitude 20.2°N and longitude 64.2°E, about 640 km west-southwest of Veraval (Gujarat), 600 km southwest of Karachi (Pakistan) and 550 km east-southeast of Masirah (Oman). It is likely to intensify further during next 12 hours and weaken gradually from 24<sup>th</sup> morning. It is very likely to move nearly westwards and cross Oman coast between latitude 19°N and 20°N during early hours of 25<sup>th</sup> September 2019 as a Cyclonic Storm.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
23.09.19/1430	20.2/64.2	90-100 gusting to 110	Severe Cyclonic Storm
23.09.19/1730	20.2/63.7	100-110 gusting to 120	Severe Cyclonic Storm
23.09.19/2330	20.1/62.6	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/0530	20.0/61.5	100-110 gusting to 120	Severe Cyclonic Storm
24.09.19/1130	19.9/60.4	90-100 gusting to 110	Severe Cyclonic Storm
24.09.19/2330	19.7/58.2	70-80 gusting to 90	Cyclonic Storm
25.09.19/1130	19.5/56.0	45-55 gusting to 65	Depression

### Warnings:

#### (i) Wind warning

- Gale wind, speed reaching 90-100 kmph gusting to 110 kmph very likely to prevail over northeast and adjoining eastcentral Arabian Sea, which is likely to decrease thereafter

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

becoming 55-65 kmph gusting to 75 kmph by 24<sup>th</sup> morning. It is likely to be gale wind speed reaching 60-70 kmph gusting to 80 kmph, over northwest and adjoining westcentral Arabian Sea and is likely to increase gradually becoming 110-120 kmph gusting to 130 kmph from 23<sup>rd</sup> midnight for subsequent 06 hours. It will gradually decrease thereafter becoming 70-80 kmph gusting to 90 kmph by 24<sup>th</sup> midnight along & off Oman coast.

**(ii) Sea condition**

The sea condition is very likely to be very high over northeast and adjoining eastcentral Arabian Sea during next 12 hours and high to very rough during subsequent 12 hours. Sea conditions will be very rough to high over northwest and adjoining westcentral Arabian Sea during next 06 hours and very high during subsequent 12 hours. It will become high to very rough and improve thereafter.

**(iii) Fishermen Warning**

The fishermen are advised not to venture into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning and into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

*The next bulletin will be issued at 2030 hrs IST of 23<sup>rd</sup> September, 2019.*

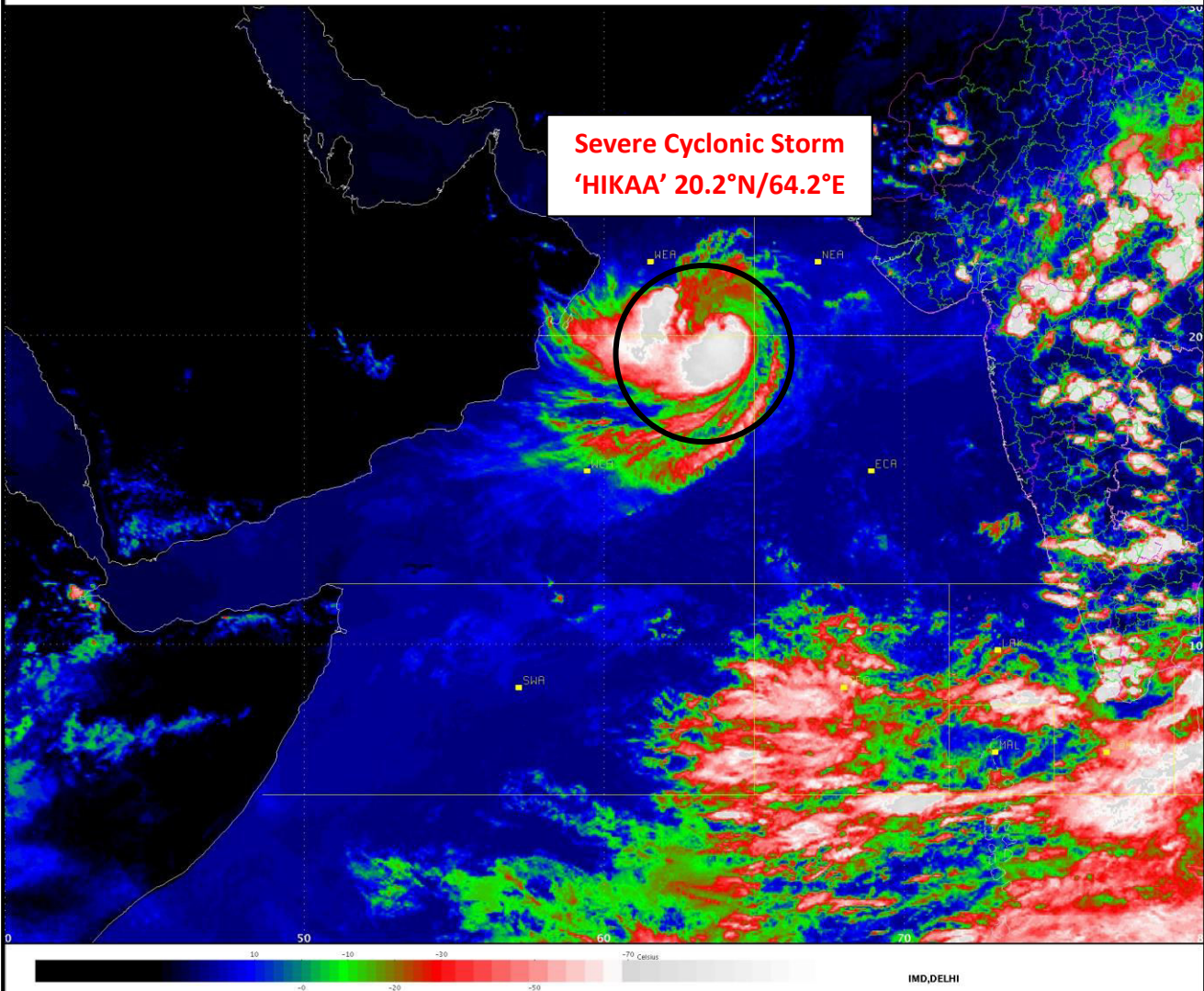
**(Neetha K Gopal)**  
**Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**



SAT :INSAT-3D  
IMG\_TIR1\_TEMP 10.8 um  
SECTOR ARABIAN\_SEA Mercator (NHC LUT)

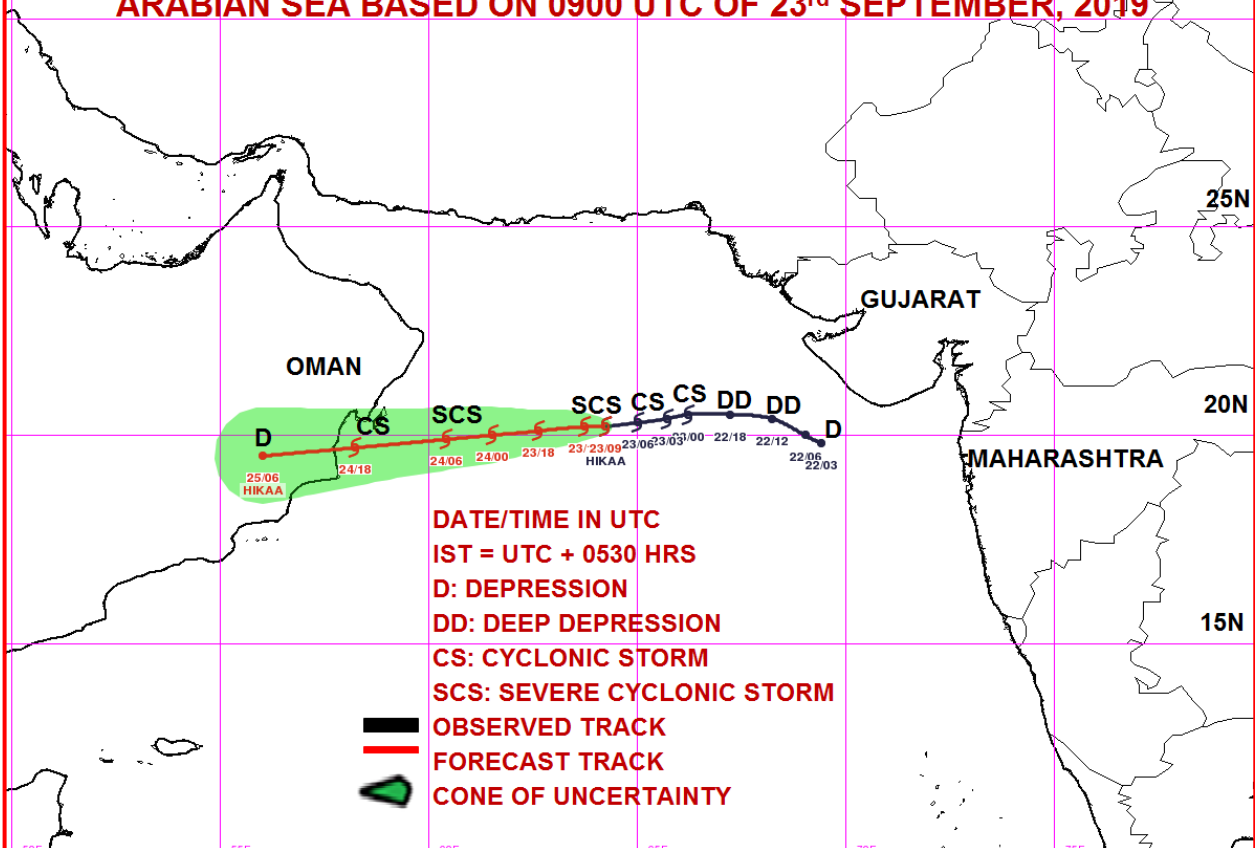
23-09-2019/09:30 GMT  
23-09-2019/15:00 IST



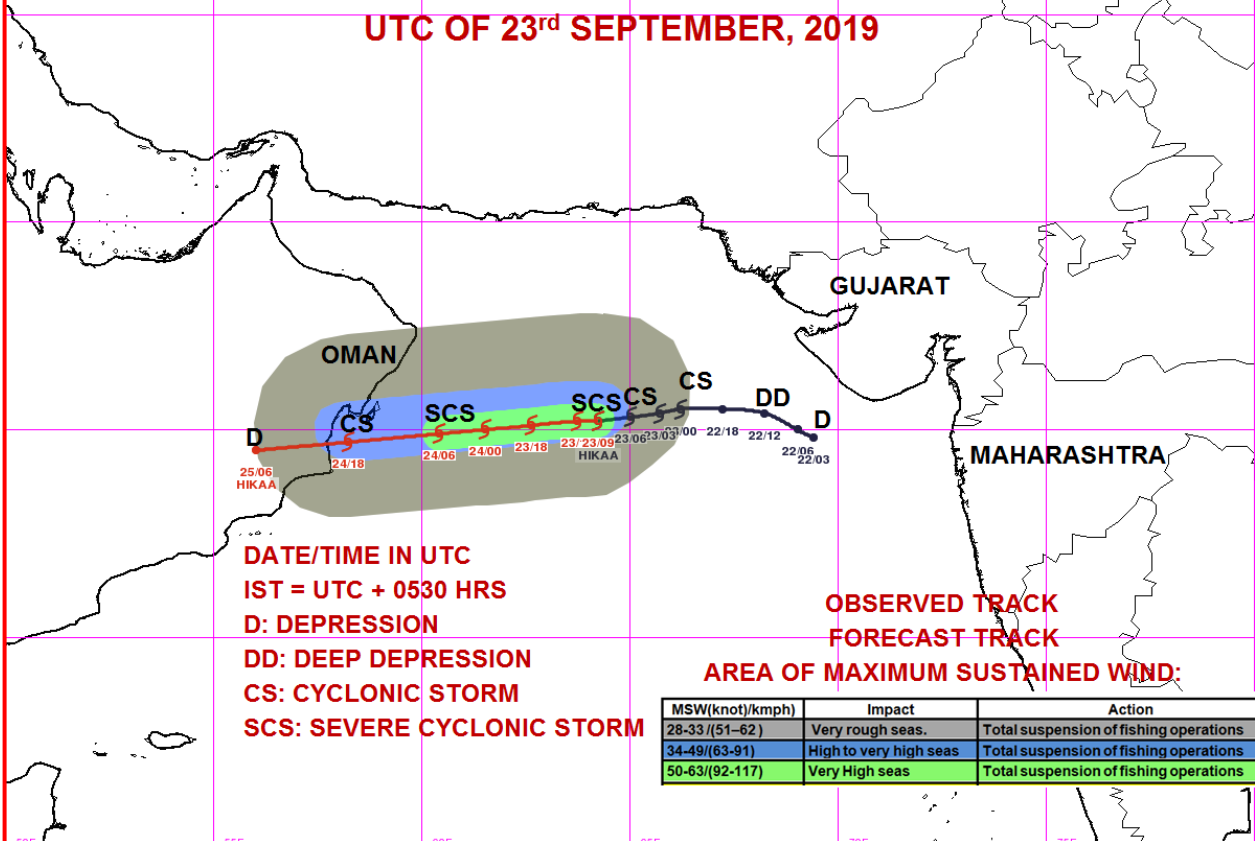
**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**OBSERVED AND FORECAST TRACK OF SEVERE CYCLONIC STORM HIKAA OVER NORTHEAST AND ADJOINING NORTHWEST & CENTRAL ARABIAN SEA BASED ON 0900 UTC OF 23<sup>rd</sup> SEPTEMBER, 2019**



**OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF SEVERE CYCLONIC STORM HIKAA OVER NORTHEAST AND ADJOINING NORTHWEST & CENTRAL ARABIAN SEA BASED ON 0900 UTC OF 23<sup>rd</sup> SEPTEMBER, 2019**



Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 09 (ARB/02/2019)

TIME OF ISSUE: 2030 HOURS IST

DATED: 23.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Severe Cyclonic Storm 'HIKAA' over northwest and adjoining northeast and central Arabian Sea**

The **Severe Cyclonic Storm 'HIKAA'** over northeast and adjoining northwest and central Arabian Sea moved nearly westwards with a speed of 22 kmph during past 06 hours and lay centred at 1730 hrs IST of today, the 23<sup>rd</sup> September, 2019 near latitude 20.2°N and longitude 63.7°E, over northwest and adjoining northeast and central Arabian Sea about 700 km west-southwest of Veraval (Gujarat), 630 km south-southwest of Karachi (Pakistan) and 500 km east-southeast of Masirah (Oman). It is likely to intensify further during next 12 hours and weaken gradually from 24<sup>th</sup> morning. It is very likely to move nearly westwards and cross Oman coast between latitude 19°N and 20°N close to Duqm during early hours of 25<sup>th</sup> September 2019 as a Cyclonic Storm with a wind speed of 70-80 kmph gusting to 90 kmph.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
23.09.19/1730	20.2/63.7	100-110 gusting to 120	Severe Cyclonic Storm
23.09.19/2330	20.1/62.7	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/0530	20.0/61.6	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/1130	19.9/60.5	95-105 gusting to 115	Severe Cyclonic Storm
24.09.19/1730	19.8/58.7	80-90 gusting to 100	Cyclonic Storm
25.09.19/0530	19.7/56.9	60-70 gusting to 80	Cyclonic Storm
25.09.19/1730	19.6/55.2	40-50 gusting to 60	Depression

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## **Warnings:**

### **(i) Wind warning**

Gale wind, speed reaching 100-110 kmph gusting to 120 kmph very likely to prevail over northeast and adjoining eastcentral Arabian Sea, which is likely to decrease thereafter becoming 55-65 kmph gusting to 75 kmph by 24<sup>th</sup> morning. It is likely to be gale wind speed reaching 100-110 kmph gusting to 120 kmph, over northwest and adjoining westcentral Arabian Sea and is likely to increase to become 110-120 kmph gusting to 130 kmph from 23<sup>rd</sup> midnight for subsequent 06 hours. It will gradually decrease thereafter becoming 70-80 kmph gusting to 90 kmph by 24<sup>th</sup> midnight along & off Oman coast.

### **(ii) Sea condition**

The sea condition is very likely to be very high over northeast and adjoining eastcentral Arabian Sea during next 06 hours and high to very rough during subsequent 12 hours. Sea conditions will be very high over northwest and adjoining westcentral Arabian Sea during next 18 hours and high to very rough during subsequent 12 hours and improve thereafter.

### **(iii) Fishermen Warning**

The fishermen are advised not to venture into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning and into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

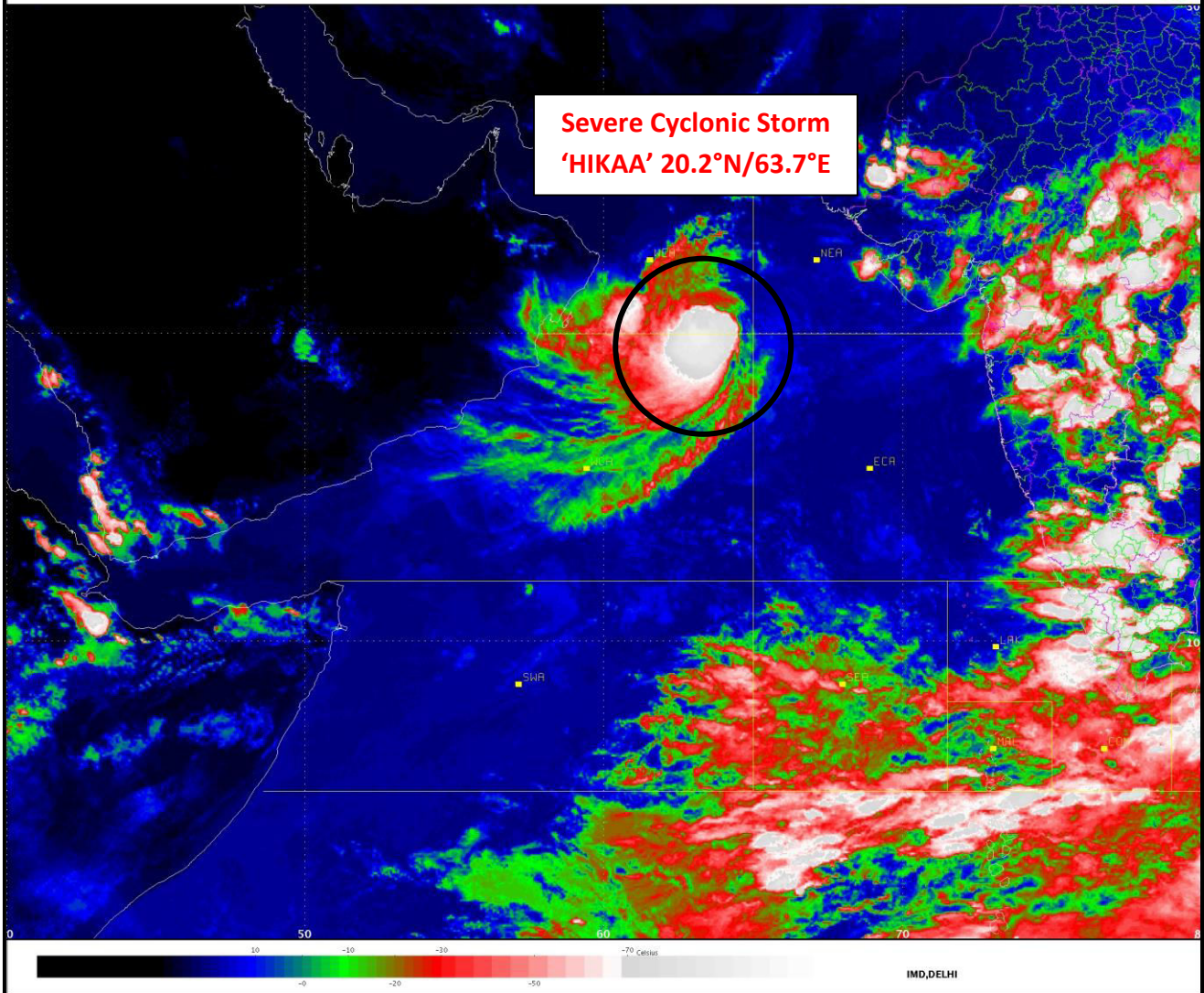
*The next bulletin will be issued at 2330 hrs IST of 23<sup>rd</sup> September, 2019.*

**(Neetha K Gopal)**  
**Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**

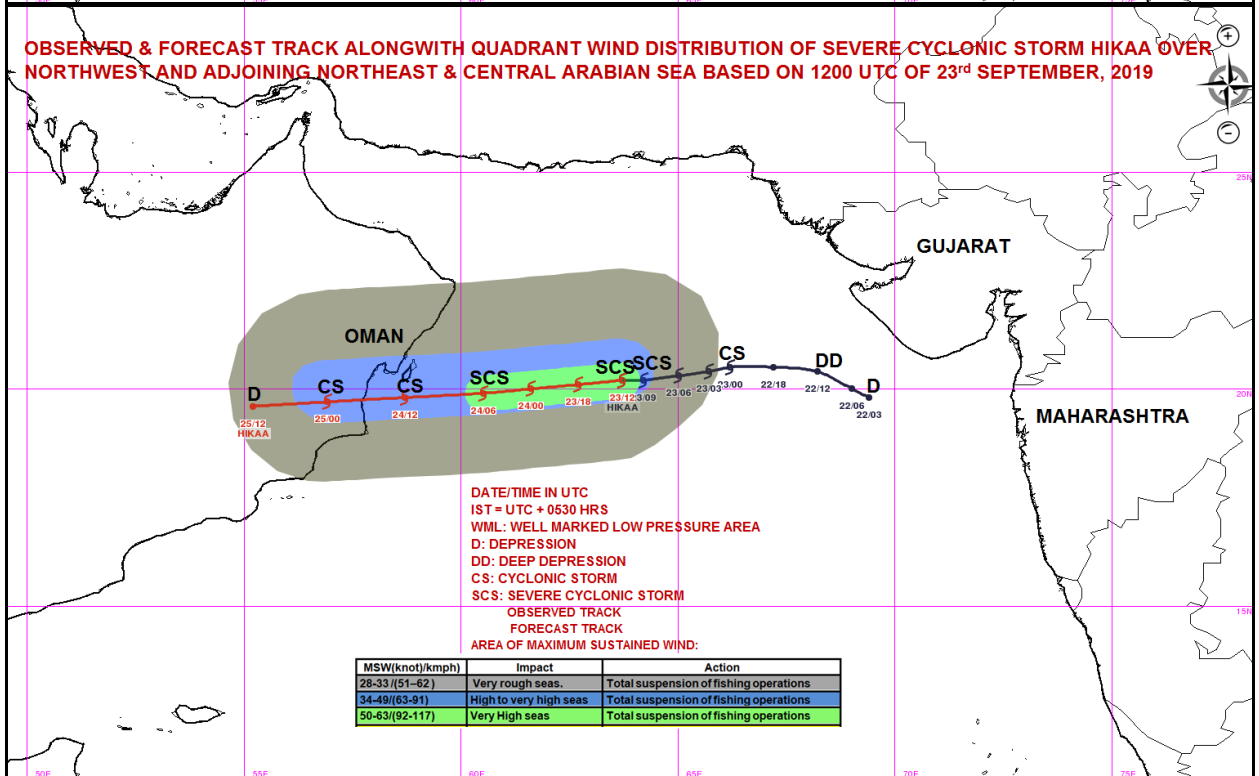
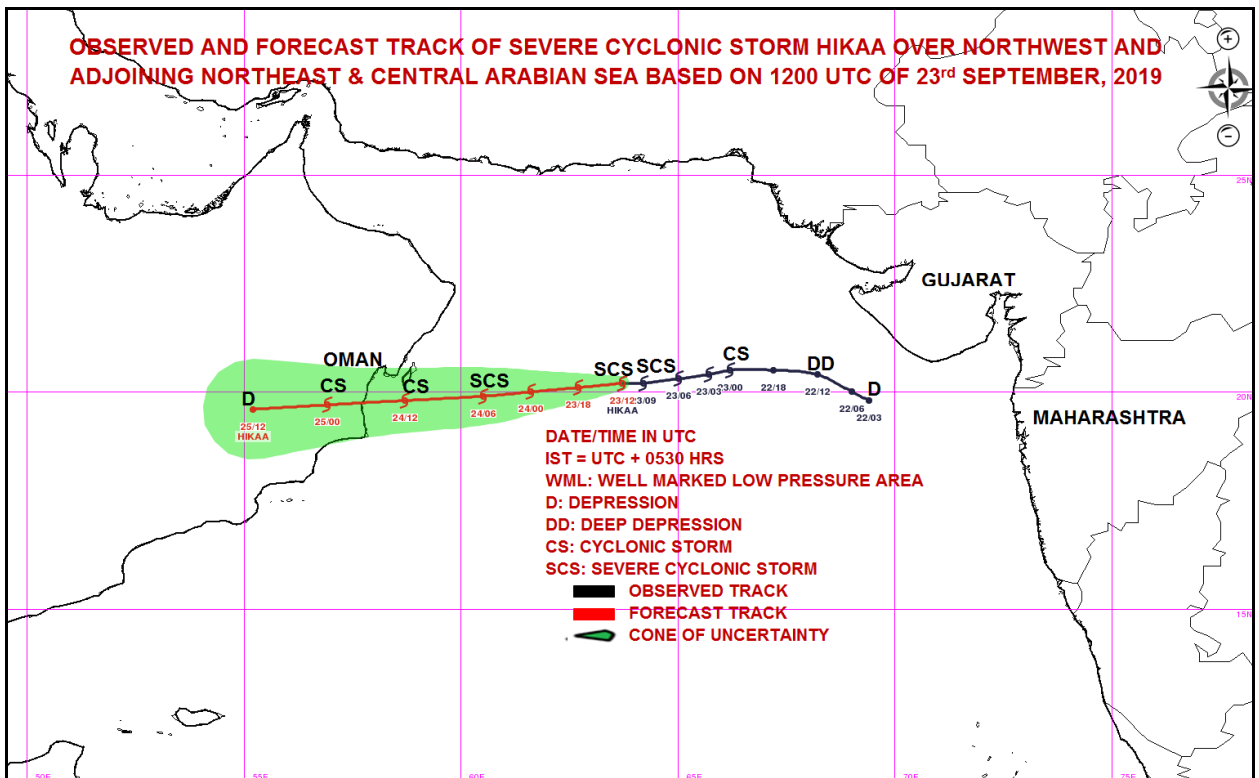
SAT:INSAT-3D  
IMG:TIR1\_TEMP 10.8 um  
SECTOR ARABIAN\_SEA Mercator (NHC LUT)

23-09-2019/13:00 GMT  
23-09-2019/18:30 IST



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**





**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**





India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 10 (ARB/02/2019)

TIME OF ISSUE: 2300 HOURS IST

DATED: 23.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Severe Cyclonic Storm 'HIKAA' over northwest and adjoining northeast and central Arabian Sea**

The **Severe Cyclonic Storm 'HIKAA'** over northwest and adjoining northeast and central Arabian Sea moved westwards with a speed of 34 kmph during past 06 hours and lay centred at 2030 hrs IST of today, the 23<sup>rd</sup> September, 2019 near latitude 20.2°N and longitude 62.9°E, over the same region about 780 km west-southwest of Veraval (Gujarat), 680 km south-southwest of Karachi (Pakistan) and 420 km east-southeast of Masirah (Oman). It is likely to intensify further during next 12 hours and weaken gradually from 24<sup>th</sup> morning. It is very likely to move nearly westwards and cross Oman coast between latitude 19°N and 20°N close to Duqm during night of 24<sup>th</sup> September 2019 as a Cyclonic Storm with a wind speed of 70-80 kmph gusting to 90 kmph.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
23.09.19/2030	20.2/62.9	100-110 gusting to 120	Severe Cyclonic Storm
23.09.19/2330	20.1/62.2	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/0530	20.0/61.1	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/1130	19.9/60.0	95-105 gusting to 115	Severe Cyclonic Storm
24.09.19/1730	19.8/58.2	80-90 gusting to 100	Cyclonic Storm
25.09.19/0530	19.7/56.4	60-70 gusting to 80	Cyclonic Storm
25.09.19/1730	19.6/54.7	40-50 gusting to 60	Depression

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warnings:

### (i) Wind warning

Gale wind, speed reaching 100-110 kmph gusting to 120 kmph very likely to prevail over northeast and adjoining eastcentral Arabian Sea, which is likely to decrease thereafter becoming 55-65 kmph gusting to 75 kmph by 24<sup>th</sup> morning. It is likely to be gale wind speed reaching 100-110 kmph gusting to 120 kmph, over northwest and adjoining westcentral Arabian Sea and is likely to increase to become 110-120 kmph gusting to 130 kmph from 23<sup>rd</sup> midnight for subsequent 06 hours. It will gradually decrease thereafter becoming 70-80 kmph gusting to 90 kmph by 24<sup>th</sup> midnight along & off Oman coast.

