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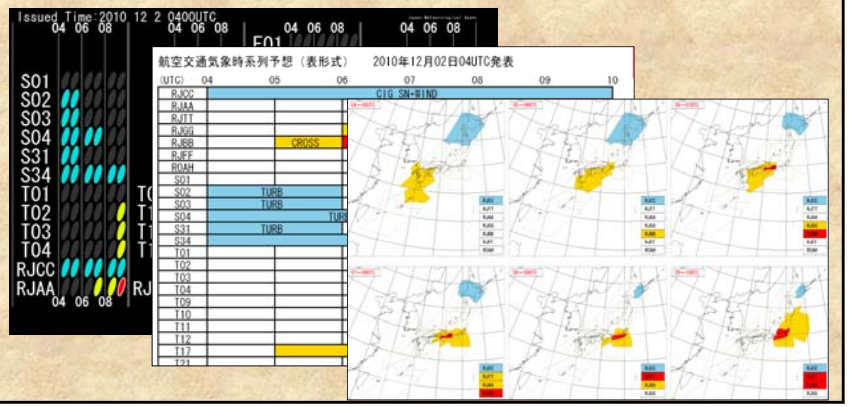
1. PURPOSE

What is ATMet category forecast？

- Product for the purpose of supporting ATM
- Probability which weather impact on air traffic flow



CONTENTS

2. Specification

Contents :

Probability which weather conditions impact on air traffic flow

The Probability is shown in four ranks

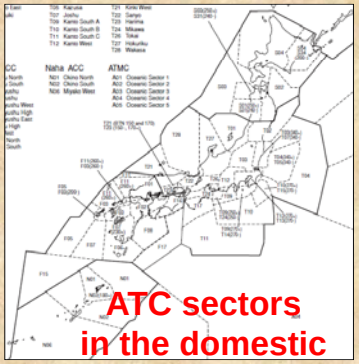
RED YELLOW BLUE NO-COLOR

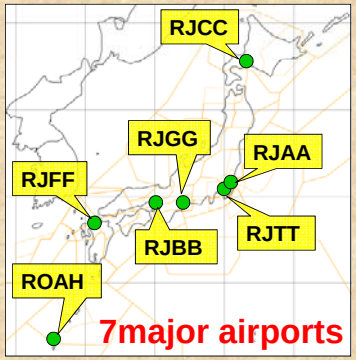
High ⟵ Probability ⟶ Low

2. Specification

Valid : 6 hour later (hourly)

Target areas : ATC sectors in the domestic airspace and 7 major airports





2. Specification

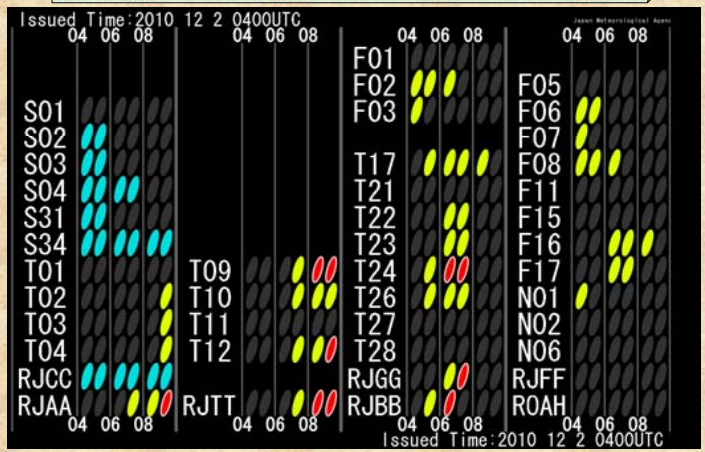
Update : By 15min every hour
(Except 14~16UTC)

Inform : ATMC, some ATC centers, Airlines and aviation weather offices

2. Specification

FORM : (Table format)

Notice in the ATMC operations room



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2. Specification

FORM : (Table format)

Share information by using one of the large monitors in front of the operations room

ATMet category forecast

2. Specification

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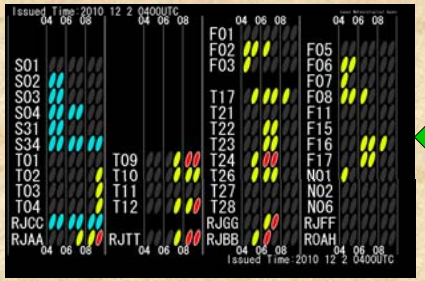
FORM : (Table format)