### (ii) Sea condition

The sea condition is very likely to be very high over northeast and adjoining eastcentral Arabian Sea during next 06 hours and high to very rough during subsequent 12 hours. Sea conditions will be very high over northwest and adjoining westcentral Arabian Sea during next 18 hours and high to very rough during subsequent 12 hours and improve thereafter.

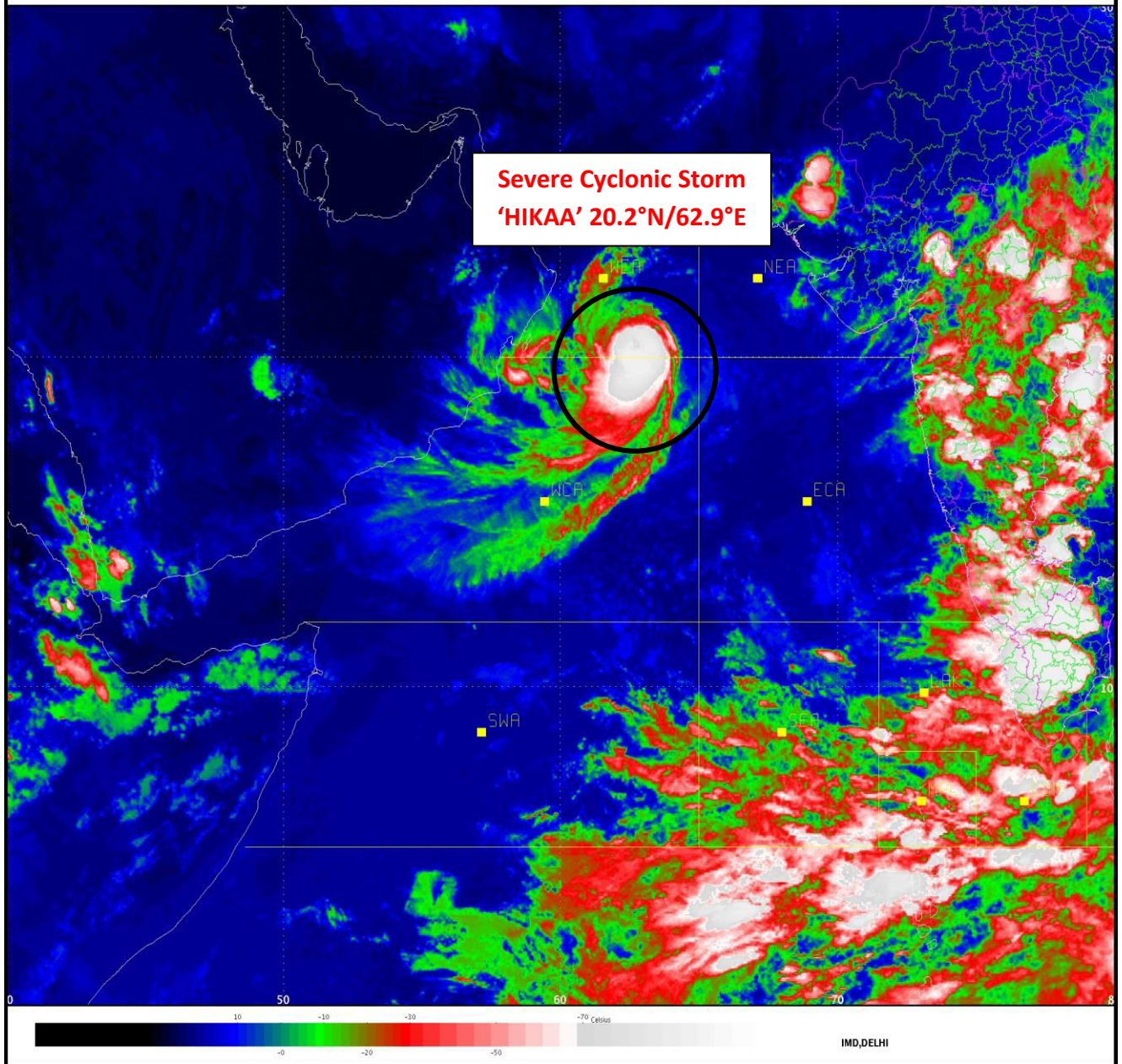
### (iii) Fishermen Warning

The fishermen are advised not to venture into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning and into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

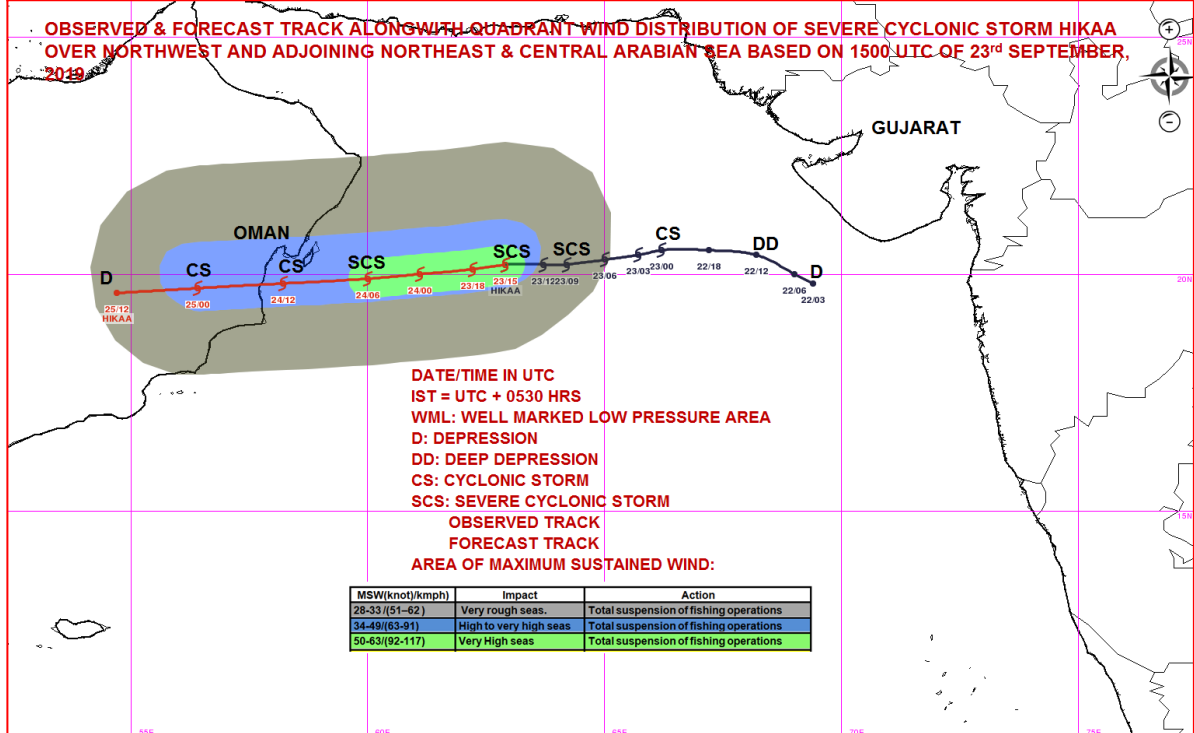
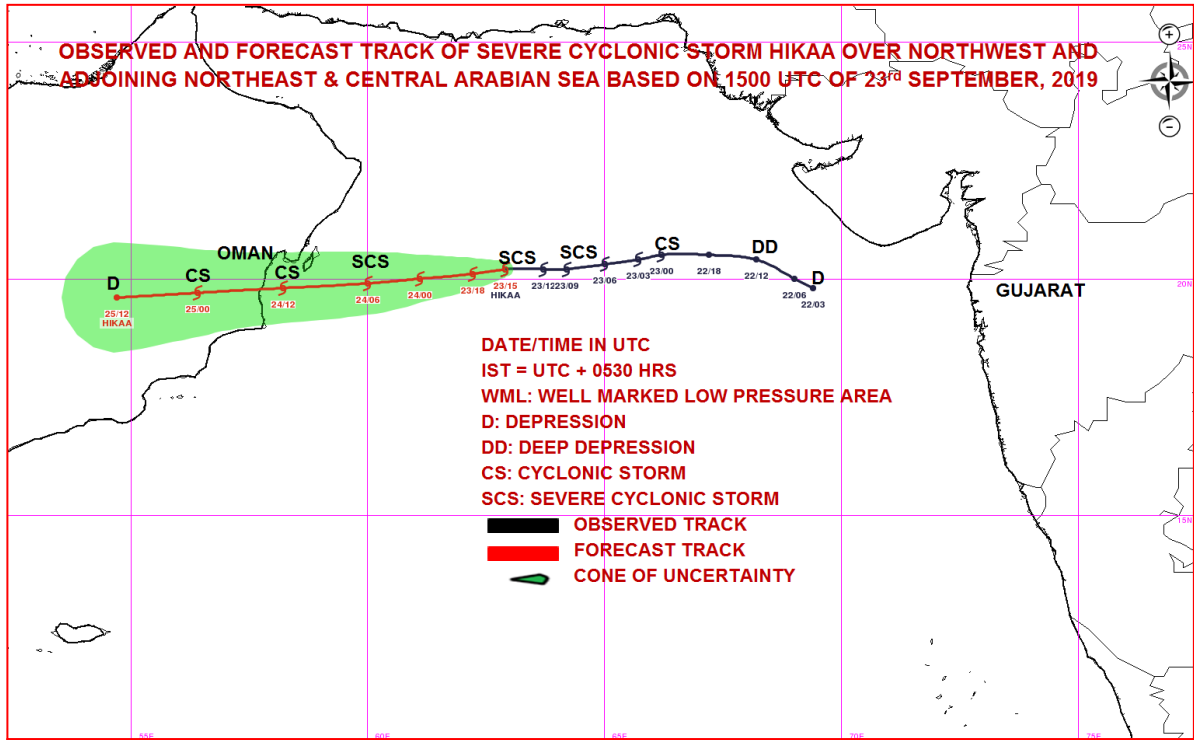
*The next bulletin will be issued at 0230 hrs IST of 24<sup>th</sup> September, 2019.*

(D.R. Pattanaik)  
Scientist-E, RSMC, New Delhi

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**





India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 11 (ARB/02/2019)

TIME OF ISSUE: 0130 HOURS IST

DATED: 24.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Severe Cyclonic Storm 'HIKAA' over northwest and adjoining westcentral Arabian Sea**

The **Severe Cyclonic Storm 'HIKAA'** over northwest and adjoining northeast and central Arabian Sea moved westwards with a speed of 24 kmph during past 06 hours and lay centred at 2330 hrs IST of 23<sup>rd</sup> September, 2019 near latitude 20.2°N and longitude 62.3°E, over northwest and adjoining westcentral Arabian Sea about 840 km west-southwest of Veraval (Gujarat), 720 km southwest of Karachi (Pakistan) and 350 km east-southeast of Masirah (Oman). It is likely to weaken gradually from 24<sup>th</sup> morning. It is very likely to move nearly westwards and cross Oman coast between latitude 19°N and 20°N close to Duqm during night of 24<sup>th</sup> September 2019 as a Cyclonic Storm with a wind speed of 70-80 kmph gusting to 90 kmph.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
23.09.19/2330	20.2/62.3	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/0530	20.0/61.1	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/1130	19.9/60.0	95-105 gusting to 115	Severe Cyclonic Storm
24.09.19/1730	19.8/58.2	80-90 gusting to 100	Cyclonic Storm
24.09.19/2330	19.7/57.3	70-80 gusting to 90	Cyclonic Storm
25.09.19/1130	19.6/55.6	40-50 gusting to 60	Depression

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



## Warnings:

### (i) Wind warning

Gale wind, speed reaching 110-120 kmph gusting to 130 kmph very likely to prevail over northwest and adjoining westcentral Arabian Sea during next 06 hours. It will gradually decrease thereafter becoming 70-80 kmph gusting to 90 kmph by 24<sup>th</sup> midnight along & off Oman coast. Gale wind, speed reaching 80-90 kmph gusting to 100 kmph likely to prevail over northeast and adjoining eastcentral Arabian Sea during next 06 hours and becoming 55-65 kmph gusting to 75 kmph by 24<sup>th</sup> morning.

### (ii) Sea condition

The Sea conditions will be very high over northwest and adjoining westcentral Arabian Sea during next 12 hours and high to very rough during subsequent 12 hours and improve thereafter. Sea condition is very likely to be high to very rough over northeast and adjoining eastcentral Arabian Sea during next 12 hours.

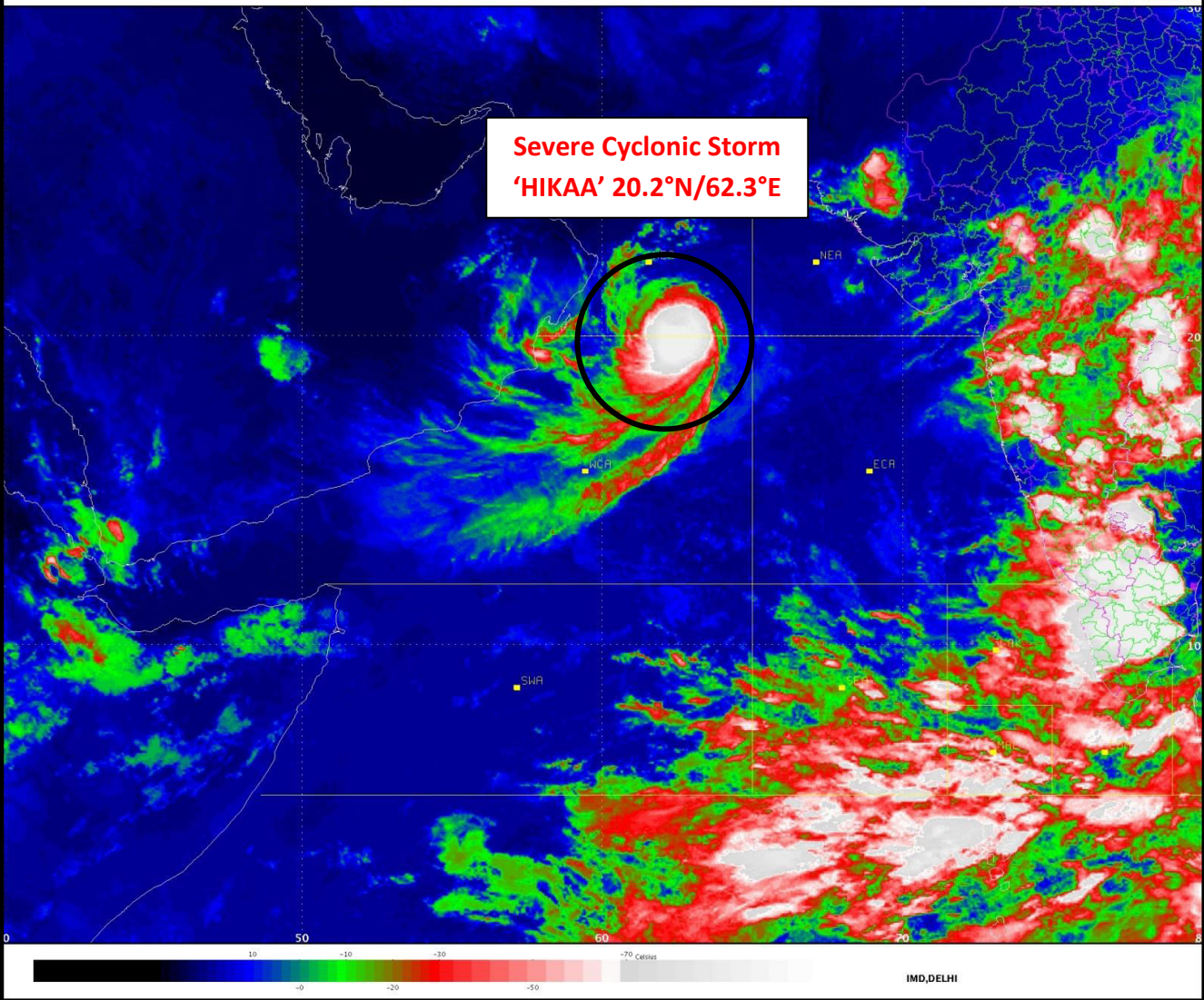
### (iii) Fishermen Warning

The fishermen are advised not to venture into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning and into northeast and adjoining eastcentral Arabian Sea till 24<sup>th</sup> morning.

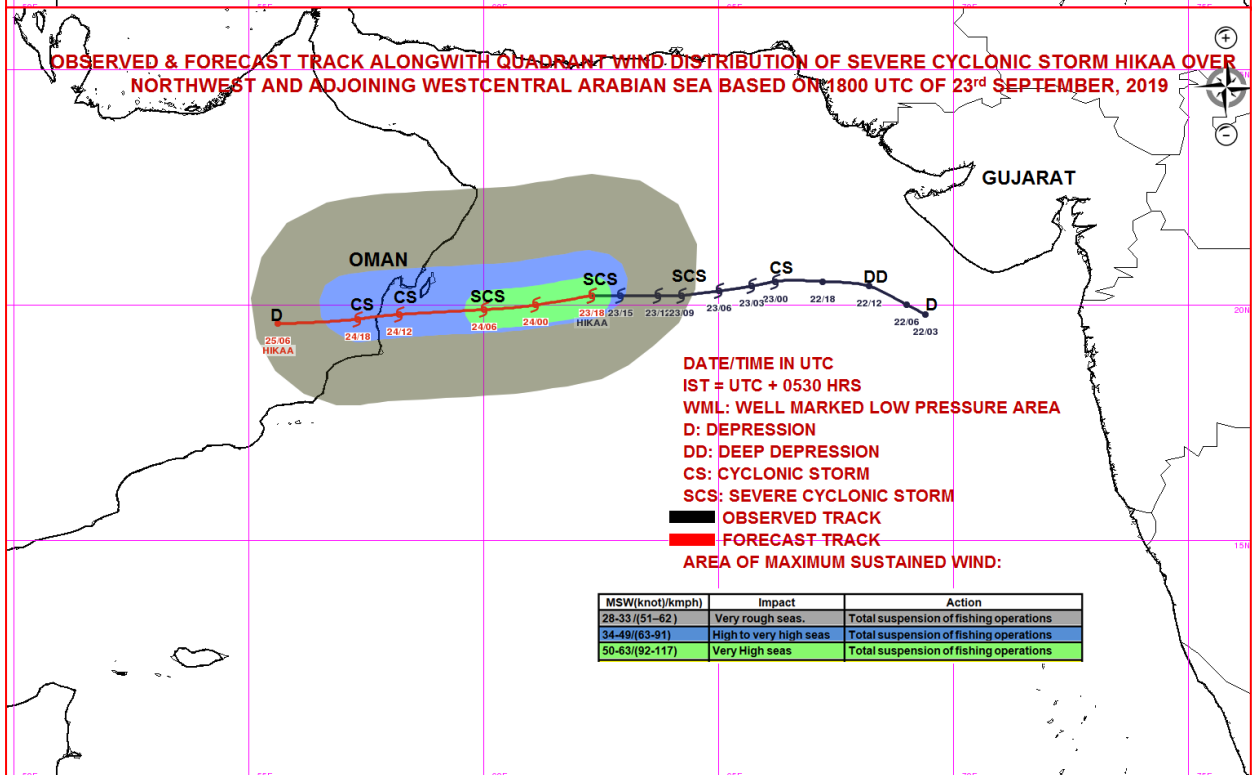
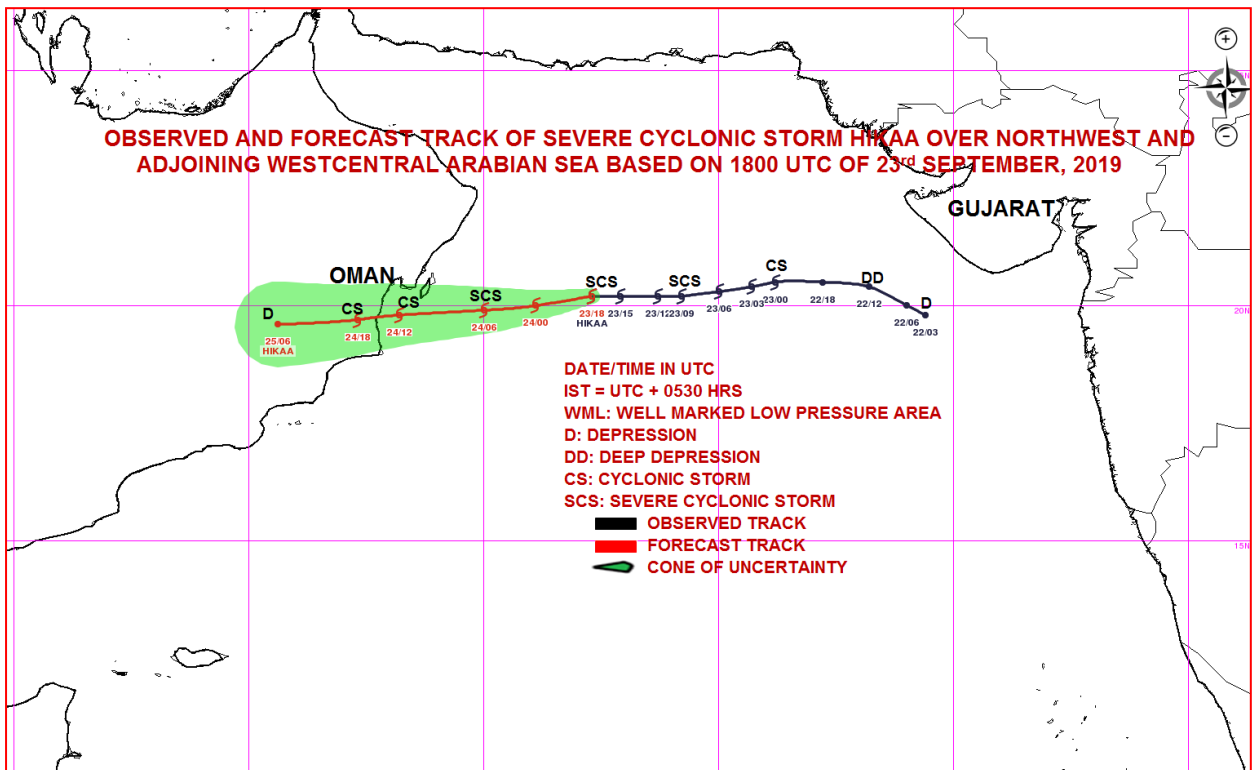
*The next bulletin will be issued at 0530 hrs IST of 24<sup>th</sup> September, 2019.*

**(D.R. Pattanaik)**  
**Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 12 (ARB/02/2019)

TIME OF ISSUE: 0520 HOURS IST

DATED: 24.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Severe Cyclonic Storm 'HIKAA' over northwest and adjoining westcentral Arabian Sea**

The **Severe Cyclonic Storm 'HIKAA'** over northwest and adjoining westcentral Arabian Sea moved westwards with a speed of 24 kmph during past 06 hours and lay centred at 0230 hrs IST of 24<sup>th</sup> September, 2019 near latitude 20.2°N and longitude 61.5°E, over same area about 770 km west-southwest of Karachi (Pakistan), 270 km east-southeast of Masirah (Oman) and about 410 km east-northeast of Duqm (Oman). It is likely to weaken gradually, move nearly westwards and cross Oman coast between latitude 19°N and 20°N close to Duqm during night of 24<sup>th</sup> September 2019 as a Cyclonic Storm with a wind speed of 70-80 kmph gusting to 90 kmph.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
24.09.19/0230	20.2/61.5	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/0530	20.0/61.1	110-120 gusting to 130	Severe Cyclonic Storm
24.09.19/1130	19.9/60.0	95-105 gusting to 115	Severe Cyclonic Storm
24.09.19/1730	19.8/58.2	80-90 gusting to 100	Cyclonic Storm
24.09.19/2330	19.7/57.3	70-80 gusting to 90	Cyclonic Storm
25.09.19/1130	19.6/55.6	40-50 gusting to 60	Depression

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warnings:

### (i) Wind warning

Gale wind, speed reaching 110-120 kmph gusting to 130 kmph very likely to prevail over northwest and adjoining westcentral Arabian Sea during next 06 hours. It will gradually decrease thereafter becoming 70-80 kmph gusting to 90 kmph by 24<sup>th</sup> midnight along & off Oman coast. Gale wind, speed reaching 55-65 kmph gusting to 75 kmph likely to prevail over northeast and adjoining eastcentral Arabian Sea.

### (ii) Sea condition

The Sea conditions will be very high over northwest and adjoining westcentral Arabian Sea during next 12 hours and high to very rough during subsequent 12 hours and improve thereafter. Sea condition is very likely to be high to very rough over northeast and adjoining eastcentral Arabian Sea during next 12 hours.

### (iii) Fishermen Warning

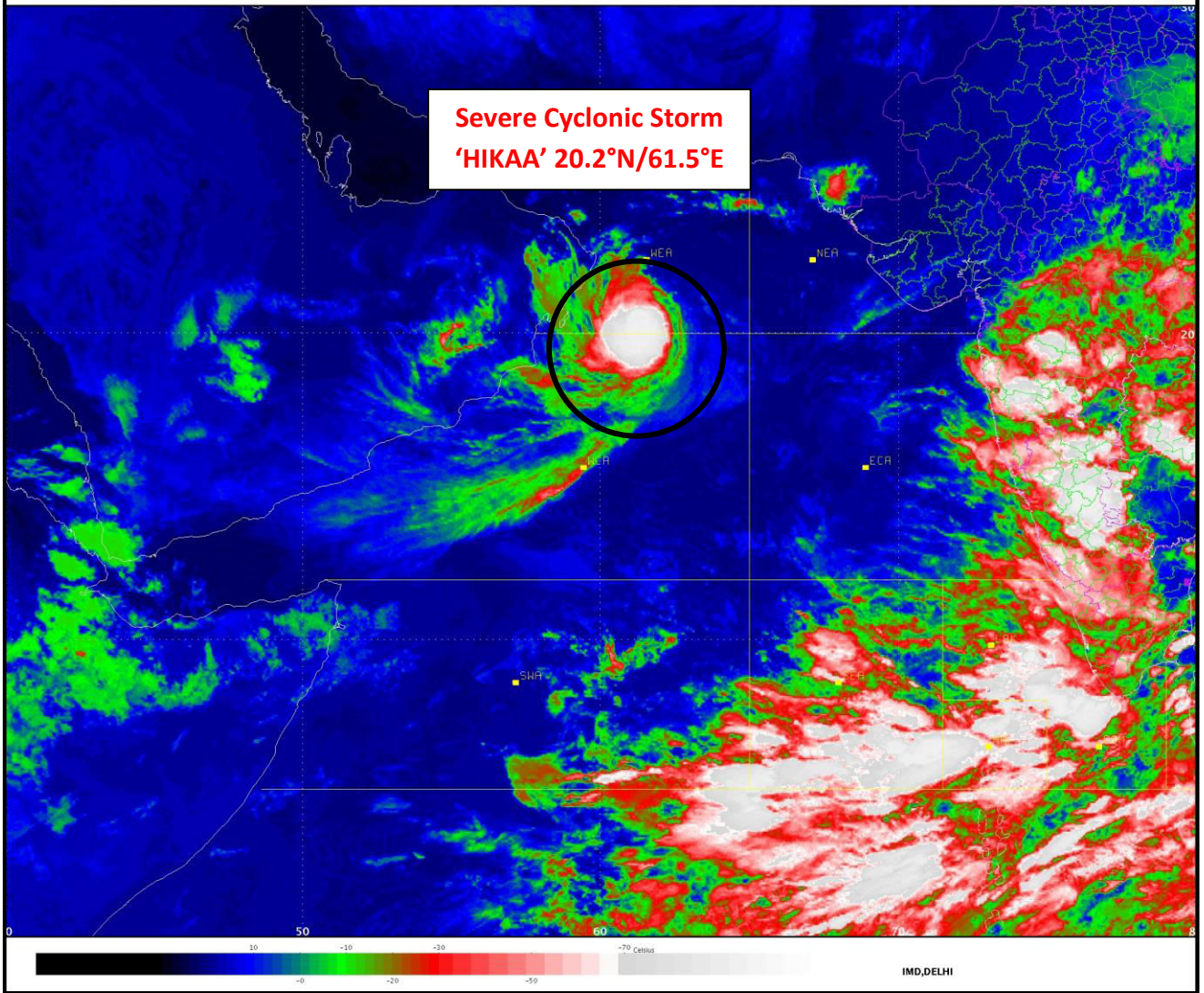
The fishermen are advised not to venture into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning and into northeast and adjoining eastcentral Arabian Sea during next 06 hours.

*The next bulletin will be issued at 0830 hrs IST of 24<sup>th</sup> September, 2019.*

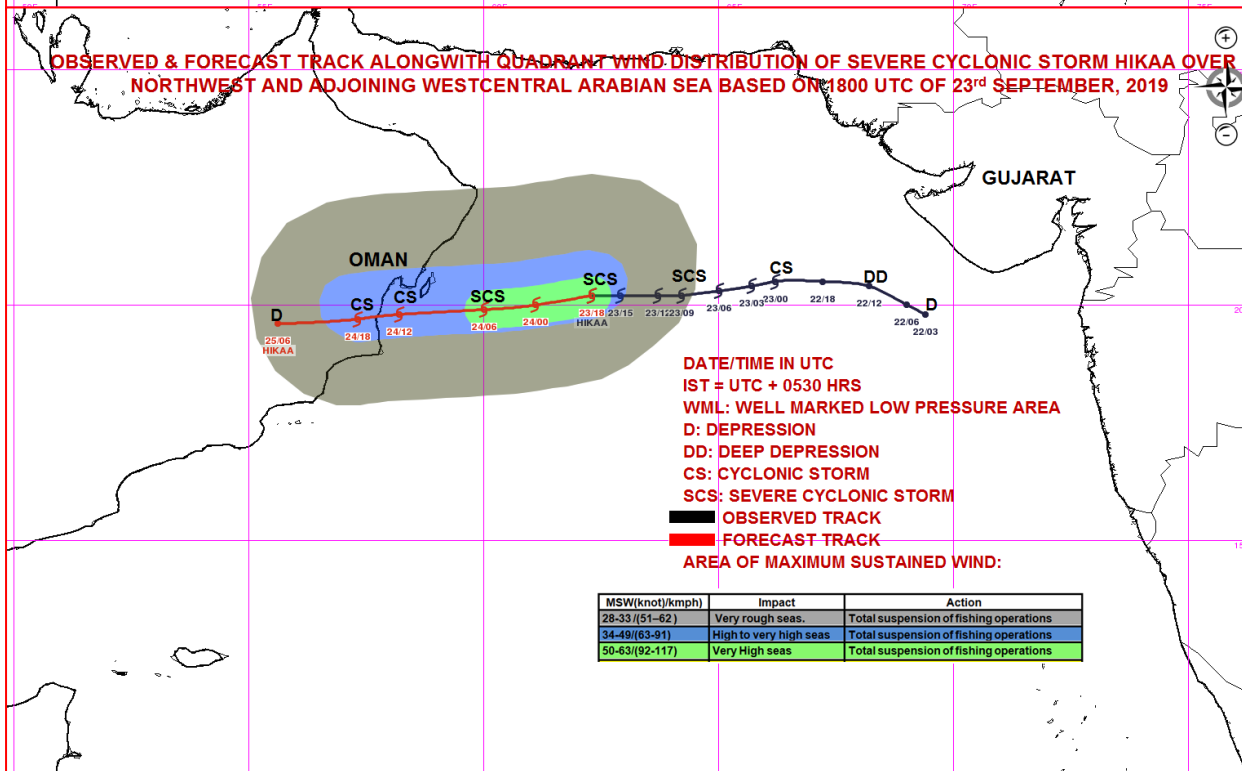
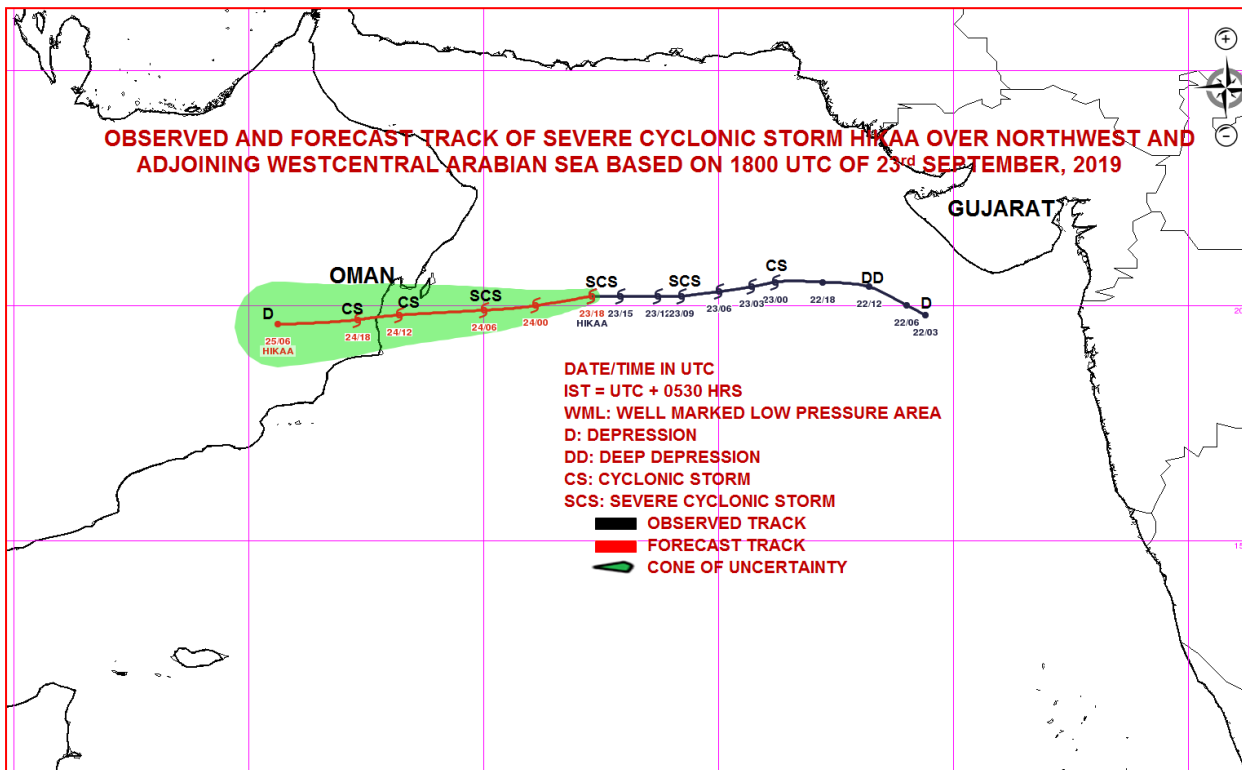
(D.R. Pattanaik)  
Scientist-E, RSMC, New Delhi

*Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.*





**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 13 (ARB/02/2019)

TIME OF ISSUE: 0830 HOURS IST

DATED: 24.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Severe Cyclonic Storm 'HIKAA' intensified into a very severe cyclonic storm over northwest and adjoining westcentral Arabian Sea**

The **Severe Cyclonic Storm 'HIKAA'** over northwest and adjoining westcentral Arabian Sea moved nearly westwards with a speed of 22 kmph during past 06 hours and intensified rapidly into a Very Severe Cyclonic Storm over northwest and adjoining westcentral Arabian Sea and lay centred at 0530 hrs IST of 24<sup>th</sup> September, 2019 near latitude 20.1°N and longitude 61.0°E, about 820 km west-southwest of Karachi (Pakistan), 220 km east-southeast of Masirah (Oman) and about 350 km east-northeast of Duqm (Oman). It is likely to maintain its intensity for next six hours and weaken gradually thereafter. It is very likely to move west-southwestwards and cross Oman coast between lat. 19. 5°N and 20°N close to Duqm during night of 24<sup>th</sup> September 2019 as a severe Cyclonic Storm with a wind speed of 110-120 kmph gusting to 135 kmph.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
24.09.19/0530	20.1/61.0	130-140 gusting to 155	Very Severe Cyclonic Storm
24.09.19/1130	20.0/59.6	125-135 gusting to 150	Very Severe Cyclonic Storm
24.09.19/1730	19.9/58.3	115-125 gusting to 140	Severe Cyclonic Storm
24.09.19/2330	19.8/57.0	80-90 gusting to 100	Cyclonic Storm
25.09.19/0530	19.7/56.0	55-65 gusting to 75	Deep Depression
25.09.19/1730	19.5/55.0	25-35 gusting to 45	Low

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warnings:

### (i) Wind warning

Gale wind, speed reaching 130-140 kmph gusting to 155 kmph very likely to prevail over northwest and adjoining westcentral Arabian Sea during next 06 hours. It will gradually decrease thereafter becoming 100-110 kmph gusting to 120 kmph by 24<sup>th</sup> evening along & off Oman coast. Gale wind. It would further weaken gradually becoming squally wind speed reaching 45-55 kmph gusting to 65 kmph over northwest and adjoining westcentral Arabian Sea near Oman coast during 25<sup>th</sup> morning.

### (ii) Sea condition

The Sea conditions will be phenomenal over northwest and adjoining westcentral Arabian Sea during next 12 hours and high to very rough during subsequent 12 hours and improve thereafter.

### (iii) Fishermen Warning

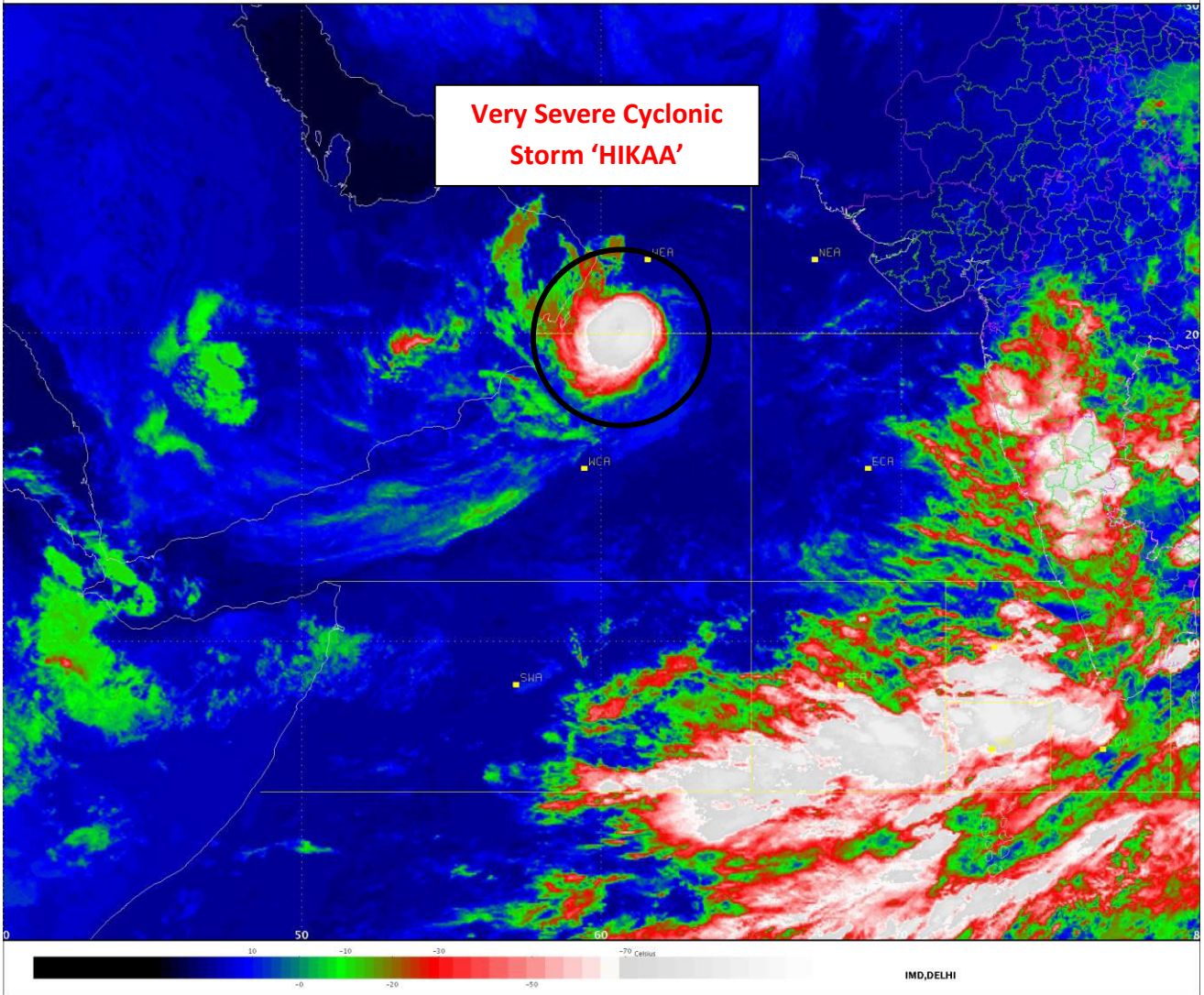
The fishermen are advised not to venture into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

*The next bulletin will be issued at 1130 hrs IST of 24<sup>th</sup> September, 2019.*

(D.R. Pattanaik)  
Scientist-E, RSMC, New Delhi

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**

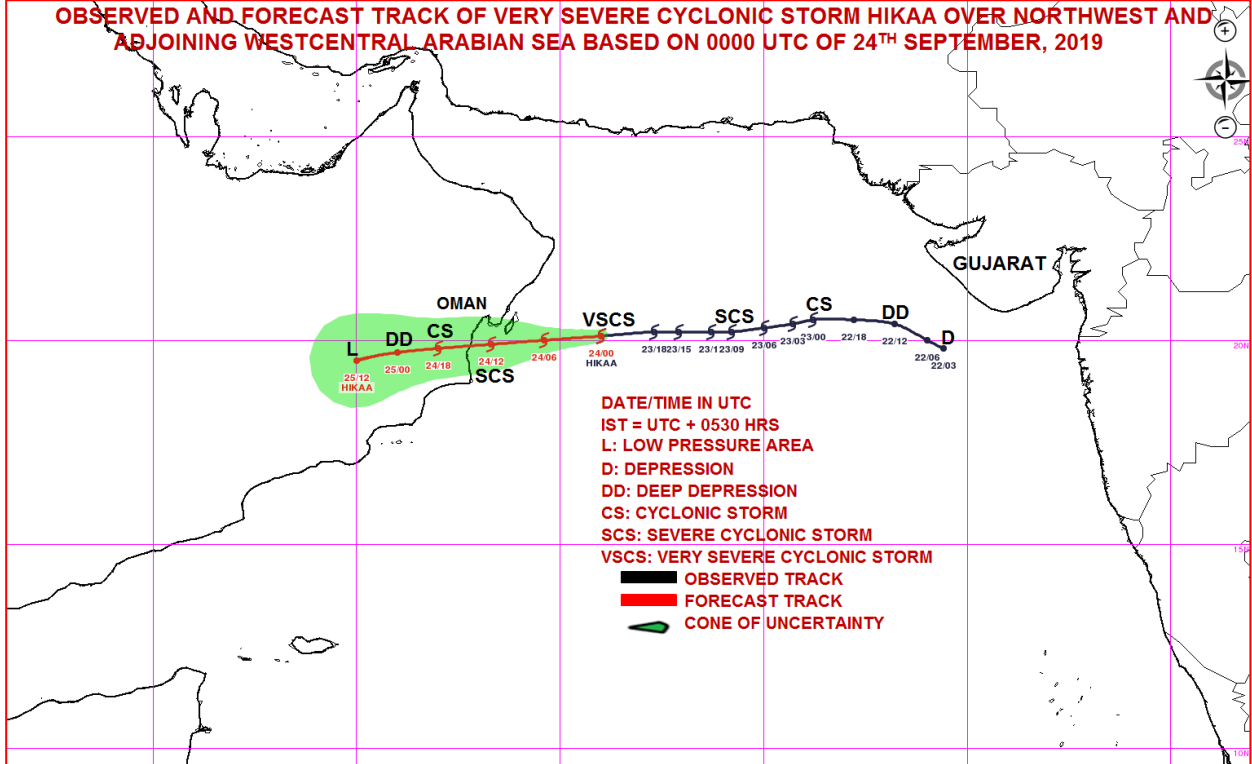




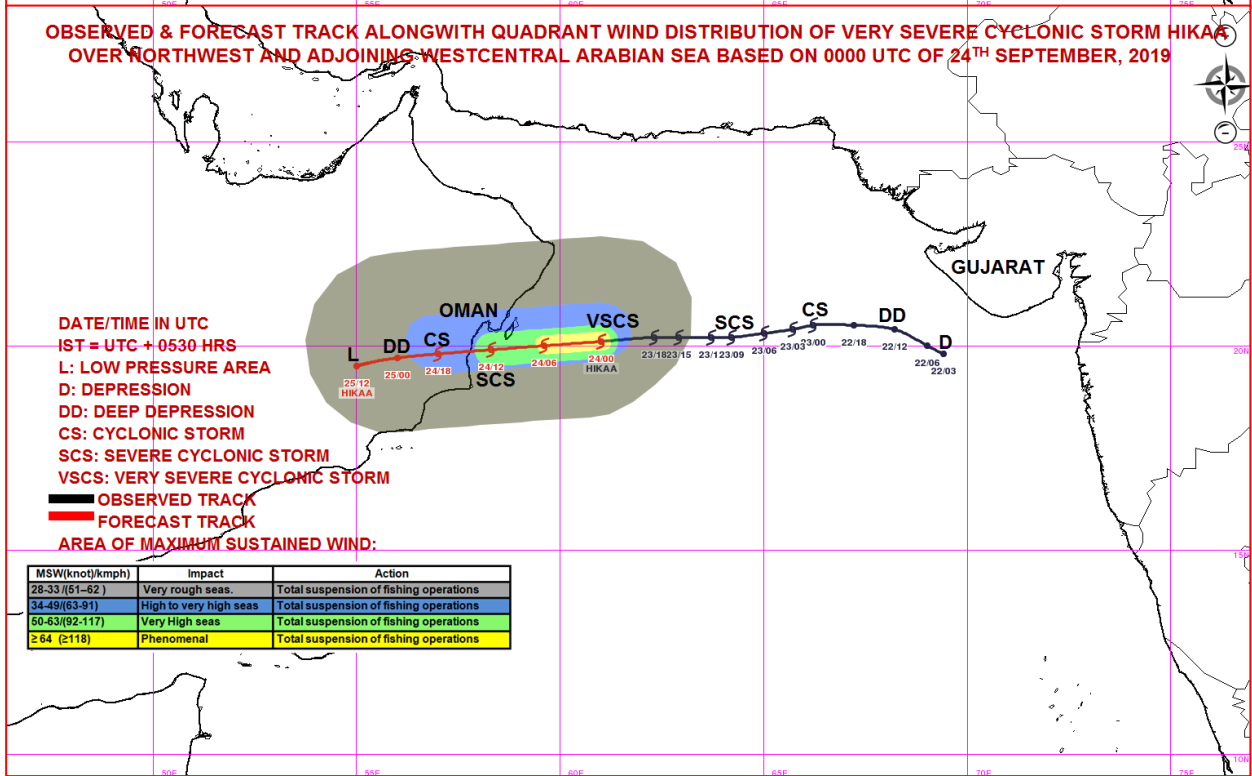
**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**OBSERVED AND FORECAST TRACK OF VERY SEVERE CYCLONIC STORM HIKAA OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 0000 UTC OF 24<sup>TH</sup> SEPTEMBER, 2019**



**OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM HIKAA OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 0000 UTC OF 24<sup>TH</sup> SEPTEMBER, 2019**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 14 (ARB/02/2019)

TIME OF ISSUE: 1030 HOURS IST

DATED: 24.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

Sub: The Very Severe Cyclonic Storm 'HIKAA' over northwest and adjoining westcentral Arabian Sea

The Very Severe Cyclonic Storm 'HIKAA' over northwest and adjoining westcentral Arabian Sea moved nearly westwards with a speed of 21 kmph during past 06 hours and lay centred at 0830 hrs IST over northwest and adjoining westcentral Arabian Sea near latitude 20.1°N and longitude 60.3°E, about 880 km west-southwest of Karachi (Pakistan), 160 km east-southeast of Masirah (Oman) and about 280 km east-northeast of Duqm (Oman). It is likely to maintain its intensity for next six hours and weaken gradually thereafter. It is very likely to move west-southwestwards and cross Oman coast between lat. 19. 5°N and 20°N close to Duqm around 2030 Hours IST of 24<sup>th</sup> September 2019 as a Severe Cyclonic Storm with a wind speed of 110-120 kmph gusting to 135 kmph.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
24.09.19/0830	20.1/60.3	140-150 gusting to 165	Very Severe Cyclonic Storm
24.09.19/1130	20.0/59.6	130-140 gusting to 155	Very Severe Cyclonic Storm
24.09.19/1730	19.9/58.3	120-130 gusting to 145	Very Severe Cyclonic Storm
24.09.19/2330	19.8/57.0	90-100 gusting to 110	Severe Cyclonic Storm
25.09.19/0530	19.7/56.0	60-70 gusting to 80	Cyclonic Storm
25.09.19/1730	19.5/55.0	40-50 gusting to 60	Depression

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warnings:

### (i) Wind warning

Gale wind, speed reaching 140-150 kmph gusting to 165 kmph very likely to prevail over northwest and adjoining westcentral Arabian Sea during next 06 hours. It will gradually decrease thereafter becoming 120-130 kmph gusting to 145 kmph by 24<sup>th</sup> evening along & off Oman coast and over and around Masirah. It would further weaken gradually becoming squally wind speed reaching 60-70 kmph gusting to 80 kmph over northwest and adjoining westcentral Arabian Sea near Oman coast during 25<sup>th</sup> morning.