Air Traffic Demand Chart

Similar format to Air Traffic Demand Chart

ATMC officers can understand easily

2. Specification

FORM： (Tabular format)

Provide for the related organizations out of the ATMC

Show the color-code with the abbreviation

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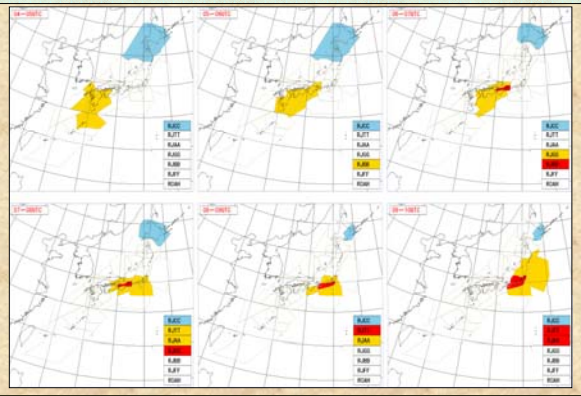
2. Specification

FORM： (map-type format)

Provide for the related organizations out of the ATMC



Show only color-code on the map

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CONTENTS

3. ATMet category forecast criteria

target area / color code	RJTT	RJAA	RJGG	RJBB	RJFF	ROAH	RJCC	ATC SECTOR
RED	crosswind component to runway ≧ 30kt							the proportion occupied with CB (top ≧ FL300) in the sector ≧ 50%
	crosswind component to runway ≧ 25kt with moderate or heavy precipitation							
	visibility < 600m	visibility < 400m					visibility < 800m with snow	
	ceiling < 200ft						ceiling < 400ft with snow	
							blowing snow	
	TS OHD							
	snow fall rate ≧ 1cm/1h						snow fall rate ≧ 5cm/3h	
	wind speed at surface ≧ 30kt and wind speed below 5000ft ≧ 60kt	wind speed below 3000ft ≧ 60kt					snow fall rate ≧ 3cm/3h when wind direction 120°~240°	
YELLOW	wind speed ≧ 34kt with gust ≧ 50kt							CB exists on selected airway or on selected area
	crosswind component to runway ≧ 25kt							the proportion occupied with CB (top ≧ FL300) in the sector ≧ 20%
	crosswind component to runway ≧ 20kt with moderate or heavy precipitation							
	wind speed at surface ≧ 30kt and wind speed below 5000ft ≧ 50kt	wind speed below 3000ft ≧ 50kt						
	TS							
		ceiling < 200ft					visibility < 400m	
		moderate or heavy snow					visibility < 1600m with snow	
	CB in HANEDA sector	CB in NARITA sector					ceiling < 600ft with snow	
							snow fall rate ≧ 3cm/3h when wind direction 250°~110°	
BLUE	TS in TAF but CB doesn't exist in the aerodrome							the proportion occupied with CB (top ≧ FL300) in the sector ≧ 10%
							wind speed ≧ 20kt with snow	
							ceiling < 200ft	moderate to severe turbulence above FL180