### (ii) Sea condition

The Sea conditions will be phenomenal over northwest and adjoining westcentral Arabian Sea during next 12 hours and high to very rough during subsequent 12 hours and improve thereafter.

### (iii) Fishermen Warning

The fishermen are advised not to venture into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

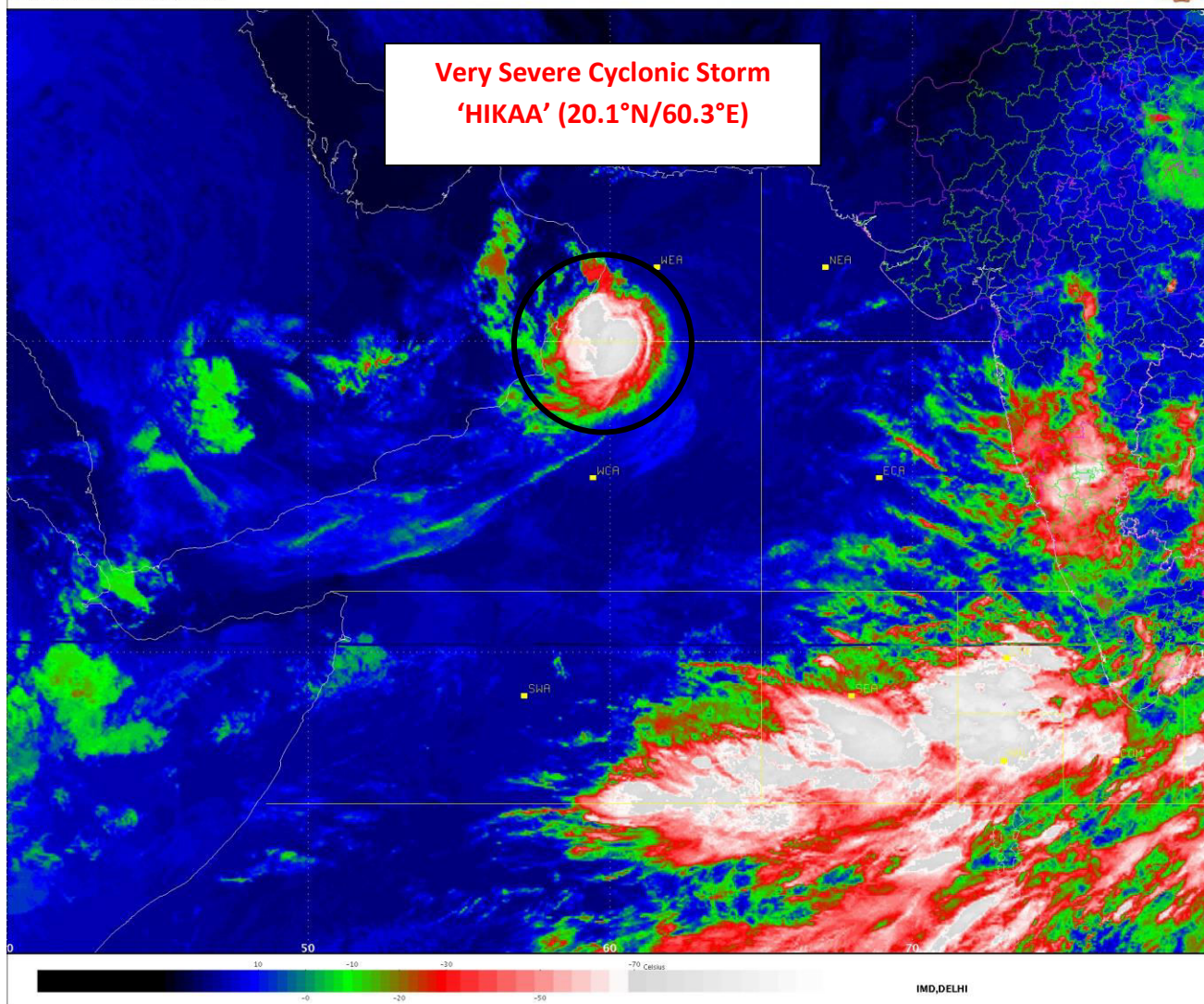
*The next bulletin will be issued at 1430 hrs IST of 24<sup>th</sup> September, 2019.*

(Sunitha Devi.S)  
Scientist-E, RSMC, New Delhi

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**



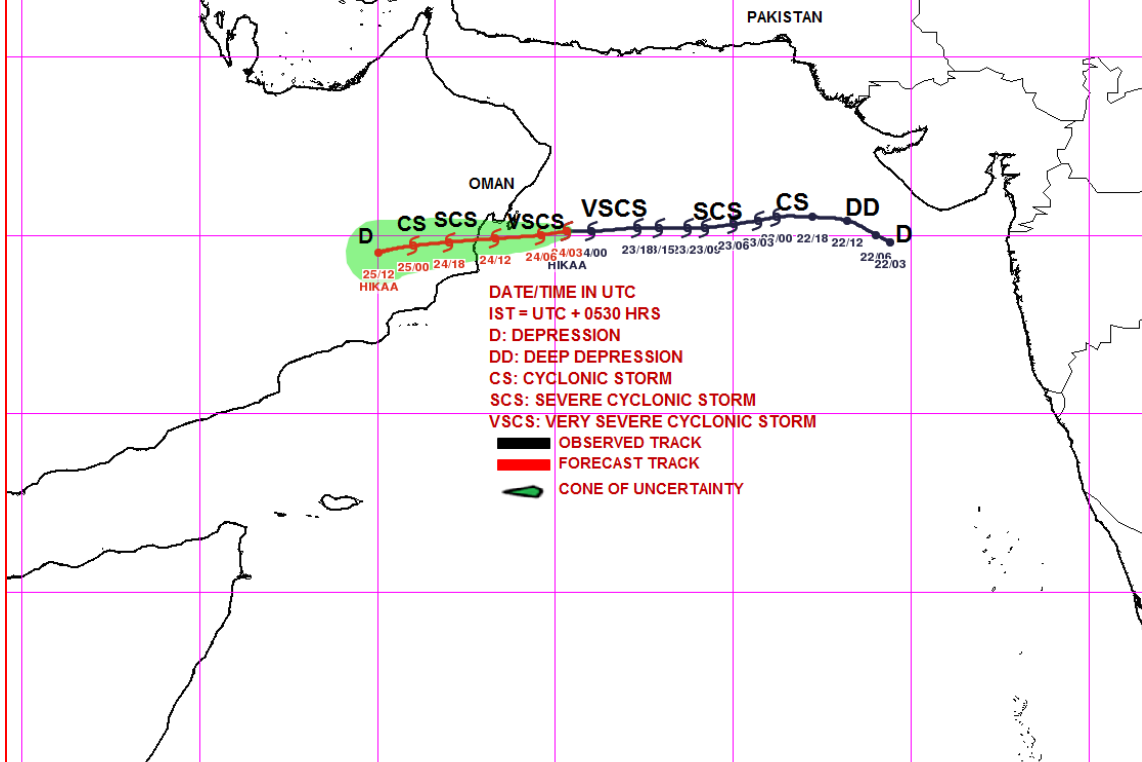
**Very Severe Cyclonic Storm  
'HIKAA' (20.1°N/60.3°E)**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**

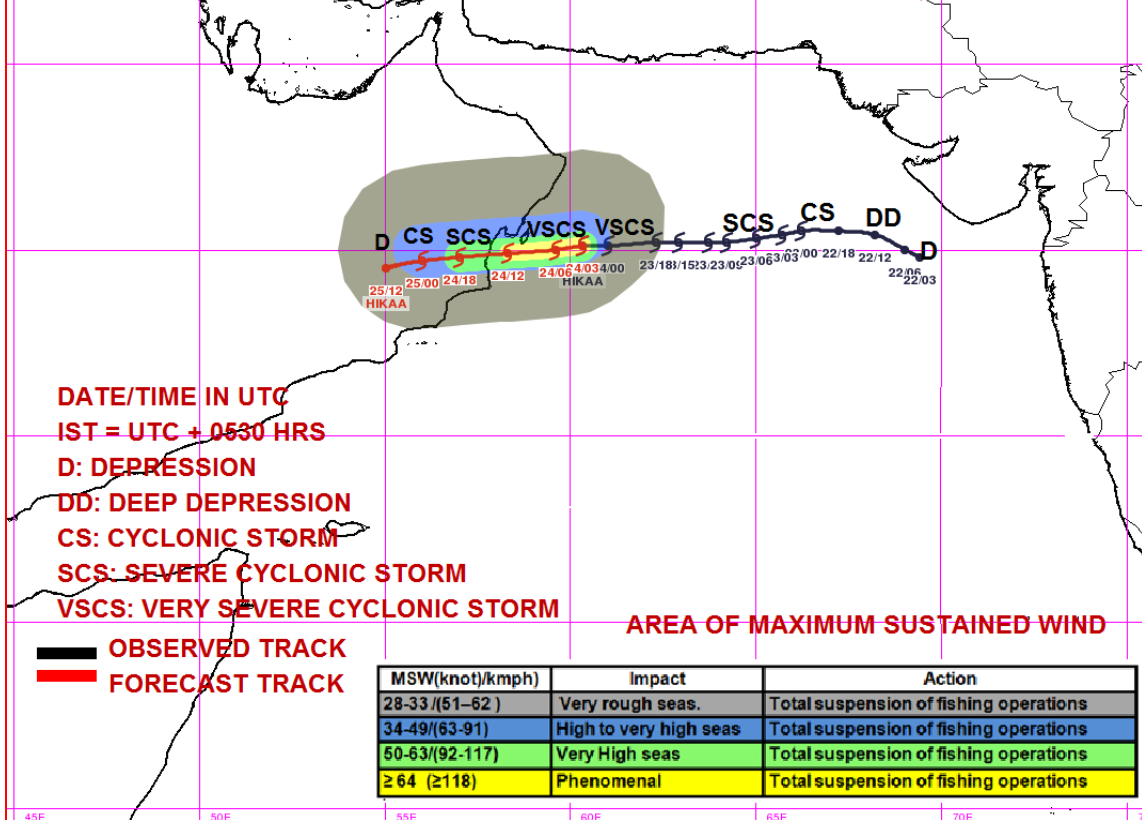


**OBSERVED AND FORECAST TRACK OF VERY SEVERE CYCLONIC STORM HIKAA OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 0300 UTC OF 24<sup>TH</sup> SEPTEMBER, 2019**



DATE/TIME IN UTC  
 IST = UTC + 0530 HRS  
 D: DEPRESSION  
 DD: DEEP DEPRESSION  
 CS: CYCLONIC STORM  
 SCS: SEVERE CYCLONIC STORM  
 VSCS: VERY SEVERE CYCLONIC STORM  
 — OBSERVED TRACK  
 — FORECAST TRACK  
 — CONE OF UNCERTAINTY

**OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM HIKAA OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 0300 UTC OF 24<sup>TH</sup> SEPTEMBER, 2019**



DATE/TIME IN UTC  
 IST = UTC + 0530 HRS  
 D: DEPRESSION  
 DD: DEEP DEPRESSION  
 CS: CYCLONIC STORM  
 SCS: SEVERE CYCLONIC STORM  
 VSCS: VERY SEVERE CYCLONIC STORM

**AREA OF MAXIMUM SUSTAINED WIND**

— OBSERVED TRACK  
 — FORECAST TRACK

MSW(knot)/kmph)	Impact	Action
28-33 (51-62)	Very rough seas.	Total suspension of fishing operations
34-49 (63-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.





India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 15 (ARB/02/2019)

TIME OF ISSUE: 1430 HOURS IST

DATED: 24.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

Sub: The Very Severe Cyclonic Storm 'HIKAA' over northwest and adjoining westcentral Arabian Sea

The **Very Severe Cyclonic Storm 'HIKAA'** over northwest and adjoining westcentral Arabian Sea moved west-southwestwards with a speed of 26 kmph during past 06 hours and lay centred at 1130 hrs IST over northwest and adjoining westcentral Arabian Sea near latitude 20.0°N and longitude 59.5°E, about 960 km west-southwest of Karachi (Pakistan), 95 km southeast of Masirah (Oman) and about 195 km east-northeast of Duqm (Oman). It is very likely to move west-southwestwards and cross Oman coast between lat. 19. 5°N and 20°N close to Duqm around 2030 Hours IST of 24<sup>th</sup> September 2019 as a Severe Cyclonic Storm with a wind speed of 110-120 kmph gusting to 135 kmph.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
24.09.19/1130	20.0/59.5	130-140 gusting to 155	Very Severe Cyclonic Storm
24.09.19/1730	19.9/58.2	120-130 gusting to 145	Very Severe Cyclonic Storm
24.09.19/2330	19.8/56.9	90-100 gusting to 110	Severe Cyclonic Storm
25.09.19/0530	19.7/55.8	60-70 gusting to 80	Cyclonic Storm
25.09.19/1130	19.5/54.8	40-50 gusting to 60	Depression
25.09.19/1730	19.5/55.0	20-30 gusting to 40	Low

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warnings:

### (i) Wind warning

Gale wind, speed reaching 130-140 kmph gusting to 155 kmph is prevailing over northwest and adjoining westcentral Arabian Sea around the system centre. It will gradually decrease becoming 120-130 kmph gusting to 145 kmph by 24<sup>th</sup> evening along & off Oman coast and over and around Masirah. It would further weaken and become 110-120 kmph gusting to 130 kmph over northwest and adjoining westcentral Arabian Sea along & off Oman coast at the time of landfall.

### (ii) Sea condition

The Sea conditions will be phenomenal over northwest and adjoining westcentral Arabian Sea during next 12 hours and high to very rough during subsequent 12 hours and improve thereafter.

### (iii) Fishermen Warning

The fishermen are advised not to venture into northwest & adjoining westcentral Arabian Sea till 25<sup>th</sup> morning.

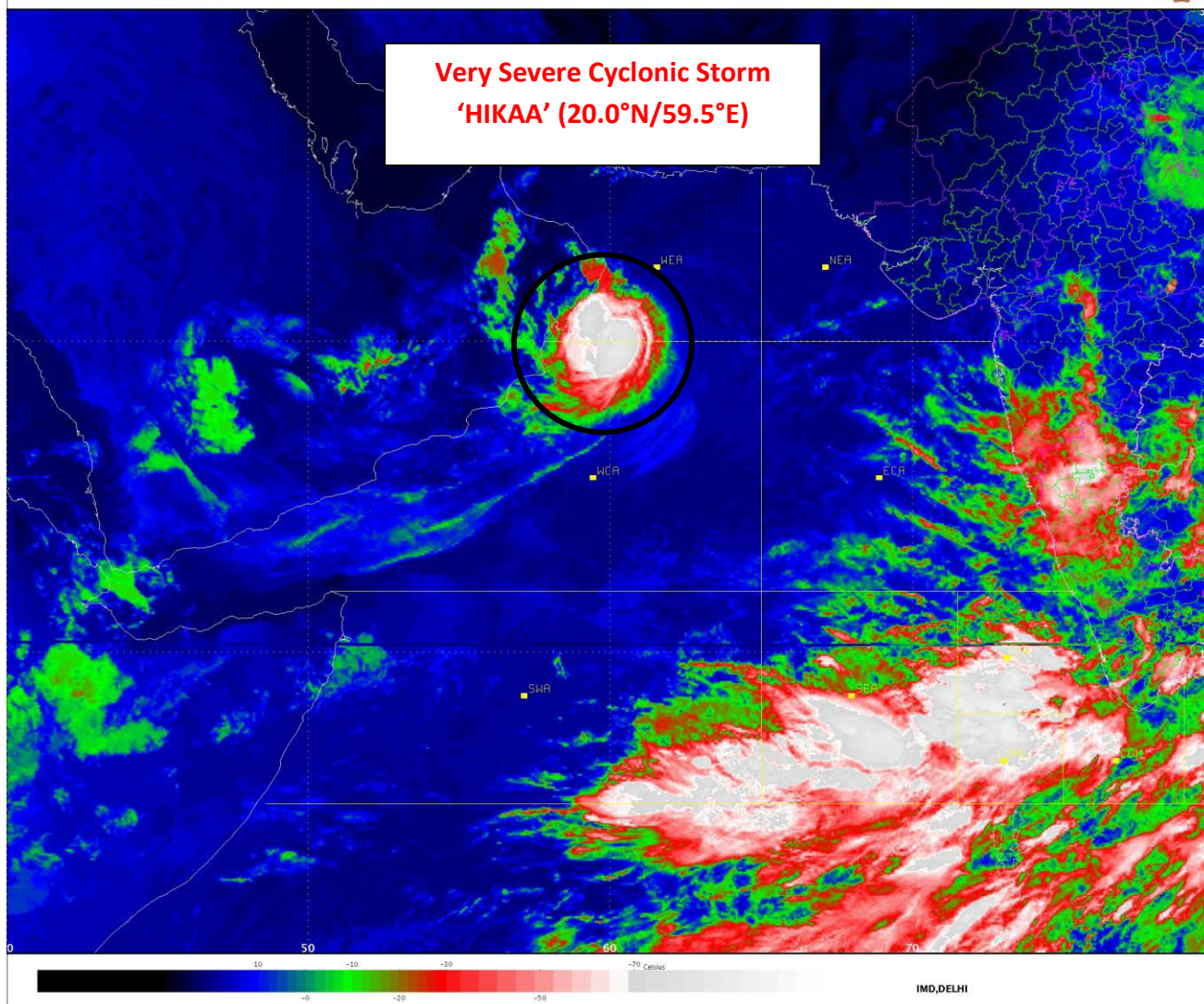
*The next bulletin will be issued at 1730 hrs IST of 24<sup>th</sup> September, 2019.*

(Sunitha Devi.S)  
Scientist-E, RSMC, New Delhi

*Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.*

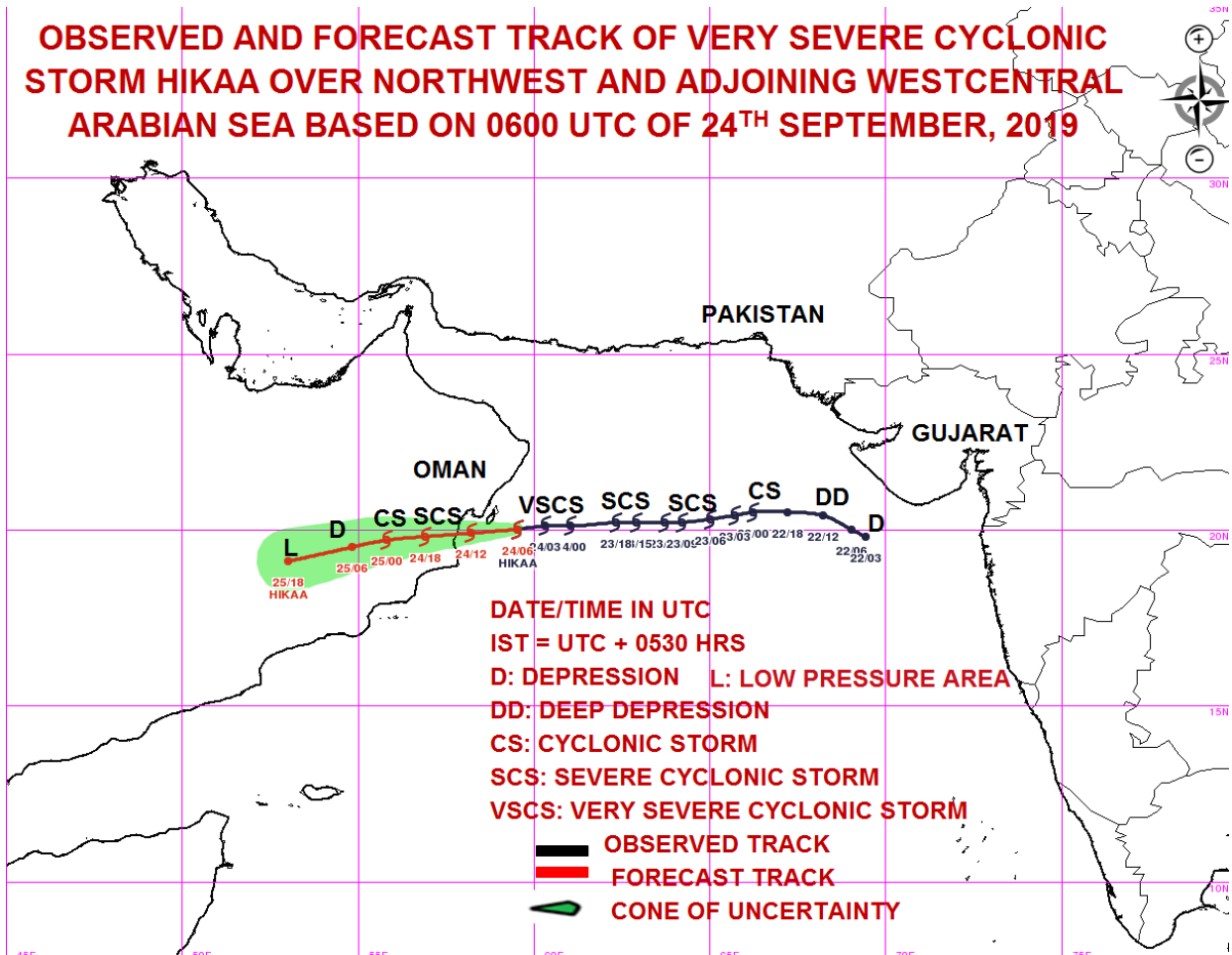


**Very Severe Cyclonic Storm  
'HIKAA' (20.0°N/59.5°E)**

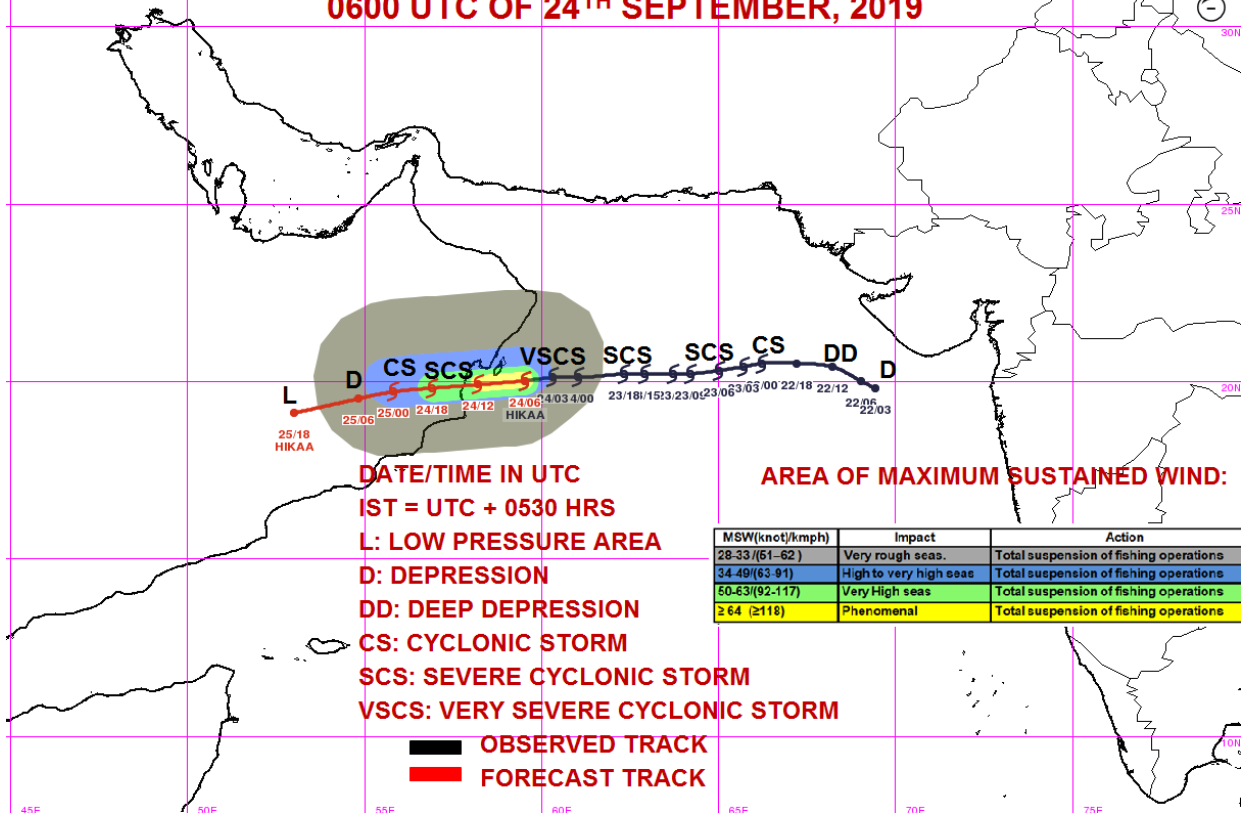


**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**

**OBSERVED AND FORECAST TRACK OF VERY SEVERE CYCLONIC STORM HIKAA OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 24<sup>TH</sup> SEPTEMBER, 2019**



**OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM HIKAA OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 24<sup>TH</sup> SEPTEMBER, 2019**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**





India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 16 (ARB/02/2019)

TIME OF ISSUE: 1615 HOURS IST

DATED: 24.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

Sub: Very Severe Cyclonic Storm 'HIKAA' over westcentral and adjoining northwest Arabian Sea

The **Very Severe Cyclonic Storm 'HIKAA'** over northwest and adjoining westcentral Arabian Sea moved west-southwestwards with a speed of 24 kmph during past 06 hours and lay centred at 1430 hrs IST of today, the 24<sup>th</sup> September 2019 near latitude 19.9°N and longitude 58.9°E over westcentral and adjoining northwest Arabian Sea, about 1010 km west-southwest of Karachi (Pakistan), 85 km south of Masirah (Oman) and about 135 km east-northeast of Duqm (Oman). It is very likely to move west-southwestwards and **cross Oman coast between Lat. 19.5°N and 20°N close to Duqm around 2030 Hours IST of 24<sup>th</sup> September 2019 as a Severe Cyclonic Storm with a wind speed of 110-120 kmph gusting to 135 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
24.09.19/1430	19.9/58.9	130-140 gusting to 155	Very Severe Cyclonic Storm
24.09.19/1730	19.8/58.2	120-130 gusting to 145	Very Severe Cyclonic Storm
24.09.19/2330	19.7/56.9	90-100 gusting to 110	Severe Cyclonic Storm
25.09.19/0530	19.6/55.8	60-70 gusting to 80	Cyclonic Storm
25.09.19/1130	19.4/54.8	40-50 gusting to 60	Depression
25.09.19/2330	19.1/53.0	20-30 gusting to 40	Low

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



## Warnings:

### (i) Wind warning

Gale wind, speed reaching 130-140 kmph gusting to 155 kmph is prevailing over westcentral and adjoining northwest Arabian Sea around the system centre. It will decrease becoming 120-130 kmph gusting to 145 kmph by 24<sup>th</sup> late evening along & off Oman coast and over and around Masirah. It would further weaken and become 110-120 kmph gusting to 130 kmph over northwest and adjoining westcentral Arabian Sea along & off Oman coast at the time of landfall.

### (ii) Sea condition

The Sea conditions will be phenomenal over westcentral and adjoining northwest Arabian Sea during next 09 hours and high to very rough during subsequent 12 hours and improve thereafter.

### (iii) Fishermen Warning

The fishermen are advised not to venture into westcentral and adjoining northwest Arabian Sea till 25<sup>th</sup> morning.

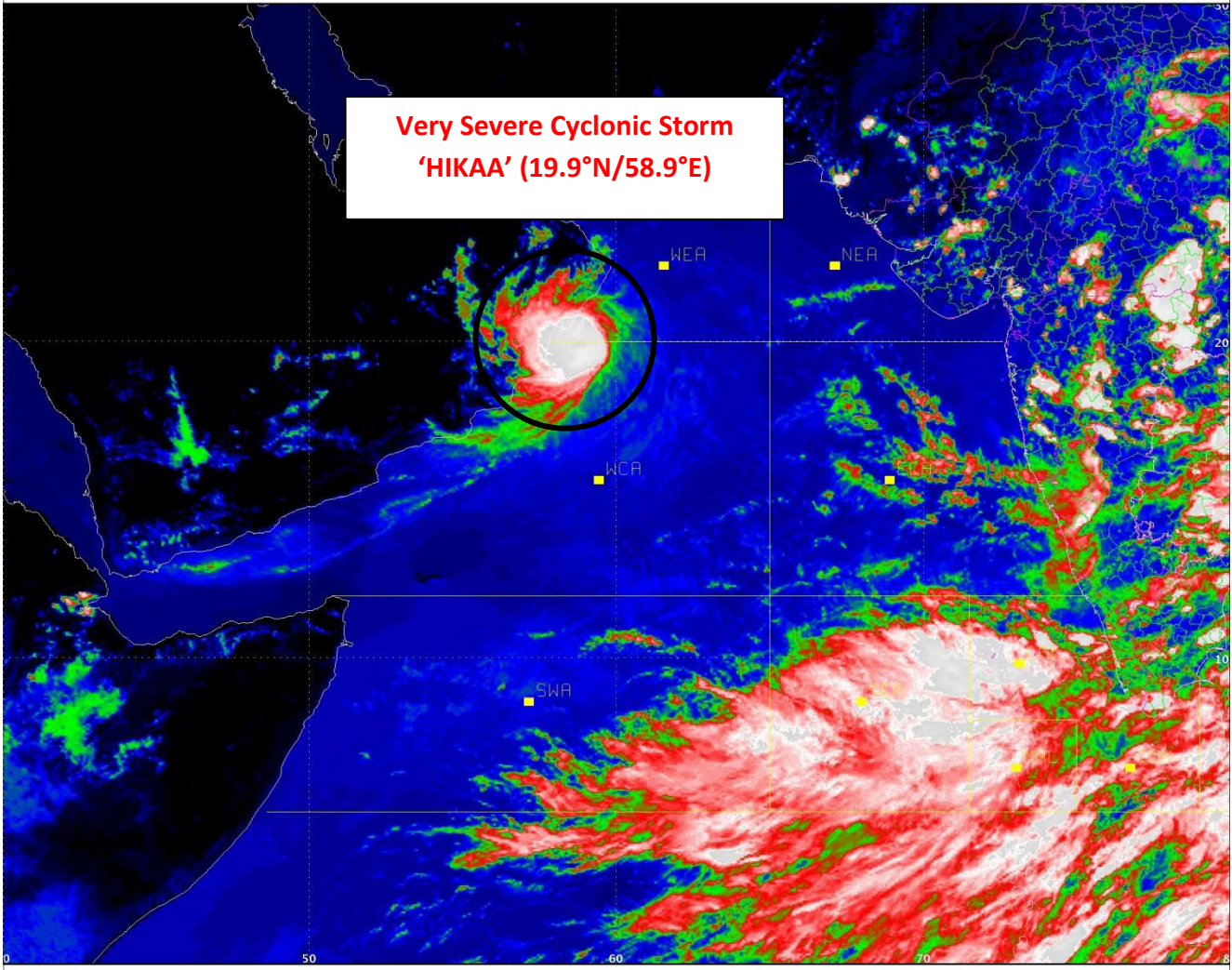
*The next bulletin will be issued at 2030 hrs IST of 24<sup>th</sup> September, 2019.*

(Sunitha Devi.S)  
Scientist-E, RSMC, New Delhi

*Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.*

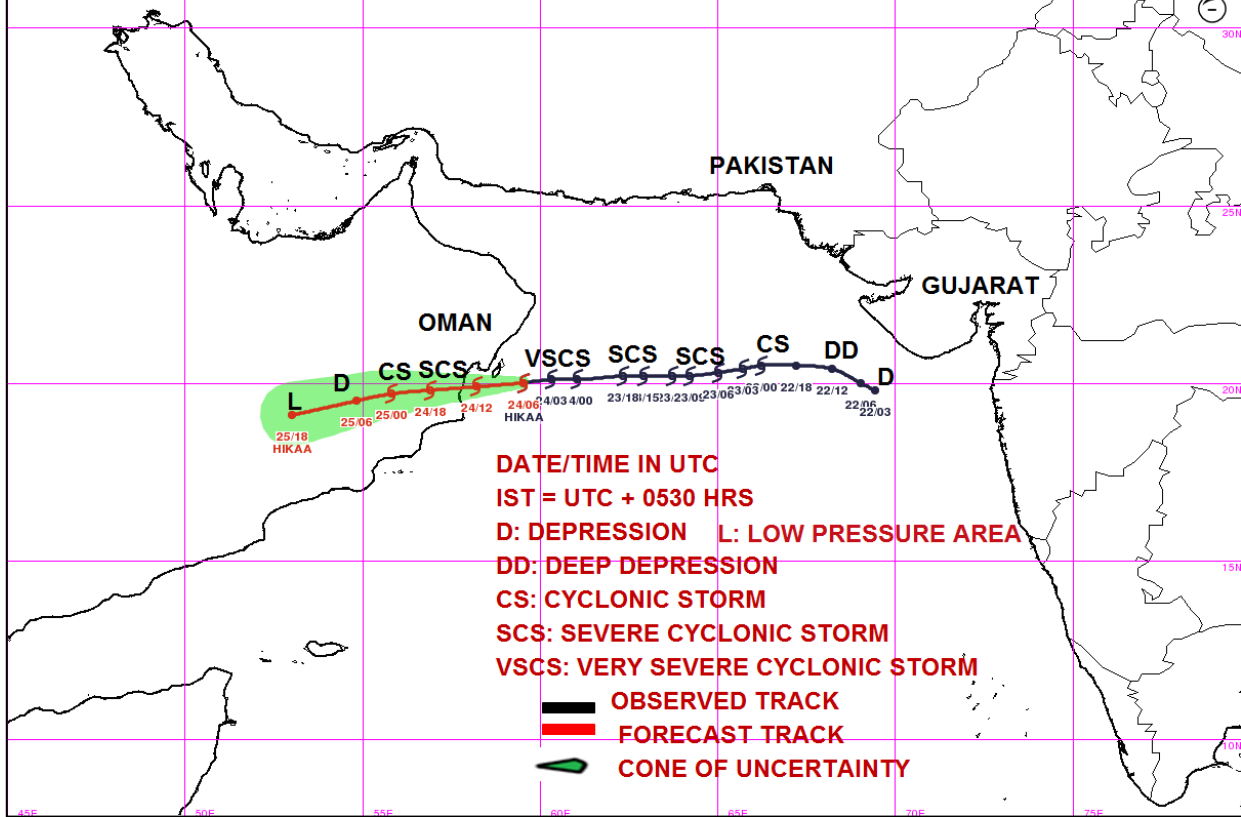


**Very Severe Cyclonic Storm  
'HIKAA' (19.9°N/58.9°E)**

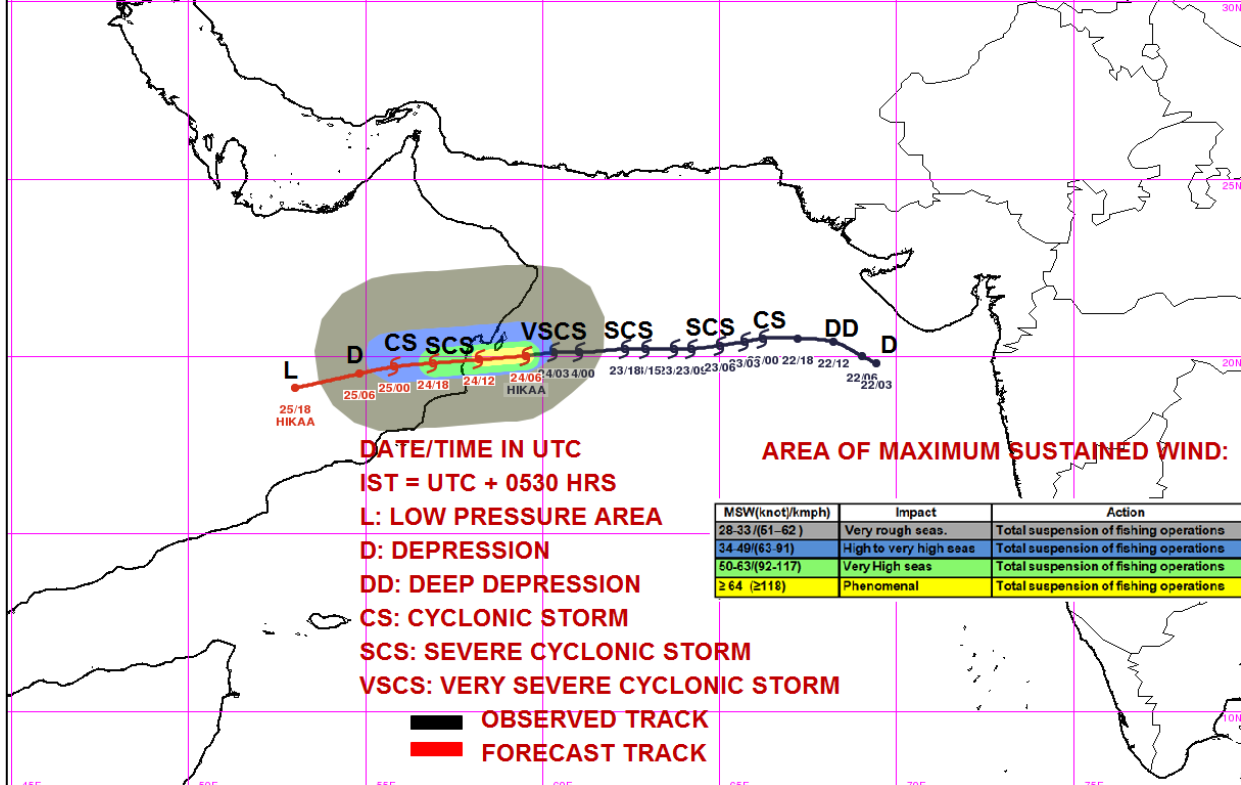


**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**

**OBSERVED AND FORECAST TRACK OF VERY SEVERE CYCLONIC STORM HIKAA OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 24<sup>TH</sup> SEPTEMBER, 2019**



**OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM HIKAA OVER NORTHWEST AND ADJOINING WESTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 24<sup>TH</sup> SEPTEMBER, 2019**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 17 (ARB/02/2019)

TIME OF ISSUE: 2030 HOURS IST

DATED: 24.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

Sub: Very Severe Cyclonic Storm 'HIKAA' over westcentral and adjoining northwest Arabian Sea

The **Very Severe Cyclonic Storm 'HIKAA'** over westcentral and adjoining northwest Arabian Sea moved west-southwestwards with a speed of 21 kmph during past 06 hours and lay centred at 1730 hrs IST of today, the 24<sup>th</sup> September 2019 near latitude 19.8°N and longitude 58.3°E over westcentral and adjoining northwest Arabian Sea, about 1070 km west-southwest of Karachi (Pakistan), 115 km south-southwest of Masirah (Oman) and about 70 km east-northeast of Duqm (Oman). It is very likely to move west-southwestwards and **cross Oman coast between Lat. 19.5°N and 20°N close to Duqm around 2030 Hours IST of 24<sup>th</sup> September 2019 as a Very Severe Cyclonic Storm with a wind speed of 120-130 kmph gusting to 145 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
24.09.19/1730	19.8/58.3	130-140 gusting to 155	Very Severe Cyclonic Storm
24.09.19/2330	19.7/56.9	100-110 gusting to 120	Severe Cyclonic Storm
25.09.19/0530	19.6/55.8	70-80 gusting to 90	Cyclonic Storm
25.09.19/1130	19.4/54.8	40-50 gusting to 60	Depression
25.09.19/1730	19.2/53.9	20-30 gusting to 40	Low

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warnings:

### (i) Wind warning

Gale wind, speed reaching 130-140 kmph gusting to 155 kmph is prevailing over westcentral and adjoining northwest Arabian Sea along & off Oman coast. It will slightly decrease becoming 120-130 kmph gusting to 145 kmph along & off Oman coast at the time of landfall. It would further weaken gradually becoming squally wind, 40-50 kmph gusting to 60 kmph by tomorrow, the 25<sup>th</sup> September 2019 morning over northwest and adjoining westcentral Arabian Sea along & off Oman coast.

### (ii) Sea condition

The Sea conditions will be phenomenal over westcentral and adjoining northwest Arabian Sea during next 06 hours and high to very rough during subsequent 12 hours and improve thereafter.

### (iii) Fishermen Warning

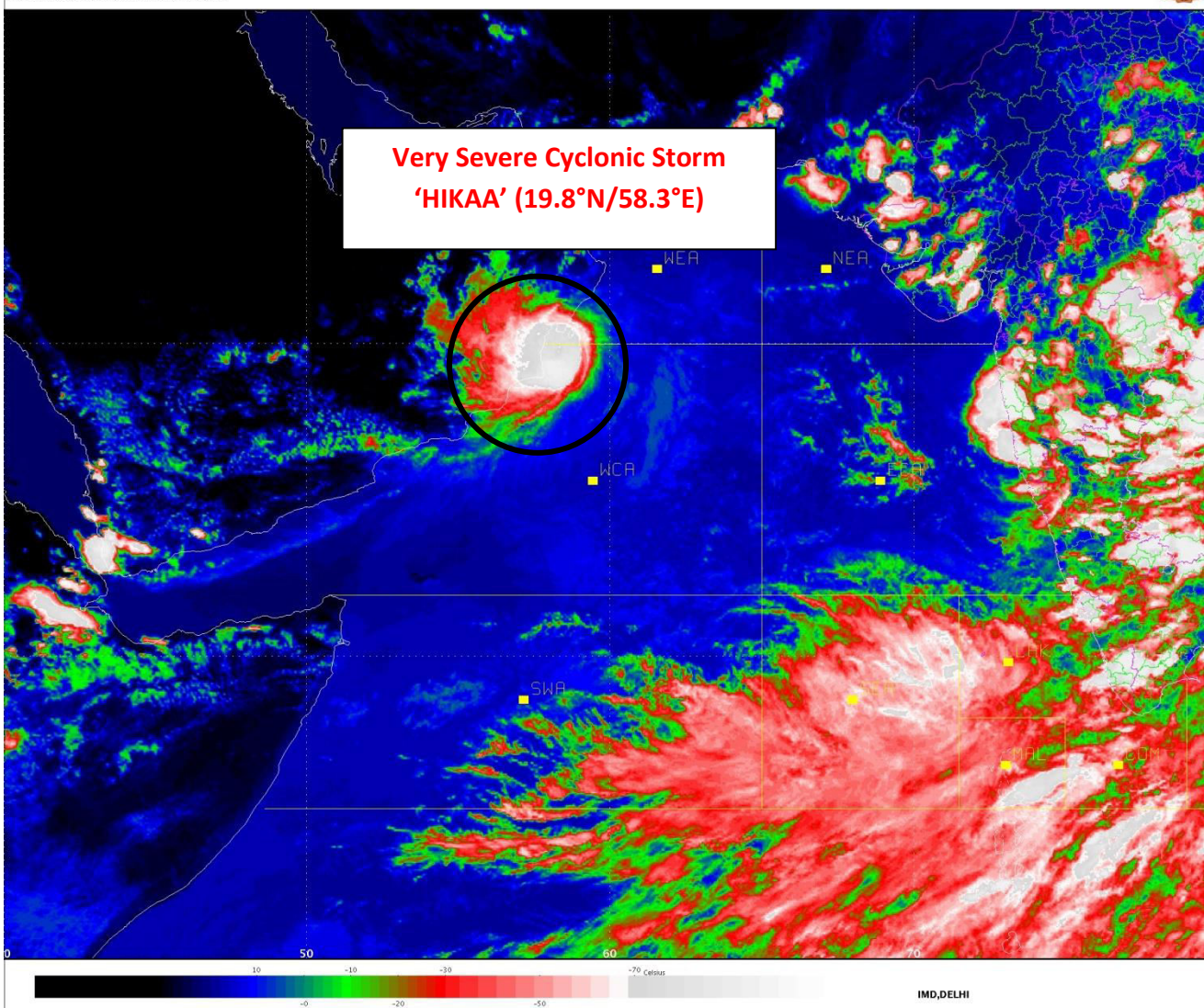
The fishermen are advised not to venture into westcentral and adjoining northwest Arabian Sea till 25<sup>th</sup> morning.

*The next bulletin will be issued at 2330 hrs IST of 24<sup>th</sup> September, 2019.*

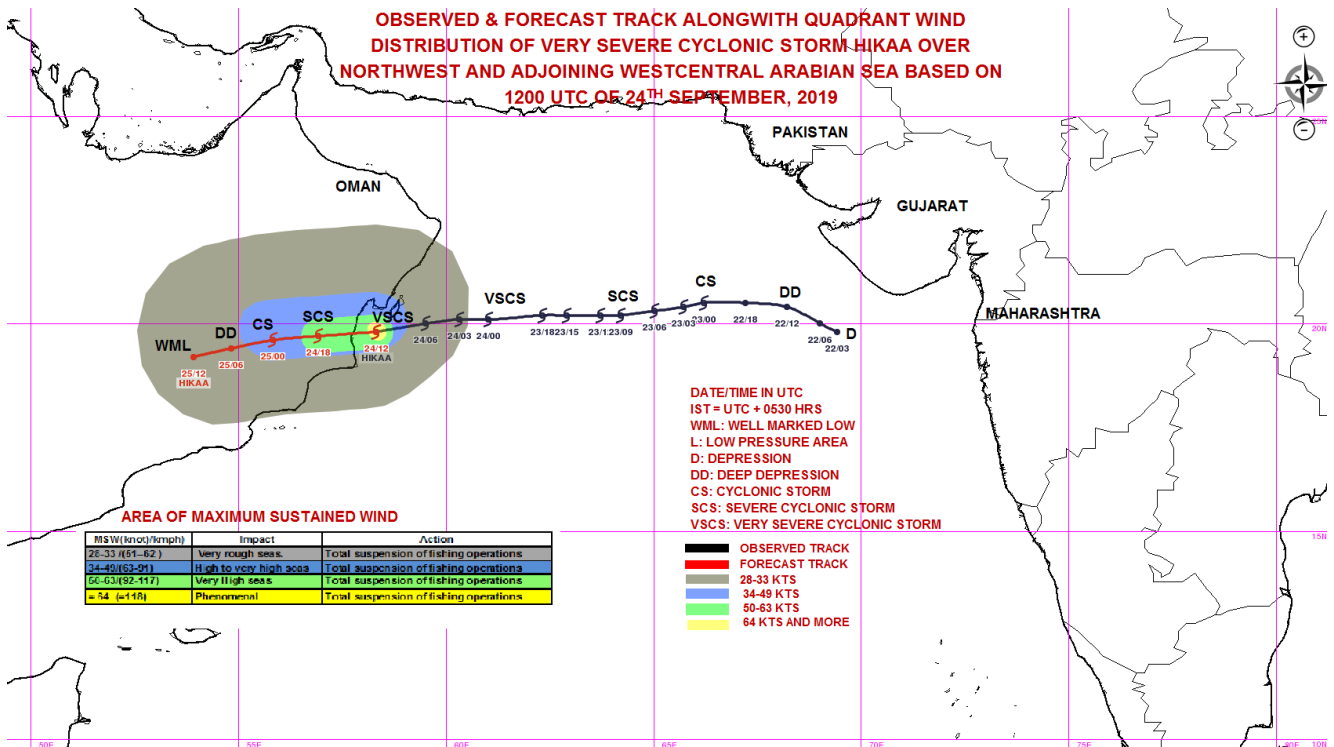
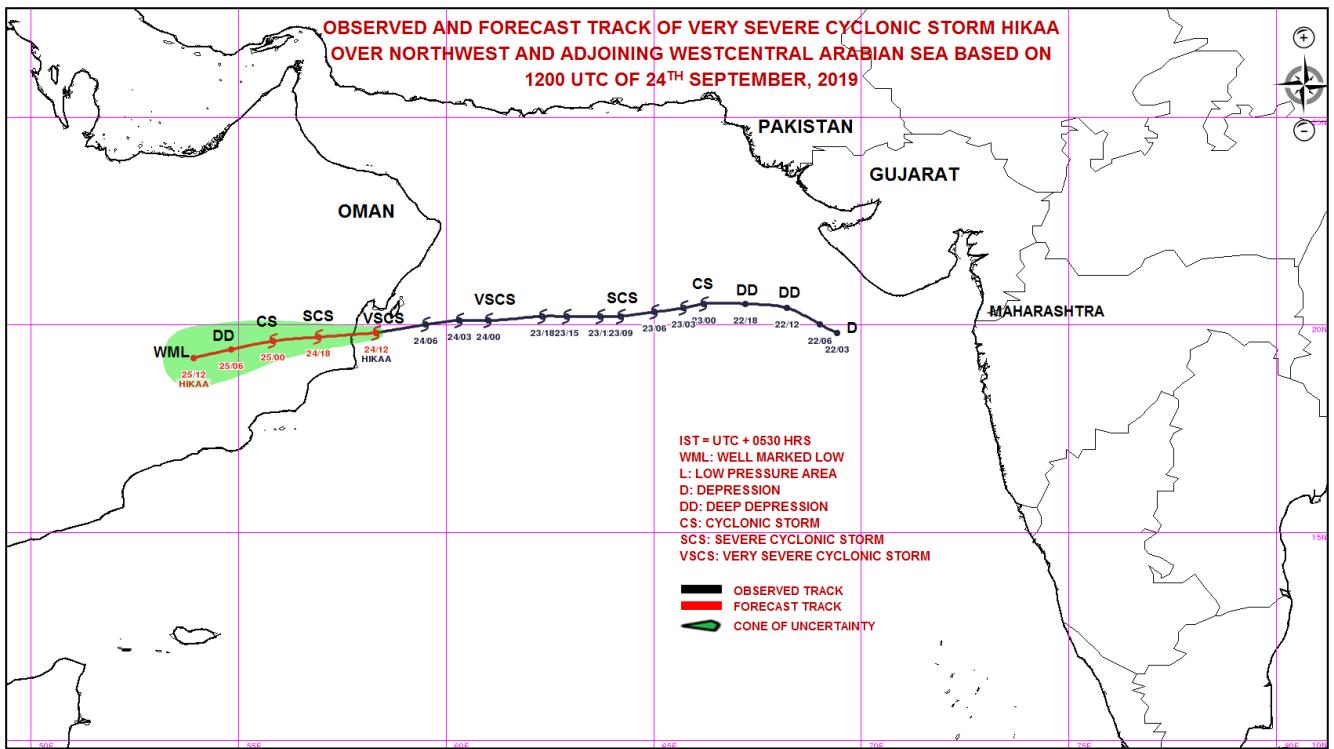
(Sunitha Devi.S)  
Scientist-E, RSMC, New Delhi

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**





**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 18 (ARB/02/2019)

TIME OF ISSUE: 2200 HOURS IST

DATED: 24.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

Sub: Very Severe Cyclonic Storm 'HIKAA' over westcentral and adjoining northwest Arabian Sea crossed Oman coast

The Very Severe Cyclonic Storm 'HIKAA' over westcentral and adjoining northwest Arabian Sea moved west-southwestwards with a speed of 23 kmph during past 06 hours and crossed Oman coast near latitude 19.7°N and longitude 57.7°E, close to north of Duqm during 1930 and 2030 hours IST, as a very severe cyclonic storm with maximum sustained wind speed of 120-130 kmph gusting to 145 kmph. It then moved westwards, weakened into a severe cyclonic storm and lay centred at 2030 hrs IST of today, the 24<sup>th</sup> September 2019 over coastal Oman near latitude 19.7°N and longitude 57.6°E, close Duqm. It is very likely to move west-southwestwards and weaken further into a cyclonic storm during next six hours and into a depression during subsequent six hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
24.09.19/2030	19.7/57.6	110-120 gusting to 135	Severe Cyclonic Storm
24.09.19/2330	19.6/56.9	90-100 gusting to 110	Severe Cyclonic Storm
25.09.19/0530	19.4/55.8	65-75 gusting to 85	Cyclonic Storm
25.09.19/1130	19.2/54.8	35-45 gusting to 55	Depression

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warnings:

### (i) Wind warning

Gale wind, speed reaching 100-110 kmph gusting to 125 kmph is prevailing over westcentral and adjoining northwest Arabian Sea along & off Oman coast. It will decrease becoming 80-90 kmph gusting to 100 kmph along & off Oman coast by mid-night and 40-50 kmph gusting to 60 kmph by tomorrow 25<sup>th</sup> early morning for subsequent 03 hours.