3. ATMet category forecast criteria

How to determine the criteria

Define: Probability which weather conditions impact on air traffic flow

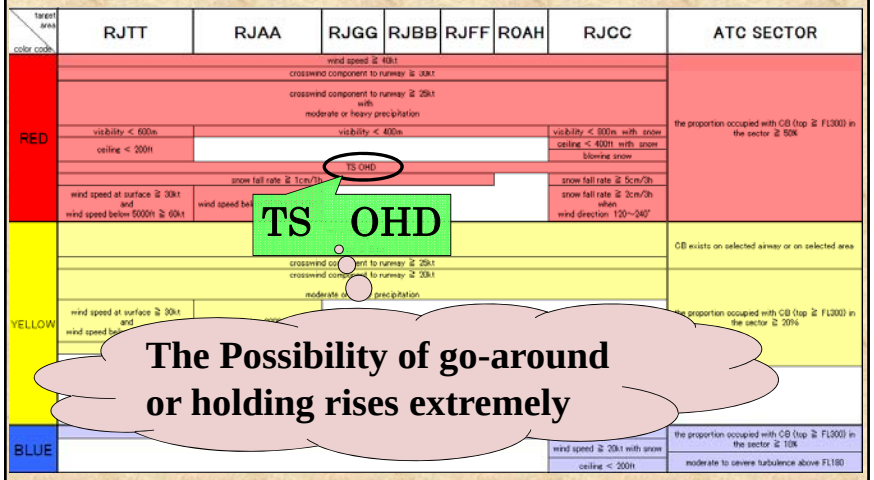
probability 15 ~ 24% 25 ~ 49% 50 ~ 100%

investigations on the past SIG-WX cases

service rules of airlines

adjusting the opinion with ATM officers

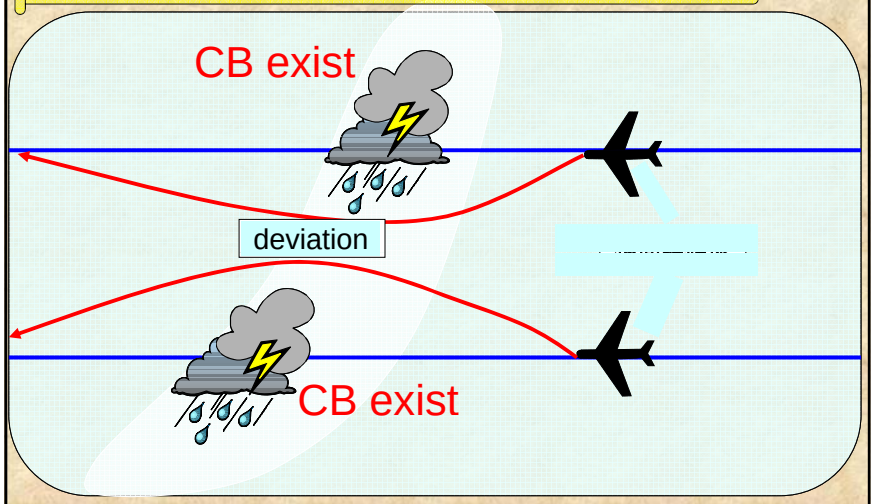
3. ATMet category forecast criteria



The Possibility of go-around or holding rises extremely

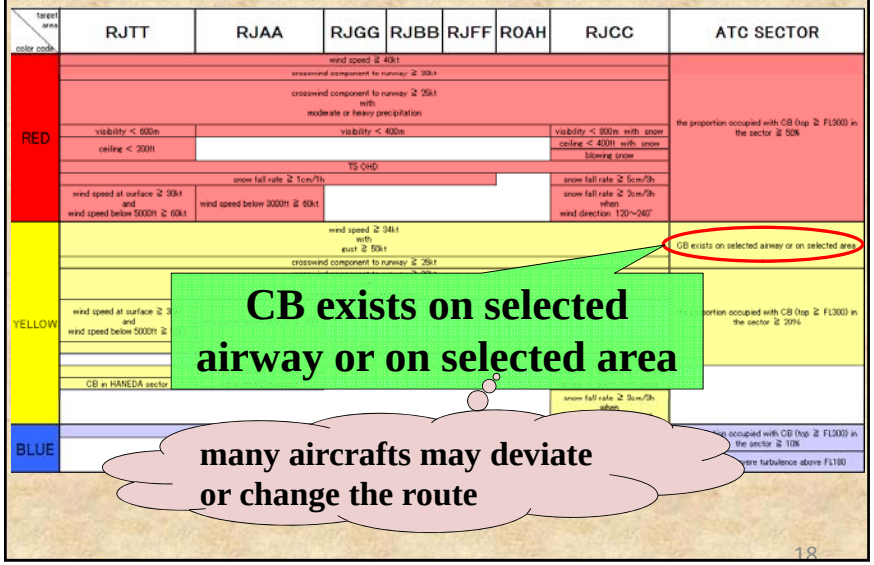
RJTT・ ・ Probability of air traffic flow control is

3. ATMet category forecast criteria



CB is very important element to air traffic flow

3. ATMet category forecast criteria



CONTENTS

4. Operation

4.1 The automation of the task

There are numerous criteria to check.

It is difficult to do all the task by hand, in limited time.