### (ii) Sea condition

The Sea conditions will be high over westcentral and adjoining northwest Arabian Sea during next 06 hours and very rough during subsequent 06 hours and improve thereafter.

### (iii) Fishermen Warning

The fishermen are advised not to venture into westcentral and adjoining northwest Arabian Sea till 25<sup>th</sup> morning.

*The next bulletin will be issued at 0230 hrs IST of 25<sup>th</sup> September, 2019.*

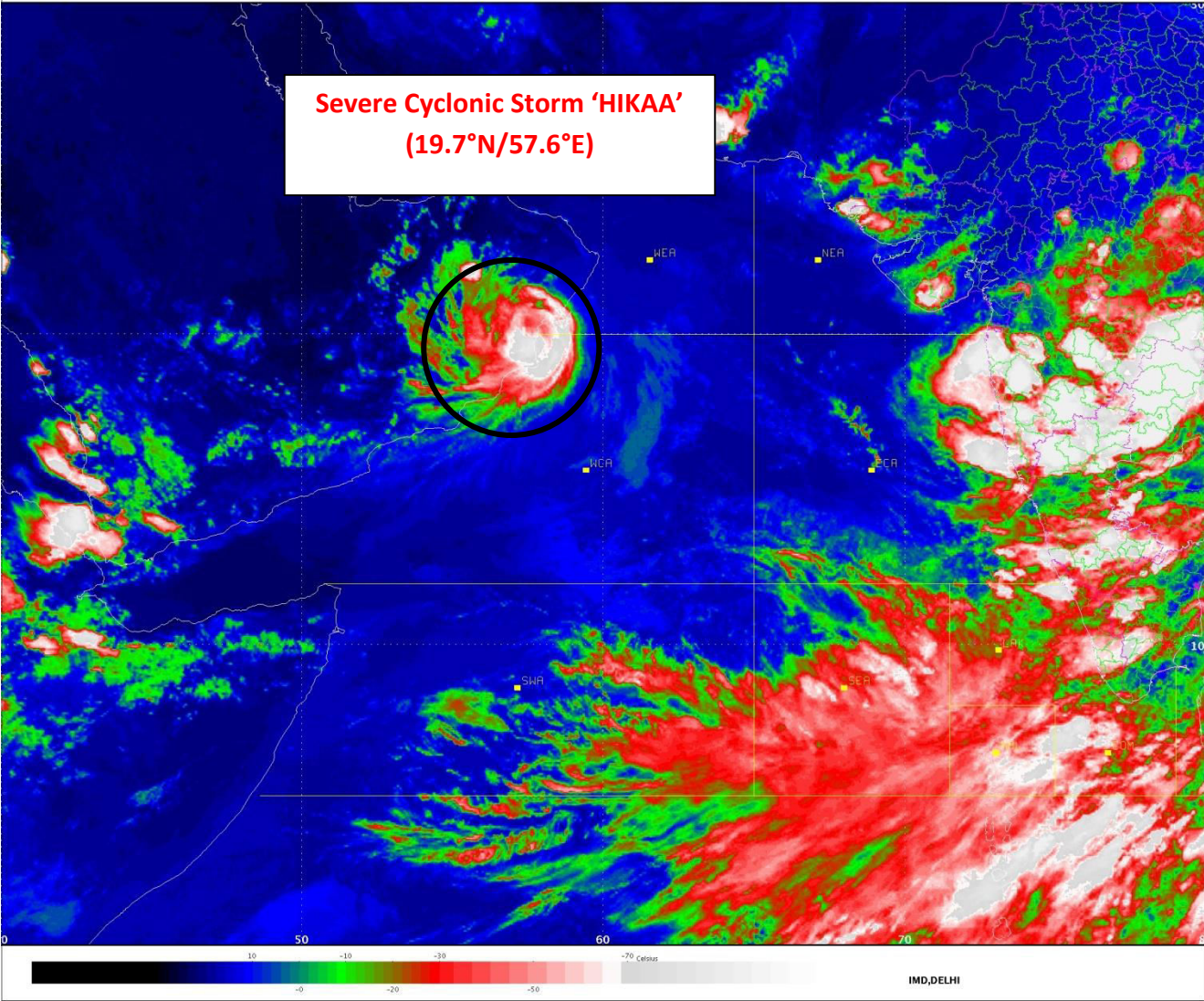
(Ananda Kumar Das)  
Scientist-E, RSMC, New Delhi

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**

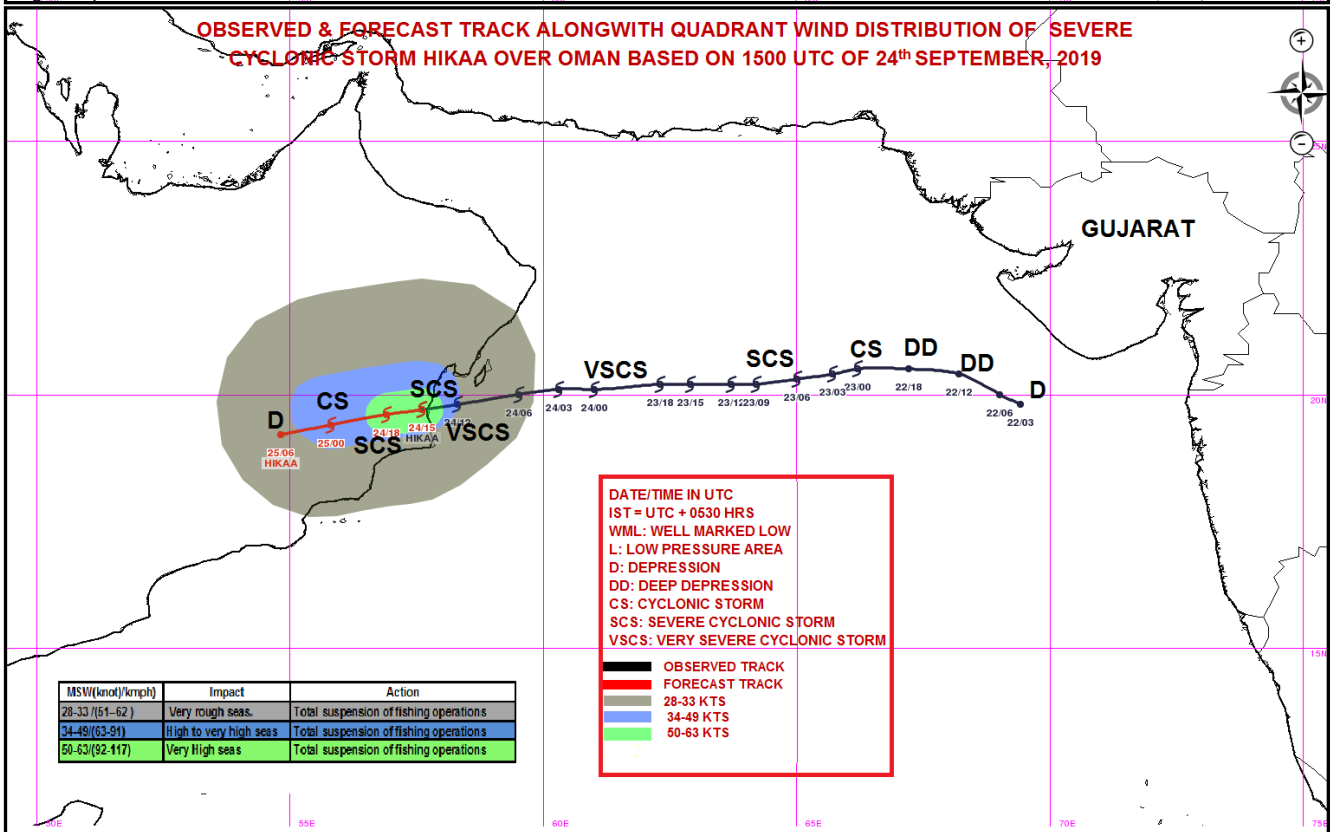
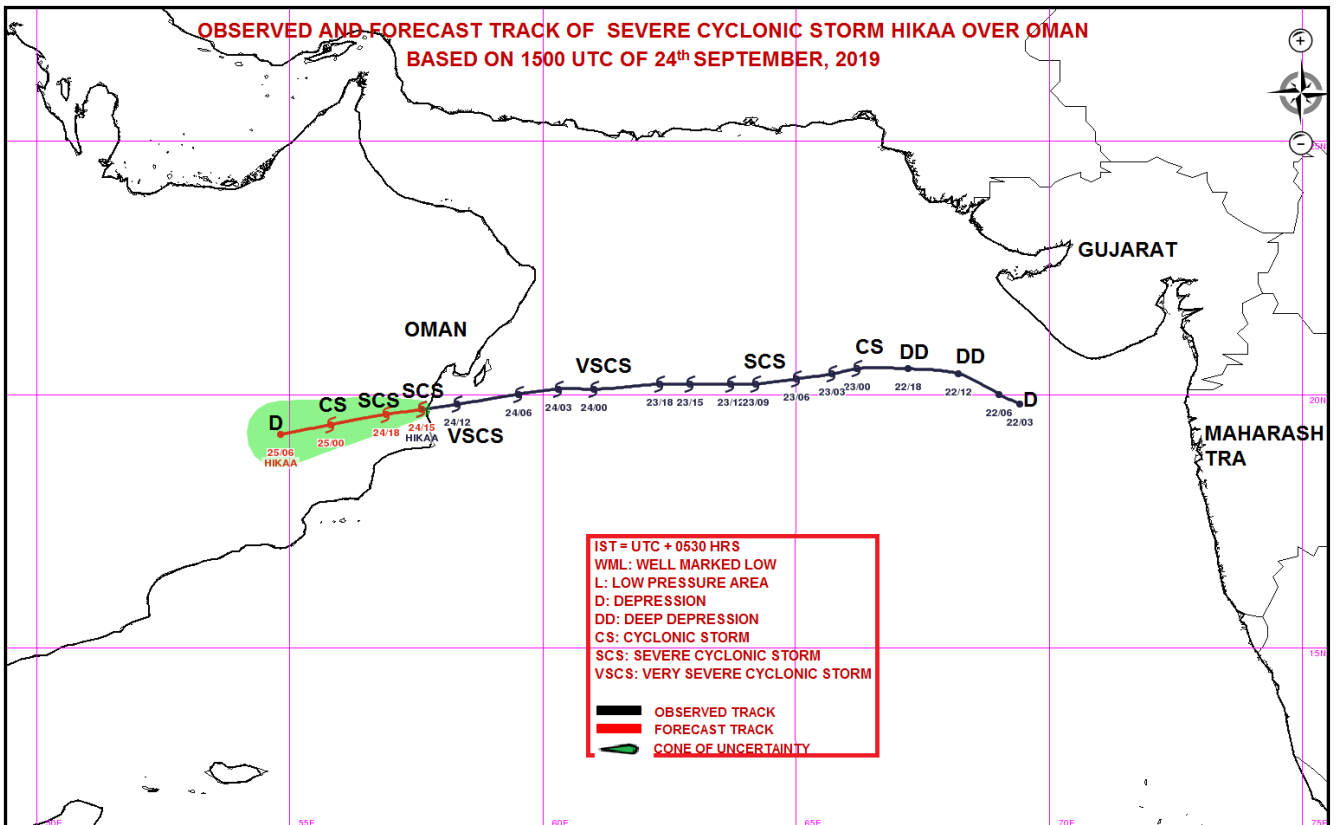




**Severe Cyclonic Storm 'HIKAA'**  
**(19.7°N/57.6°E)**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 19 (ARB/02/2019)

TIME OF ISSUE: 0130 HOURS IST

DATED: 25.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Severe Cyclonic Storm 'HIKAA' over Oman and adjoining westcentral & northwest Arabian Sea**

The **Severe Cyclonic Storm 'HIKAA'** over Oman and adjoining westcentral & northwest Arabian Sea moved nearly westwards with a speed of 21 kmph during past 06 hours and lay centred at 2330 hrs IST of 24<sup>th</sup> September 2019 near latitude 19.7°N and longitude 57.1°E, nearly 60 km west of Duqm and 80 km east-southeast of Haima over inland of Oman. It is very likely to move west-southwestwards and weaken further into a cyclonic storm during next six hours and into a depression during subsequent six hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
24.09.19/2330	19.7/57.1	100-110 gusting to 125	Severe Cyclonic Storm
25.09.19/0530	19.6/56.0	75-85 gusting to 95	Cyclonic Storm
25.09.19/1130	19.5/55.0	35-45 gusting to 55	Depression
25.09.19/1730	19.3/53.9	20-30 gusting to 40	Low

### Warnings:

#### (i) Wind warning

Gale wind, speed reaching 90-100 kmph gusting to 115 kmph is prevailing over westcentral and adjoining northwest Arabian Sea along & off Oman coast. It will decrease becoming 60-70

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

kmph gusting to 80 kmph by morning of 25<sup>th</sup> September 2019 along & off Oman coast and will weaken further during subsequent six hours.

**(ii) Sea condition**

The Sea conditions will be high over westcentral and adjoining northwest Arabian Sea during next six hours and rough to very rough during subsequent six hours and improve thereafter.

**(iii) Fishermen Warning**

The fishermen are advised not to venture into westcentral and adjoining northwest Arabian Sea till 25<sup>th</sup> morning.

*The next bulletin will be issued at 0530 hrs IST of 25<sup>th</sup> September, 2019.*

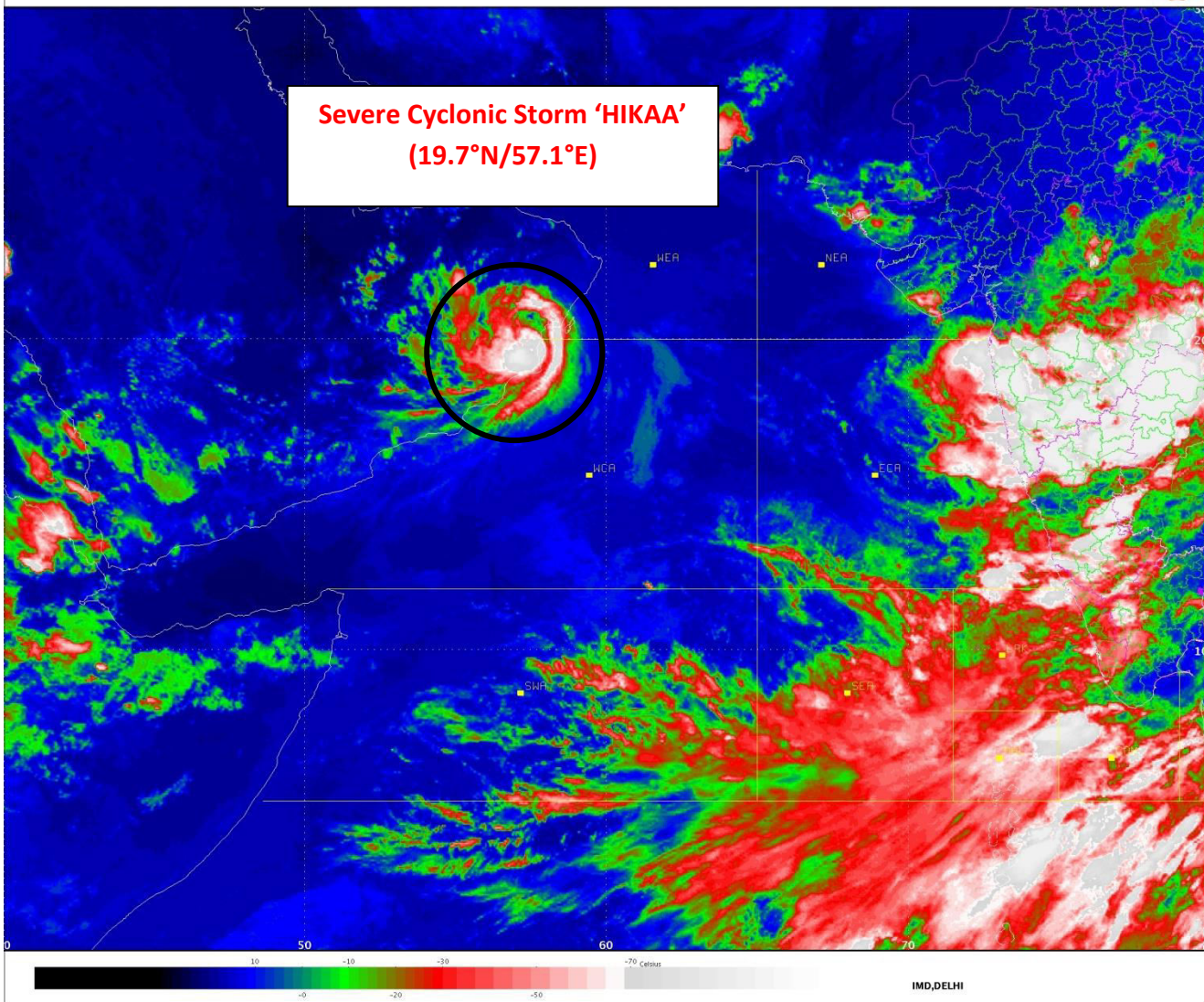
**(Ananda Kumar Das)  
Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.**

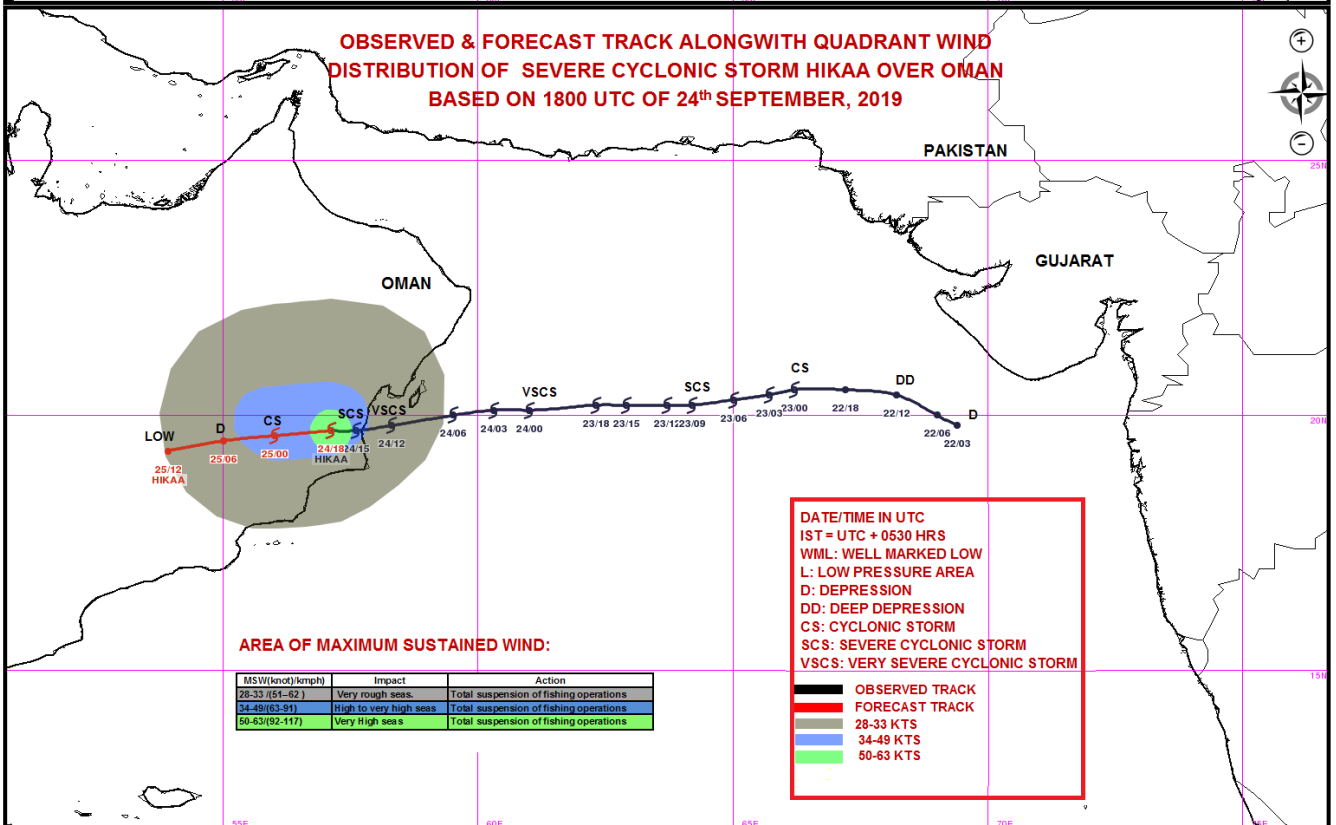
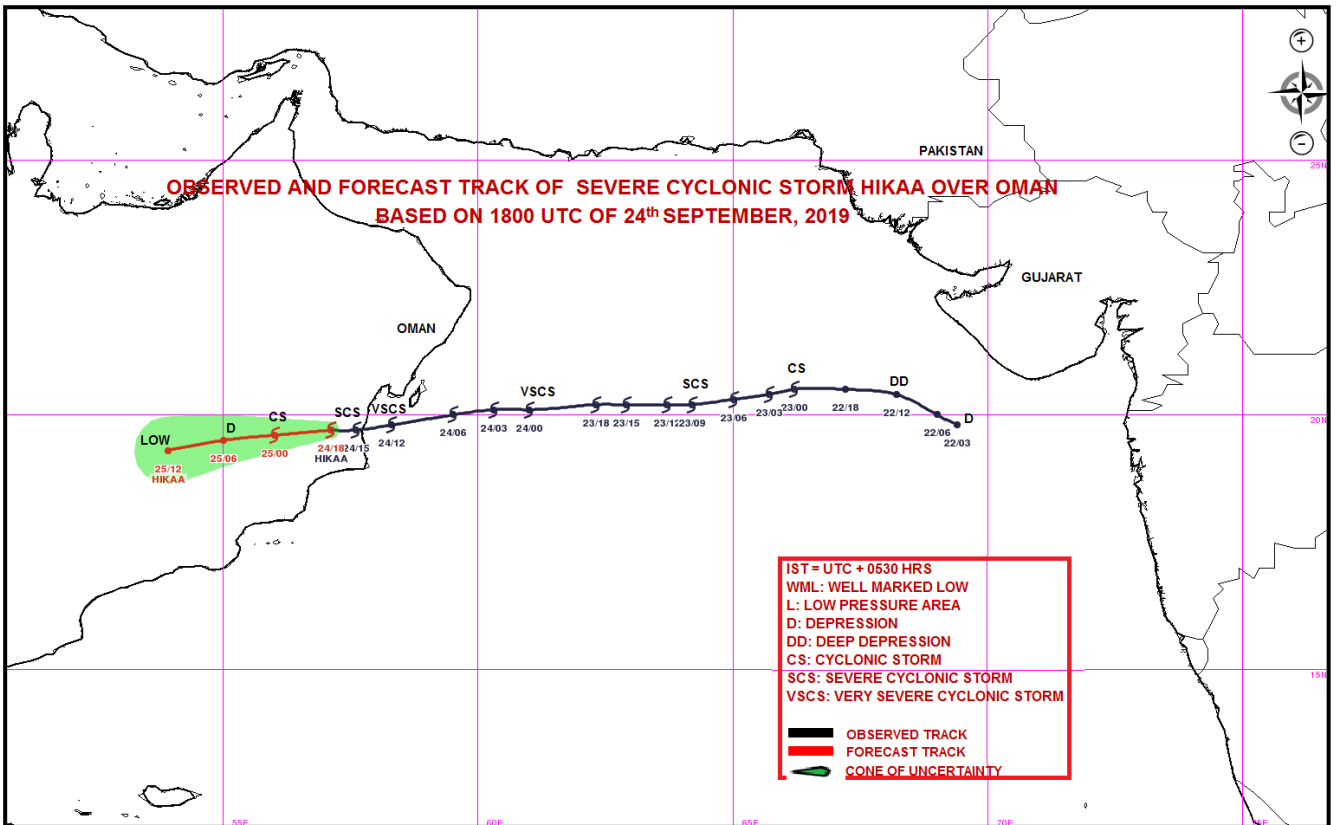




**Severe Cyclonic Storm 'HIKAA'**  
**(19.7°N/57.1°E)**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 20 (ARB/02/2019)

TIME OF ISSUE: 0500 HOURS IST

DATED: 25.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Severe Cyclonic Storm 'HIKAA' over Oman weakened into a Cyclonic storm**

The **Severe Cyclonic Storm 'HIKAA'** over Oman and adjoining westcentral & northwest Arabian Sea moved nearly westwards with a speed of 17 kmph during past 06 hours, weakened into a cyclonic storm over Oman and lay centred at 0230 hrs IST of 25<sup>th</sup> September 2019 near latitude 19.6°N and longitude 56.6°E about 110 km west of Duqm and 50 km south-southeast of Haima. It is very likely to move west-southwestwards, weaken further into a deep depression during next six hours and into a depression during subsequent six hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
25.09.19/0230	19.6/56.6	80-90 gusting to 100	Cyclonic Storm
25.09.19/0530	19.6/56.0	60-70 gusting to 80	Cyclonic Storm
25.09.19/1130	19.5/55.0	35-45 gusting to 55	Depression
25.09.19/1730	19.3/53.9	20-30 gusting to 40	Low

### Warnings:

#### (i) Wind warning

Squally wind, speed reaching 45-65 kmph gusting to 65 kmph is prevailing over westcentral and adjoining northwest Arabian Sea along & off Oman coast and will weaken during next six hours.

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

**(ii) Sea condition**

The Sea conditions will be rough over westcentral and adjoining northwest Arabian Sea along & off Oman coast during next six hours and improve thereafter.

**(iii) Fishermen Warning**

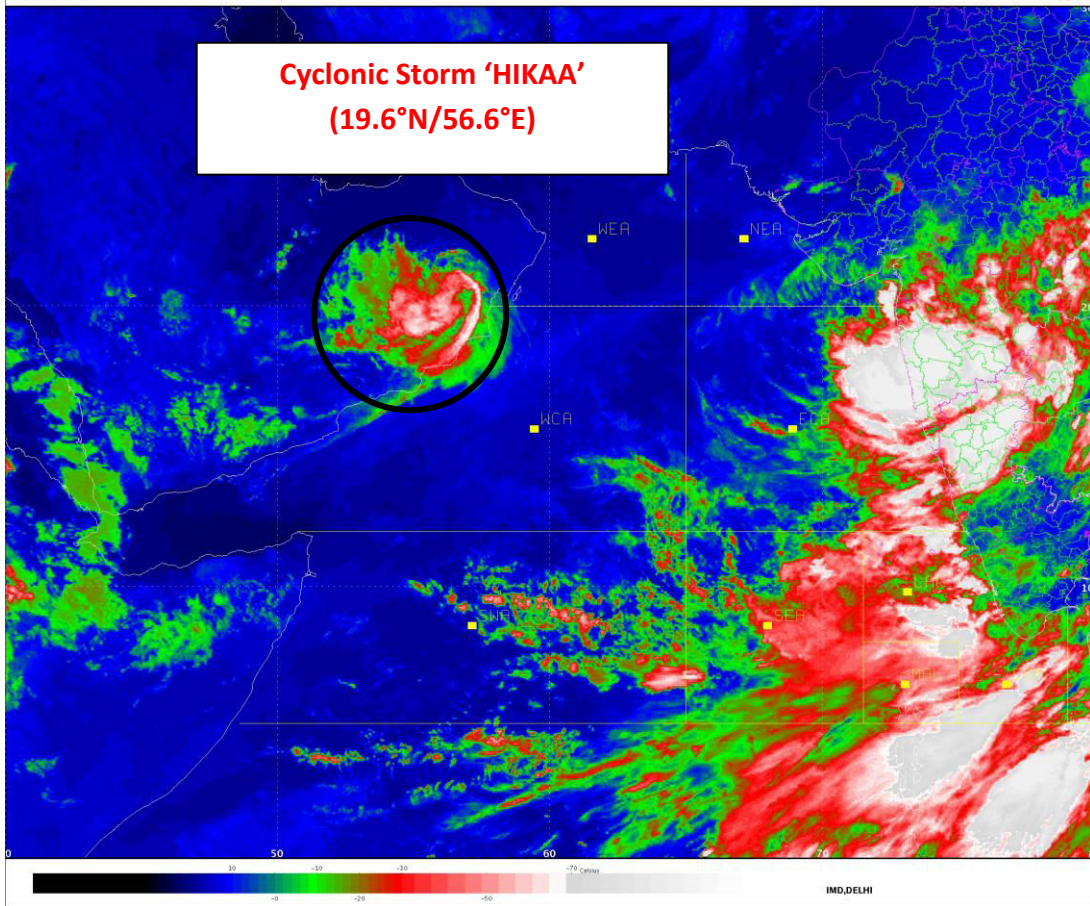
The fishermen are advised not to venture into westcentral and adjoining northwest Arabian Sea along and off Oman coast during next six hours.

*The next bulletin will be issued at 0830 hrs IST of 25<sup>th</sup> September, 2019.*

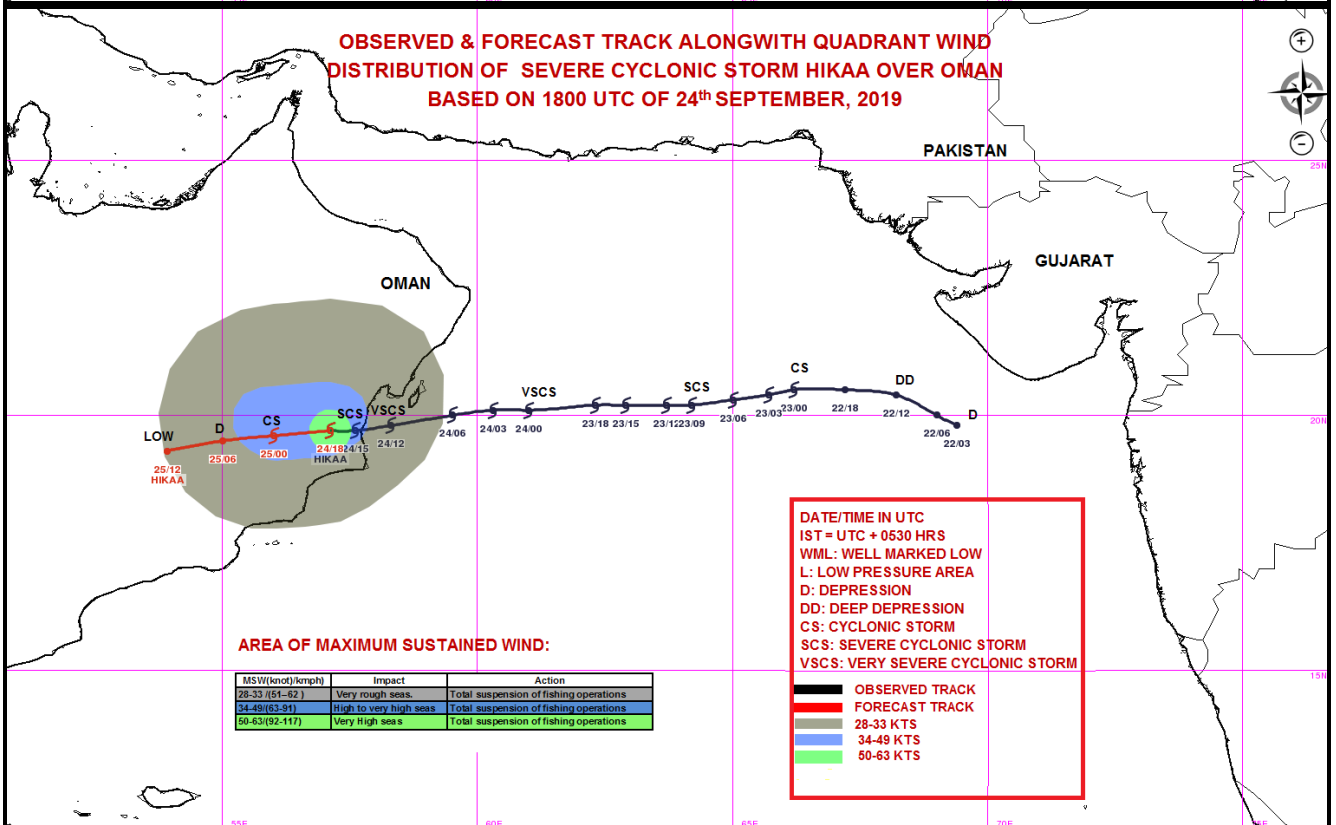
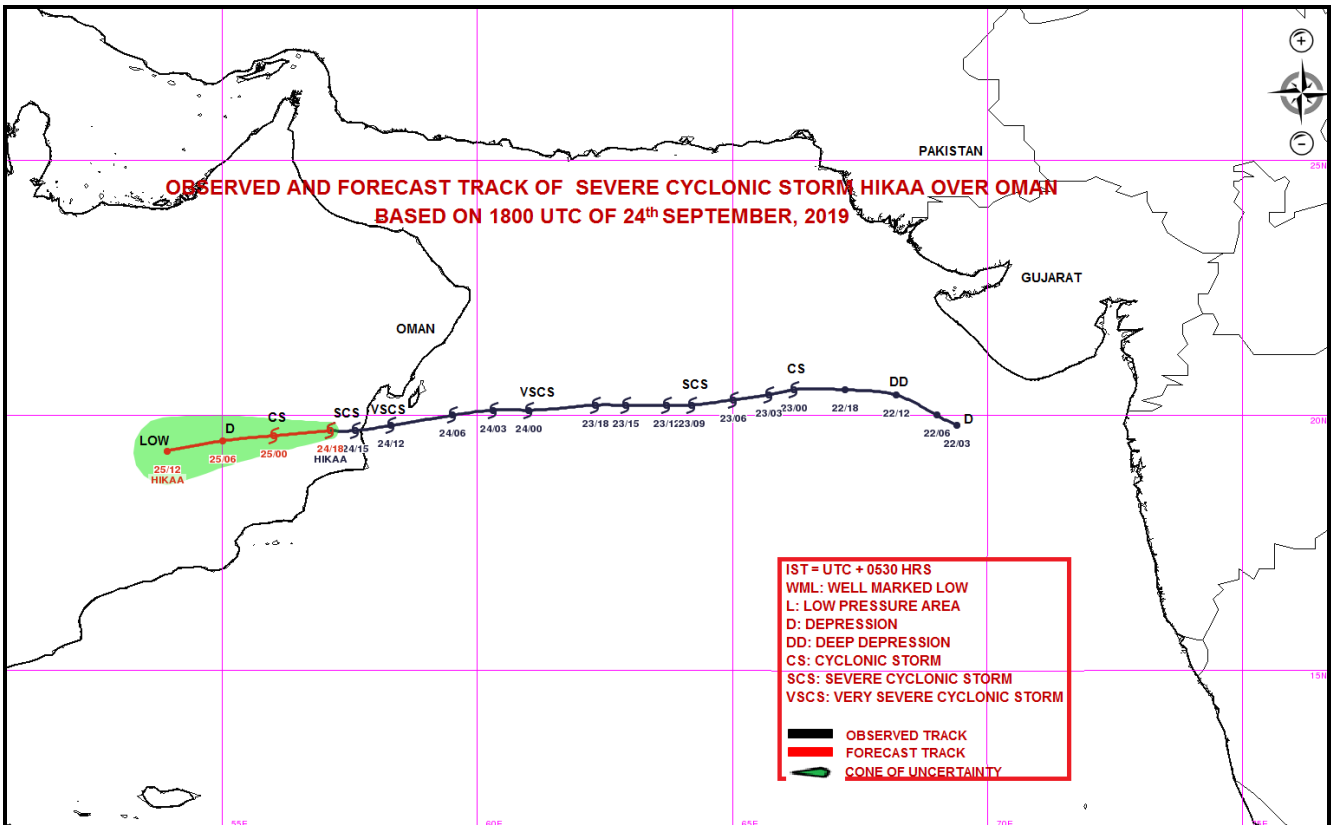
**(Ananda Kumar Das)  
Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/  
Thiruvananthapuram.**





**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 21 (ARB/02/2019)

TIME OF ISSUE: 0800 HOURS IST

DATED: 25.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

Sub: Cyclonic Storm 'HIKAA' over Oman

The **Cyclonic Storm 'HIKAA'** over Oman moved nearly westwards with a speed of 21 kmph during past 06 hours and lay centred at 0530 hrs IST of 25<sup>th</sup> September 2019 near latitude 19.6°N and longitude 55.9°E about 180 km west of Duqm and 70 km southwest of Haima. It is very likely to move west-southwestwards, weaken into a depression during next six hours and into a well-marked low during subsequent six hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
25.09.19/0530	19.6/55.9	60-70 gusting to 80	Cyclonic Storm
25.09.19/1130	19.5/55.0	35-45 gusting to 55	Depression
25.09.19/1730	19.3/53.9	20-30 gusting to 40	Low

### Warnings:

#### (i) Wind warning

Squally wind, speed reaching 35-45 kmph gusting to 55 kmph is prevailing over westcentral and adjoining northwest Arabian Sea along & off Oman coast and will reduce during next six hours.

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

**(ii) Sea condition**

The Sea conditions will be rough over westcentral and adjoining northwest Arabian Sea along & off Oman coast during next six hours and improve thereafter.

**(iii) Fishermen Warning**

The fishermen are advised not to venture into westcentral and adjoining northwest Arabian Sea along and off Oman coast during next six hours.

*The next bulletin will be issued at 1130 hrs IST of 25<sup>th</sup> September, 2019.*

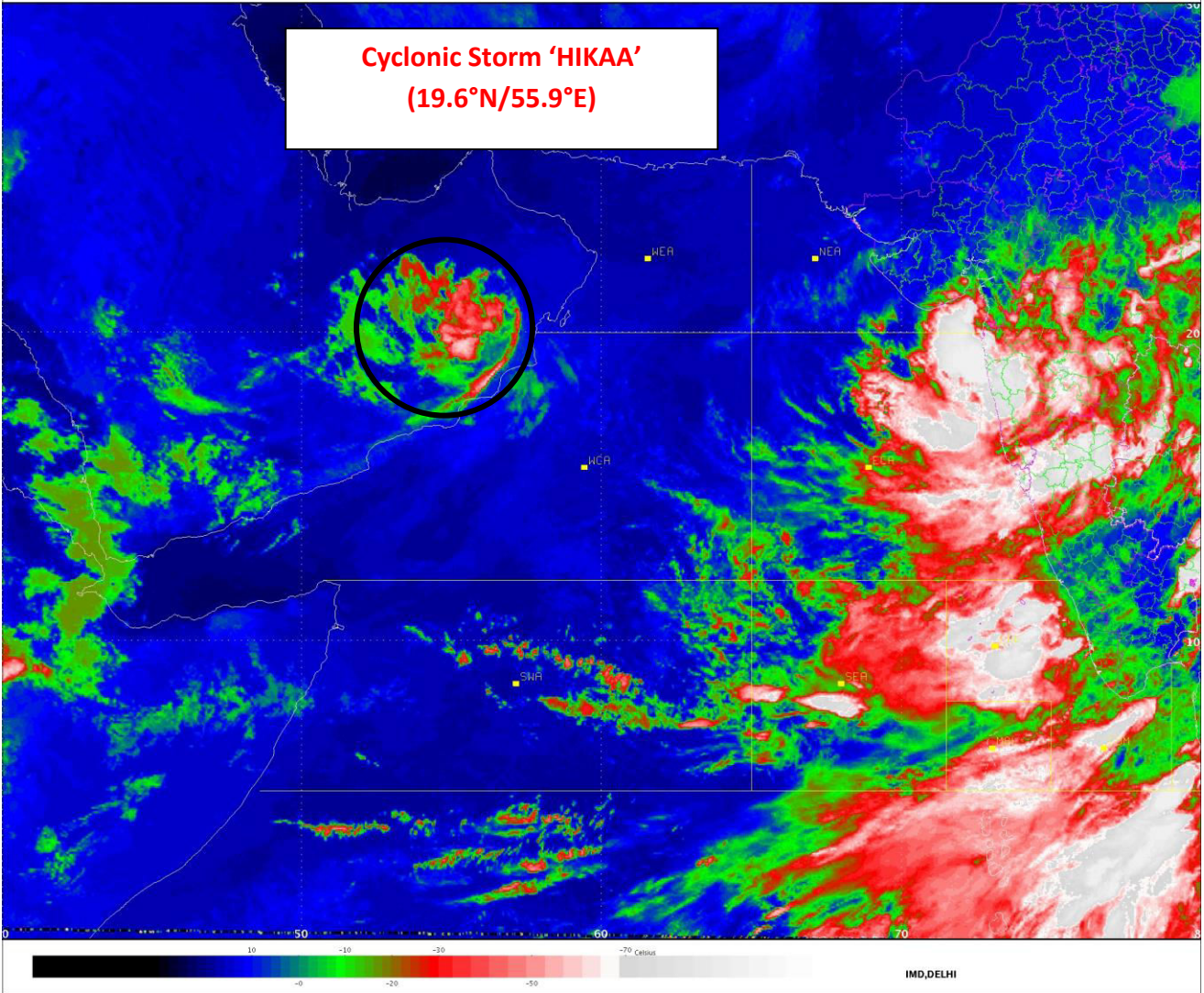
**(Ananda Kumar Das)  
Scientist-E, RSMC, New Delhi**

**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/  
Thiruvananthapuram.**

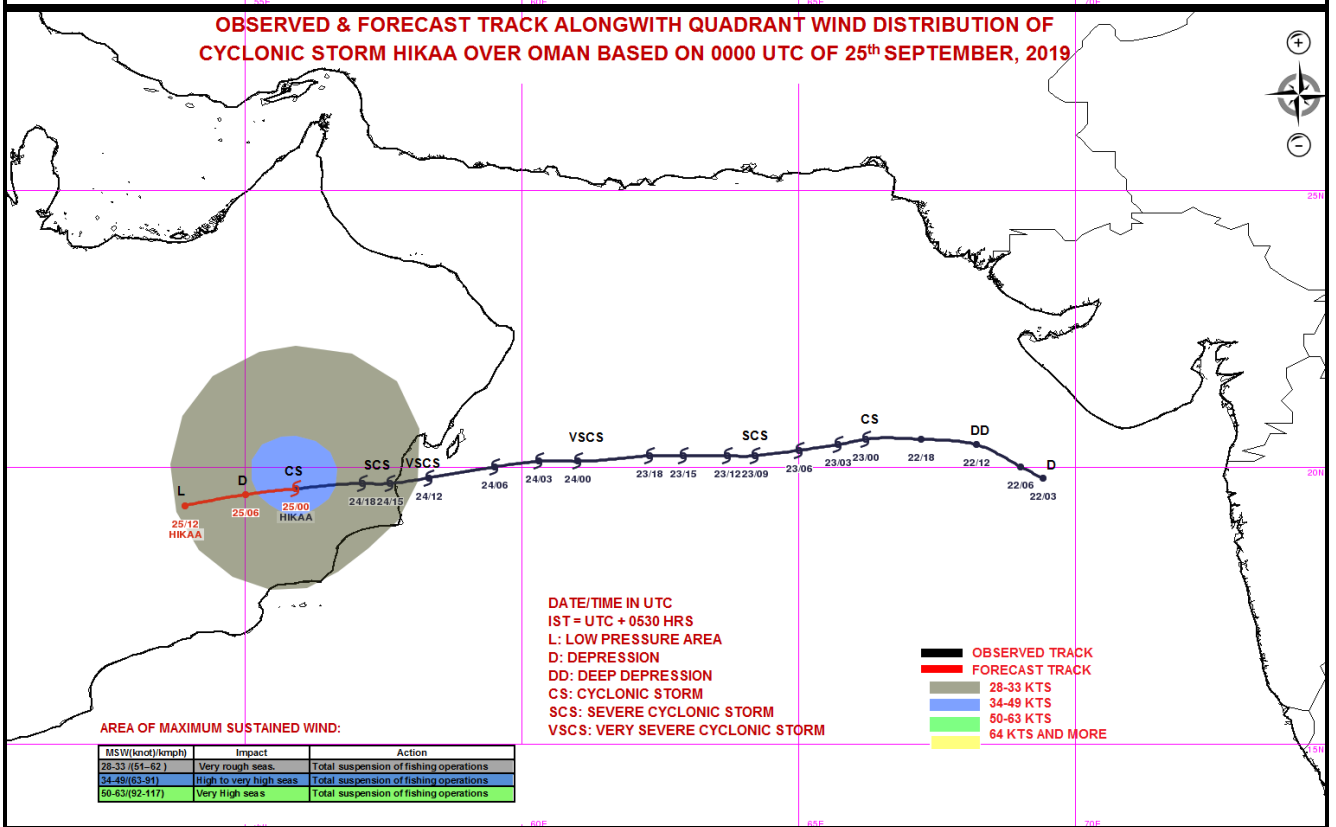
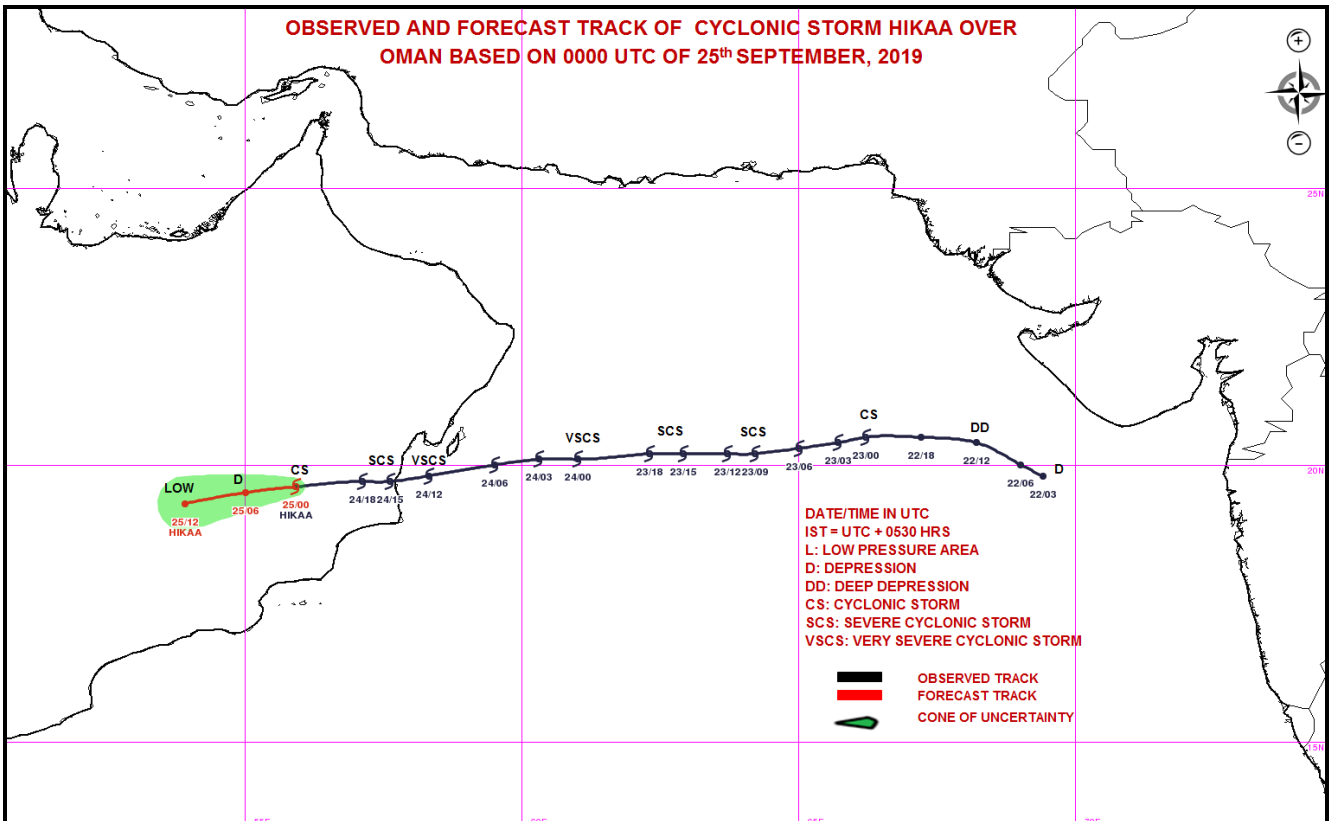




**Cyclonic Storm 'HIKAA'**  
**(19.6°N/55.9°E)**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 22 (ARB/02/2019)

TIME OF ISSUE: 1030 HOURS IST

DATED: 25.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

Sub: Cyclonic Storm 'HIKAA' weakened into Deep Depression over Oman

The **Cyclonic Storm 'HIKAA'** over Oman moved nearly westwards with a speed of 19 kmph during past 06 hours, weakened into a **Deep Depression** and lay centred at 0830 hrs IST of today, the 25<sup>th</sup> September 2019 near latitude 19.5°N and longitude 55.5°E about 220 km west of Duqm and 110 km west-southwest of Haima. It is very likely to move west-southwestwards, weaken into a depression during next three hours and into a well-marked low during subsequent three hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
25.09.19/0830	19.5/55.5	50-60 gusting to 70	Deep Depression
25.09.19/1130	19.4/55.0	35-45 gusting to 55	Depression
25.09.19/1730	19.3/53.9	20-30 gusting to 40	Low

## Warnings:

### (i) Wind warning

Squally wind, speed reaching 40-50 kmph gusting to 60 kmph is prevailing over westcentral and adjoining northwest Arabian Sea along & off Oman coast during next six hours and decrease thereafter.

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

**(ii) Sea condition**

The Sea conditions will be rough over westcentral and adjoining northwest Arabian Sea along & off Oman coast during next six hours and improve thereafter.