System automatically checks the criteria.

numerical weather prediction

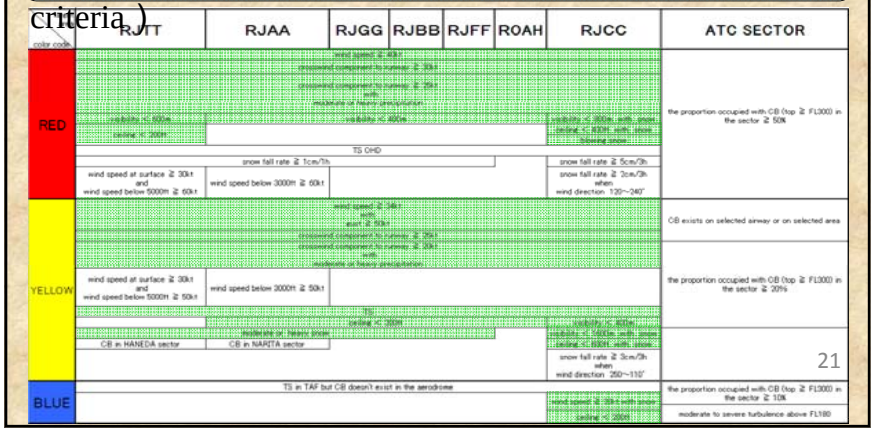
Aerodrome sequential forecast

BUT・・ Not all the criteria are checked automatically.

4. Operation

4.1 The automation of the task

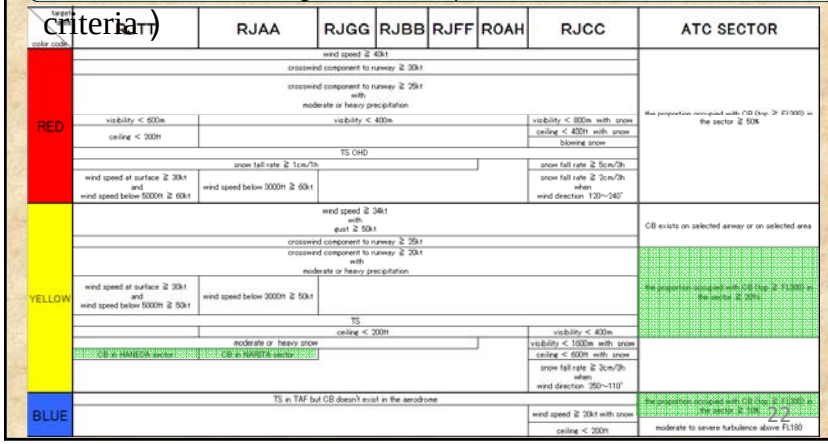
Elements that could be checked automatically referring to Aerodrome sequential forecast (about 70% of all the criteria)



4. Operation

4.1 The automation of the task

Elements that could be checked automatically referring to numerical weather prediction (about 5% of all the criteria)



4. Operation

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4.1 The automation of the task

Elements that are check by hand (about 20% of all the criteria)

color code	RJTT	RJAA	RJGG	RJBB	RJFF	ROAH	RJCC	ATC SECTOR
RED	wind speed ≧ 43kt							
	crosswind component to runway ≧ 30kt							
	crosswind component to runway ≧ 25kt with moderate or heavy precipitation							
	visibility < 600m	visibility < 400m					visibility < 800m with snow	the proportion occupied with CB (top ≧ FL300) in the sector ≧ 50%
	ceiling < 200ft						ceiling < 400ft with snow	
							blowing snow	
	TS (SHG)							
	snow fall rate ≧ 5cm/3h						snow fall rate ≧ 5cm/3h	
	wind speed at surface ≧ 20kt and wind speed below 5000ft ≧ 60kt	wind speed below 3000ft ≧ 60kt					snow fall rate ≧ 5cm/3h when wind direction 170~340°	
YELLOW	wind speed ≧ 34kt with gust ≧ 50kt							CB exists on selected areas or on selected area
	crosswind component to runway ≧ 25kt							
	crosswind component to runway ≧ 20kt with moderate or heavy precipitation							the proportion occupied with CB (top ≧ FL300) in the sector ≧ 20%
	wind speed at surface ≧ 20kt and wind speed below 5000ft ≧ 60kt	wind speed below 3000ft ≧ 60kt						
	TS							
		ceiling < 200ft					visibility < 400m	
			moderate or heavy snow				visibility < 1600m with snow	
	CB in HANEDA sector	CB in NARITA sector					ceiling < 600ft with snow	
							snow fall rate ≧ 3cm/3h when wind direction 290~110°	
BLUE	TS or TAF but CB doesn't exist in the sectors							the proportion occupied with CB (top ≧ FL300) in the sector ≧ 10%
							wind speed ≧ 20kt with snow	
							ceiling < 200ft	moderate to severe turbulence above FL100

4. Operation

4.2 Flow of task

An actual flow of task is summarized in video.