**(iii) Fishermen Warning**

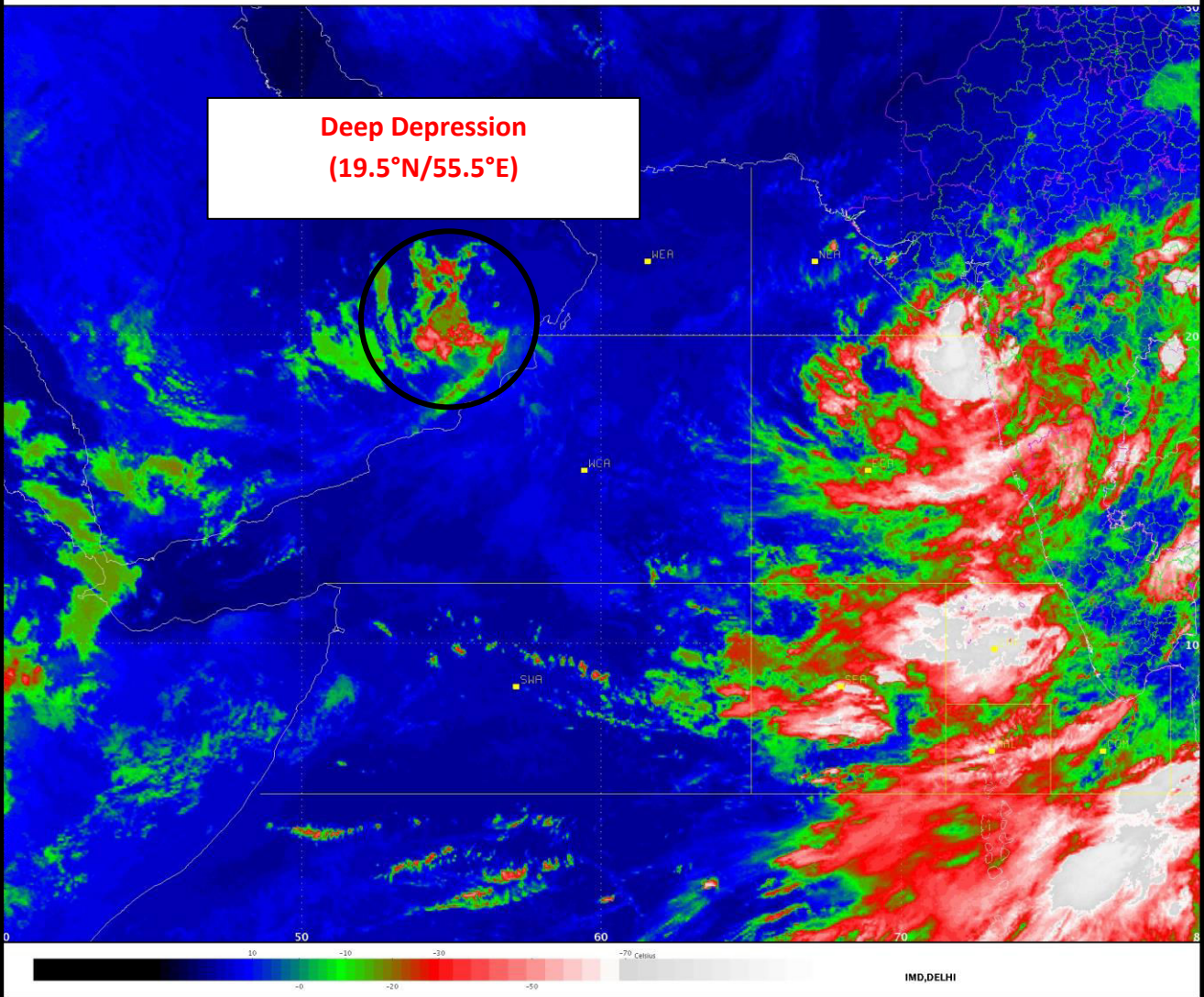
The fishermen are advised not to venture into westcentral and adjoining northwest Arabian Sea along and off Oman coast during next six hours.

*The next bulletin will be issued at 1430 hrs IST of 25<sup>th</sup> September, 2019.*

**(Sunitha Devi.S)  
Scientist-E, RSMC, New Delhi**

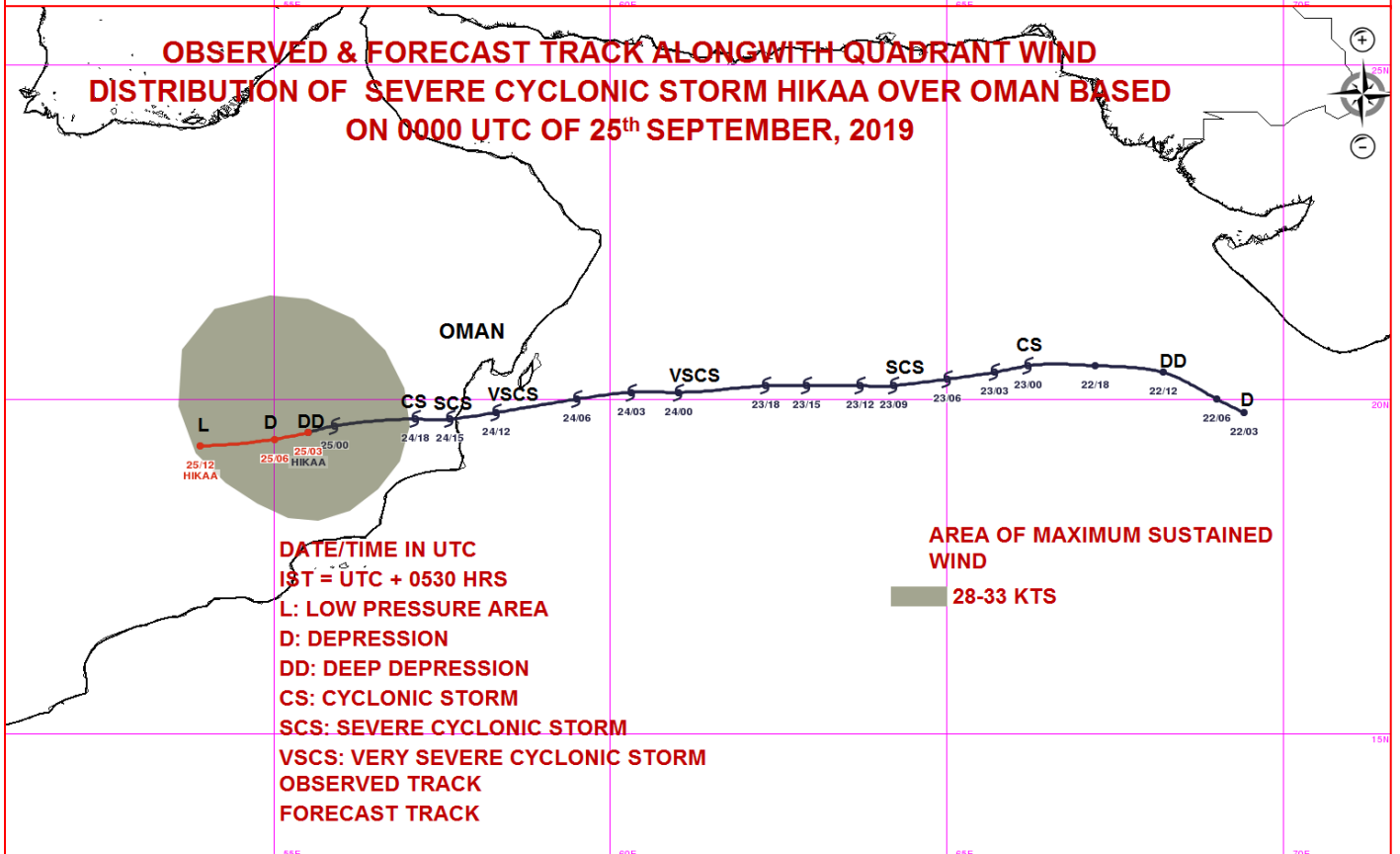
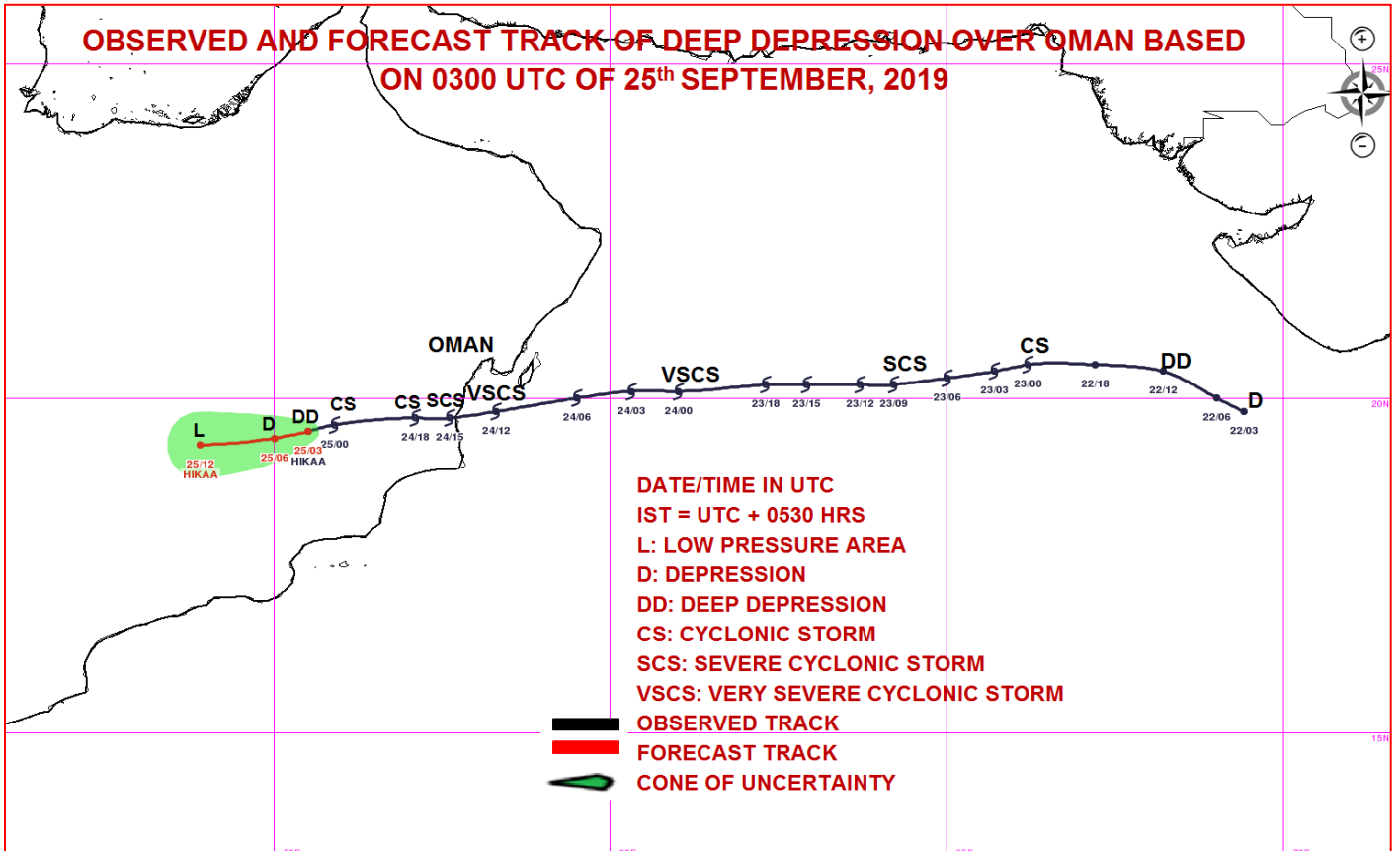
**Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/  
Thiruvananthapuram.**





**Deep Depression  
(19.5°N/55.5°E)**

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 23 (ARB/02/2019)

TIME OF ISSUE: 1330 HOURS IST

DATED: 25.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

ADMINISTRATOR, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

ADMINISTRATOR, UNION TERRITORY OF DAMAN & DIU (0260-2230775)

ADMINISTRATOR, UNION TERRITORY OF DADRA NAGAR HAVELI (0260-2230775)

CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Deep Depression over Oman weakened into a Depression**

The **Deep Depression** over Oman moved west-southwestwards with a speed of 17 kmph during past 06 hours, weakened into a **Depression** and lay centred at 1130 hrs IST of today, the 25<sup>th</sup> September 2019 near latitude 19.3°N and longitude 55.0°E about 280 km west-southwest of Duqm and 170 km west-southwest of Haima. It is very likely to move west-southwestwards and weaken into into a well-marked low during next six hours.

**Warnings:**

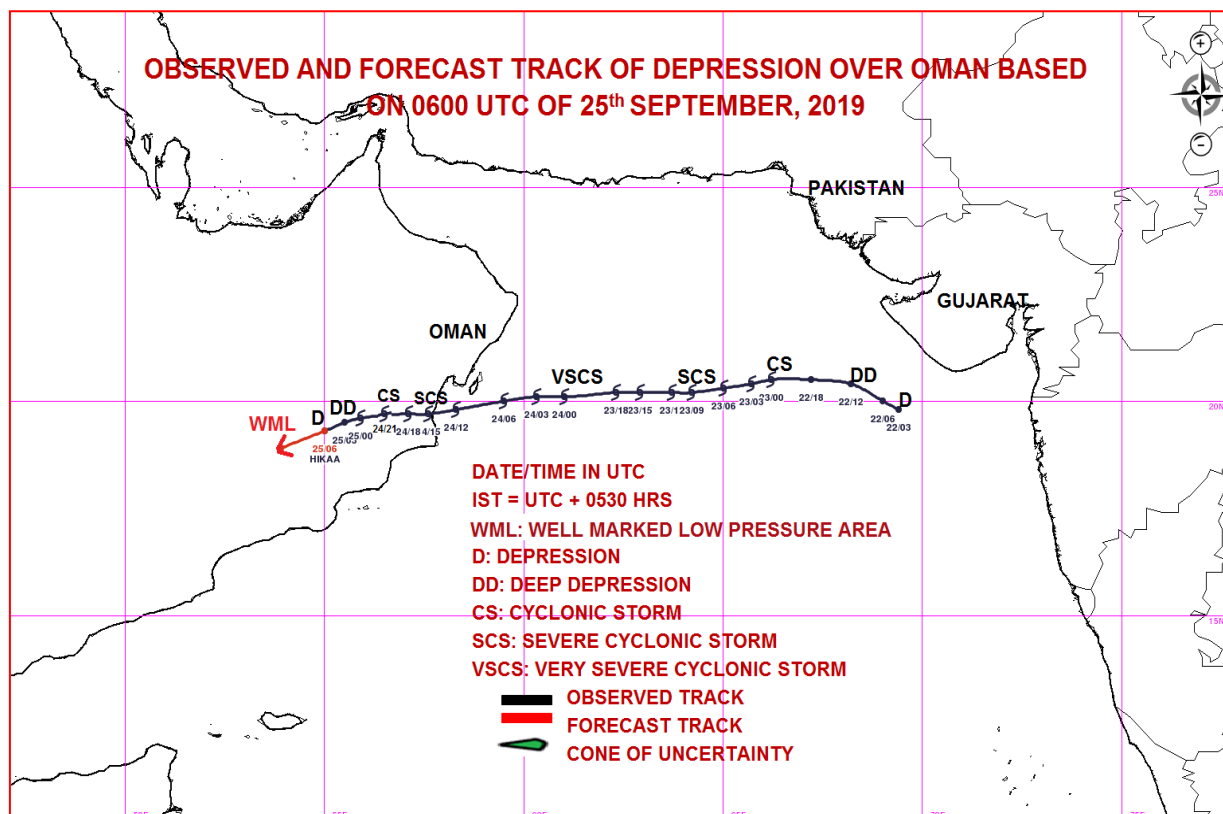
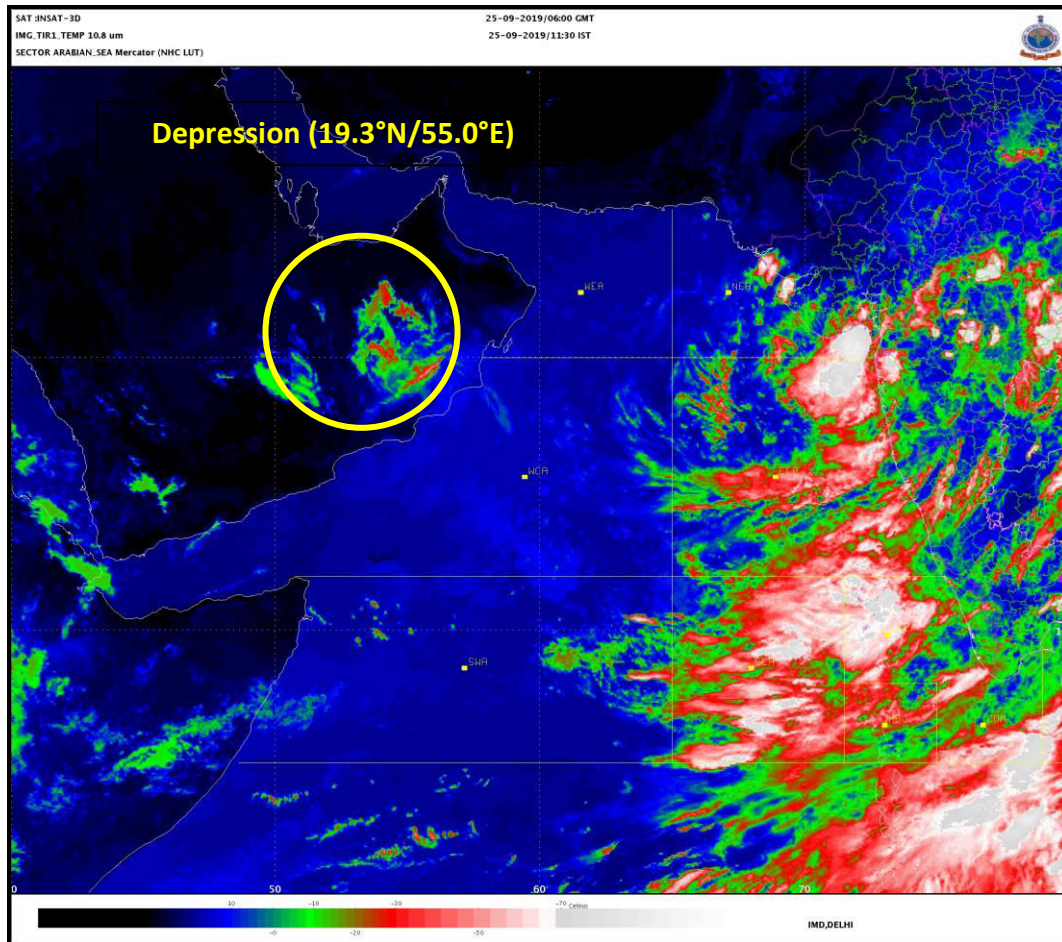
No adverse weather is likely over Arabian Sea due to this system.

(Sunitha Devi.S)  
Scientist-E, RSMC, New Delhi

*Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.*

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.





Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.





India Meteorological Department  
Earth System Science Organisation  
(Ministry of Earth Sciences)

BULLETIN NO. : 24 (ARB/02/2019)

TIME OF ISSUE: 1610 HOURS IST

DATED: 25.09.2019

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)  
CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES, (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

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CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22258913)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

**Sub: Depression weakened into a Well Marked Low over south Oman and adjoining Saudi Arabia**

The **Depression** over Oman moved west-southwestwards with a speed of 19 kmph during past 06 hours, weakened into a **well marked low pressure area** and lay centred over south Oman and adjoining Saudi Arabia at 1430 hours IST of today, the 25<sup>th</sup> September 2019.

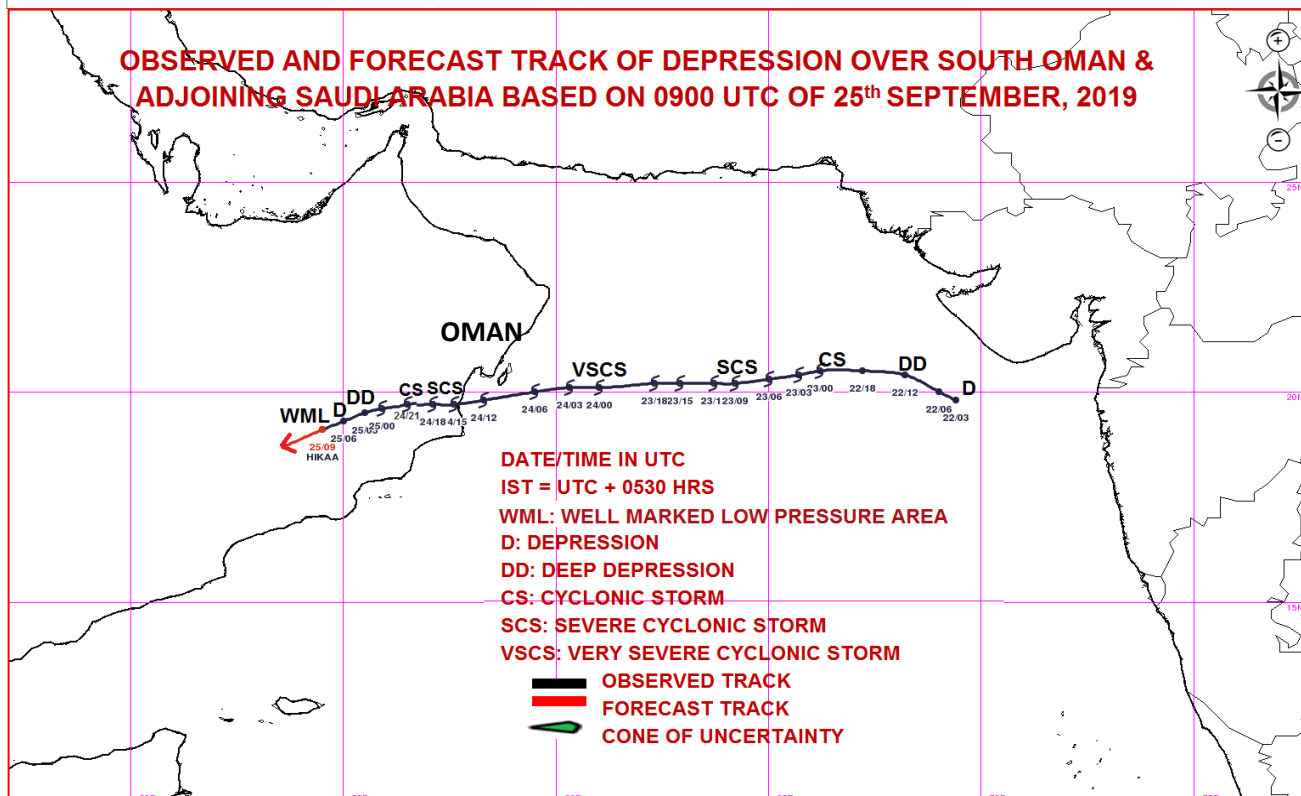
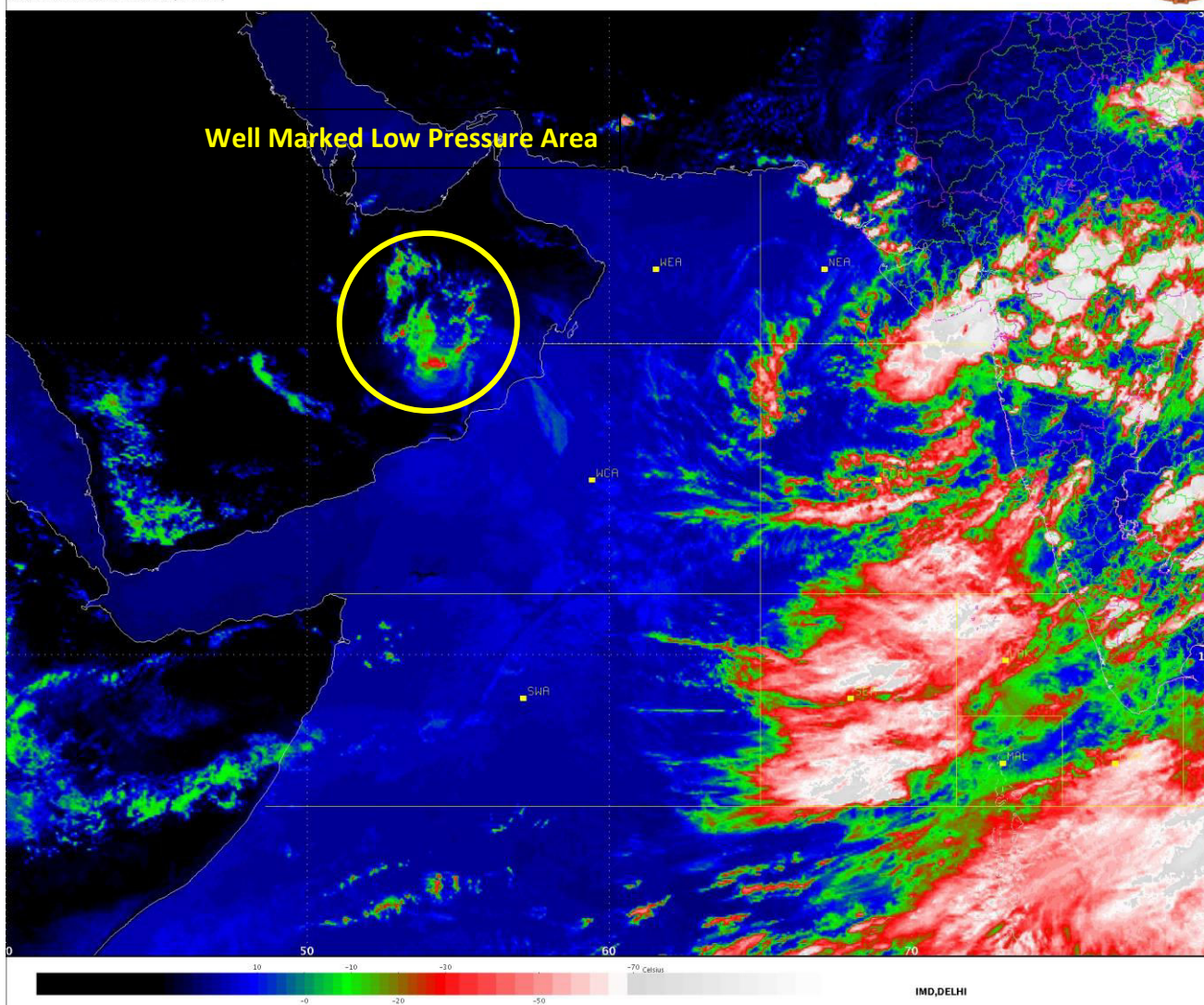
**This is the last Bulletin pertaining to this system.**

**However, regular weather warning Bulletins from National Weather Forecasting Centre will continue.**

(Sunitha Devi.S)  
Scientist-E, RSMC, New Delhi

*Copy to: CRS, Pune/ ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/ Thiruvananthapuram.*

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.