GO TO VIDEO

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5. Assignment

target area / color code	RJTT	RJAA	RJGG	RJBB	RJFF	ROAH	RJCC	ATC SECTOR
RED	wind speed ≧ 40kt							the proportion occupied with CB (top ≧ FL300) in the sector ≧ 50%
	crosswind component to runway ≧ 30kt							
	crosswind component to runway ≧ 25kt with moderate or heavy precipitation							
	visibility < 600m	visibility < 400m					visibility < 800m with snow	
	ceiling < 200ft						ceiling < 400ft with snow	
							blowing snow	
	TS OHD							
	snow fall rate ≧ 1cm/1h						snow fall rate ≧ 5cm/3h	
	wind speed at surface ≧ 30kt and wind speed below 5000ft ≧ 60kt	wind speed below 3000ft ≧ 60kt					snow fall rate ≧ 2cm/3h when wind direction 120~240°	
YELLOW	wind speed ≧ 34kt with gust ≧ 50kt							CB exists on selected airway or on selected area
	crosswind component to runway ≧ 25kt							
	crosswind component to runway ≧ 20kt with moderate or heavy precipitation							the proportion occupied with CB (top ≧ FL300) in the sector ≧ 20%
	wind speed at surface ≧ 30kt and wind speed below 5000ft ≧ 50kt	wind speed below 3000ft ≧ 50kt						
	TS							
		ceiling < 200ft					visibility < 400m	
		moderate or heavy snow					visibility < 1600m with snow	
	CB in HANEDA sector	CB in NARITA sector					ceiling < 600ft with snow	
							snow fall rate ≧ 3cm/3h when wind direction 250~110°	
BLUE	TS in TAF but CB doesn't exist in the aerodrome							the proportion occupied with CB (top ≧ FL300) in the sector ≧ 10%
							wind speed ≧ 20kt with snow	
							ceiling < 200ft	moderate to severe turbulence above FL180

◎All weather conditions can be checked automatically

5. Assignment

◎There is a task of how to determine ATMet category forecast criteria for airports that have not so many traffic to be managed.

RJGG , RJBB
RJFF , ROAH

The same criteria as RJAA are applied.

We continue to investigate the weather conditions when Air Traffic Flow Controls were applied.

We have to evolve the means to support ATM!

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以下、動画が動かなかった時に使用

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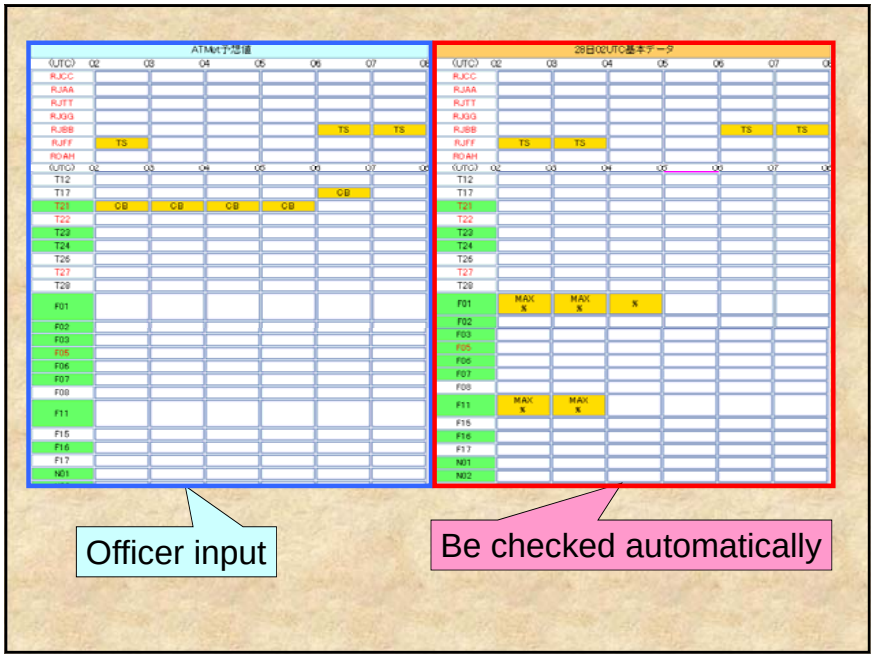
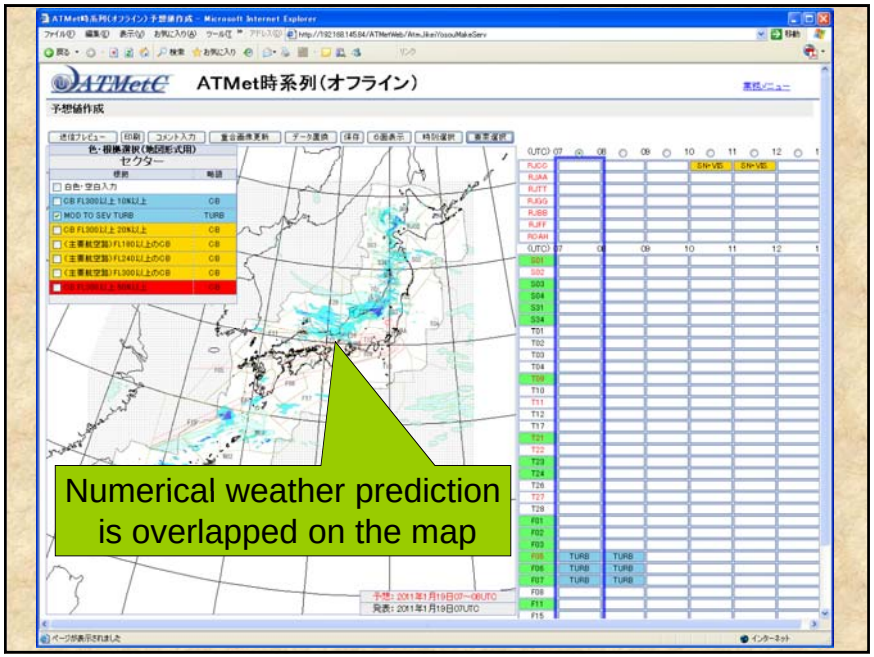
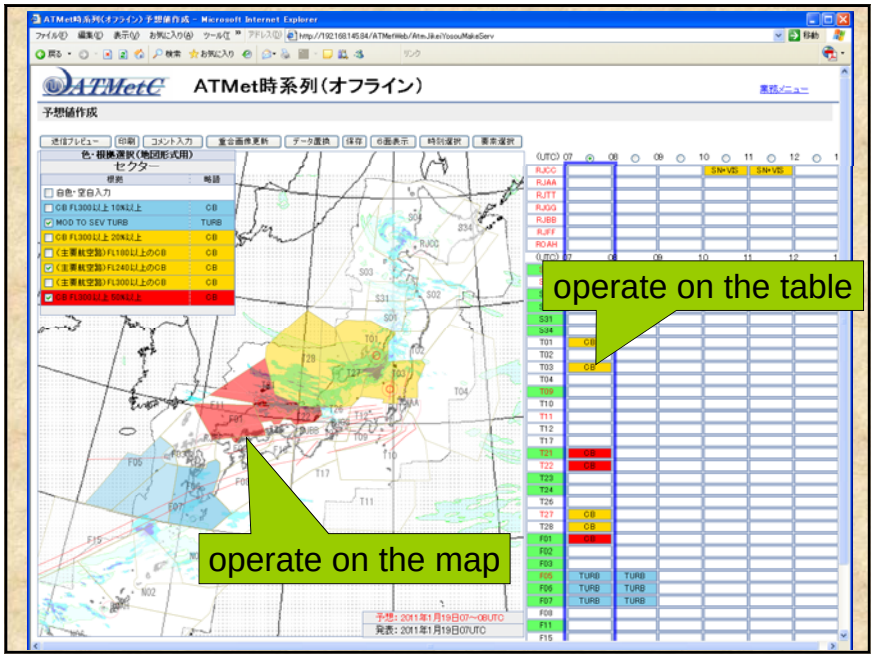

ATMet予想値
28日02UTC基本データ
Officer input
Be checked automatically


ATMet時系列（オフライン）
予想値作成
Numerical weather prediction is overlapped on the map


ATMet時系列（オフライン）
予想値作成
operate on the table
operate on the map